BANGERTER

9800 SOUTH

APPENDIX

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- Bangerter Highway Over Option Map
- Bangerter Highway Under Option Map

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- Bangerter Highway & 9800 South Future Build Conditions Traffic Analysis
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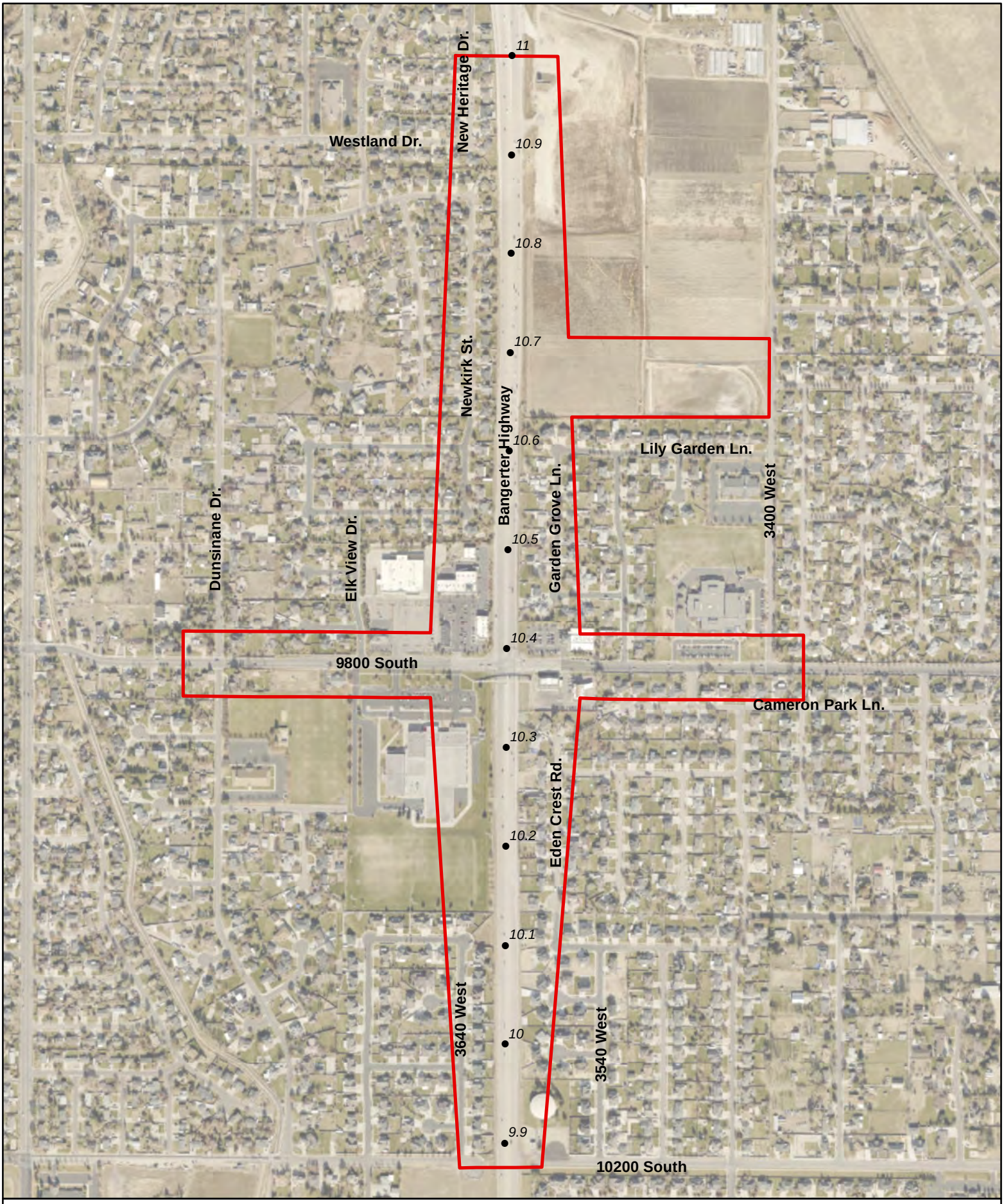
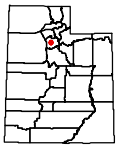
- UDOT Threatened and Endangered Species and Wildlife Concurrence Memo
- Environmental Review of Water Resources and Wetlands, Noxious Weeds, and Visual Aesthetics
- Noise Study
- Hazardous Materials Memo
- Air Quality Summary

