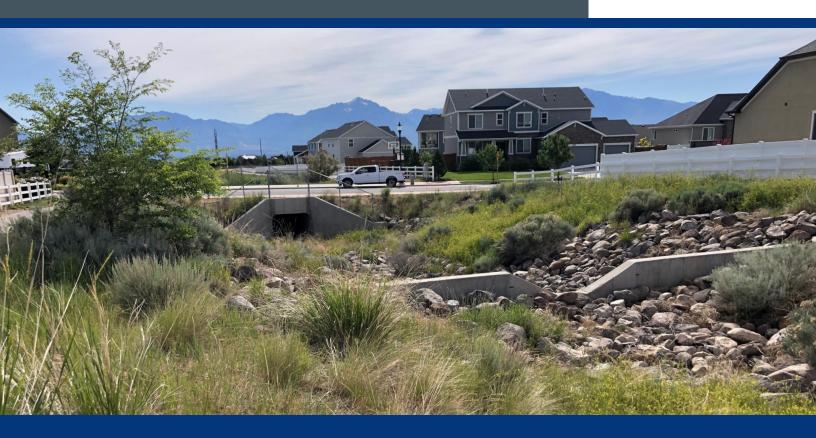
VOLUME 3 - APPENDICES

SOUTHWEST CANAL AND CREEK STUDY

SECTION 3 - CANALS, BINGHAM CREEK, BARNEYS CREEK, BEEF HOLLOW, WOOD HOLLOW, AND WOOD HOLLOW SOUTH Prepared for:





July 2022

Prepared by:



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APPENDIX A Wood Hollow Memo



TECHNICAL MEMORANDUM

TO: Tamaran Woodland, P.E.

Salt Lake County Engineering

Flood Control Division

2001 South State Street, N3100 Salt Lake City, Utah 84114

COPIES: File

FROM: Tucker Jorgensen, Kameron Ballentine and Craig Bagley

Bowen Collins & Associates 154 East 14075 South Draper, Utah 84020

DATE: 02-29-2021

SUBJECT: Wood Hollow and Wood Hollow South Drainage Alternative Study

JOB NO.: 022-18-02

SECTION 1 INTRODUCTION

Salt Lake County (SLCo) retained Bowen Collins and Associates (BC&A) to complete a study on the Wood Hollow and Wood Hollow South drainages located at the south end of Salt Lake County. There is currently development pressure adjacent to these two drainage channels and Herriman City and Bluffdale City are working with SLCo to determine the most efficient means to manage the additional storm water runoff generated by development activities. Various alternatives to manage storm water runoff in this area were analyzed as part of this study.

This study included performing site visits, collecting survey data, developing hydrologic models, developing a hydraulic model based on the collected survey data, and using peak flows from the hydrologic model to identify deficiencies for Wood Hollow, Wood Hollow South, Utah Lake Distribution Canal (ULDC), and Utah and Salt Lake Canal (USLC). The study also included developing cost estimates and a summary of improvements for each alternative. The purpose of this Technical Memorandum is to summarize the analysis, results, alternatives, and cost estimates associated with alternative improvements to the drainage areas.

SECTION 2 EXISTING CONDITION DRAINAGE

Figure 1 identifies the existing drainage patterns in the study area. Site visits were conducted to inspect both Wood Hollow and Wood Hollow South drainage channels to observe the current drainage patterns and channel conditions in the area. Photographs from the site visits are provided in Appendix A. In addition, survey was collected in the study drainage area to collect needed information on culverts and channel cross-sections so hydraulic models could be developed for Wood Hollow, Wood Hollow South, and both ULDC and USLC.

WOOD HOLLOW DRAINAGE

Wood Hollow receives storm water runoff from a drainage area of approximately 6 square miles. Approximately 75-percent of the drainage area is currently undeveloped and is unlikely to develop because it is federal land occupied by Camp Williams, a Utah National Guard training facility. The existing developed area is concentrated east (downstream) of Redwood Road. The storm water conveyed by Wood Hollow is discharged into the Jordan River with no hydraulic connections to either the ULDC or USLC. Wood Hollow is mostly open channel for the upstream portion of the drainage basin, except for two culverts that cross an access road and Mountain View Corridor, as can be seen in Figure 1. After Wood Hollow crosses Redwood Road, a significant reach of the channel has been enclosed in a piped storm drain system with pipe sizes ranging in diameters between 30 and 48 inches. That storm drain trunk line conveys runoff down Iron Horse Blvd to an Overflow Pond at approximately 1700 West and 15450 South before discharging to the Jordan River.

WOOD HOLLOW SOUTH DRAINAGE

Wood Hollow South receives storm water runoff from a drainage area of approximately 1.3 square miles. The Wood Hollow South drainage area is currently mostly undeveloped. The only major development is a commercial property on Porter Rockwell Blvd west of the Welby Jacob Canal. Over 80-percent of the drainage area is unlikely to be developed in the future because it is on federal land occupied by Camp Williams. Storm water runoff is conveyed through an open channel and four culvert crossings at Welby Jacob Canal, Redwood Road, a pedestrian trail, and the ULDC, and then discharges into USLC as shown on Figure 1. There is no hydraulic connection to the ULDC because the invert of the Wood Hollow South culvert under the canal is approximately 25 feet below the ULDC invert. The section of the Wood Hollow South channel downstream of USLC has been inactive for many years.

ULDC AND USLC

The Jordan River is the topographic low point to which much of the Salt Lake Valley naturally drains. When the ULDC and USLC were constructed parallel to the Jordan River in the late 1800s, the canals began intercepting storm water runoff from areas that had historically drained to the Jordan River. The areas that drain to these canals in the study area are shown in Figure 1. Storm water runoff collected by both ULDC and USLC is currently conveyed to overflow/dump out structures at Rose Creek. The ULDC has a drainage area of 1.8 square miles upstream of Wood Hollow. The USLC upstream of Wood Hollow receives runoff from

a drainage area of 1.6 square miles, including storm water conveyed by the Wood Hollow South channel.

As shown on Figure 1, most of the runoff from land between Redwood Road and the USLC discharges to the canals. Little development currently exists in the drainage basins that discharge to ULDC and USLC upstream of Wood Hollow. However, recent development has been occurring and has resulted in multiple new culverts being constructed on both ULDC and USLC associated with road crossings. Continued development is expected as there is still significant development pressure in the area between the Jordan River and Redwood Road. One of the primary purposes of this study is to determine how storm water runoff from the land that currently drains to these canals will be managed in the future as these areas develop.

SECTION 3 HYDROLOGIC ANALYSIS & HYDRAULIC ANALYSIS

This study is part of Phase 3 of the SWCCS Study. For detailed information regarding the methodology and development of the hydrologic and hydraulic models, refer to the 2020 South West Canal and Creek (SWCC) report. A brief summary of the hydrologic and hydraulic study methodology is provided below.

HYDROLOGIC ANALYSIS

All hydrologic models were developed using Autodesk Storm and Sanitary Analysis 2020 (ASSA) software. ASSA uses a HEC-1 hydrologic engine with a loss method of SCS Curve Number. The model required the following input parameters:

- Subbasin Area (ac)
- Pervious SCS Curve Number
- Impervious area (%)
- Lag time or Time of Concentration

A modified Farmer-Fletcher 100-year, 3-hour rainfall event was used as the design storm with a storm depth of 1.84-inches. Subbasin boundaries were delineated based on 2013-2014 LiDAR data and aerial photographs from the Utah Automated Geographic Reference Center (AGRC) and verified based upon site visits and as-built drawings. Other parameters were estimated using a combination of data from the NRCS Soil Survey Geographic (SSURGO) dataset, City/County general plans, survey from pipes and culverts, and existing storm drain databases from Bluffdale and Herriman City.

As part of the hydrologic analysis, it was assumed that all storm water runoff would be conveyed to the appropriate conveyance system (e.g., Wood Hollow, Wood Hollow South, or a canal). This is a conservative assumption and is consistent with the 2020 SWCC Study.

HYDRAULIC ANALYSIS

Hydraulic computer models for all open channels in the study area were developed using the United States Army Corps of Engineers' HEC-RAS Version 5.0.7 software. Survey data was used to define channel cross-sections and topographic data for the overbanks was developed using 2013-2014 LiDAR data for the area. Culverts were included in the hydraulic models based on field survey data. The piped section of Wood Hollow along Iron Horse Blvd was modeled in ASSA to simulate flow conditions during the design storm event. The pipe data sizes and slopes in the model were based on survey data collected for this study.

WHAT IS A DEFICIENCY

The deficiencies are broken into three categories, open channel on either Wood Hollow or Wood Hollow South, open channel on either ULDC or USLC, and pipes/culverts.

Wood Hollow and Wood Hollow South Open Channel Deficiency

An open channel capacity deficiency on Wood Hollow and Wood Hollow South was identified when the hydraulic model predicted channel overtopping while routing runoff from the design storm. Channel improvements were then identified to mitigate the capacity deficiencies. Due to a relative steep channel slope (>4%), channel reaches with 0-2 feet of predicted freeboard were also identified to show potential capacity deficiencies, but no capital improvement projects were evaluated unless the channels overtopped during the 100-year design event.

Canal Open Channel Deficiency

Similarly, for the canals, an open channel capacity deficiency was identified when the hydraulic model predicted channel overtopping. Potential capital improvements that can resolve identified capacity deficiencies were then evaluated. With relatively flat channel slopes (0.05-0.3%) for both canals, areas with 0-1 feet of predicted freeboard were identified to show potential capacity deficiencies.

Pipe/Culvert Deficiency

A pipe/culvert was considered to be capacity deficient if the design storm discharge was shown by the model to back up to the point of either bubbling up out of a manhole or overtopping channel banks. Surcharged pipes that do not result in water bubbling out were identified.

SECTION 4 ANALYSIS RESULTS

HYDROLOGY RESULTS

Peak flows associated with the 100-year design storm for the existing conditions at each of the structures are shown in Table 1. Peak flows were estimated using the developed hydrologic models. Irrigation flows were added to the model for the canals based upon conversations with the canal irrigation flow masters. These flows were used to identify channel and structure capacity deficiencies.

Table 1
Summary of Estimated Peak Discharge Rates for Existing Development
Conditions

Pipe/Culvert ID	Existing Peak 100-year Discharge (cfs)
WH-1	130
WH-2	130
WH-3	130
WH-4	130
WH-5	110
WH-6	110
WH-7	110
WH-8	100
WHS-1	N/A
WHS-2	N/A
WHS-3	25
WHS-4	25
WHS-5	23
WHS-6	23
WHS-7	23
ULDC-33 ¹	90
ULDC-34 ¹	90
ULDC-35 1	90
USLC-82 ¹	190
USLC-83 ¹	195
USLC-85 ¹	180

¹ Flow includes irrigation flow, 50 cfs for ULDC and 170 cfs for USLC

HYDRAULIC CAPACITY ESTIMATES

The hydraulic capacity of each pipe and culvert in the study area were estimated using the developed hydraulic models. Model estimated capacities were compared to independent calculations for verification. The estimated pipe and culvert capacities are presented in Table 2.

Table 2
Summary of Existing Pipe and Culvert Capacity

Drainage Facility	Pipe/Culvert ID (see Figure 2)	Existing Size	Model Estimated Capacity (cfs)	
Wood Hollow	WH-1	60" RCP	165	
Wood Hollow	WH-2	48" RCP	2351	
Wood Hollow	WH-3	42" to 48" RCP	155-235 ¹	
Wood Hollow	WH-4	30" to 42" RCP	85-120 ¹	
Wood Hollow	WH-5	48" RCP	140	
Wood Hollow	WH-6	39" CMP	70	
Wood Hollow	WH-7	48" RCP	280	
Wood Hollow	WH-8	48"	420	
Wood Hollow South	WHS-3	10'X6' Arch	1100	
Wood Hollow South	WHS-4	4' CMP	170	
Wood Hollow South	WHS-5	27'X11' Box	3980	
Wood Hollow South	WHS-6	2' CMP	55	
Wood Hollow South	WHS-7	2' CMP	30	
ULDC	ULDC-33	5' RCP	200	
ULDC	ULDC-34	14'X6' Box	165	
ULDC	ULDC-35	12'X6' Box	200	
USLC	USLC-82	20'X7' Box	750	
USLC	USLC-83	45' Footbridge	Not a Restriction	
USLC USLC-85		48' Footbridge Not a Restriction		

¹Backwater controlled

EXISTING CONDITIONS RESULTS AND IMPROVEMENTS

Information on Figure 2 identifies the open channel freeboard and culvert/pipe capacity deficiencies on Wood Hollow, Wood Hollow South, ULDC, and USLC for the 100-yr design storm peak discharge rates associated with existing development conditions. Capital improvement projects that will resolve existing capacity deficiencies are shown in Figure 3. As can be seen from Figure 3, Wood Hollow South, ULDC, and USLC would have adequate capacity to convey storm water. The only required improvements to resolve existing deficiencies are to upsize two sections of pipe as shown on Figure 3.

FUTURE ALTERNATIVES ANALYSIS

An analysis was also performed to estimate the 100-year peak discharge in the existing drainage facilities for projected fully developed land use conditions in the study area. Previously there has not been a detailed analysis performed regarding how to manage storm water from future development in the study area. Increasing storm water runoff in the area will only compound the existing deficiencies. At the request of SLCo three alternatives were analyzed to identify the impacts of projected future development on the 2 canals as well as potential methods to redirect storm water to the Jordan River. The alternatives are identified below:

- Alternative 1 Discharge storm water intercepted by ULDC and USLC into Wood Hollow by constructing overflow/dumpout structures. Storm water from the area between the Jordan River and Redwood Road would then be routed to the Jordan River via Wood Hollow. Storm water in the Wood Hollow South drainage would continue to be routed to ULSC. Peak discharge rates for future development would be detained to 0.2 cfs/acre.
- Alternative 2 Discharge storm water intercepted by ULDC and USLC into Wood Hollow South by constructing overflow/dumpout structures. Storm water flow would then be routed to the Jordan River via Wood Hollow South. Wood Hollow would continue to convey storm water runoff to the Jordan River. Peak discharge rates for future development would be detained to 0.2 cfs/acre.
- Alternative 3 No changes would be made to the drainage patterns in the study area, but runoff would be detained to a peak discharge rate of 0.02 cfs/acre. As such, all storm water intercepted by ULDC and USLC would continue to be conveyed to the Jordan River via overflow/dumpout structures at Rose Creek. Future development that discharges to Wood Hollow South, USLC, or ULDC would be required to detain runoff to a peak rate of 0.02 cfs/ac according to recommendations from the 2020 SWCC study. Discharge to Wood Hollow would continue to be limited to a peak rate of 0.2 cfs/ac.

The alternatives analysis included updating the hydrologic ASSA model and HEC-RAS model to simulate projected full build-out conditions in the study area. A description of each alternative, the analysis, results, improvements, and cost estimate are included in the sections below.

ALTERNATIVE 1

Alternative 1 consists of discharging runoff from future development into the ULDC and USLC and then constructing storm water overflow/dump out structures on both the ULDC and the USLC that would discharge that storm water into Wood Hollow. For this alternative it is assumed that any future development will detain the storm water runoff to a peak discharge rate of 0.2 cfs/acre for the 100-year design storm. Storm water runoff generated in the study area would no longer be conveyed in the ULDC and USLC to Rose Creek, but instead the runoff would be conveyed in the canals and then discharged into Wood Hollow which would then convey it to the Jordan River. No changes would be made to the drainage patterns of Wood Hollow South in this alternative. A hydrologic model was developed to estimate the peak 100-year discharge for this alternative. Table 3 summarizes the model results.

Table 3
Summary of Estimated Peak 100-Year Discharges for all Analyzed Scenarios

Pipe/Culvert ID	Estimated Capacity (cfs)	Existing Peak Flow (cfs)	Alternative 1 Peak Flow (cfs)	Alternative 2 Peak Flow (cfs)	Alternative 3 Peak Flow (cfs)
WH-1	165	130	340	150	150
WH-2	2351	130	360	160	160
WH-3	155-235 ¹	130	270	160	160
WH-4	85-120 ¹	130	160	160	160
WH-5	140	110	140	140	140
WH-6	70	110	140	140	140
WH-7	280	110	130	130	130
WH-8	420	100	130	130	130
WHS-1	N/A	N/A	N/A	230	N/A
WHS-2	N/A	N/A	N/A	200	N/A
WHS-3	1100	25	80	190	35
WHS-4	170	25	80	80	35
WHS-5	3980	23	80	80	35
WHS-6	55	23	50	50	30
WHS-7	30	23	40	40	30
ULDC-33	200	90	50	70	80
ULDC-34	165	90	140	50	70
ULDC-35	200	90	140	50	70
USLC-82	750	190	260	175	200
USLC-83	Not a Restriction	195	255	170	200
USLC-85	Not a Restriction	180	190	190	180

Table 3 shows that for Alternative 1, many of the pipes and culverts on Wood Hollow have insufficient capacity to convey the 100-year peak discharge. For Wood Hollow South only culvert WHS-7 has inadequate capacity. These deficiencies, as well as any channel deficiencies for Alternative 1 are identified on Figure 4. Figure 5 shows the improvement projects that are needed to manage runoff associated with projected full build-out conditions.

Alternative 1 would require improvements to approximately 5,100 total feet of the Wood Hollow pipe along Iron Horse Blvd. This includes 2,600 feet of 48-inich RCP, 700 feet of 54-inch RCP and 1,800 feet of 60-inch RCP. In addition, the existing culvert that crosses the Welby Jacob Canal at Wood Hollow would need to be replaced with 66-inch RCP. The outlet pipe from the detention basin at 1700 West and 15450 South would need to be replaced with a larger pipe as shown on Figure 5. The ULDC would also need to be improved as shown on Figure 5. An improved inlet on Wood Hollow South at the Welby Jacob Canal culvert crossing would need to be constructed to increase capacity. For this alternative, the USLC would not have any capacity deficiencies within the study area. It is estimated that it will cost approximately \$4.0 million in 2021 dollars to construct improvements associated with this alternative. Detailed cost estimates are provided in Appendix B.

ALTERNATIVE 2

Alternative 2 consists of discharging runoff from projected full build-out development conditions into the ULDC and USLC and then constructing storm water overflow/dump out structures on both the ULDC and the USLC to discharge into Wood Hollow South. In addition, Wood Hollow South would need to be re-established to the Jordan River by constructing culverts under both USLC and South Jordan Canal. For this alternative it was assumed that any future development would detain the storm water runoff to a peak discharge rate of 0.2 cfs/acre. This alternative would not require any improvements to the canals downstream of Wood Hollow South or Wood Hollow. The estimated peak 100-year discharges at key locations for this alternative are summarized in Table 3.

As seen in Table 3, Alternative 2 would result in pipe/culvert capacity deficiencies on Wood Hollow and Wood Hollow South. Figure 6 identifies the freeboard and structure deficiencies on Wood Hollow, Wood Hollow South, ULDC, and USLC for the design storm peak discharge associated with full build-out conditions. Improvement projects needed to resolve the identified deficiencies associated with Alternative 2 are shown in Figure 7. With this alternative, 52-ft of 39-inch CMP for the Welby Jacobs Crossing of Wood Hollow would be replaced with 66-inch RCP, 2,600-ft of 30- to 42-inch pipe would be replaced with 48-inch RCP. A manhole at approximately 1850 West on Iron Horse Blvd would need to be bolted down or otherwise secured to keep storm water from flowing out of the surcharged system. Wood Hollow South would require a new inlet to the Welby Jacob Canal culvert crossing. ULDC and USLC would not have any improvement projects for this alternative. It is estimated that it will cost \$2.7 million in 2021 dollars to construct this alternative. Detailed cost estimates are provided in Appendix B.

ALTERNATIVE 3

Alternative 3 represents the potential future build-out conditions if nothing is done to change the existing drainage patterns within the study area. As a result, Alternative 3 would not consist of constructing any storm water dump out structures on either the ULDC or the USLC. Based on the recommendations in Phase 1 of the SWCCS, any storm water discharges to Rose Creek would need to be detained to a significantly lower peak discharge rate of 0.02 cfs/acre. Therefore, discharges from future development into Wood Hollow South, ULDC, or USLC would need to detain to a peak discharge rate of 0.02 cfs/acre. The 0.02 cfs/acre includes the runoff from all public streets. Future development that discharges into Wood Hollow would be allowed to continue to discharge at a rate of 0.2 cfs/acre. The peak 100-year discharges are shown in Table 3.