Appendix A: Project Figures

Study Area Map





N

0 200 400

Miles

- Tenth Milepost
- Study Area

18808: Bangerter Environmental - 9800 South

Study Area

Map 1 of 1

Appendix A: Project Figures

Bangerter Highway Over Option Map

BANGERTER OVER OPTION

Existing Noise Wall - 12-15 ft
Remain In Place

Existing Noise Wall - 11-15 ft
Replace

Cell Tower
Relocate on School Property

Elk Ridge Middle School

BANGERTER HIGHWAY

Existing Noise Wall - 13-15 ft
Remain In Place

Existing Noise Wall - 13-15 ft
Replace Where Removed

Existing Noise Wall - 12-14 ft
Remain In Place

Elk Meadows Elementary School

9800 SOUTH

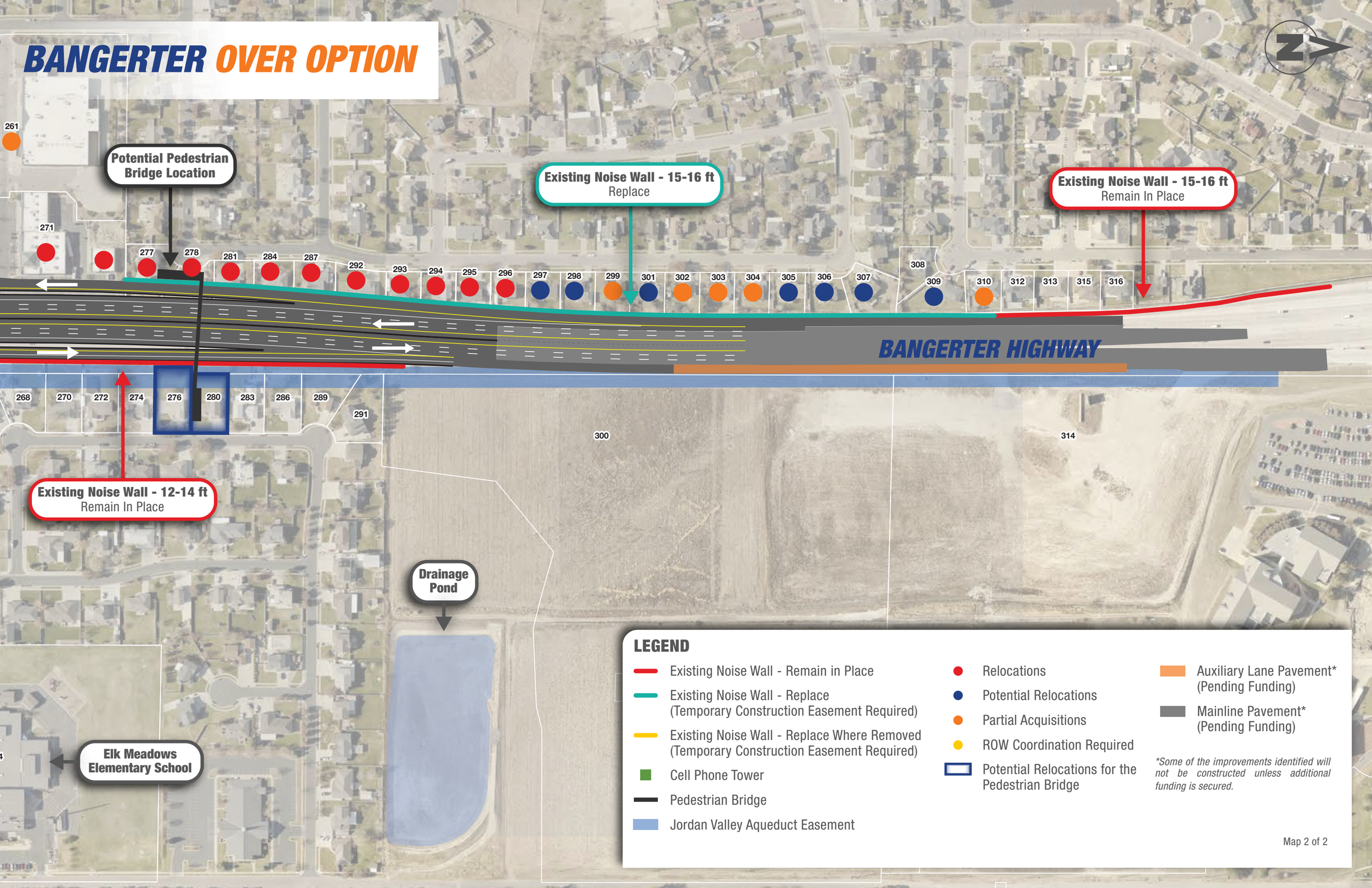
200 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 240 242 244 246 248 254 256 258 260 261 262 263 264 266 268 270 271 272

LEGEND

- Existing Noise Wall - Remain in Place
- Existing Noise Wall - Replace (Temporary Construction Easement Required)
- Existing Noise Wall - Replace Where Removed (Temporary Construction Easement Required)
- Cell Phone Tower
- Pedestrian Bridge
- Jordan Valley Aqueduct Easement
- Relocations
- Potential Relocations
- Partial Acquisitions
- ROW Coordination Required
- Potential Relocations for the Pedestrian Bridge
- Auxiliary Lane Pavement* (Pending Funding)
- Mainline Pavement* (Pending Funding)

**Some of the improvements identified will not be constructed unless additional funding is secured.*

BANGERTER OVER OPTION



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Appendix A: Project Figures

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BANGERTER UNDER OPTION

Existing Noise Wall - 12-15 ft
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Existing Noise Wall - 11-15 ft
Replace

Elk Ridge Middle School

Potential Pedestrian Bridge Location

Cell Tower
Relocate on School Property

BANGERTER HIGHWAY

Existing Noise Wall - 13-15 ft
Remain In Place

Existing Noise Wall - 13-15 ft
Replace Where Removed

Existing Noise Wall - 12-14 ft
Remain In Place

Elk Meadows Elementary School

9800 SOUTH

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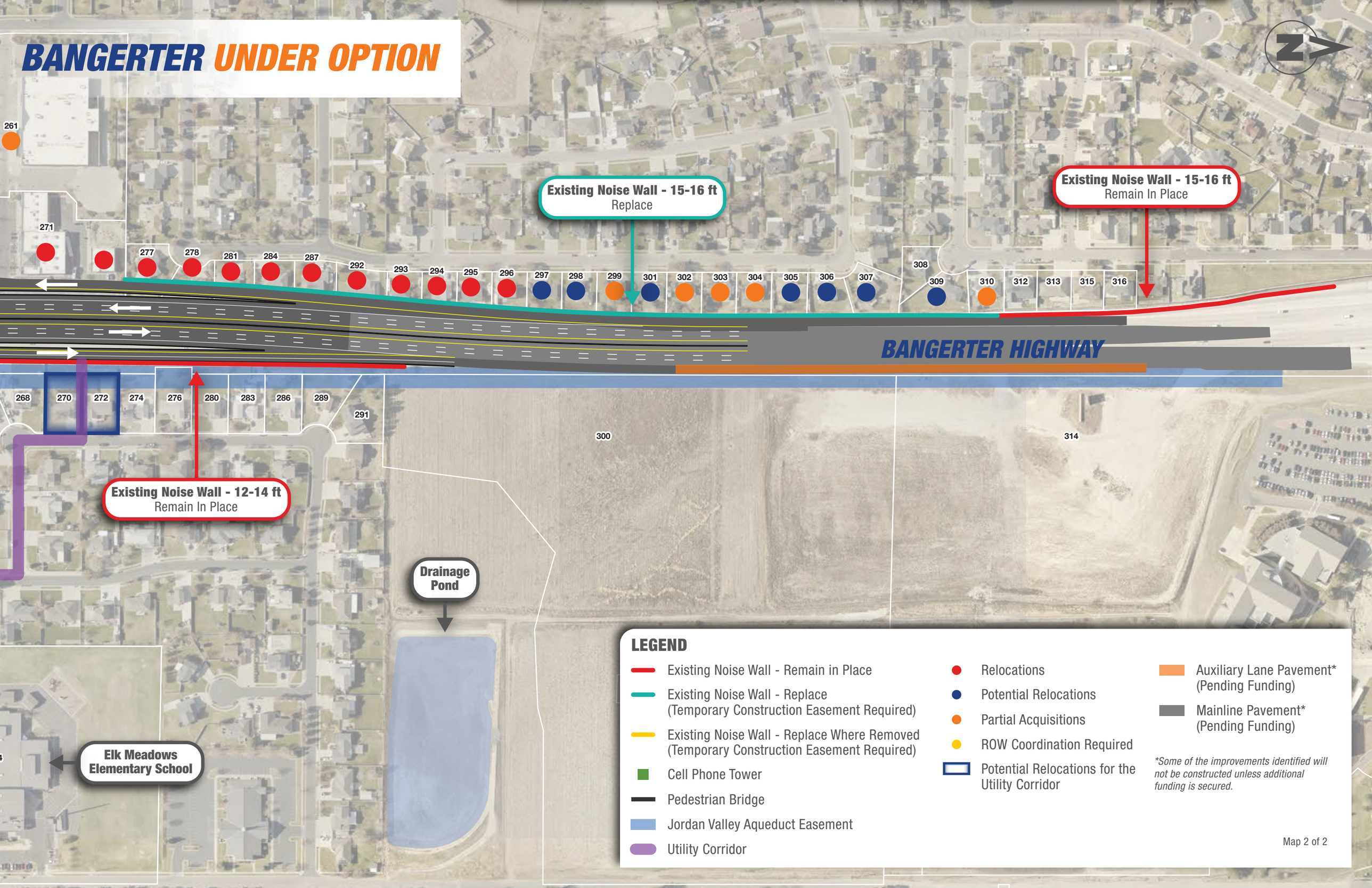
BANGERTER UNDER OPTION



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**Some of the improvements identified will not be constructed unless additional funding is secured.*

Appendix B: Traffic and Design

Bangerter Highway & 9800 South Existing and 2050 No Build Traffic Analysis

MEMORANDUM

To: UDOT Region Two & Environmental

From: Avenue Consultants

Date: December 6, 2021

Subject: Bangerter Highway & 9800 South Existing and 2050 No Build Traffic Analysis

The Utah Department of Transportation (UDOT) is performing an environmental study for a potential new interchange on Bangerter Highway at the existing 9800 South at-grade intersection. This memorandum summarizes the traffic evaluation for existing and future (2050) no build conditions within the study area. For this analysis, the study area consists of the Bangerter Highway corridor from 9000 South to 10400 South and the 9800 South corridor from 4000 West to 3200 West, as illustrated in **Figure 1**.