Table 3 shows that only Wood Hollow would have capacity deficient facilities with this alternative. Figure 8 identifies the freeboard and culvert/pipe deficiencies on Wood Hollow, Wood Hollow South, ULDC, and USLC for the design storm peak discharge rates associated with full build-out conditions. Figure 9 shows the improvement projects needed to resolve the capacity deficiencies associated with this alternative. With this alternative the improvements in the study area would include replacing the existing Wood Hollow culvert that crosses the Welby Jacob Canal with 66-inch RCP, replacing and to replace 2,600 feet of

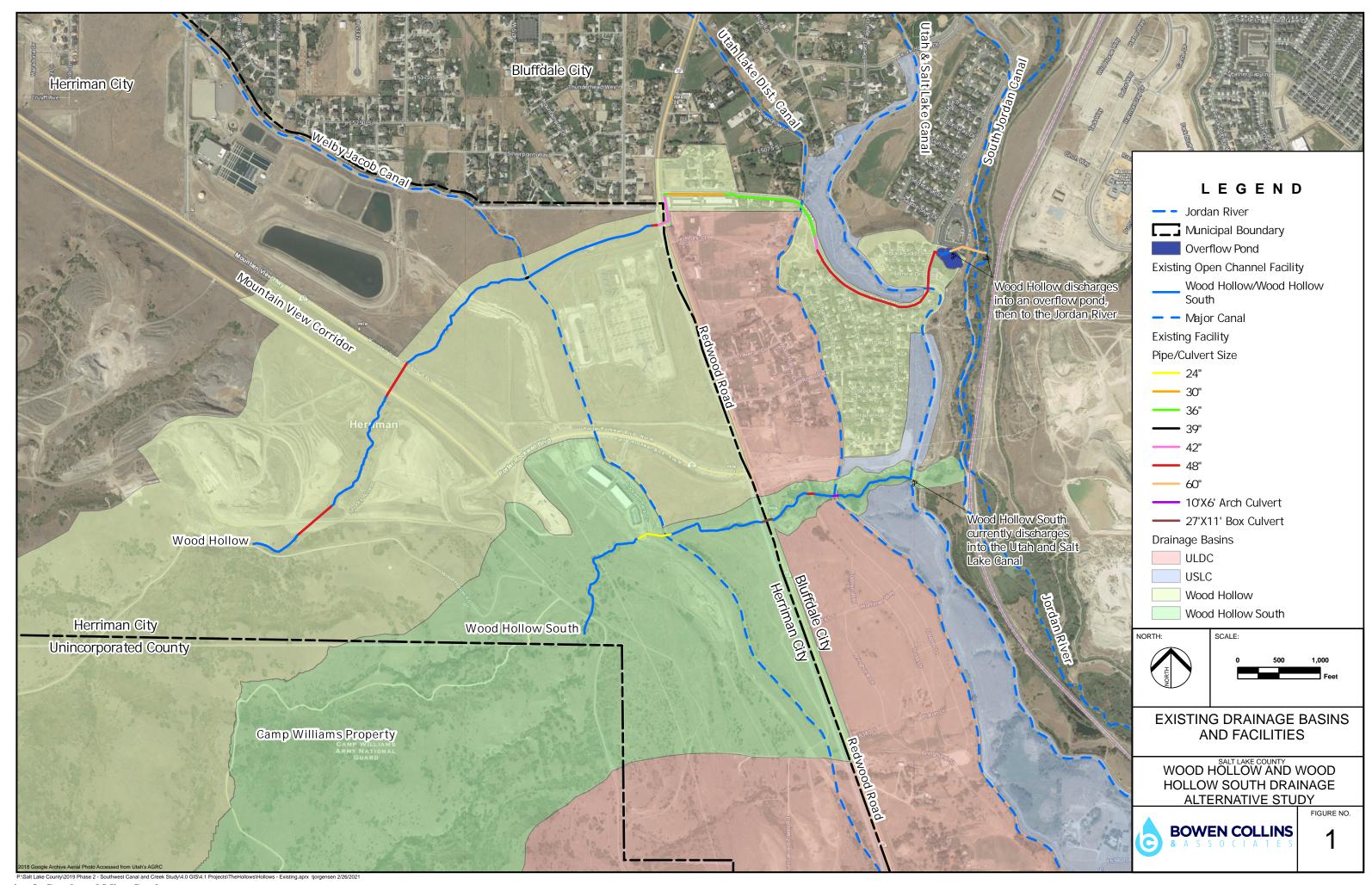
pipe along Iron Horse Blvd with 48-inch RCP as shown in Figure 9. In addition, a manhole at approximately 1850 West Iron Horse Blvd would need to either be bolted down or otherwise restrained. It is estimated that it will cost approximately \$1.5 million in 2021 dollars to construct this alternative. Detailed cost estimates are provided in Appendix B.

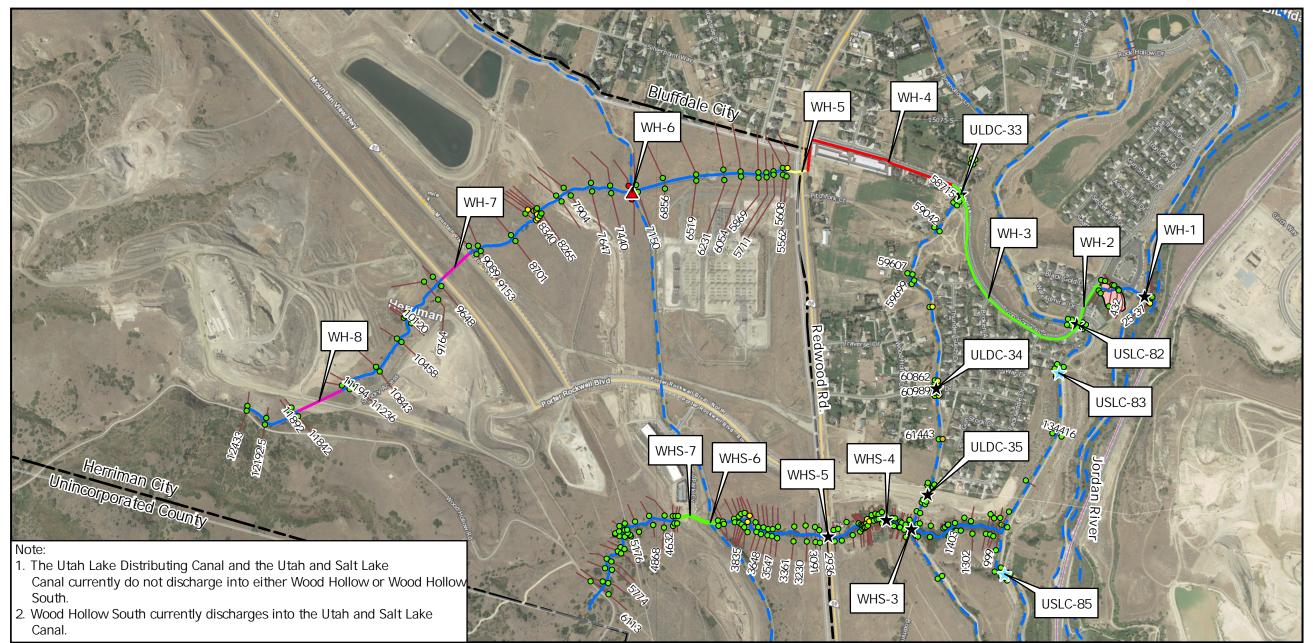
IMPROVEMENT COST SUMMARY

Table 3 presents the summary of the estimated costs to construct improvements needed to resolve capacity deficiencies associated with each of the 3 alternatives. The project IDs in Table 3 correspond to the project IDs on Figures 3, 5, 7, & 9. Detailed cost estimate data is included in Appendix B.

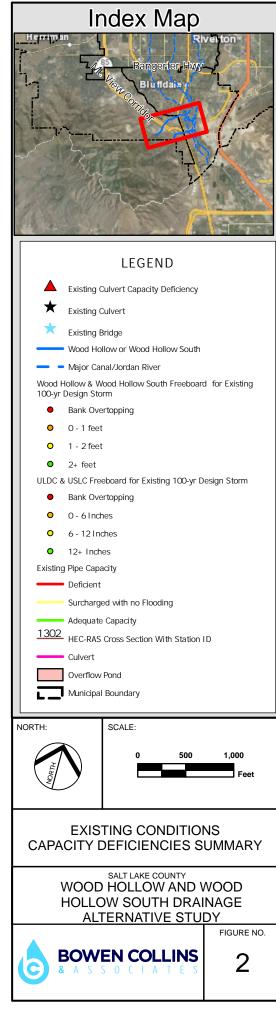
Table 3
Project Improvement Costs

Alternative	Estimated Total Improvement Cost
Alternative 1	\$3,949,000
Alternative 2	\$2,710,000
Alternative 3	\$1,480,000

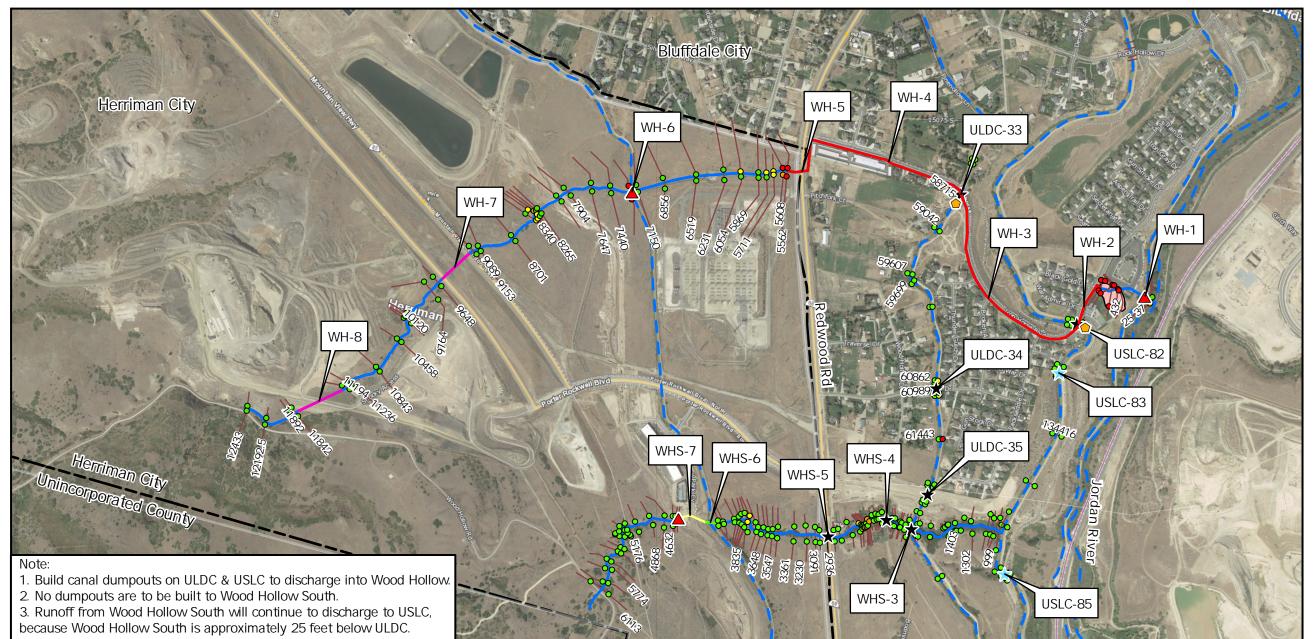




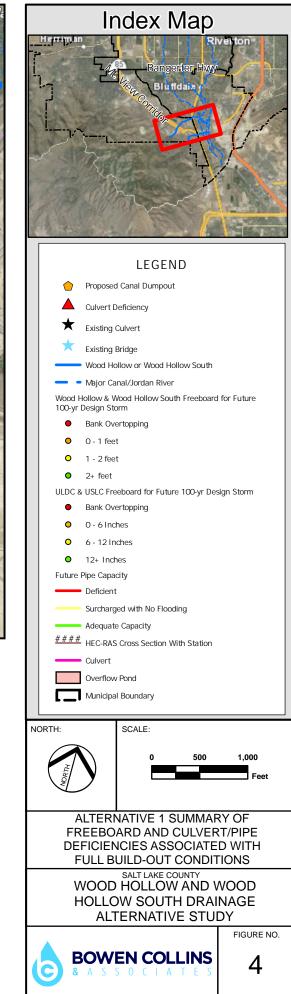
	~				Tipe characteristics
ID	Culvert or Bridge Location	Estimated 100-yr Discharge for Existing Conditions (cfs)	Estimated Culvert Capacity (cfs)	Existing Culvert Size (Diameter)	Notes
WH-1	Pipe from overflow pond to Jordan River	130	200	36" RCP	
WH-2	Pipe from USLC to Overflow Pond	130	235	48" RCP	Reach length of 520 ft and slope from 1.5% to 4.6%
WH-3	Pipe from ULDC to USLC	130	155 - 235	42" to 48" RCP	Reach length of 2,310 ft and slope from 1.0% to 10.0%
WH-4	Pipe from Redwood Road to ULDC	130	85 - 120	30" to 42" RCP	Reach length of 1,970 ft and slope from 1.0% to 4.2% (entire reach is undersized)
WH-5	Pipe under Redwood Road	110	140	48" RCP	Pipe capacity is adequate once downstream pipes are upsized
WH-6	Welby Jacob Canal	110	70	39" CMP	Culvert is undersized, causing overtopping into canal
WH-7	Mountain View Corridor	110	280	48" RCP	
WH-8	Gravel Pit Road	100	420	48" RCP	
WHS-1	South Jordan Canal	0			Does not currently exisit
WHS-2	Utah & Salt Lake Canal	25			Does not currently exisit
WHS-3	Utah Lake Distribution Canal	25	1100	10' x 6' Arch	
WHS-4	Trail	25	170	4' CMP	
WHS-5	Redwood Road	23	3980	27' x 11' Box	
WHS-6	Pipe under Welby Jacob Canal	23	55	2' CMP	Pipe Reach Length is Approximently 125 ft with Slope of 4.9%
WHS-7	Pipe from Start to Welby Jacob Canal	23	30	2' CMP	Pipe Reach Length is Approximently 300 ft with slope of 8.8%
ULDC-33	Tronhorse Blvd	90	190	5' RCP	
ULDC-34	15730 S	90	160	14' X 6'	
ULDC-35	Porter Rockwell Blvd	90	200	12' X 6'	
USLC-82	Iron Horse Blvd	190	800	20'X7' Box	
USLC-83	Trail Bridge # 2	195	Not a Restriction	45' Footbridge	
USLC-85	Trail Bridge # 3	180	Not a Restriction	48' Footbridge	