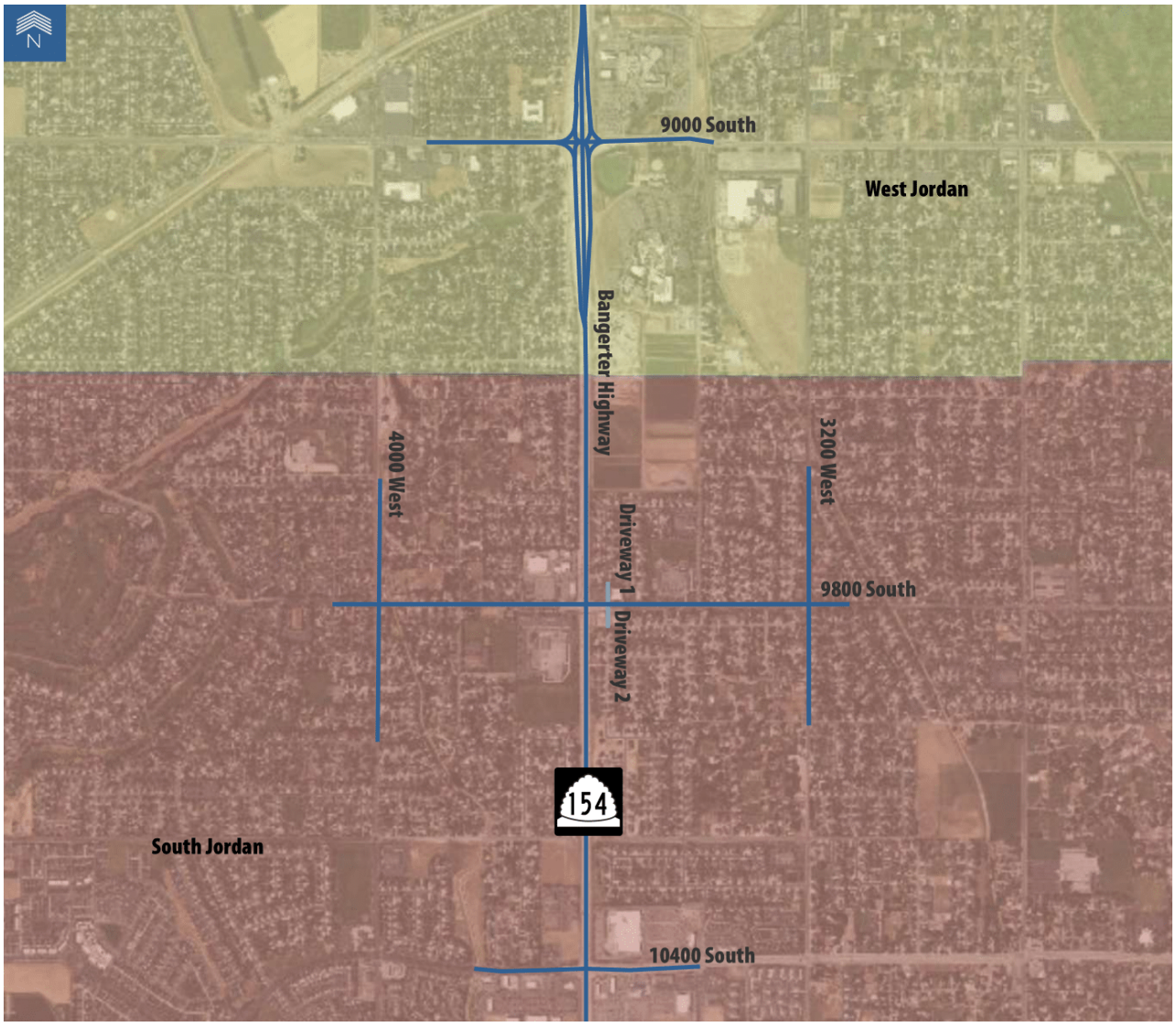


Figure 1: Bangerter Highway & 9800 South Traffic Analysis Study Area

1 ANALYSIS METHODOLOGY

The analysis described in this memorandum utilized project traffic data, Vissim traffic operations software and the Wasatch Front Regional Council (WFRC) / Mountainland Associated of Governments (MAG) travel demand model for year 2050 traffic forecasts. This section describes how each of these tools were used for this study.

1.1 Travel Demand Modeling

The WFRC/MAG travel demand model (TDM) was the primary tool used to predict future travel and traffic volumes within the study area. WFRC and MAG are the Metropolitan Planning Organizations (MPOs) for the Wasatch Front and are responsible for coordinating transportation planning in the region. WFRC is responsible for Salt Lake County and prepares the Regional Transportation Plan (RTP) every four years, which is the plan for the development of the future transportation system. The most recent plan is the 2019-2050 RTP, which includes a list of projects that are planned to meet future transportation needs over a 30+ year horizon.

The travel demand model has two primary inputs: land use data and transportation system data. The land use data consists of residential and employment data for the entire region. This data is prepared in geographic blocks called Traffic Analysis Zones (TAZs). The travel model inputs are prepared for a base year, which in this case was 2019, and for a future year, which in this case was 2050. A base year of 2019 was used because both travel model socioeconomic inputs and published traffic volume data are available for that year. In travel modeling, the base year always lags the current year by a few years because of the need to have land use input and calibration data.

To prepare the model for use, several TAZs were split in the study area and added corresponding roads to improve the resolution of the model in the area and to reflect local travel patterns more accurately. A figure showing the TAZ splits in the study area can be found in Appendix A: Traffic Analysis Zones.

Version 8.3.1 of the TDM was used for this study. To validate the model for the study area, base year model volumes were compared to published traffic volumes. Free flow speeds on some roadways in the study area were adjusted to bring the model volumes closer to the observed volumes. The most common measure for model validation purposes is the Percent Root Means Square Error (RMSE). RMSE is a measure of the accuracy of traffic assignment that measures the average error between the observed and modeled traffic volumes on roadway links with traffic counts. For model validation, traffic counts from UDOT's Traffic on Utah Highways were utilized. These counts provide Annual Average Daily Traffic (AADT) on state highways and federal aid roads. These AADTs were used to estimate Average Weekday Daily Traffic (AWDT) traffic for comparison to the travel model output using statewide traffic factors provided to UDOT. **Table 1** summarizes the RMSE for Bangerter Highway and cross streets from I-15 to I-80. Overall, 89 roadway segments were evaluated and the TAZ splits along with speed adjustments reduce the RMSE on these corridors compared to the base model.

Table 1: Bangerter Highway and Cross Streets - Percent Root Means Square Error

Vehicles per Day	# of Links	2019 WFRC Base Model	2019 Revised Model
0-9,999	16	176%	125%
10,000-19,999	7	23%	16%
20,000-29,999	16	35%	36%
30,000-49,999	28	33%	25%
50,000-59,999	8	16%	14%
60,000+	14	23%	17%
Area Wide	**89**	**32%**	**25%**

In consultation with region's cities, WFRC and MAG prepare future land use projections. These projections are used by the MPOs to develop the Regional Transportation Plan (RTP), which is the plan for the development of the future transportation system. The RTP includes a list of projects that are planned to meet future transportation needs over a 30+ year horizon.

Although WFRC coordinates with local jurisdictions in preparation of the land use projections, community plans and developments are always changing, some adjustments were made to the 2050 projections in West Valley City and southwest Salt Lake County based on feedback from West Valley City and updated approved development plans for Daybreak and Olympia Hills in southwest Salt Lake County.

1.2 Traffic Operations Analysis

The Vissim software was selected for this study because it allows for the evaluation of freeways, closely spaced intersections, and the interaction between the two facilities. Vissim allows for driving behaviors to be modified, can collect travel time data for user-specified segments and can measure queue lengths at study intersections, which collectively are used to calibrate the model to observed conditions.

Existing traffic signal timing data were obtained from the UDOT Traffic Operations Center and used in modeling signalized intersections in Vissim. The intersections within the study area were modeled according to existing geometry and speeds. The study area was modeled as a network; however, the analysis was completed for each intersection independently.

1.2.1 Traffic Volumes / Data Collection

Turning movement counts were collected on Thursday, April 22 and Tuesday, April 27, 2021 for the AM (7:00-9:00) and PM (4:00-6:00) peak periods at the study intersections, as shown in **Figure 2**. To account for reduced volumes due to the Covid-19 pandemic and Bangerter Highway construction at 10400 South, two different approaches were utilized. The first was to simply compare the 2021 traffic intersection counts to pre-pandemic/ construction counts at that same location. Generally, the volume for each turning movement were compared between the available counts and the larger volume was selected for use. The second approach was used at locations for which previous intersection counts were unavailable. In these cases, volume adjustment factors were developed using current and historic traffic volume data obtained from UDOT's Automated Traffic Signal Performance Measures (ATSPM) system. These data showed that the 2021 count volumes were approximately 12% lower than pre-pandemic volumes for the AM peak hour and 5% lower for the PM peak hour. Thus, the 2021 count volumes were increased by 12% and 5% for the AM and PM peak hours, respectively.

The adjusted turning movement traffic volumes were balanced throughout the study area so that the volume exiting one intersection was the same as the volume arriving at the next intersection to create the existing AM and PM peak hour volumes to be used for the traffic analysis. A figure showing the existing intersection traffic volumes can be found in Appendix B: Peak Hour Traffic Volumes.