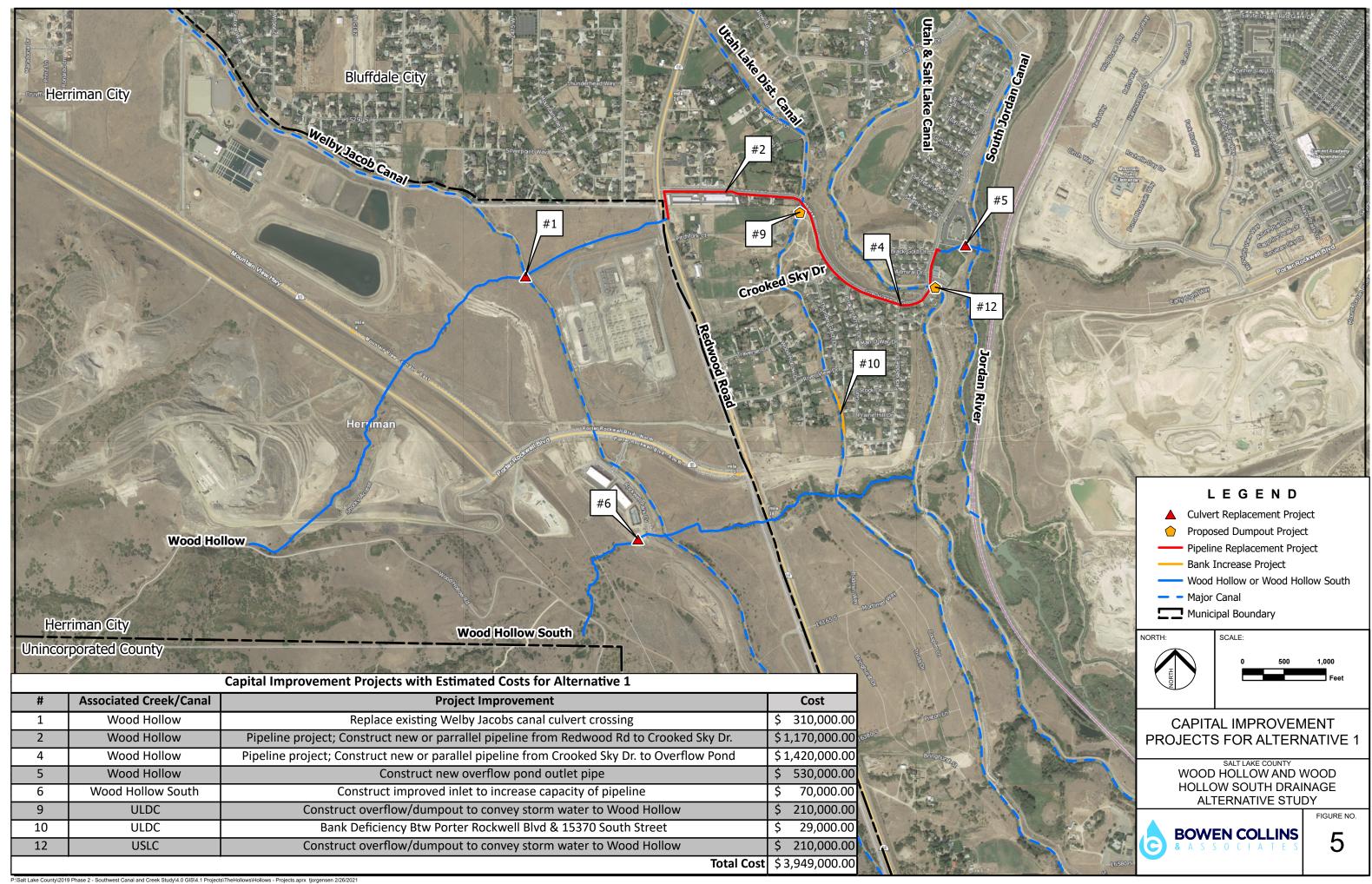


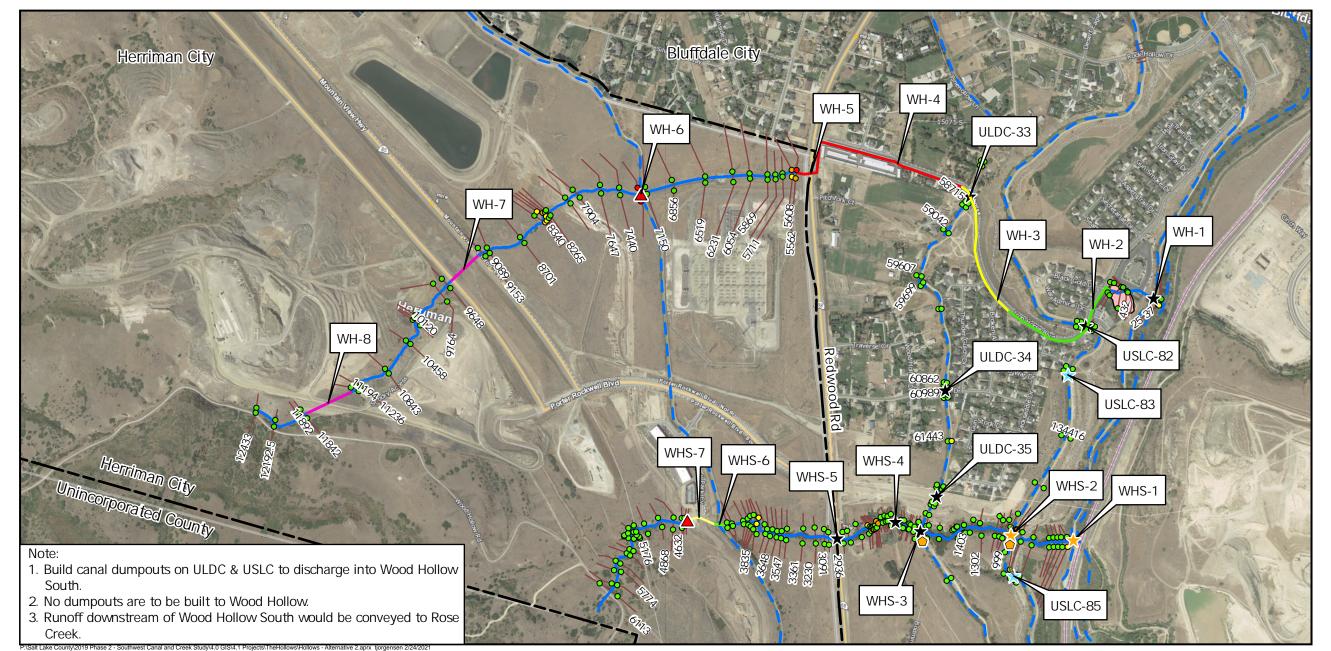




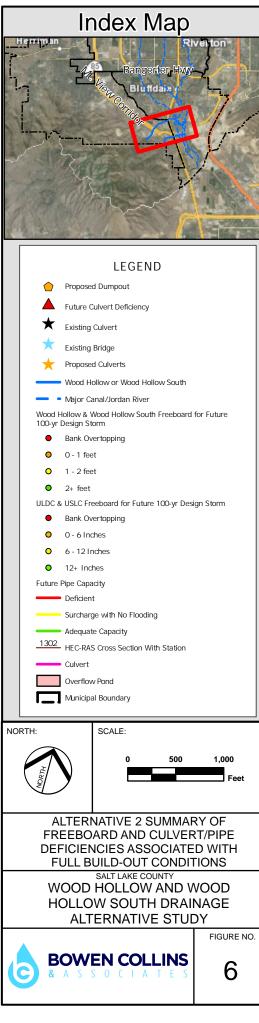
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ID	Culvert or Bridge Location		Estimated 100-yr Discharge for Future Conditions for Alternative 1 (cfs)	Estimated Culvert Capacity (cfs)	Existing Culvert Size (Diameter)	Notes
WH-1	Pipe from overflow pond to Jordan River	130	340	200	36" RCP	Outlet System is undersized, causing DB to overtop and flow into South Jordan Canal
WH-2	Pipe from USLC to Overflow Pond	130	360	235	48" RCP	Pipes are Undersized
WH-3	Pipe from ULDC to USLC	130	270	155 - 235	42" to 48" RCP	Pipes are Undersized
WH-4	Pipe from Redwood Road to ULDC	130	160	85 - 120	30" to 42" RCP	Pipes are Undersized
WH-5	Pipe under Redwood Road	110	140	140	48" RCP	Culvert is Downstream Controlled, Backwater Casues Deficiency and Bank Overtopping
WH-6	Welby Jacob Canal	110	140	70	39" CMP	Culvert is undersized, causing overtopping into canal
WH-7	Mountain View Corridor	110	130	280	48" RCP	
WH-8	Gravel Pit Road	100	130	420	48" RCP	
WHS-1	South Jordan Canal	0	0	-		Not required for this alternative
WHS-2	Utah & Salt Lake Canal	25	80			Not required for this alternative
WHS-3	Utah Lake Distribution Canal	25	80	1100	10' x 6' Arch	
WHS-4	Trail	25	80	170	4' CMP	
WHS-5	Redwood Road	23	80	3980	27' x 11' Box	
WHS-6	Pipe under Welby Jacob Canal	23	50	55	2' CMP	Pipe is surcharging, water may bubble-up out of the manhole and cause local nusaince flooding
WHS-7	Pipe from Start to Welby Jacob Canal	23	40	30	2' CMP	Culvert Inlet is undersized, causing overtopping of dirt roadway
ULDC-33	Fronhorse Blvd	90	50	190	5' RCP	
ULDC-34	15730 S	90	140	160	14' X 6'	
ULDC-35	Porter Rockwell Blvd	90	140	200	12' X 6'	
USLC-82	Iron Horse Blvd	190	260	800	20'X7' Box	
USLC-83	Trail Bridge # 2	195	255	Not a Restriction	45' Footbridge	
USLC-85	Trail Bridge #3	180	190	Not a Restriction	48' Footbridge	

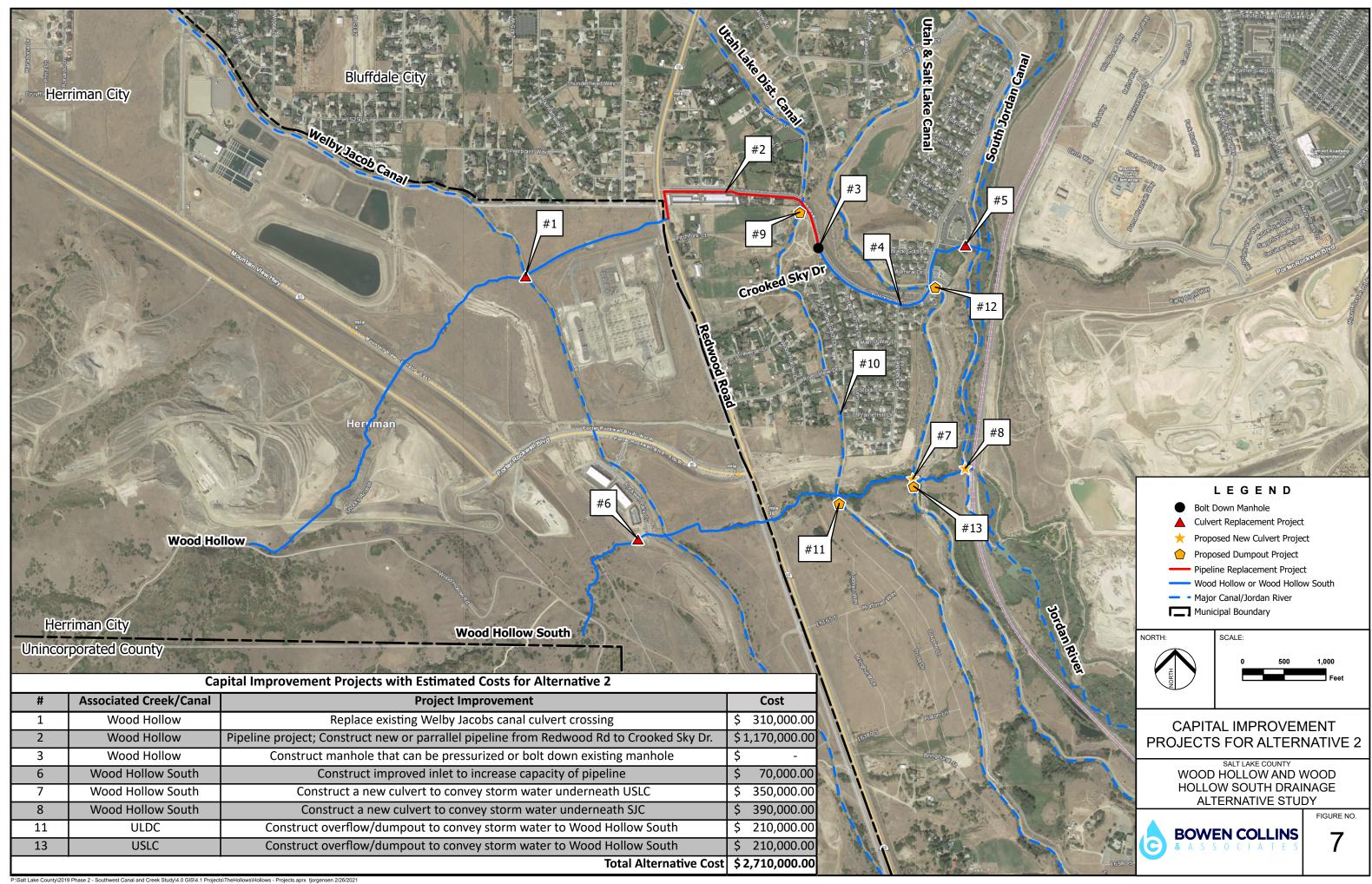


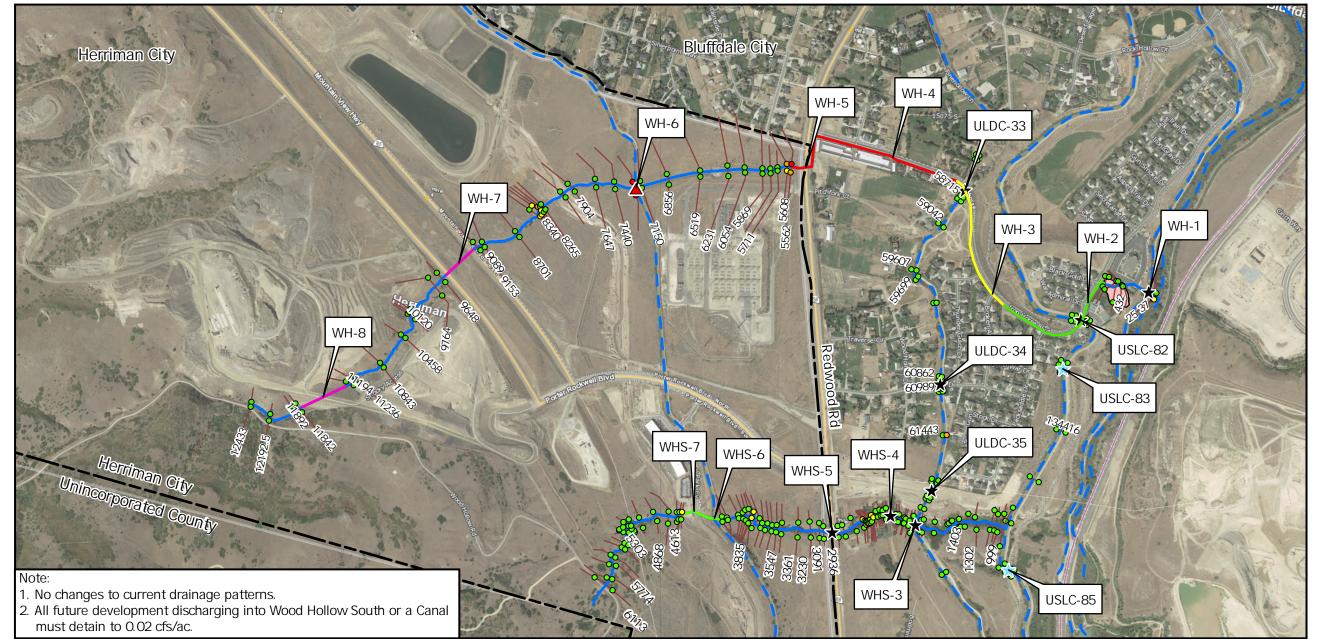




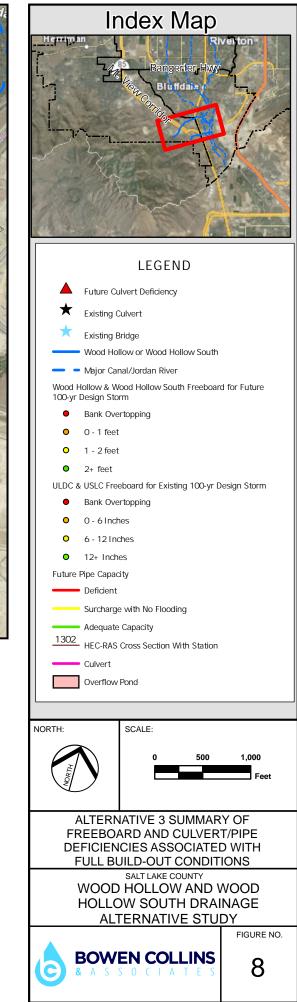
Summary of Existing Curvert and Pipe Characteristics									
ID	Culvert or Bridge Location	Estimated 100-yr Discharge for Existing Conditions (cfs)	Estimated 100-yr Discharge for Future Conditions for Alternative 2 (cfs)	Estimated Culvert Capacity (cfs)	Existing Culvert Size (Diameter)	Notes			
WH-1	Pipe from overflow pond to Jordan River	130	150	200	36" RCP				
WH-2	Pipe from USLC to Overflow Pond	130	160	235	48" RCP				
WH-3	Pipe from ULDC to USLC	130	160	155 - 235	42" to 48" RCP	1,400 feet of Reach is Surcharged			
WH-4	Pipe from Redwood Road to ULDC	130	160	85 - 120	30" to 42" RCP	Entire Reach is Undersized			
WH-5	Pipe under Redwood Road	110	140	140	48" RCP				
WH-6	Welby Jacob Canal	110	140	70	39" CMP	Culvert is undersized, causing overtopping into canals			
WH-7	Mountain View Corridor	110	130	280	48" RCP				
WH-8	Gravel Pit Road	100	130	420	48" RCP				
WHS-1	South Jordan Canal	0	230			Proposed 72" Culvert with 300 cfs Capacity			
WHS-2	Utah & Salt Lake Canal	25	200			Proposed 72" Culvert with 300 cfs Capacity			
WHS-3	Utah Lake Distribution Canal	25	190	1100	10' x 6' Arch				
WHS-4	Trail	25	80	170	4' CMP				
WHS-5	Redwood Road	23	80	3980	27' x 11' Box				
WHS-6	Pipe under Welby Jacob Canal	23	50	55	2' CMP	Pipe is surcharging, water may bubble-up out of the manhole and cause local nusaince flooding			
WHS-7	Pipe from Start to Welby Jacob Canal	23	40	30	2' CMP	Culvert is undersized, causing overtopping of dirt roadway			
ULDC-33	Ironhorse Blvd	90	70	190	5' RCP				
ULDC-34	15730 S	90	50	160	14' X 6'				
ULDC-35	Porter Rockwell Blvd	90	50	200	12' X 6'				
USLC-82	Iron Horse Blvd	190	175	800	20'X7' Box				
USLC-83	Trail Bridge # 2	195	170	Not a Restriction	45' Footbridge				
USLC-85	Trail Bridge #3	180	190	Not a Restriction	48' Footbridge				

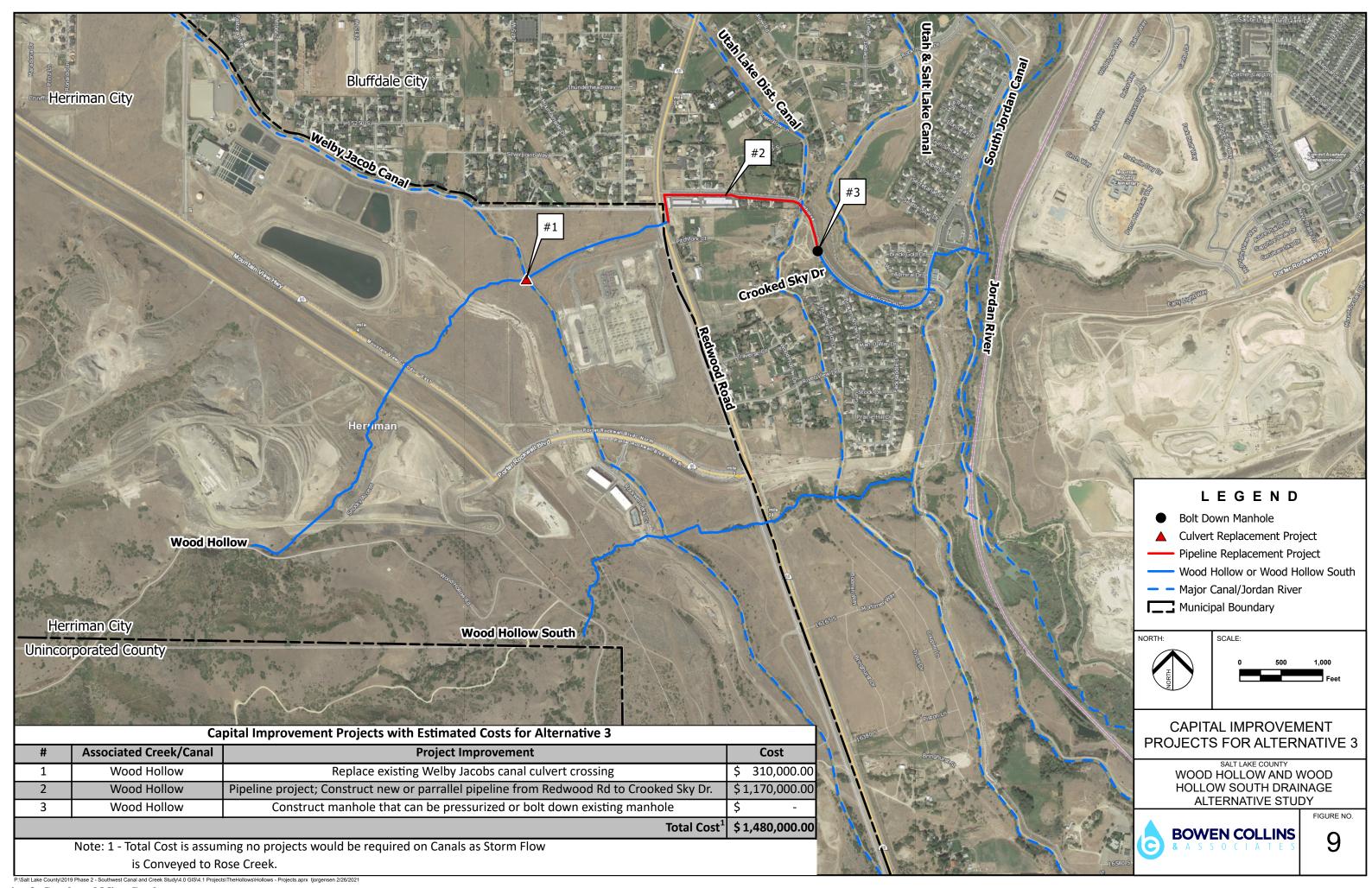






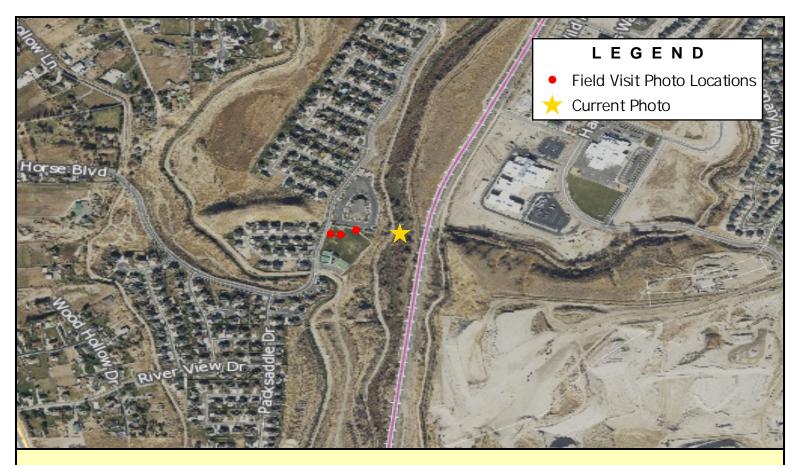
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ID	Culvert or Bridge Location	Estimated 100-yr Discharge for Existing Conditions (cfs)	Estimated 100-yr Discharge for Future Conditions for Alternative 3 (cfs)	Estimated Culvert Capacity (cfs)	Existing Culvert Size (Diameter)	Notes
WH-1	Pipe from overflow pond to Jordan River	130	150	200	36" RCP	
WH-2	Pipe from USLC to Overflow Pond	130	160	235	48" RCP	
WH-3	Pipe from ULDC to USLC	130	160	155 - 235	42" to 48" RCP	
WH-4	Pipe from Redwood Road to ULDC	130	160	85 - 120	30" to 42" RCP	Entire Reach is Undersized
WH-5	Pipe under Redwood Road	110	140	140	48" RCP	
WH-6	Welby Jacob Canal	110	140	70	39" CMP	Culvert is undersized, causing overtopping into canals
WH-7	Mountain View Corridor	110	130	280	48" RCP	
WH-8	Gravel Pit Road	100	130	420	48" RCP	
WHS-1	South Jordan Canal	0	0			Not Required
WHS-2	Utah & Salt Lake Canal	25	35			Not Required
WHS-3	Utah Lake Distribution Canal	25	35	1100	10' x 6' Arch	
WHS-4	Trail	25	35	170	4' CMP	
WHS-5	Redwood Road	23	35	3980	27' x 11' Box	
WHS-6	Pipe under Welby Jacob Canal	23	30	55	2' CMP	
WHS-7	Pipe from Start to Welby Jacob Canal	23	30	30	2' CMP	
JLDC-33	Ironhorse Blvd	90	80	190	5' RCP	
JLDC-34	15730 S	90	70	160	14' X 6'	
JLDC-35	Porter Rockwell Blvd	90	70	200	12' X 6'	
JSLC-82	Iron Horse Blvd	190	200	800	20'X7' Box	
JSLC-83	Trail Bridge # 2	195	200	Not a Restriction	45' Footbridge	
JSLC-85	Trail Bridge # 3	180	180	Not a Restriction	48' Footbridge	





Section 3: Canals and Misc. Creeks

APPENDIX A PHOTO LOG



Note: End of Wood Hollow at Jordan River (Source: FEMA Study)



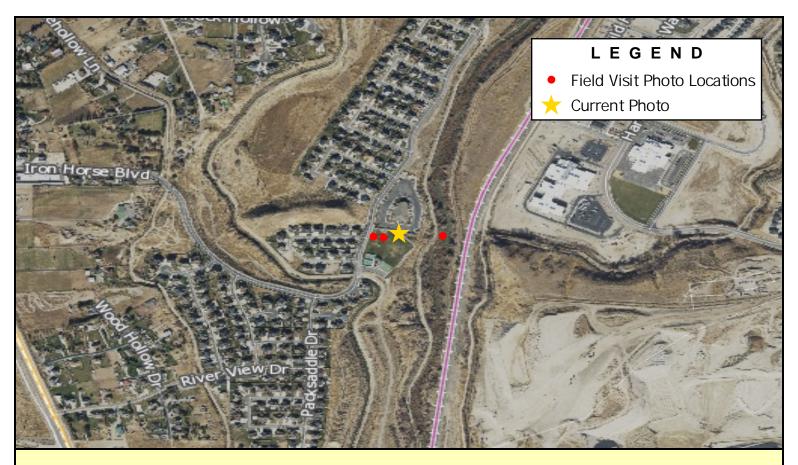


Wood Hollow

Wood Hollow and Wood Hollow South Drainage Alternative Study

Feet PHOTOGRAPH NO.