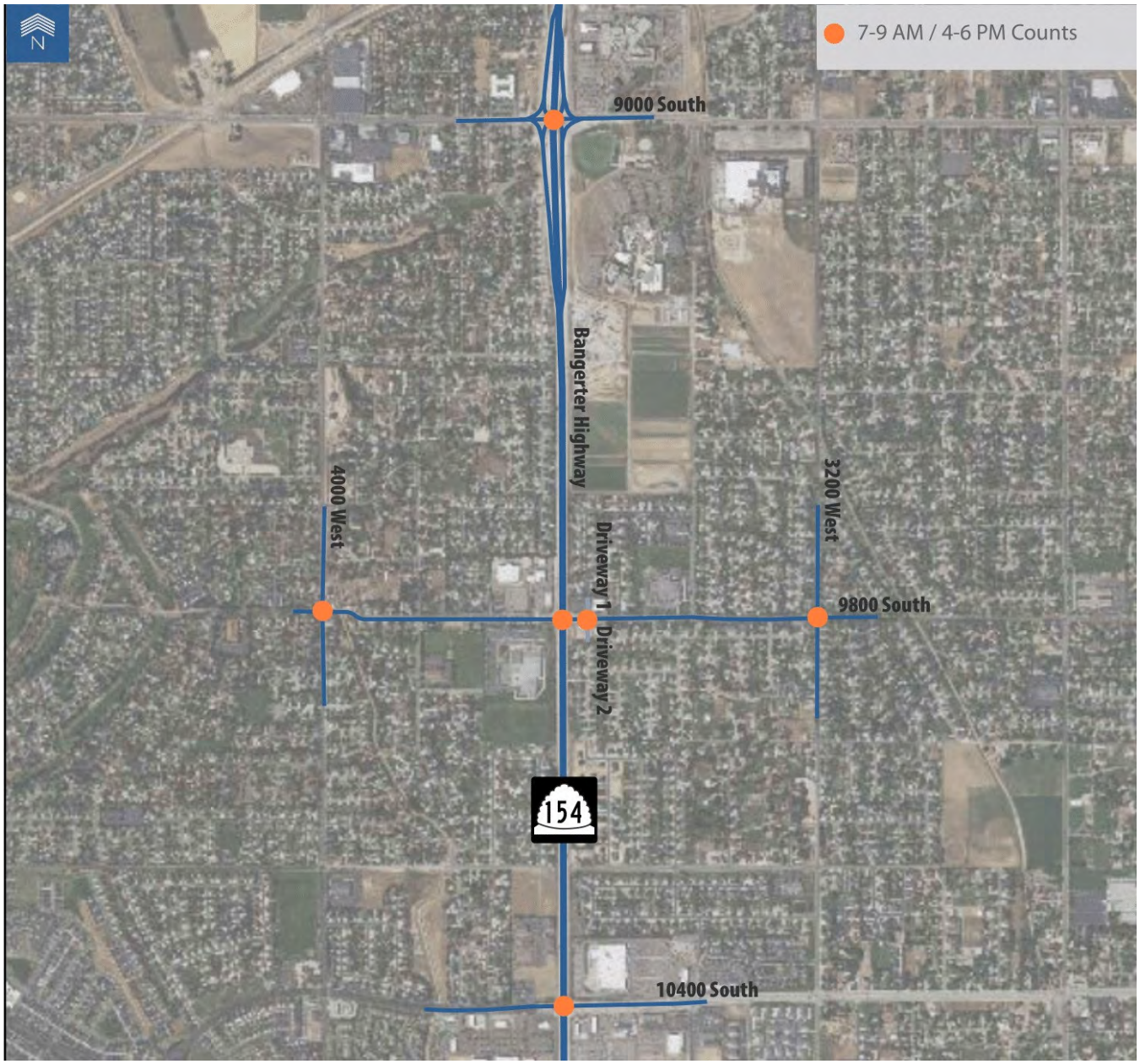


Figure 2: Intersection Turning Movement Count Locations

The future AM and PM peak hour volumes were developed for year 2050 using principles described in the National Highway Cooperative Research Program (NCHRP) Report 255 document. The forecast peak period intersection volumes were developed from the existing peak hour traffic volumes and data from the WFRC/MAG travel demand model. The travel model was run for the base year (2019) and for the future year (2050) and the difference between these models was used to estimate the traffic growth, which was applied to the existing traffic volumes. The future volumes were then balanced to ensure the correct number of inbound and outbound vehicles on each leg of the intersection. Included in Appendix B: Peak Hour Traffic Volumes are figures presenting the resulting 2050 No Build traffic volumes used for the traffic analysis.

1.2.2 Measures of Effectiveness

The operational analysis is based upon Vissim output correlated to the *Highway Capacity Manual (HCM) 6th Edition* methodologies, which describes how transportation system performance can be measured and ranked

by level of service (LOS). LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst.

The primary measure of effectiveness for this study was intersection performance. For intersections LOS is based on average vehicle delay measured in seconds per vehicle. Delay and LOS are determined for each turning movement, approach, and the overall intersection. For signalized intersections, the overall intersection LOS is most commonly reported. **Table 2** provides details regarding LOS criteria thresholds for signalized intersections.

Table 2. Intersection Level of Service Criteria

Level of Service	Traffic Conditions	Average Delay (seconds/vehicle)
A	Free Flow Operations / Insignificant Delay	0 ≤ 10
B	Smooth Operations / Short Delays	> 10 and ≤ 20
C	Stable Operations / Acceptable Delays	> 20 and ≤ 35
D	Approaching Unstable Operations / Tolerable Delays	> 35 and ≤ 55
E	Unstable Operations / Significant Delays Begin	> 55 and ≤ 80
F	Very Poor Operations / Excessive Delays Occur	> 80

Source: Highway Capacity Manual 6th Edition*, TRB National Research Council, Washington D.C*

Another important measure of effectiveness is 95th percentile queue length for each turning movement and is the vehicle queue distance that will only be exceeded five percent of the time during the analysis period and helps identify issues such as queuing between intersections and queues that exceed their turning movement storage.

1.2.3 Model Calibration

Vissim model calibration focused on matching observed queues, travel times, and vehicle behavior to observed conditions. The objective of the model calibration was to obtain the best match possible between model results and the field data. The traffic model calibration focused on matching traffic volumes, observed queues, and vehicle behavior to existing travel patterns within the study area. During the Vissim calibration, model outputs were compared against field data to determine if the model output reflected observed traffic conditions and driving behaviors were adjusted as necessary to replicate existing travel times, delays, and queues.

It was determined through the calibration effort that the Vissim parameters for additive and multiplicative part of safety distance needed to be increased to replicate existing queues and travel times along 9800 South and Bangerter Highway. Look ahead distance, priority rules and conflict areas were also used to help mimic existing driver behavior between intersections and driveways to prevent unrealistic gridlocked conditions in the model.

2 EXISTING AND 2050 NO BUILD ANALYSIS RESULTS

The analysis results presented in this section include intersection delay, intersection LOS, and 95th percentile queue lengths. For each Vissim analysis (e.g., Existing Conditions, 2050 No Build), the model was run enough times to produce statistically significant results (10 times with a GEH statistic of less than 5) and the results were averaged.

2.1 Existing Conditions

The estimated existing delay and LOS for the study intersections are shown in **Table 4**, while **Figure 3** shows similar information. In the peak AM hour, the intersections operate at LOS D or better with the exception of 10400 South which is at LOS E. In the peak PM hour, the Bangerter Highway intersections at 9800 South and 10400 South are at LOS E and F, respectively.

Table 3. Existing Intersection Level of Service and Delay

Location	AM LOS / Delay[1]	PM LOS / Delay[1]
9000 South & Bangerter Highway	D / 40	C / 29
9800 South & 4000 West	B / 18	C / 27
9800 South & Bangerter Highway	C / 31	E / 66
9800 South & 3200 West	B / 12	C / 21
10400 South & Bangerter Highway	E / 57	F / 148
1. Average delay reported in seconds/vehicle		

Figure 3: Existing AM and PM Peak Hour Intersection LOS

Individual intersection turning movements of LOS E or F at Bangerter Highway and 9800 South are summarized in **Table 4**. For the AM peak hour, there are six of the twelve turning movements at LOS E or F and during the PM peak hour there are seven. These poorly performing movements include all the left turns during the PM peak hour. Additionally, during the AM peak hours these problematic movements include the eastbound movements. Details of the existing delay and LOS for each intersection turning movement is summarized in Appendix C: Existing Intersection Movement Level of Service.

Table 3. Existing 9800 South & Bangerter Hwy Movements at LOS E/F

AM Peak Hour		PM Peak Hour	
Movement	**LOS / Delay[1]**	**Movement**	**LOS / Delay[1]**
Northbound Left	F / 101	Northbound Left	F / 90
Southbound Left	F / 132	Southbound Left	F / >180
Eastbound Left	F / 85	Eastbound Left	E / 62
Eastbound Through	F / 90	Eastbound Through	E / 79
Westbound Left	E / 57	Westbound Left	F / >180
Westbound Through	E / 69	Westbound Through	F / >180
		Westbound Right	F / 168

1. Average delay reported in seconds/vehicle

Estimated 95th percentile queue lengths are presented in **Table 5** for the Bangerter Highway and 9800 South intersection. At this location, there is substantial queuing during the AM peak in the eastbound direction of nearly1,500 feet. During the PM peak there are large southbound queues of over 2,000 feet and westbound queues of over 2,500 feet, which nearly back into the 3200 West intersection.

Table 5. Existing 95th Percentile Queue Length Results

Intersection	Approach	AM Existing (feet)	PM Existing (feet)
9800 South & Bangerter Highway	Northbound	475	800
9800 South & Bangerter Highway	Southbound	525	2,175
9800 South & Bangerter Highway	Eastbound	1,475	500
9800 South & Bangerter Highway	Westbound	275	2,650

2.2 2050 No Build Conditions

For the 2050 No Build evaluation, the traffic analysis focused on the 9800 South intersections. The 2050 analysis assumes that all projects in the WFRC RTP will be built, except for the 9800 South and Bangerter Highway interchange, which is the subject of this study. As previously stated, the future 2050 volumes were forecast using the TDM. Planned transportation projects near the study area are shown in Appendix D: Planned Transportation Projects and include:

- Bangerter Highway as a freeway except for 9800 South
- Mountain View Corridor as a freeway *(RTP Project R-S-101)*
- Widening 9000 South from 5 to 7 lanes from Bangerter Highway to Redwood Road *(R-S-50)*
- Widening 9000 South from 5 to 7 lanes from New Bingham Highway to Bangerter Highway *(R-S-51)*
- Widening 10400 South from 5 to 7 lanes from Bangerter Highway to Redwood Road *(R-S-58)*

As presented in **Table 6**, by 2050 the intersection of 9800 South and Bangerter Highway is anticipated to operate at LOS F in both the AM and PM peak hours if no changes are made to the intersection. Due to queues backing from the Bangerter intersection, 4000 West is expected to operate at LOS F in the AM peak hour and LOS E in the PM peak hour. Intersection LOS on 9800 South for the AM and PM peak hours for 2050 no build conditions are shown in **Figure 5**.

Table 6. 2050 No Build Intersection Delay and Level of Service Results

Location	AM LOS / Delay[1]	PM LOS / Delay[1]
9800 South & 4000 West	E / 69	F / 113
9800 South & Bangerter Highway	F / >180	F / >180
9800 South & 3200 West	B / 15	E / 58
1. Average delay reported in seconds/vehicle		