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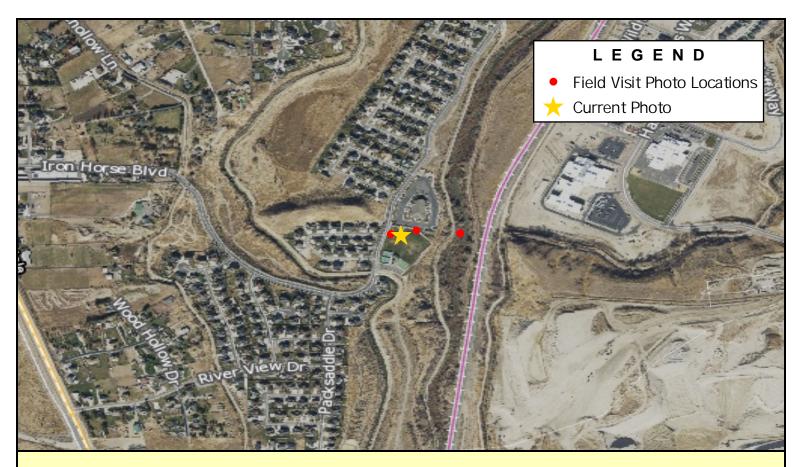


Note: Wood Hollow Overflow Pond outlet structure (Source: FEMA Study)



Wood Hollow and Wood Hollow South Drainage Alternative Study

Feet PHOTOGRAPH NO.



Note: Wood Hollow Overflow Pond outlet structure and emergency spillway (Source: FEMA Study)

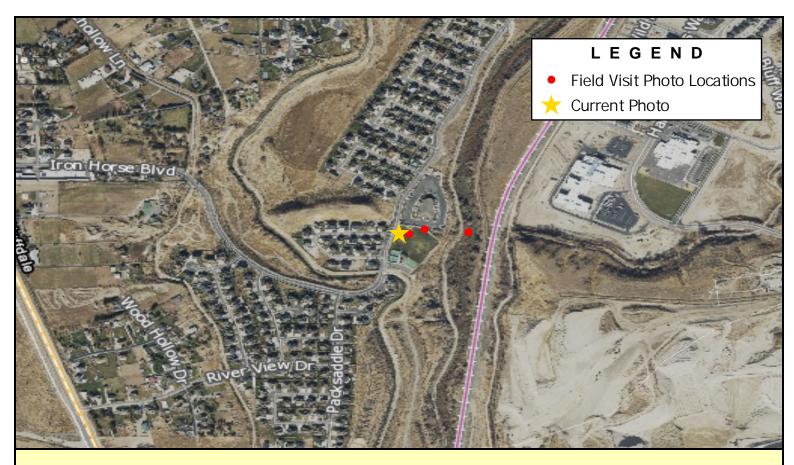


BOWEN COLLINS

Overflow Pond

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 Feet PHOTOGRAPH NO.



Note: Discharge of Wood Hollow into overflow pond (Source: FEMA Study)

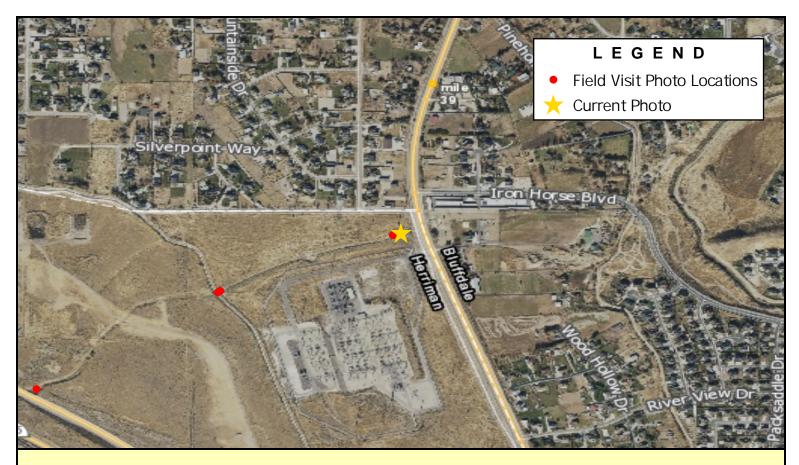


BOWEN COLLINS

Wood Hollow

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 PHOTOGRAPH NO.



Note: Inlet to Wood Hollow Piped portion at Redwood Rd. (Source: FEMA Study)

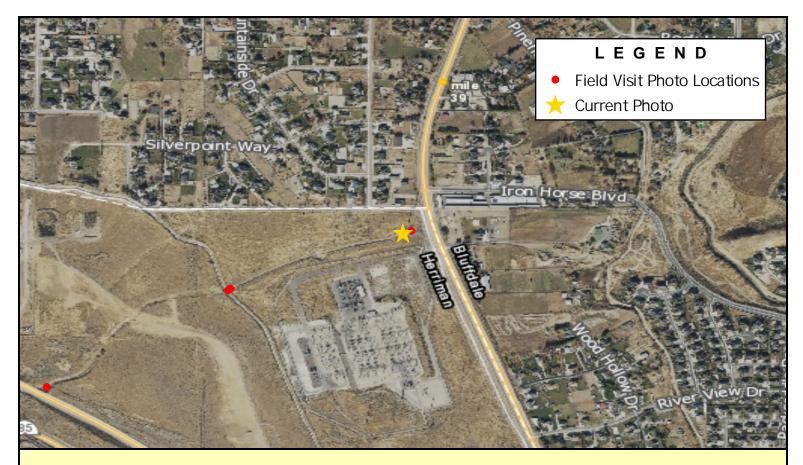




Redwood Rd.

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 Feet PHOTOGRAPH NO.



Note: Wood Hollow Channel (Source: FEMA Study)



BOWEN COLLINS

Wood Hollow

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 PHOTOGRAPH NO.



Note: Downstream end of Wood Hollow Welby Jacob Canal culvert (Source: FEMA Study)



Wood Hollow and Wood Hollow

PHOTOGRAPH NO.



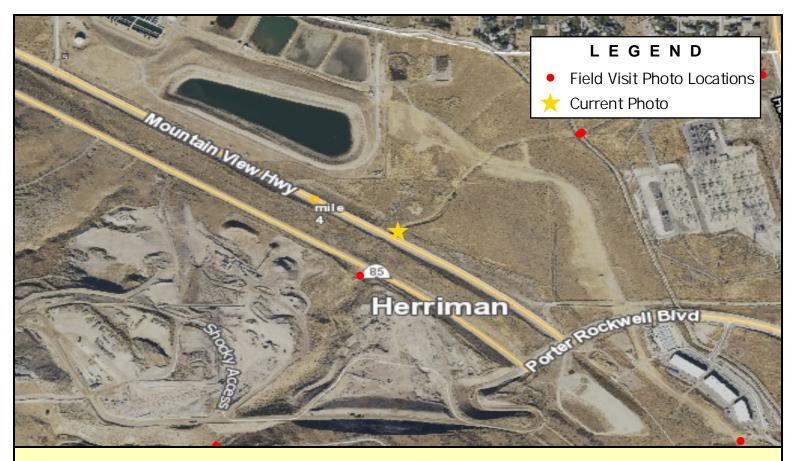
Note: Pipe culvert of Wood Hollow crossing over Welby Jacob Canal (Source: FEMA Study)



Welby Jacob Canal

Wood Hollow and Wood Hollow South Drainage Alternative Study

Feet PHOTOGRAPH NO.



Note: Downstream end of Mountain View Corridor for Wood Hollow (Source: FEMA Study)





Moutain View Corridor

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 Feet PHOTOGRAPH NO.



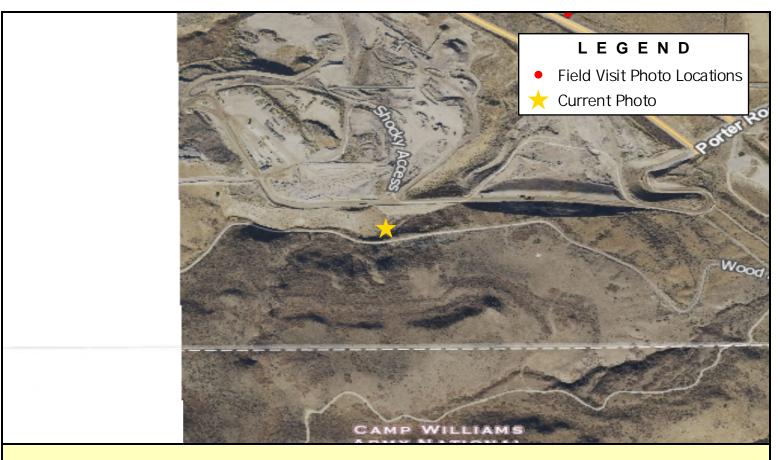




Moutain View Corridor

Wood Hollow and Wood Hollow South Drainage Alternative Study

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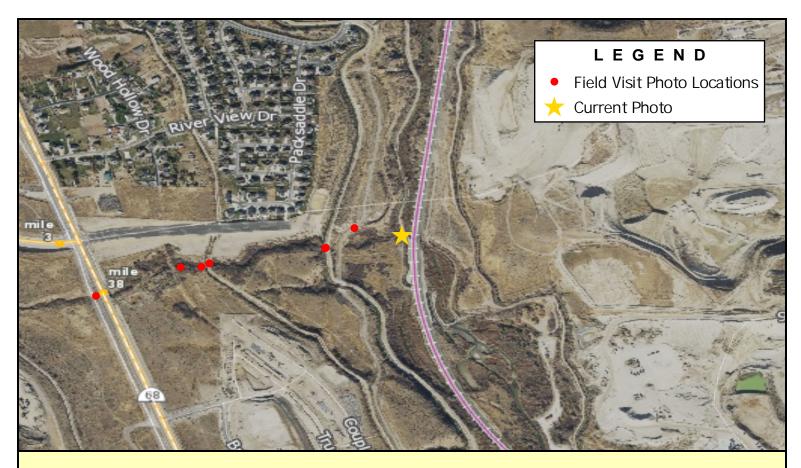
Note: Upstream end of access road culvert (Source: FEMA Study)



Access Road

Wood Hollow and Wood Hollow South Drainage Alternative Study HTRON HTRONG

SCALE: 1,000 Feet PHOTOGRAPH NO.



Note: South Jordan Canal at the end of Wood Hollow South



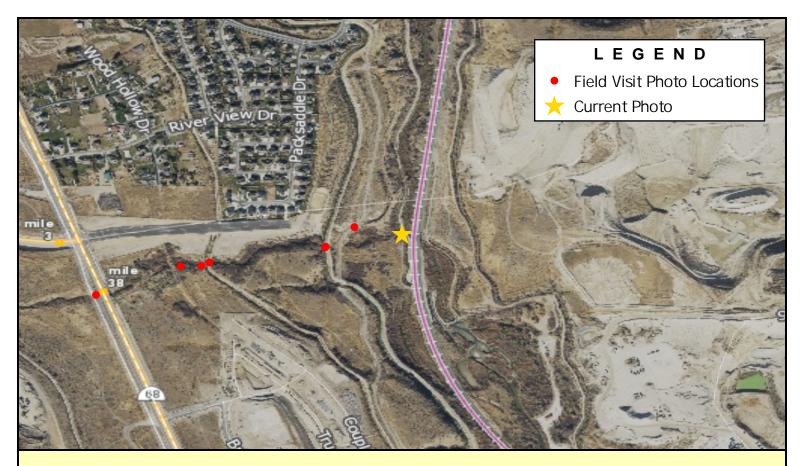
BOWEN COLLINS

South Jordan Canal

Wood Hollow and Wood Hollow South Drainage Alternative Study

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PHOTOGRAPH NO.



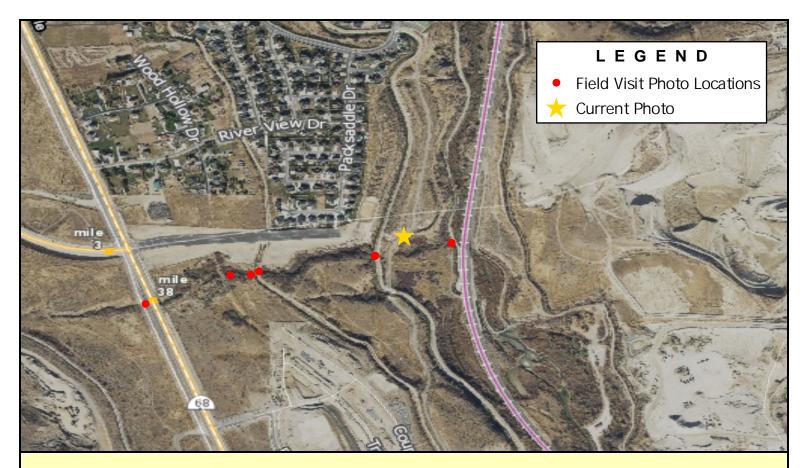
Note: Approximate dishcarge point of abandoned Wood Hollow South into South Jordan Canal



South Jordan Canal

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 PHOTOGRAPH NO.



Note: Abandoned portion of Wood Hollow South





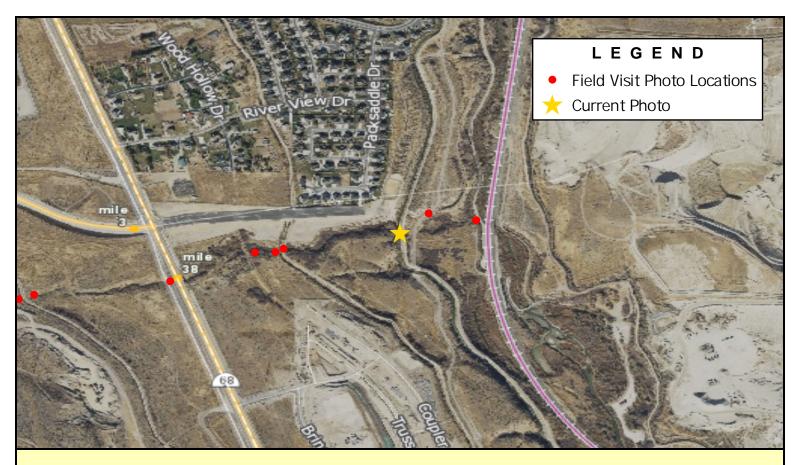
Wood Hollow South

Wood Hollow and Wood Hollow South Drainage Alternative Study NORTH

SCALE: 1,000
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Note: Discharge of Wood Hollow South into USLC

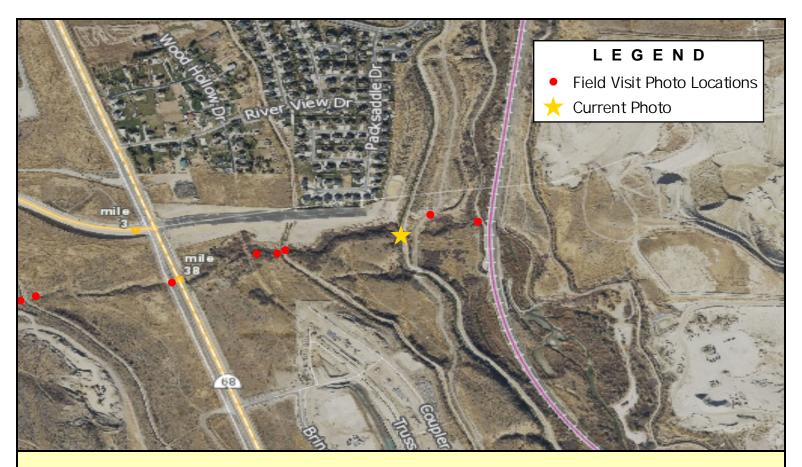




USLC

Wood Hollow and Wood Hollow South Drainage Alternative Study NORTH:

1,000 PHOTOGRAPH NO.



Note: Headwall structure on USLC at discharge point of Wood Hollow South



USLC

Wood Hollow and Wood Hollow South Drainage Alternative Study NORTH

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Downstream end of ULDC culvert for Wood Hollow South

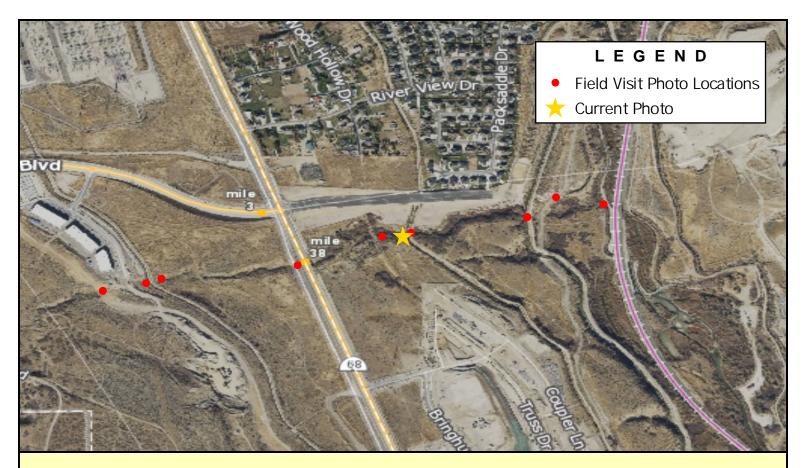


BOWEN COLLINS

ULDC

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 PHOTOGRAPH NO.



Note: Upstream end of ULDC culvert for Wood Hollow South



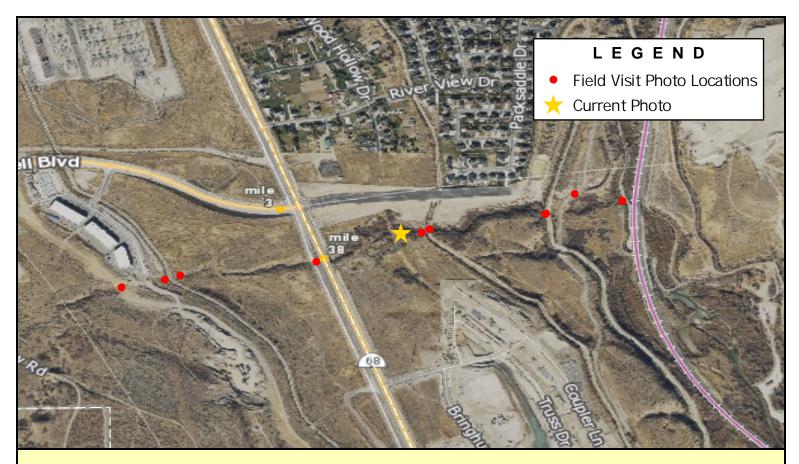


ULDC

Wood Hollow and Wood Hollow South Drainage Alternative Study



1,000 PHOTOGRAPH NO.



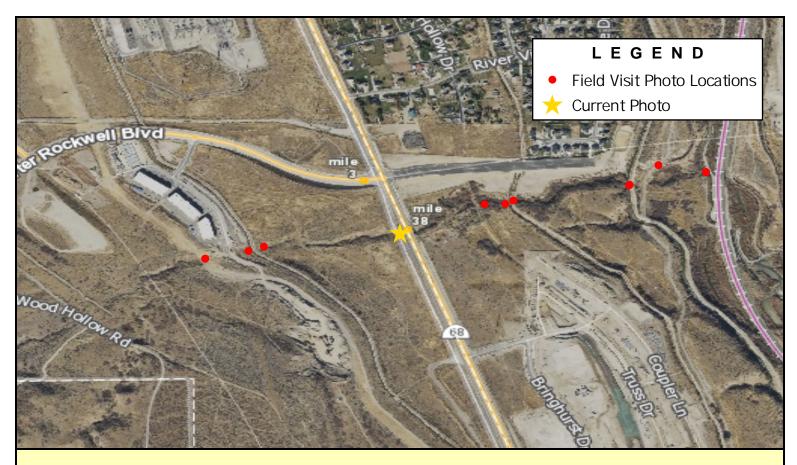
Note: Downstream end of trail culvert for Wood Hollow South



Trail

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 Feet PHOTOGRAPH NO.



Note: Overhead view of Wood Hollow South crossing of Redwood Rd.



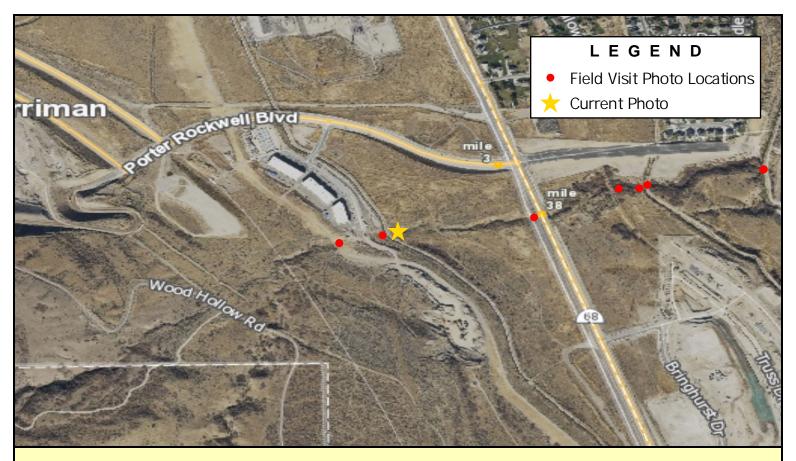


Redwood Rd.

Wood Hollow and Wood Hollow South Drainage Alternative Study



SCALE: 0 1,000 Feet PHOTOGRAPH NO.



Note: Downstream end of Welby Jacob Canal culvert for Wood Hollow South



BOWEN COLLINS

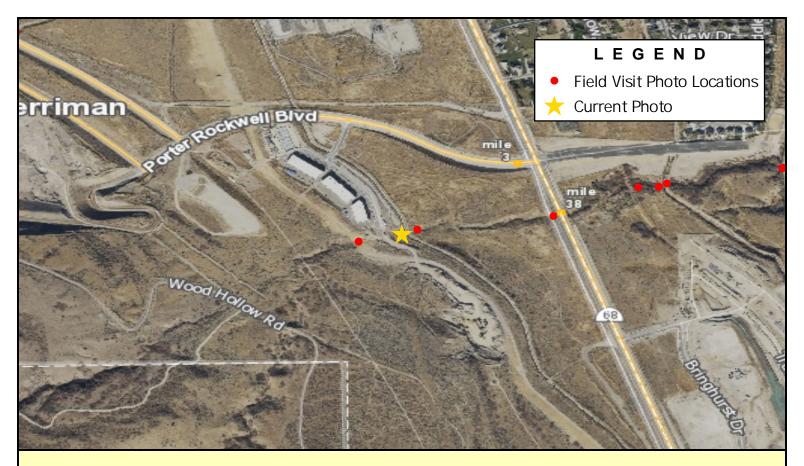
Welby Jacob Canal

Wood Hollow and Wood Hollow South Drainage Alternative Study NORTH

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.

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Note: Manhole for Welby Jacob Canal culvert for Wood Hollow South





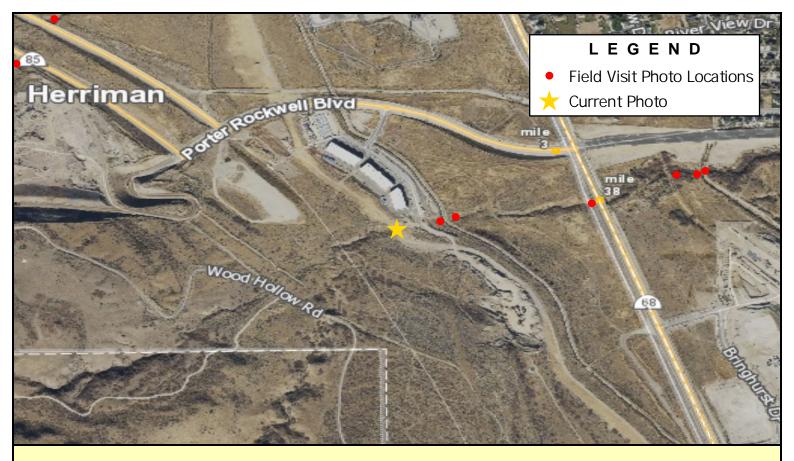
Welby Jacob Canal

Wood Hollow and Wood Hollow South Drainage Alternative Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Upstream end of Wood Hollow South



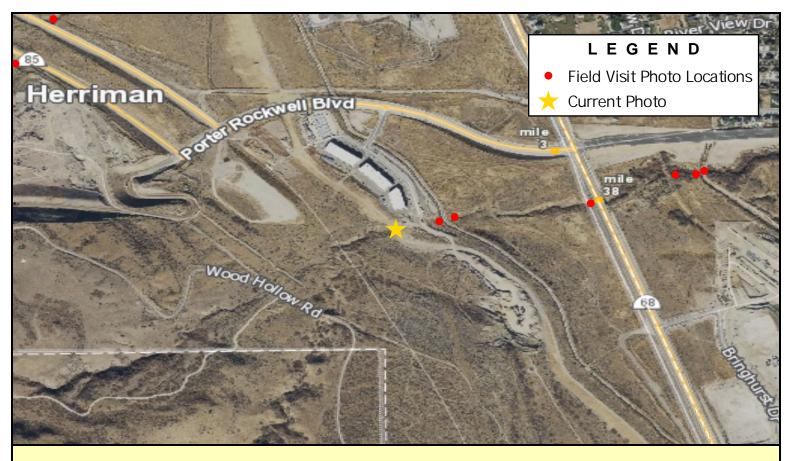


Wood Hollow South

Wood Hollow and Wood Hollow South Drainage Alternative Study NORTH

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Inlet to Welby Jacob Canal culvert for Wood Hollow South





Welby Jacob Canal

Wood Hollow and Wood Hollow South Drainage Alternative Study

1,000 PHOTOGRAPH NO.

APPENDIX B COST ESTIMATES

Table B-1
Estimated Capital Improvement Costs

#	Project Improvement	Ва	se Cost for Flooding
1	Replace existing Welby Jacobs canal culvert crossing	\$	310,000.00
2	Pipeline project; Construct new or parrallel pipeline from Redwood Rd to Crooked Sky Dr.	\$	1,170,000.00
3	Construct manhole that can be pressurized or bolt down existing manhole	\$	-
4	Pipeline project; Construct new or parallel pipeline from Crooked Sky Dr. to Overflow Pond	\$	1,420,000.00
5	Construct new overflow pond outlet pipe	\$	530,000.00
6	Construct improved inlet to increase capacity of pipeline	\$	70,000.00
7	Construct a new culvert to convey storm water underneath USLC	\$	350,000.00
8	Construct a new culvert to convey storm water underneath SJC	\$	390,000.00
9	Construct overflow/dumpout to convey storm water to Wood Hollow	\$	210,000.00
10	Bank Deficiency Btw Porter Rockwell Blvd & 15370 South Street	\$	29,000.00
11	Construct overflow/dumpout to convey storm water to Wood Hollow South	\$	210,000.00
12	Construct overflow/dumpout to convey storm water to Wood Hollow	\$	210,000.00
13	Construct overflow/dumpout to convey storm water to Wood Hollow South	\$	210,000.00

Table B-2
Culvert Replacement Project Calculations

UDOT Road (Y/N)	Proposed Culvert Size	Length/Qt	Unit Cost	Mob	Admin/Enginerring/Legal Fees/Contingency
N	5.5' RCP	60	\$ 400.00	\$ 200,000.00	\$ 89,600.00
N					
N					
N		0			\$ -
N	6' RCP	450	\$ 400.00	\$ 200,000.00	\$ 152,000.00
N		1	\$ -	\$ 50,000.00	\$ 20,000.00
N	6' RCP	130	\$ 400.00	\$ 200,000.00	\$ 100,800.00
N	6' RCP	200	\$ 400.00	\$ 200,000.00	\$ 112,000.00
N		1	\$ -	\$ 150,000.00	\$ 60,000.00
N					\$ -
N		1	\$ -	\$ 150,000.00	\$ 60,000.00
N		1	\$ -	\$ 150,000.00	\$ 60,000.00
N		1	\$ -	\$ 150,000.00	\$ 60,000.00

Table B-3
Bank Improvement Project Calculations

	Unit Cost U	: \$	\$ 70.00 /cu yd					
Cost	Fill (cu yd)	Unit Cost	M	ob & Design	Admin/Engine	rring/Legal Feels/Contingency		Cost
\$ 313,600.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 1,167,000.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ -	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 1,420,000.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 532,000.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 70,000.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 352,800.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 392,000.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 210,000.00	0	\$ 70.00	\$	-	\$	-	\$	-
	120	\$ 70.00	\$	20,000.00	\$	336.00	\$ 28	3,736.00
\$ 210,000.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 210,000.00	0	\$ 70.00	\$	-	\$	-	\$	-
\$ 210,000.00	0	\$ 70.00	\$	_	\$	-	\$	_

Table B-4
Bank Improvement Project Calculations Continued

Length	Height	Top Width	M:1	X-Sec Area	Volume (cu ft)	Volume (cu yd)	Notes
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
				0	0	0	
550	0.5	10	2	5.5	3025	112	
				0	0	0	
				0	0	0	
				0	0	0	

APPENDIX B Photo Logs



Note: Looking at Culvert





North Jordan Canal

Salt Lake County Flood Control

Bingham Creek SWCC Study

ОКТН

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Upstream





North Jordan Canal

Salt Lake County Flood Control

Bingham Creek SWCC Study

ОВТН

SCALE: 0 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Canal





North Jordan Canal

Salt Lake County Flood Control

Bingham Creek SWCC Study

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Culvert





8050 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

NORTH:

SCALE: 0 500 1,000

PHOTOGRAPH NO.

GRAPH NO.



Note: Looking Downstream





8050 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH:



Note: Looking Upstream





8050 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

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SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





1300 W | Temple Drive

Salt Lake County Flood Control

Bingham Creek SWCC Study



PHOTOGRAPH NO.



Note: Looking at Culvert





1300 W | Temple Drive

Salt Lake County Flood Control

Bingham Creek SWCC Study



1,000 PHOTOGRAPH NO.



Note: Looking Upstream





1300 W | Temple Drive

Salt Lake County Flood Control

Bingham Creek SWCC Study







Note: Looking Downstream



BOWEN COLLINS

1500 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

НТЯ

SCALE: 1,000 Feet PHOTOGRAPH NO.



Note: Looking at Cuvlert





1500 W

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Upstream



1500 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

HEAD ON THE STATE OF THE STATE

CALE: 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Culvert



1500 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

1,000 PHOTOGRAPH NO.



Note: Looking at Bridge





Pedestrian Bridge

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM SCALE: 0 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





Pedestrian Bridge

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Culvert





1650 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

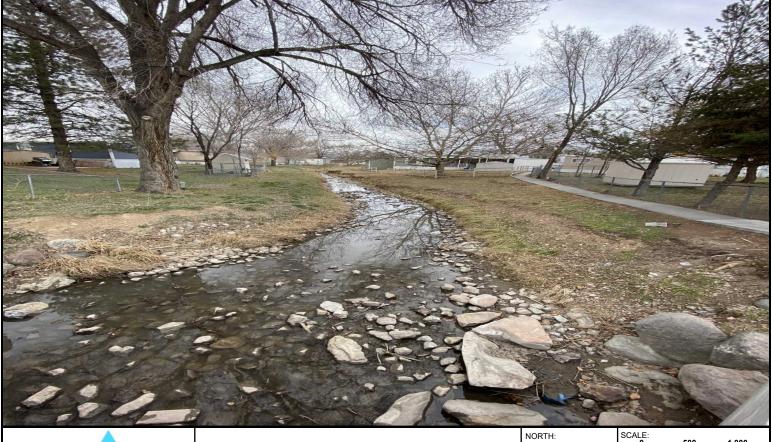
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SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





1650 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

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SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Culvert





Redwoood Road

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM SCALE: 0 500 1,000

PHOTOGRAPH NO.



Note: Looking Downstream



BOWEN COLLINS

Redwoood Road

Salt Lake County Flood Control

Bingham Creek SWCC Study

PHOTOGRAPH NO.







Redwoood Road

Salt Lake County Flood Control

Bingham Creek SWCC Study



5CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Redwoood Road

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Redwoood Road

Salt Lake County Flood Control

Bingham Creek SWCC Study

ОКТН

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Redwoood Road

Salt Lake County Flood Control

Bingham Creek SWCC Study



CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Sugar Factory Road

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 1,000 1,000 Feet PHOTOGRAPH NO.



Note: Looking Dowsntream





Sugar Factory Road

Salt Lake County Flood Control

Bingham Creek SWCC Study



CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





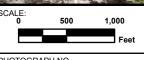


Sugar Factory Road

Salt Lake County Flood Control

Bingham Creek SWCC Study

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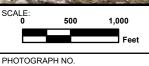


Sugar Factory Road

Salt Lake County Flood Control

Bingham Creek SWCC Study





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Sugar Factory Road

Salt Lake County Flood Control

Bingham Creek SWCC Study





PHOTOGRAPH NO.







2200 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream



2200 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







2700 W | Utah Salt Lake Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study

NORTH:

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







2700 W | Utah Salt Lake Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study

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5CALE: 0 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





2700 W | Utah Salt Lake Canal Crossing

Salt Lake County Flood Control

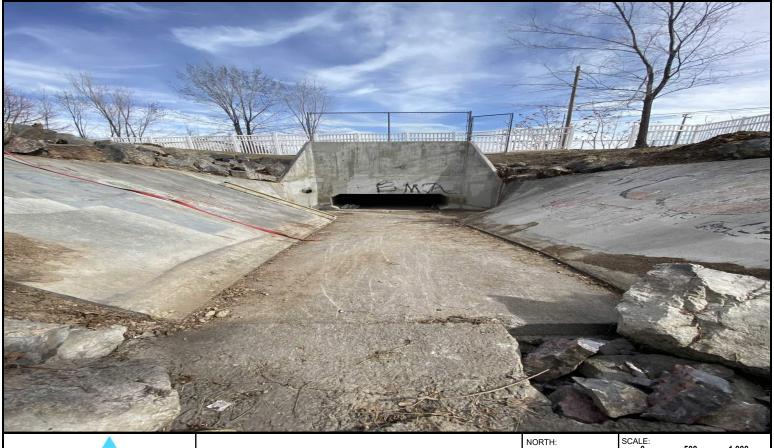
Bingham Creek SWCC Study

NORTH:

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







2700 W | Utah Salt Lake Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study

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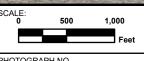




2700 W | Utah Salt Lake Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study



PHOTOGRAPH NO.





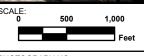


2700 W | Utah Salt Lake Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study





PHOTOGRAPH NO.





8580 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH ORTH

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





8580 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





8580 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH CALL

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





8580 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





8580 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





8580 S

Salt Lake County Flood Control

Bingham Creek SWCC Study

НТЯ

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





Salt Lake County Flood Control

Bingham Creek SWCC Study



PHOTOGRAPH NO.







8600 S

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





3200 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

1,000

PHOTOGRAPH NO.





3200 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH CALL

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







3200 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

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CCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Pagoda Grove Circle

Salt Lake County Flood Control

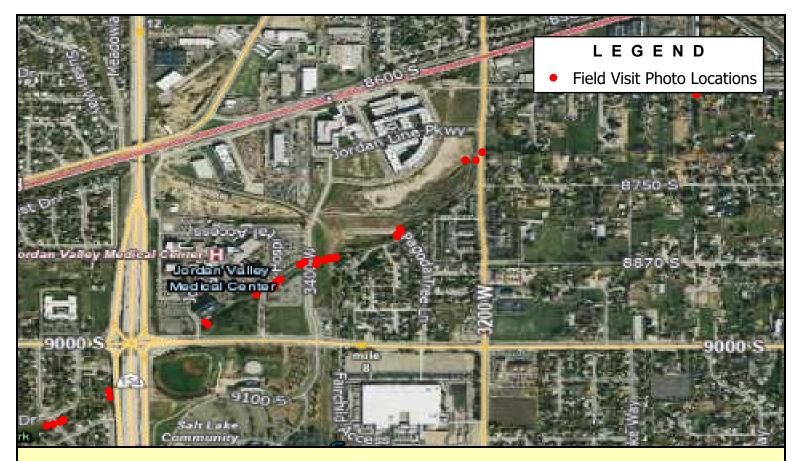
Bingham Creek SWCC Study

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SCALE: 0 500 1,000

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GRAPH NO.



Note: Looking Dowstream





Pagoda Grove Circle

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





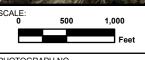


Pagoda Grove Circle

Salt Lake County Flood Control

Bingham Creek SWCC Study





PHOTOGRAPH NO.







Pagoda Grove Circle

Salt Lake County Flood Control

Bingham Creek SWCC Study

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Utah Lake Distributing Canal

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM SCALE: 0 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





Utah Lake Distributing Canal

Salt Lake County Flood Control

Bingham Creek SWCC Study



1,000

PHOTOGRAPH NO.







Utah Lake Distributing Canal

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 1,000 Feet PHOTOGRAPH NO.





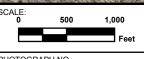


Utah Lake Distributing Canal

Salt Lake County Flood Control

Bingham Creek SWCC Study





PHOTOGRAPH NO.





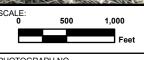


Utah Lake Distributing Canal

Salt Lake County Flood Control

Bingham Creek SWCC Study





PHOTOGRAPH NO.





BOWEN COLLINS

3400 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

DRIH:

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







3400 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

Окти

5CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





BOWEN COLLINS

3400 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

HEAD HEAD

CCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





3400 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

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PHOTOGRAPH NO.







3400 W

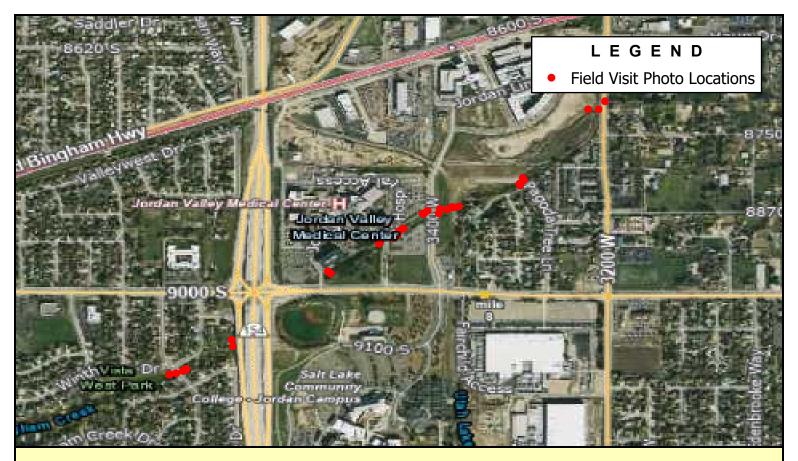
Salt Lake County Flood Control

Bingham Creek SWCC Study

NORTH:

CCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Jordan Valley Hospital

Salt Lake County Flood Control

Bingham Creek SWCC Study



1,000

PHOTOGRAPH NO.





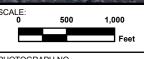


Jordan Valley Hospital

Salt Lake County Flood Control

Bingham Creek SWCC Study





PHOTOGRAPH NO.







Jordan Valley Hospital

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTTPO SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Jordan Valley Hospital

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







3590 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

HTTA

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







3590 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







3590 W

Salt Lake County Flood Control

Bingham Creek SWCC Study



CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







3590 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

Оветн

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PHOTOGRAPH NO.







3590 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

HLWQQ

SCALE: 0 500 1,000

PHOTOGRAPH NO.







Bangerter Highway

Salt Lake County Flood Control

Bingham Creek SWCC Study

NORTH:

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Bangerter Highway

Salt Lake County Flood Control

Bingham Creek SWCC Study

Овтн

SCALE: 500 1,000 Feet

PHOTOGRAPH NO.







Bangerter Highway

Salt Lake County Flood Control

Bingham Creek SWCC Study

Окти

SCALE: 0 500 1,000

PHOTOGRAPH NO.

OGRAPH NO.







Bangerter Highway

Salt Lake County Flood Control

Bingham Creek SWCC Study

Окти

SCALE: 1,000 1,000 Feet PHOTOGRAPH NO.





Judd Ln

Salt Lake County Flood Control

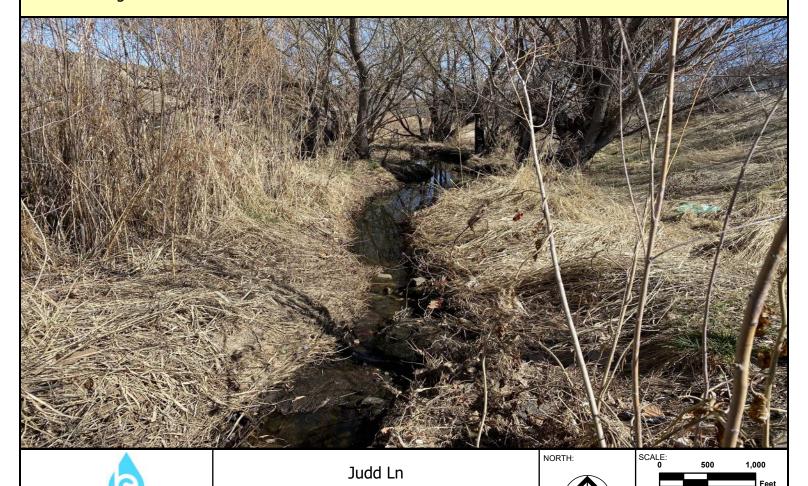
Bingham Creek SWCC Study

Октн

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





Salt Lake County Flood Control

Bingham Creek SWCC Study

PHOTOGRAPH NO.

76

BOWEN COLLINS







Judd Ln

Salt Lake County Flood Control

Bingham Creek SWCC Study

HENO HENO

SCALE: 0 1,000 Feet

PHOTOGRAPH NO.





Judd Ln

Salt Lake County Flood Control

Bingham Creek SWCC Study

Окти

5CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





Judd Ln

Salt Lake County Flood Control

Bingham Creek SWCC Study

Окти

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Judd Ln

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM Feet

PHOTOGRAPH NO.





4000 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

ОВТН

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







4000 W

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





4000 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

Овтн

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







4000 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

Окти

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







4000 W

Salt Lake County Flood Control

Bingham Creek SWCC Study



CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





BOWEN COLLINS

4000 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





4000 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTTPO CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Welby Jacobs Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study









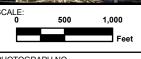


Welby Jacobs Canal Crossing

Salt Lake County Flood Control

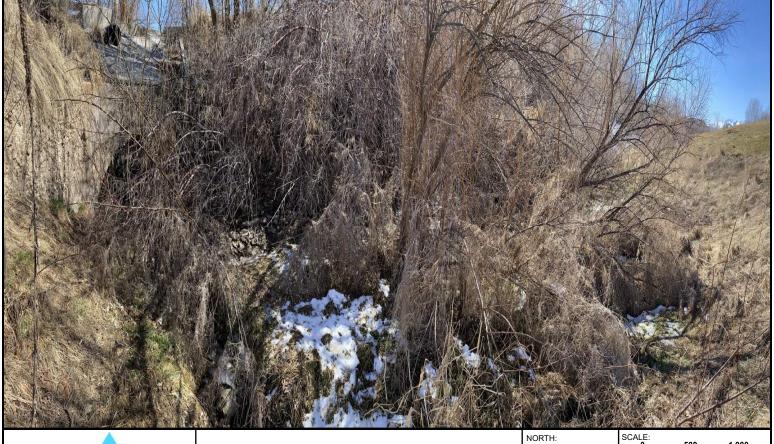
Bingham Creek SWCC Study





PHOTOGRAPH NO.







Welby Jacobs Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 1,000 Feet

PHOTOGRAPH NO.







Welby Jacobs Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study





PHOTOGRAPH NO.





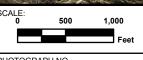


Welby Jacobs Canal Crossing

Salt Lake County Flood Control

Bingham Creek SWCC Study

HEAD HEAD



PHOTOGRAPH NO.



Note: Looking at CMP





Laurel Ridge Dr.

Salt Lake County Flood Control

Bingham Creek SWCC Study

Овтн

5CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





Laurel Ridge Dr.

Salt Lake County Flood Control

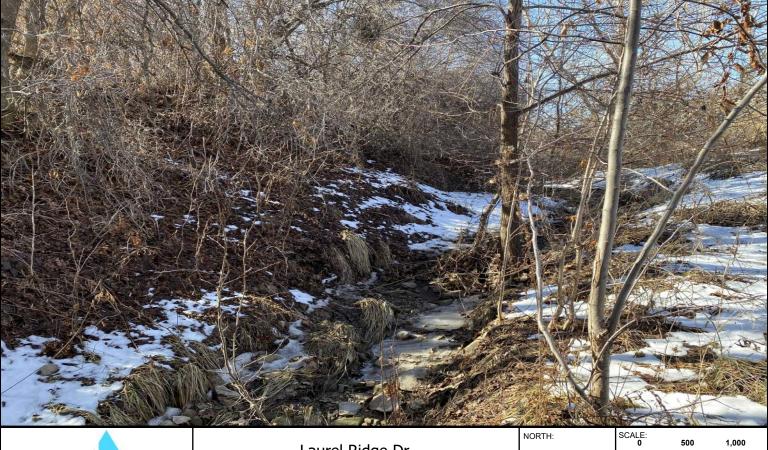
Bingham Creek SWCC Study

ORTH

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





BOWEN COLLINS

Laurel Ridge Dr.

Salt Lake County Flood Control

Bingham Creek SWCC Study

PHOTOGRAPH NO.



Note: Looking at CMP





Laurel Ridge Dr.

Salt Lake County Flood Control

Bingham Creek SWCC Study

Октн

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at CMP



Laurel Ridge Dr.

Salt Lake County Flood Control

Bingham Creek SWCC Study

ОКТН

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Bridge





Private Bridge

Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





Private Bridge

Salt Lake County Flood Control

Bingham Creek SWCC Study



CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Bridge



Private Bridge

Salt Lake County Flood Control

Bingham Creek SWCC Study

Октн

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Private Bridge

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream



Skye Dr

Salt Lake County Flood Control

Bingham Creek SWCC Study

1,000

PHOTOGRAPH NO.







Skye Dr

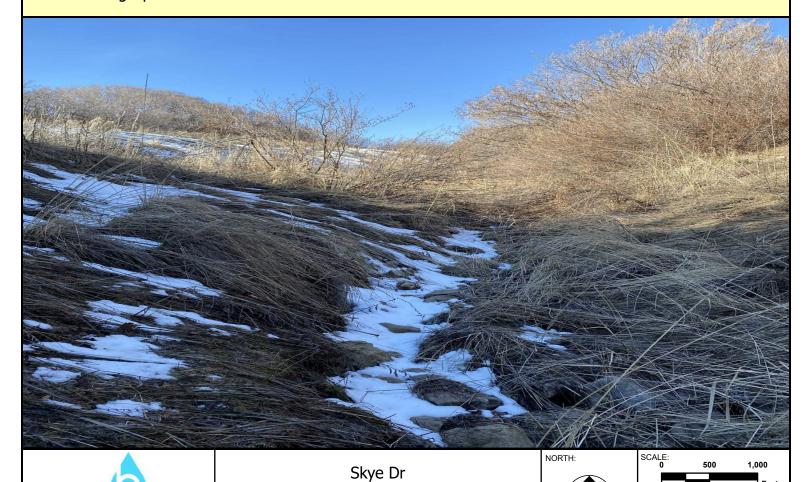
Salt Lake County Flood Control

Bingham Creek SWCC Study

1,000

PHOTOGRAPH NO.





Salt Lake County Flood Control

PHOTOGRAPH NO.

104

BOWEN COLLINS







Skye Dr

Salt Lake County Flood Control

Bingham Creek SWCC Study

МЕТН

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





BOWEN COLLINS

4800 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

НТЯ

5CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream



4800 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

NORTH:

SCALE: 1,000 Feet PHOTOGRAPH NO.







4800 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

1,000

PHOTOGRAPH NO.





BOWEN COLLINS

4800 W

Salt Lake County Flood Control

Bingham Creek SWCC Study

Октн

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Dirt Road

Salt Lake County Flood Control

Bingham Creek SWCC Study

ОВТН

SCALE: 0 1,000 Feet

PHOTOGRAPH NO.





BOWEN COLLINS

Dirt Road

Salt Lake County Flood Control

Bingham Creek SWCC Study

Овтн

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





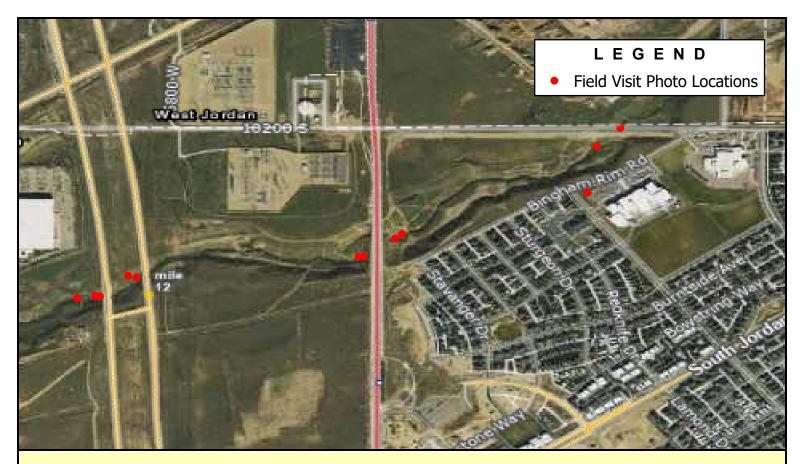
Dirt Road

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Railroad





Railroad

Salt Lake County Flood Control

Bingham Creek SWCC Study

ОКТН

5CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





Railroad

Salt Lake County Flood Control

Bingham Creek SWCC Study

Октн

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Railroad





Railroad

Salt Lake County Flood Control

Bingham Creek SWCC Study

NORTH:

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Railroad

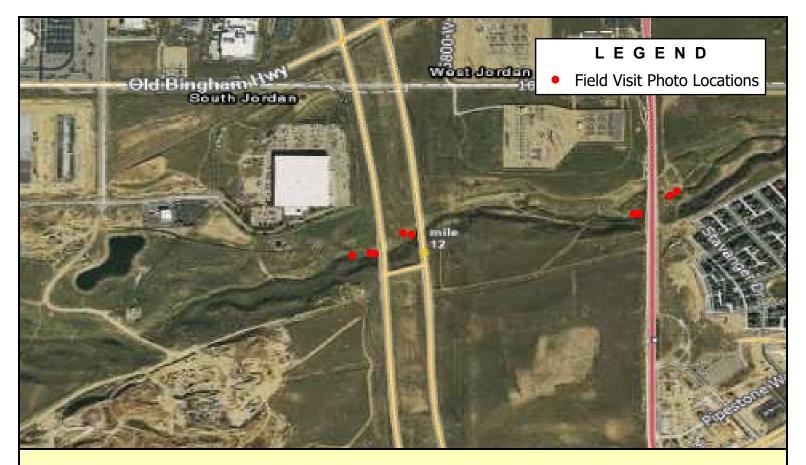
Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Bridge





Mountain View Corridor- Northbound Bridge

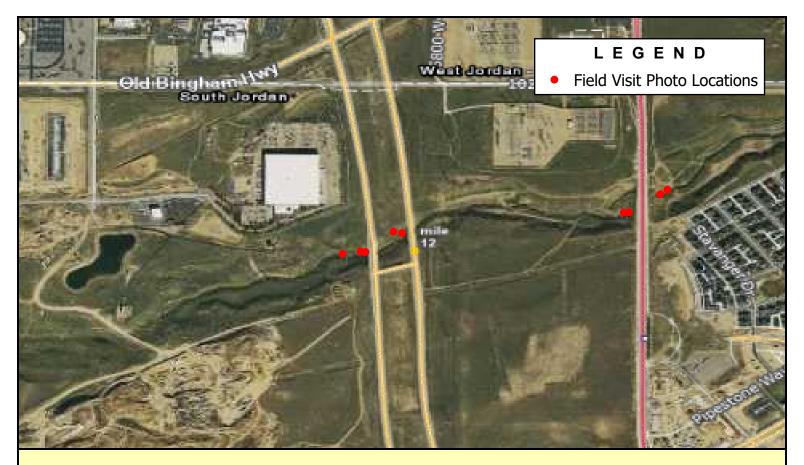
Salt Lake County Flood Control

Bingham Creek SWCC Study

ОВТН

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream





Mountain View Corridor- Northbound Bridge

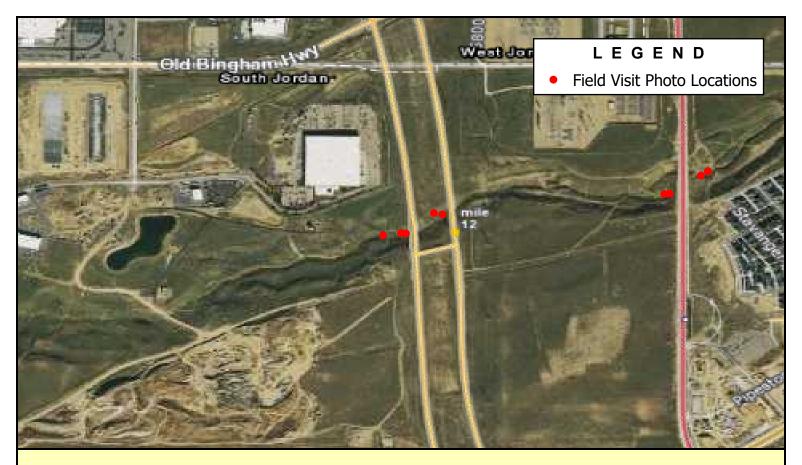
Salt Lake County Flood Control

Bingham Creek SWCC Study



SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Looking at Bridge





Mountain View Corridor- Southbound Bridge

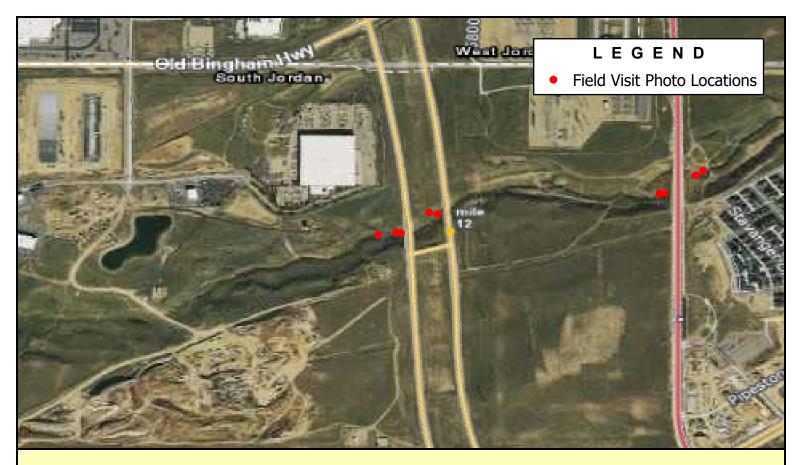
Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Mountain View Corridor- Southbound Bridge

Salt Lake County Flood Control

Bingham Creek SWCC Study



1,000 PHOTOGRAPH NO.



Note: Looking at Bridge





Pedestrian Structure West of Mountain Corridor

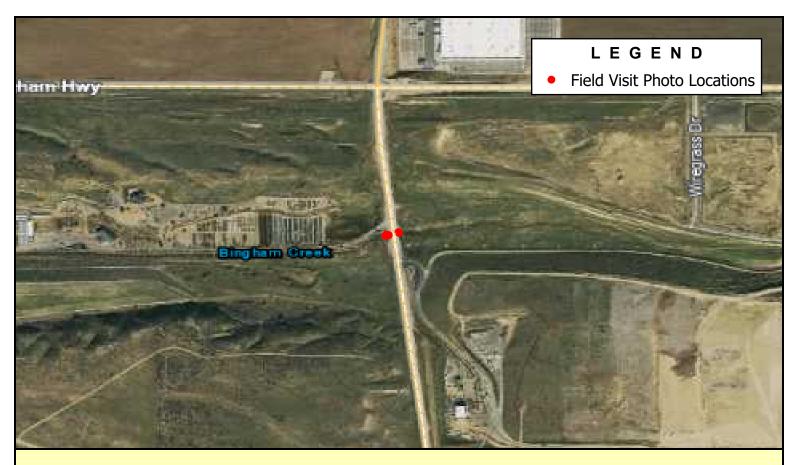
Salt Lake County Flood Control

Bingham Creek SWCC Study



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PHOTOGRAPH NO.







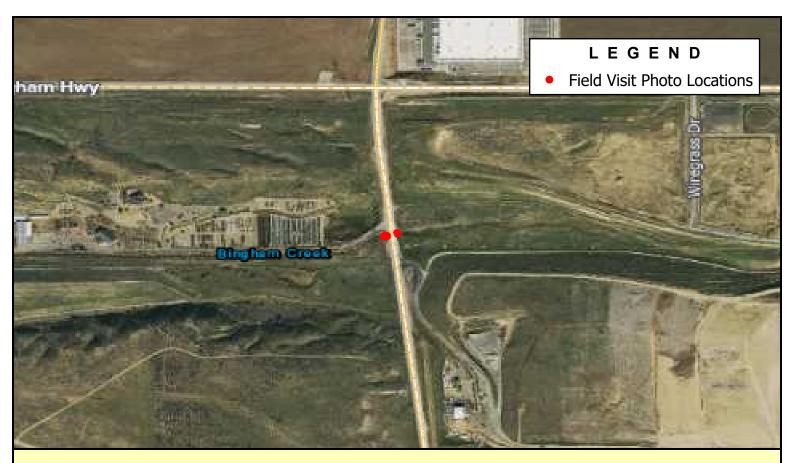
Baccus Highway

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM 5CALE: 0 1,000 Feet

PHOTOGRAPH NO.



Note: Looking Downstream



Baccus Highway

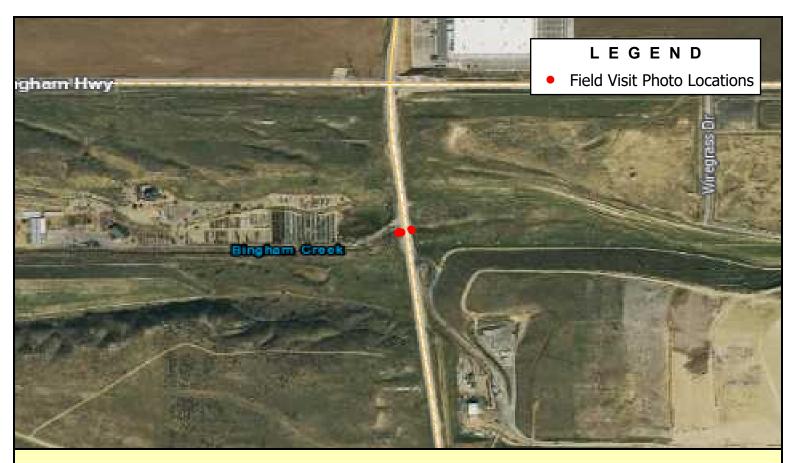
Salt Lake County Flood Control

Bingham Creek SWCC Study

ОКТН

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







Bacchus Highway

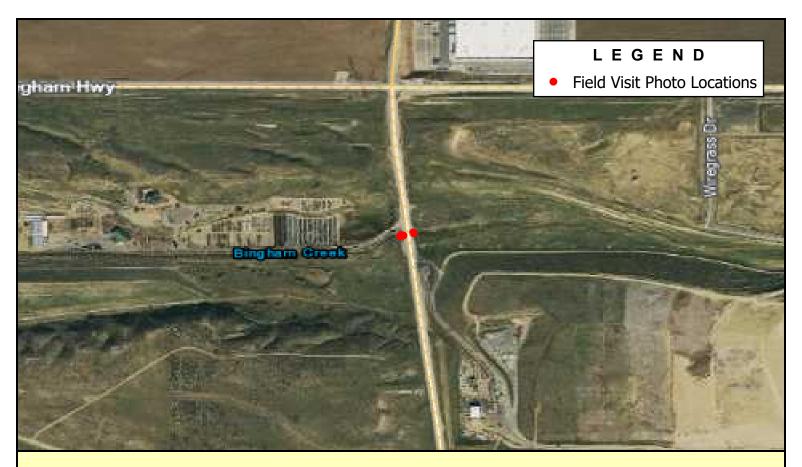
Salt Lake County Flood Control

Bingham Creek SWCC Study

ОКТН

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.







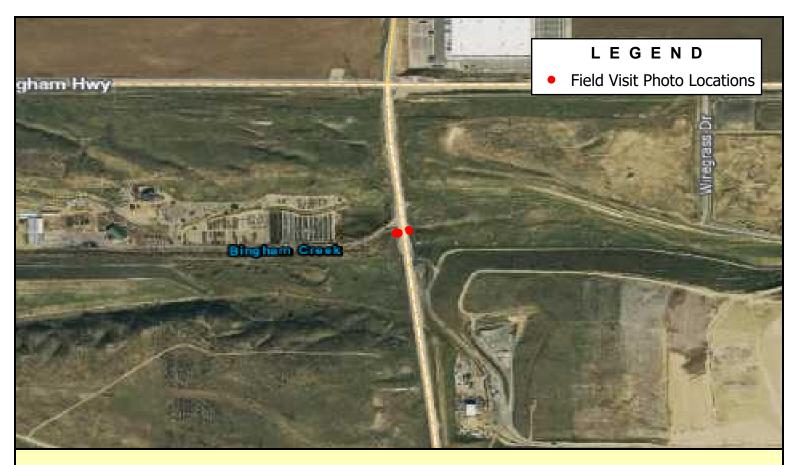
Bacchus Highway

Salt Lake County Flood Control

Bingham Creek SWCC Study

ORTH HTM SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.





Bacchus Highway

Salt Lake County Flood Control

Bingham Creek SWCC Study

Октн

CALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: End of Wood Hollow at Jordan River (Source: FEMA Study)



Wood Hollow

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Wood Hollow Overflow Pond outlet structure (Source: FEMA Study)





Overflow Pond

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Wood Hollow Overflow Pond outlet structure and emergency spillway (Source: FEMA Study)





Overflow Pond

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Discharge of Wood Hollow into overflow pond (Source: FEMA Study)

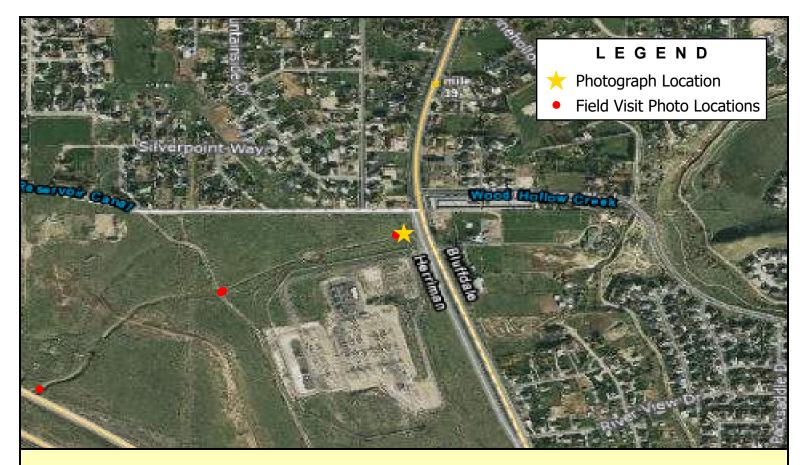




Wood Hollow

Salt Lake County Flood Control Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Inlet to Wood Hollow Piped portion at Redwood Rd. (Source: FEMA Study)

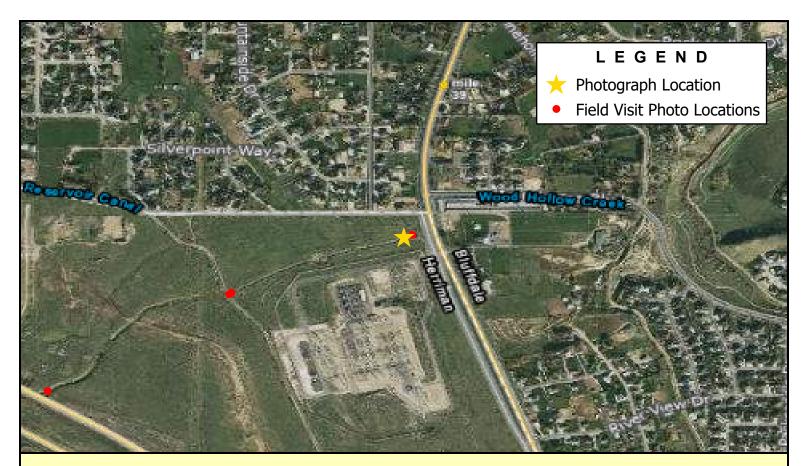




Redwood Rd.

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Wood Hollow Channel (Source: FEMA Study)





Wood Hollow

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Downstream end of Wood Hollow Welby Jacob Canal culvert (Source: FEMA Study)





Welby Jacob Canal

Salt Lake County Flood Control Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Pipe culvert of Wood Hollow crossing over Welby Jacob Canal (Source: FEMA Study)





Welby Jacob Canal

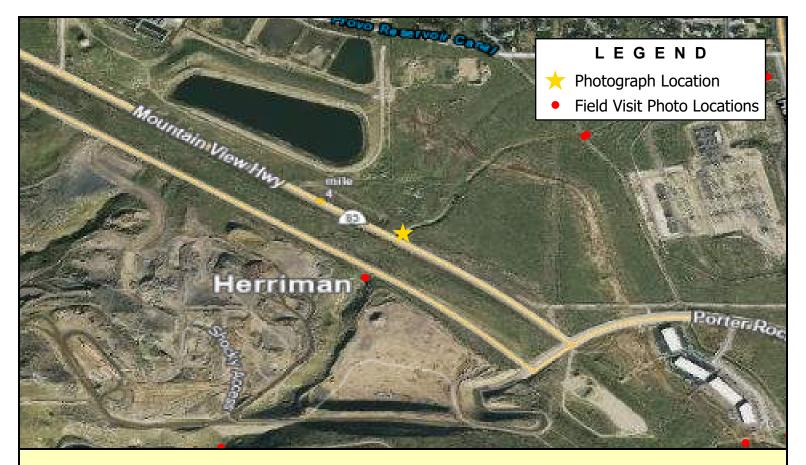
Wood Hollow & Wood Hollow South
Photo Log SWCCS

HERO

SCALE: 0 500 1,000

PHOTOGRAPH NO.

P:\Salt Lake County\2019 Phase 2 - Southwest Canal and Creek Study\4.0 GIS\4.1 Projects\TheHollows\General Figures.aprx \(\frac{1}{3}\) Greensen 7/21/20 Section 3: Canals and Misc. Creeks



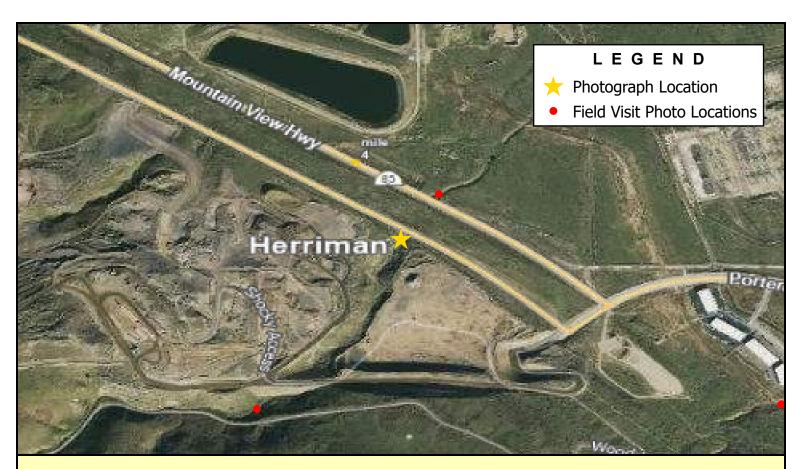
Note: Downstream end of Mountain View Corridor for Wood Hollow (Source: FEMA Study)



Mountain View Corridor

Salt Lake County Flood Control Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Upstream end of Mountain View Corridor for Wood Hollow (Source: FEMA Study)

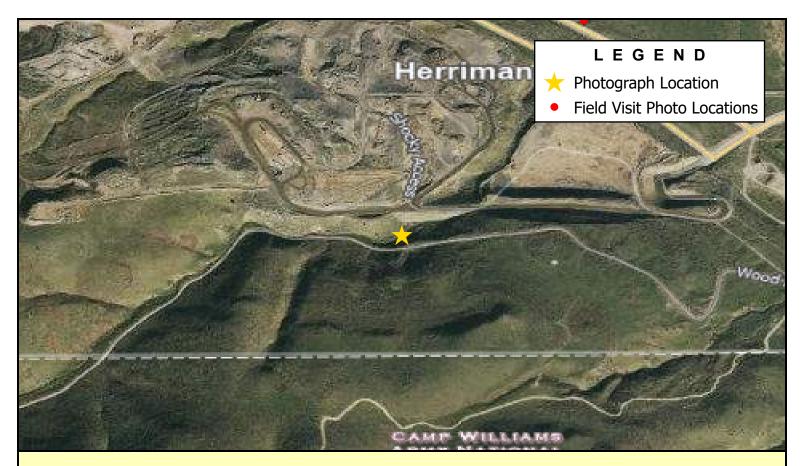




Mountain View Corridor

Salt Lake County Flood Control Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Upstream end of access road culvert (Source: FEMA Study)





Access Road

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: South Jordan Canal at the end of Wood Hollow South





South Jordan Canal

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

PHOTOGRAPH NO.



Note: Approximate discharge point of abandoned Wood Hollow South into South Jordan Canal





South Jordan Canal

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Abandoned portion of Wood Hollow South





Wood Hollow South

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South
Photo Log SWCCS

ORTH

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Discharge of Wood Hollow South into USLC





USLC

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

NORTH:

1,000 Feet PHOTOGRAPH NO.



Note: Headwall structure on USLC at discharge point of Wood Hollow South





USLC

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Downstream end of ULDC culvert for Wood Hollow South





ULDC

Salt Lake County Flood Control Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Upstream end of ULDC culvert for Wood Hollow South

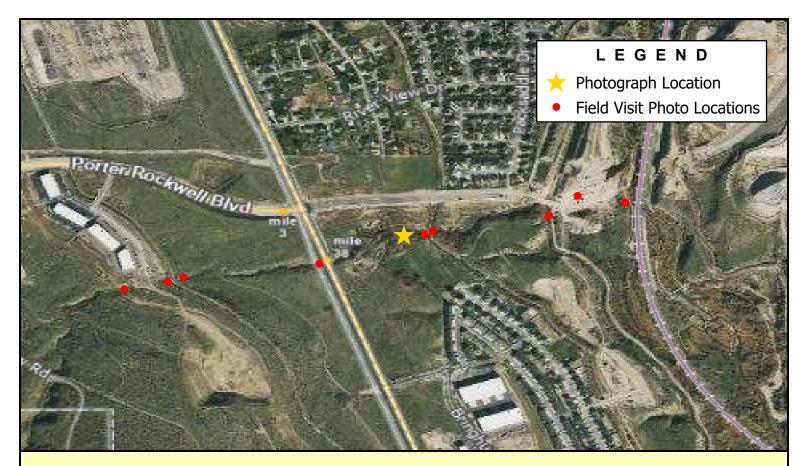




ULDC

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Downstream end of trail culvert for Wood Hollow South

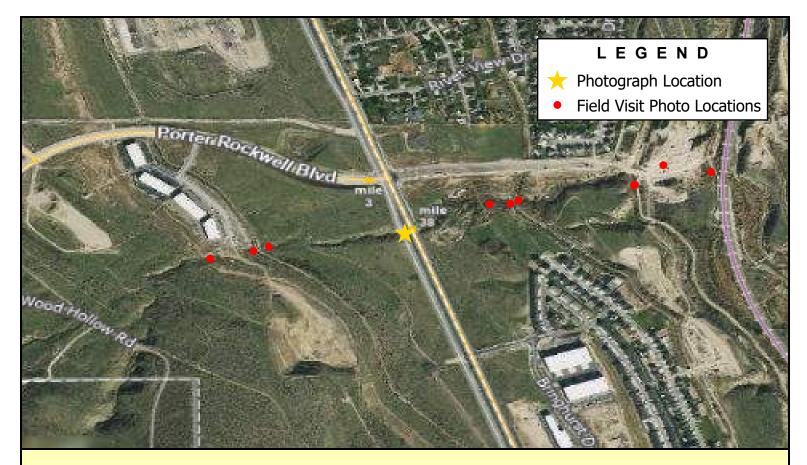




Trail

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 Feet PHOTOGRAPH NO.



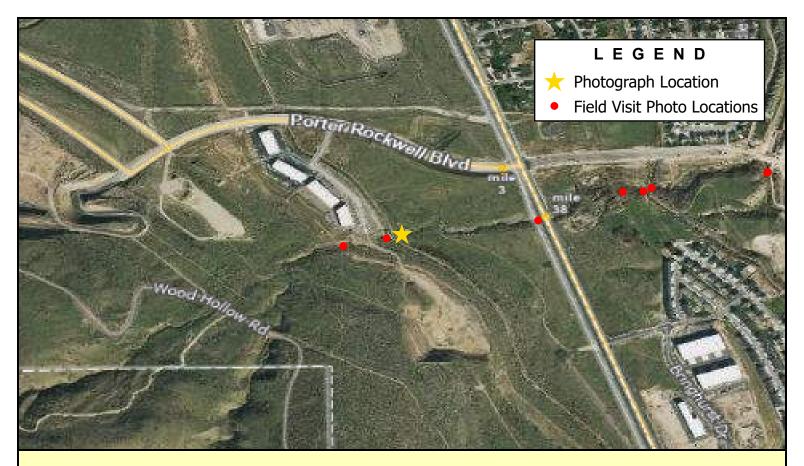
Note: Overhead view of Wood Hollow South crossing of Redwood Rd.



Redwood Rd.

Salt Lake County Flood Control Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Downstream end of Welby Jacob Canal culvert for Wood Hollow South

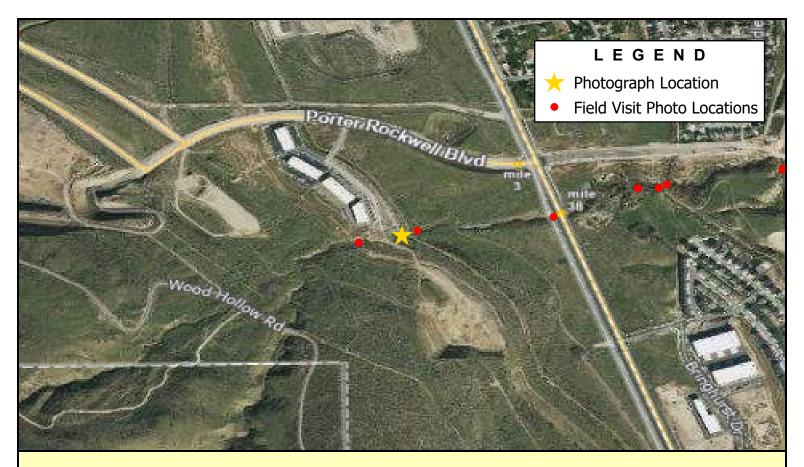




Welby Jacob Canal

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Manhole for Welby Jacob Canal culvert for Wood Hollow South

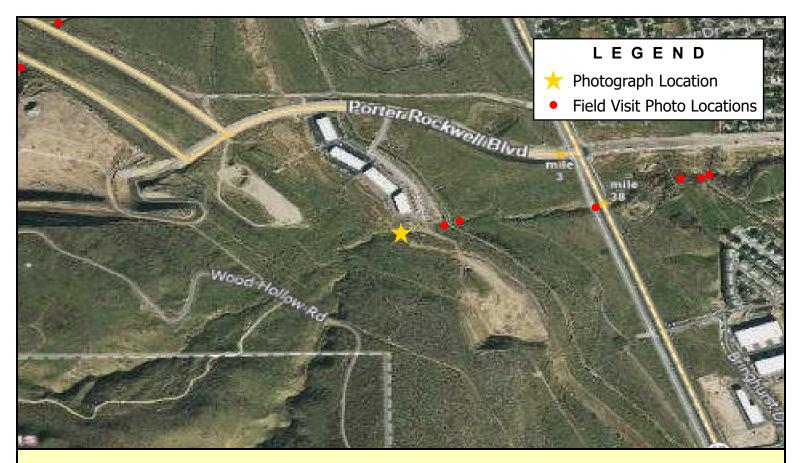




Welby Jacob Canal

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Upstream end of Wood Hollow South

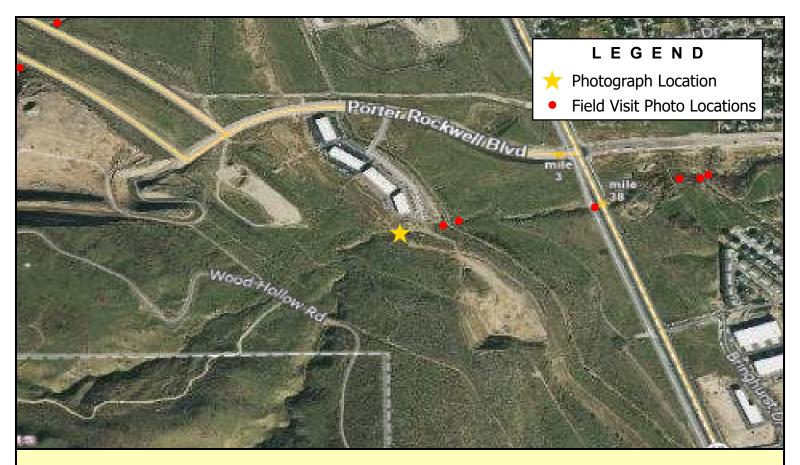




Wood Hollow South

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



Note: Inlet to Welby Jacob Canal culvert for Wood Hollow South





Welby Jacob Canal

Salt Lake County Flood Control
Wood Hollow & Wood Hollow South Photo Log SWCCS

1,000 PHOTOGRAPH NO.



9000 South Culvert



9000 South Culvert



Steep Hillside – Approximately 8780 South



Utility Crossing - Approximately 8750 South



Pedestrian Bridge & Irrigation Turn out -Approximately 8600 South



Broken Concrete as Riprap along Embankment – Approximately 8550 South



Hillside Rills - Approximately 8550 South



Pipe Penetration through the Embankment -Approximately 8370 South



Trees Along Hillside – Approximately 8330 South



Trees on the Embankment - Approximately 8270 South



Trees on the Embankment - Approximately 8250 South



Pedestrian Bridge - Approximately 8250 South



8200 South Bridge



42 inch Outfall at approximately 7500 South



Bridge For Private Driveway – 8050 South



Pump Station Intake at Approximately 7600 South



Bingham Creek Crossing – Approximately 8050 South



UTA Crossing and Storm Drain Overflow Structure Immediately South of 7800 South



7800 South Culvert



Spring Discharging into NJC at Approximately 7600 South



Pedestrian Bridge Immediately North of 7800 South near Gardner Village



Culvert at 7500 South



Concrete Flume Immediately North of 7800 South near Gardner Village



Tree in Embankment at Approximatley 7450 South



Outfall at Approximately 7400 South



Culvert at 7200 South



Storm Drain Overflow/Dump-out and Pedestrian Bridge at Approximately 7200 South



Utility Crossing at Approximately 7100 south



Storm Drain Overflow/Dump-out at Approximately 7200 South



Canal Lining at Approximately 6800 South



Monitoring Station at Approximately 6700 South



Storm Drain Overflow/Dump-out at Winchester Street



Canal Lining at Approximately 6700 South



Evidence of Embankment Movement at Approximately 6600 South



Monitoring Station and Winchester Street Culvert



Trash Rack Upstream of Enclosed Canal at Approximately 6500 South



Evidence of Embankment Movement at Approximately 6500 South



Wood Bridge at Approximately 6400 South



Pump Station on Downstream End of Enclosed Canal Section at Approximately 6450 South



Development Encroachment at Approximately 6400 South



36 Inch Outfall at Approximately 6400 South



Culvert at Bennion Blvd. and 30 inch Outfall at Approximately 6235 South



Bridge at Loch Hawkins Drive



Outfall at Approximately 5850 South immediately upstream of I-215



I-215 Overpass and Maintenance Access Bridge



Outfall at Approximately 5770 South



36 inch Pipe outfall at Approximately 5900 South



Bridge at Bullion Street



Storm Drain Overflow/Dump-out at Approximately 5600 South



Storm Drain Overflow/Dump-out at 5400 South



Over Steepened Embankment at Approximately 5500 South



Culvert at 5400 South



Trash Rack Upstream of Enclosed Canal at Approximately 5500 South



24 inch Outfall at Approximately 5350 South



Maintenance Access Road Bridge and Culvert at Morning Vista Drive



Pedestrian Bridge and Outfall at Approximately 4900 South



Bridge and Pump Station at Morning Sun Drive



4700 South Culvert



Pipe Crossing at Approximately 4950 South



4610 South Culvert



4650 South Culvert



Pedestrian Bridge at Approximately 1800 West



Pedestrian Bridge in Cemetery at Approximately 4650 South



Pump Station at Approximately 1850 West





Pedestrian Bridge at Approximately 2100 West



Pump Station Intake at Approximately 2100 West



I-215 Bridge



Bridge at 2200 West



I-215 Overflow Structure



Bridge at 2290 West



Culvert near American Express (Approximately 4240 South)



Bridge at Butch Draw



Footbridge at Approximately 2800 West



Redwood Road Bridge



Bridge at 3200 West



Overflow Structure at Approximately 2700 West



Concrete Flume Immediately West of 3200 West





Trash Rack Immediately Upstream of the Outworks to the NJC Pipe



Outworks to the NJC pipe



Trash Rack at Approximately 3450 West 3600 South



Note: Salt Lake County Facility Ends at 4000 West



End of Canal at 4000 W

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Downstream Side of Bangerter Highway Crossing





Bangerter Highway

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY



1,000 PHOTOGRAPH NO.



Note: Upstream of 4700 South and the Stromwater Dumpout Structure





4700 South Dumpout

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

NORTH

SCALE: 0 500 1,000

PHOTOGRAPH NO.



Note: Upstream Side of Access Road at 3250 West



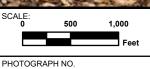


S 3250 W

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY







Note: Downstream Side of the 3200 West Culvert



S 3200 W

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 Feet PHOTOGRAPH NO.



Note: Upstream Side of the 3200 West Culvert



S 3200 W

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Access Bridge at 3145 West



S 3145 W

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY



SCALE: 0 1,000 Feet

PHOTOGRAPH NO.



Note: Downstream Side of 3100 West Driveway



BOWEN COLLINS

S 3100 W

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 Feet PHOTOGRAPH NO.



Note: Upstream Side of 3100 West Driveway & Canal



S 3100 W

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Downstream Side of 4964 South Driveway



BOWEN COLLINS

w 4960 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Upstream Side of 4964 South Driveway



w 4960 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Downstream Side of 4984 South Driveway



W 4965 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000

PHOTOGRAPH NO.



Note: Upstream Side of 4984 South Driveway





W 4965 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Downstream Side of 4986 South Driveway



BOWEN COLLINS

W 4970 S

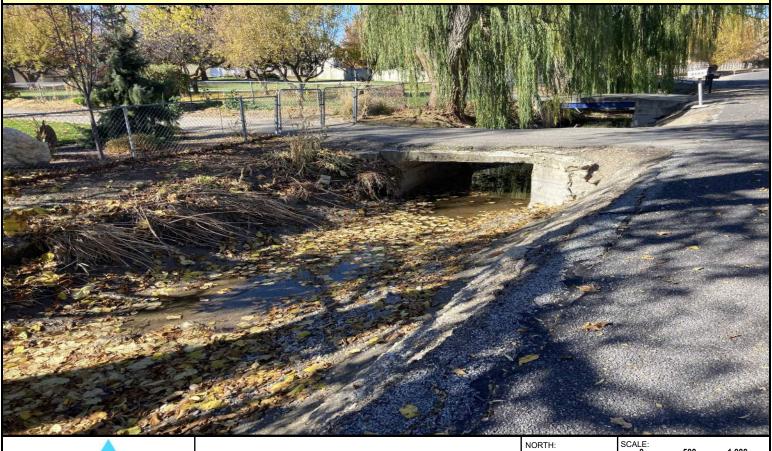
SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Upstream Side of 4986 South Driveway



W 4970 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000

PHOTOGRAPH NO.



Note: Downstream Side of 4990 South Driveway





W 4980 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Upstream Side of 4990 South Driveway



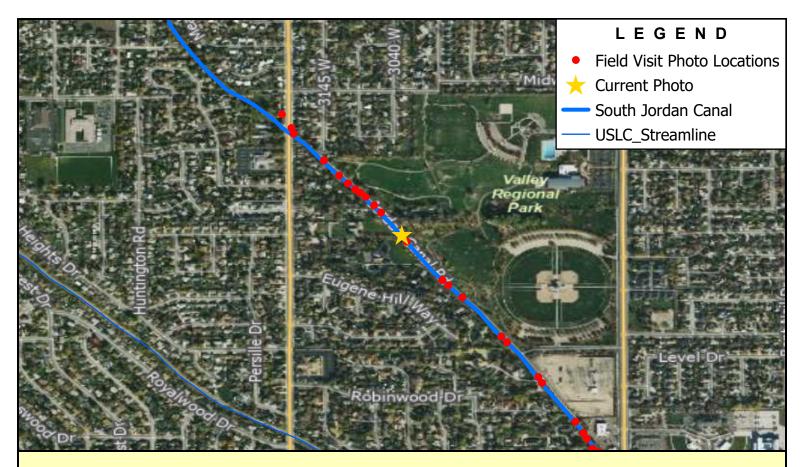


W 4980 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Downstream Side of Bigarade Ln. Crossing



BOWEN COLLINS

W Bigarade Ln

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Upstream Side of Bigarade Ln. Crossing





W Bigarade Ln

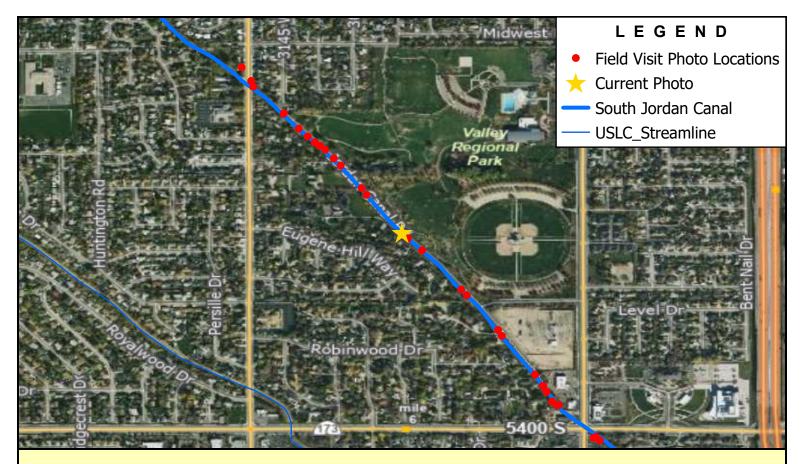
SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

NORTH

SCALE:
0 500 1,000
Feet

PHOTOGRAPH NO.



Note: Downstream Side of 5080 South Access Road



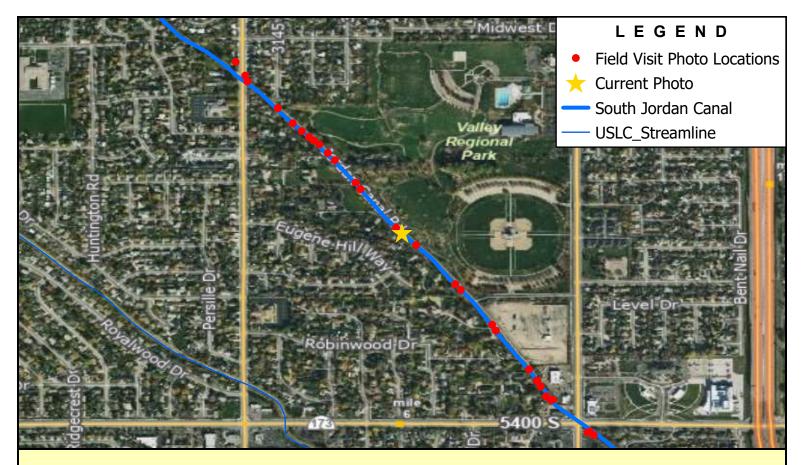
W 5080 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Upstream Side of 5080 South Access Road





W 5080 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Bridge at Approximatley 5090 South





W 5090 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000

PHOTOGRAPH NO.



Note: Downstream Side of 5100 South Driveway





W 5100 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Upstream Side of 5100 South Driveway with Trash Rack





W 5100 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000

PHOTOGRAPH NO.



Note: Downstream Side of 5245 South



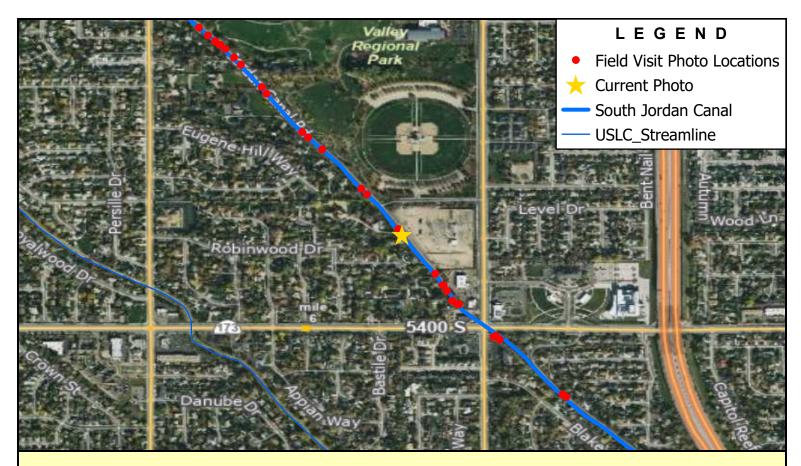
W 5245 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

SCALE: 0 500 1,000

PHOTOGRAPH NO.



Note: Downstream Side of 5245 South





W 5245 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Downstream Side of 5300 South Driveway

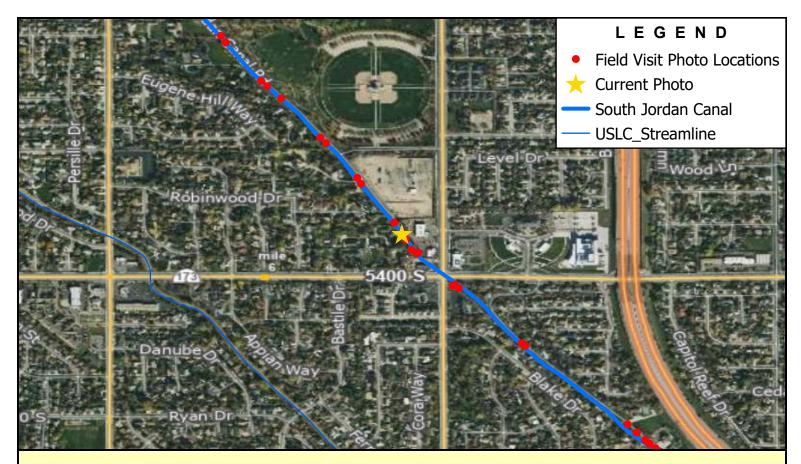


W 5300 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Upstream Side of 5300 South Driveway





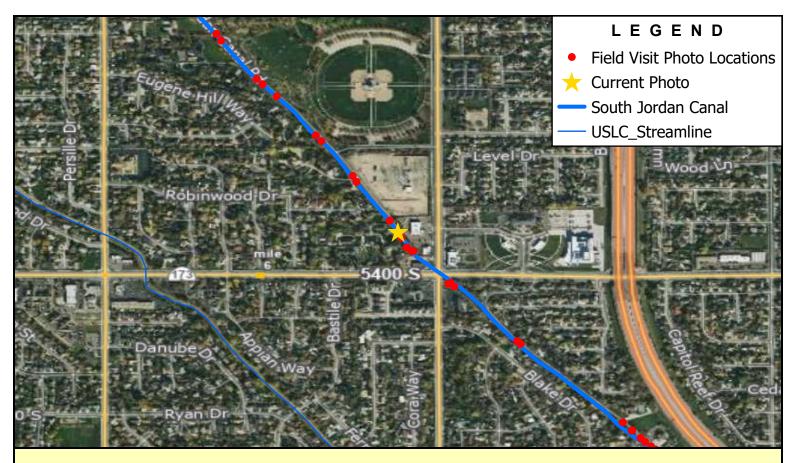
W 5300 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

SCALE: 1,000 1,000 Feet PHOTOGRAPH NO.

PH NO.



Note: Downstream Side of 5319 South S Jordan Canal Rd.



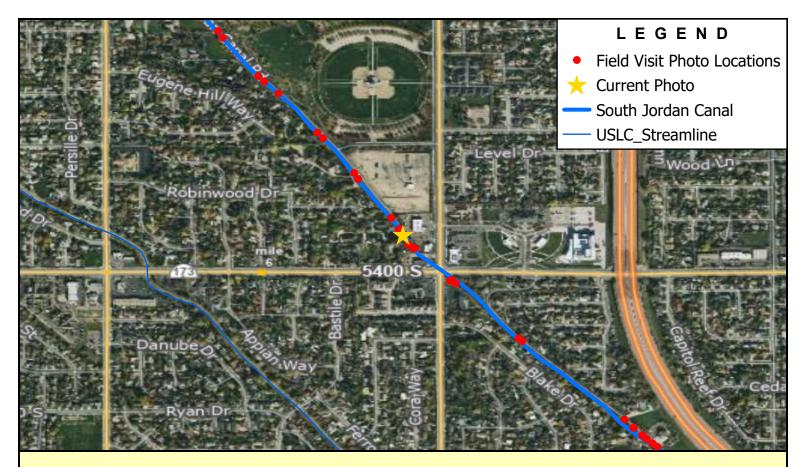
S Jordan Canal Rd/ W 5319 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY



SCALE: 1,000 1,000 Feet



Note: Upstream Side of 5319 South S Jordan Canal Rd.



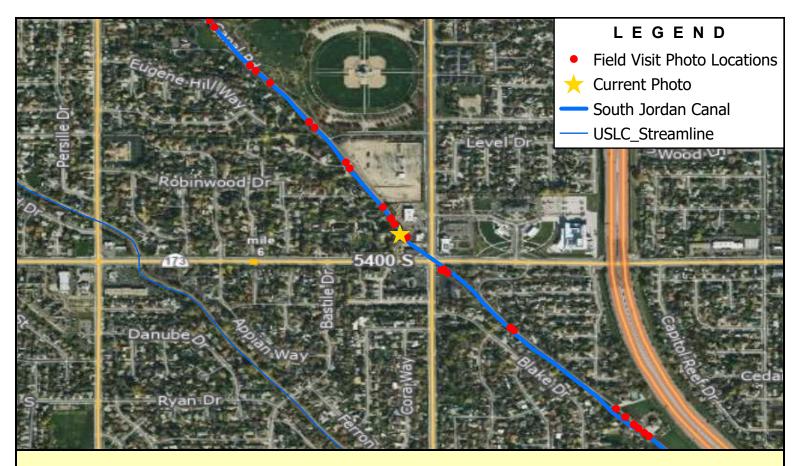
BOWEN COLLINS

S Jordan Canal Rd/ W 5319 S

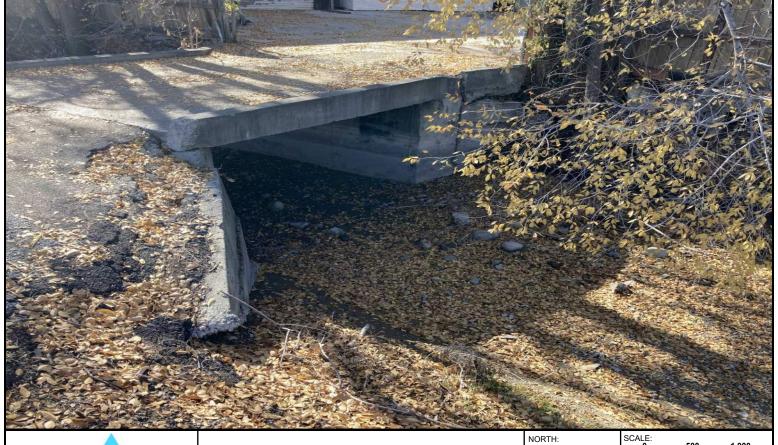
SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

SCALE: 1,000 1,000 Feet PHOTOGRAPH NO.



Note: Downstream Side of 5350 South Driveway





W 5350 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

SCALE: 0 500 1,000 Feet

PHOTOGRAPH NO.



Note: Upstream Side of 5350 South Driveway



W 5350 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.



Note: Downstream Side of 2700 W / 5400 South Culvert





S 2700 W / 5400 S

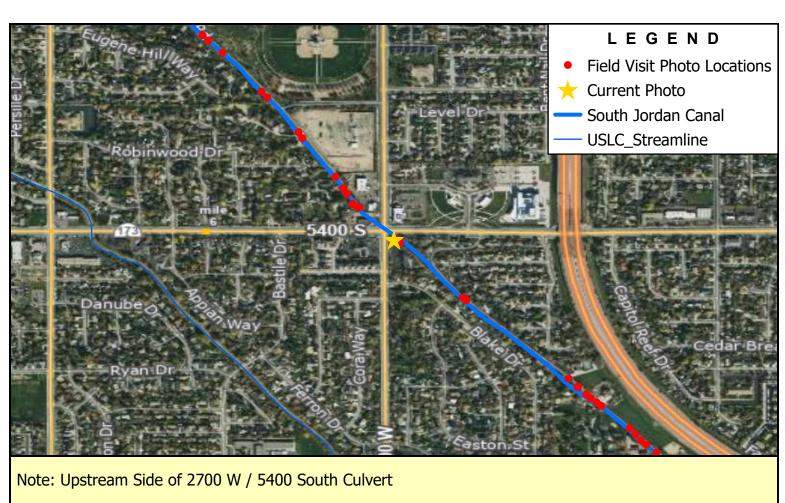
SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

NORTH

SCALE: 1,000 1,000 Feet

PHOTOGRAPH NO.







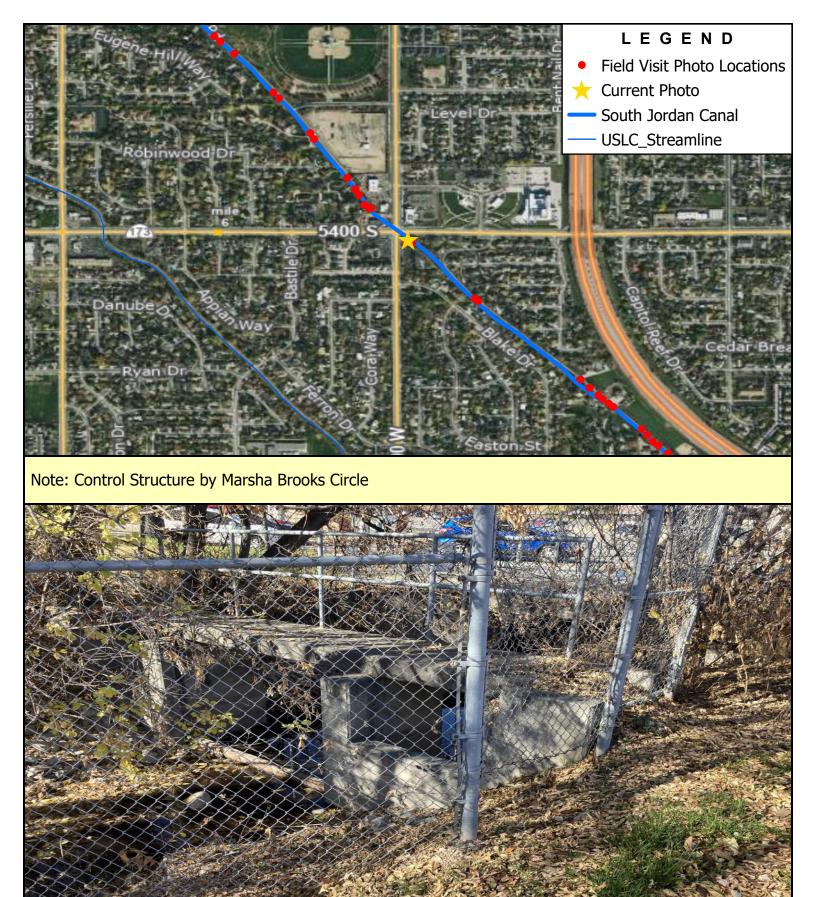
S 2700 W / 5400 S

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000

PHOTOGRAPH NO.



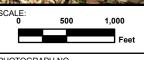


By Marsha Brooks Circle

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY





PHOTOGRAPH NO.



Note: 5400 South Dumpout





5400 South Dumpout

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

NORTH

SCALE: 1,000 1,000 Feet

PHOTOGRAPH NO.

TOGRAPH NO.



Note: Downstream Side of 5505 South Driveway



SALT LAKE COUNTY

PHOTOGRAPH NO.

37

BOWEN COLLINS



Note: Upstream Side of 5505 South Driveway



5505 S 2750 W

SALT LAKE COUNTY

SOUTHWEST CANAL AND CREEK STUDY

1,000 PHOTOGRAPH NO.