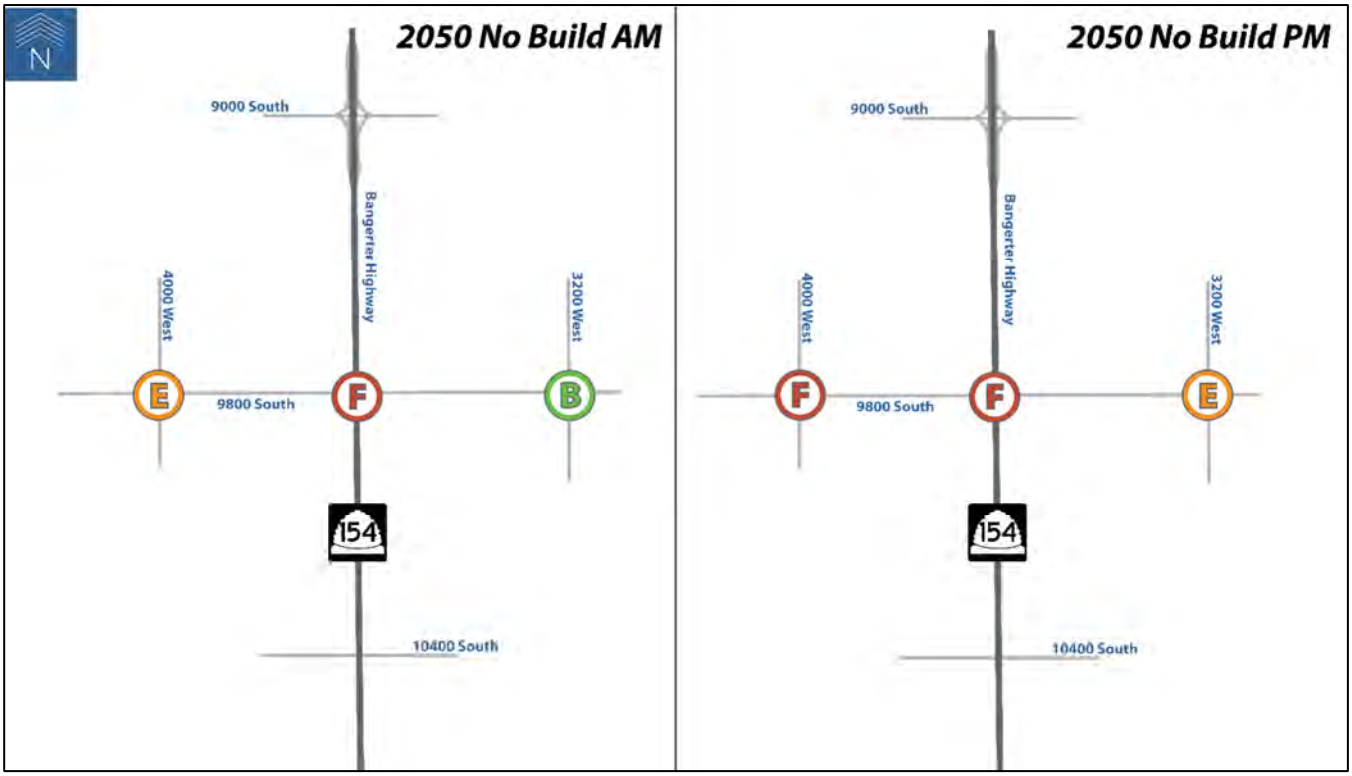


Figure 4: 2050 No Build AM and PM Peak Hour Intersection LOS

Movements for Bangerter Highway and 9800 South at LOS E or F for 2050 no build conditions are summarized in **Table 7**. For the AM peak hour, eleven of the twelve turning movements are expected to operate at LOS E or F. All of the turning movements are expected to operate at LOS E or F during the PM peak hour. Nine of those movements for the AM peak hour and ten for the PM peak hour are projected to have delays of over three minutes per vehicle. The 2050 No Build movement LOS for each intersection is summarized in Appendix E: 2050 No Build Intersection Movement Level of Service.

Table 7. 2050 No Build 9800 South & Bangerter Movements LOS at E/F

AM Peak Hour		PM Peak Hour	
Movement	**LOS / Delay[1]**	**Movement**	**LOS / Delay[1]**
Northbound Left	F / >180	Northbound Left	F/ >180
Northbound Through	F / >180	Southbound Left	F / 117
Northbound Right	F / >180	Southbound Through	F/ 90
Southbound Left	F / >180	Southbound Right	F / >180
Southbound Through	F / >180	Southbound Through	F / >180
Southbound Right	F / >180	Southbound Right	F / >180
Eastbound Left	F / >180	Eastbound Left	F / >180
Eastbound Through	F / >180	Eastbound Through	F / >180
Eastbound Right	F / >180	Eastbound Right	F / >180
Westbound Left	E / 72	Westbound Left	F / >180
Westbound Through	F / 115	Westbound Through	F / >180
		Westbound Right	F / >180

1. Average delay reported in seconds/vehicle

The 95th percentile queue lengths presented in **Table 8** are of the approaches with the longest queue lengths from the 2050 No Build analysis. 9800 South experiences a large increase in queue length in the 2050 no build. The queues spill along 9800 South causing increased queues at both the 4000 West and 3200 West intersections. The largest queue increases occur on Bangerter Highway where the mainline queues would increase by approximately 5,000 feet in the AM peak and by about 3,000 feet in the PM peak. ***This results in queues extending though the adjacent interchanges/intersections on both Bangerter Highway and 9800 South***. With increased traffic demand and queue length, traffic operations are expected to severely deteriorate within the study area.

Table 8. Existing and 2050 No Build 95th Percentile Queue Lengths

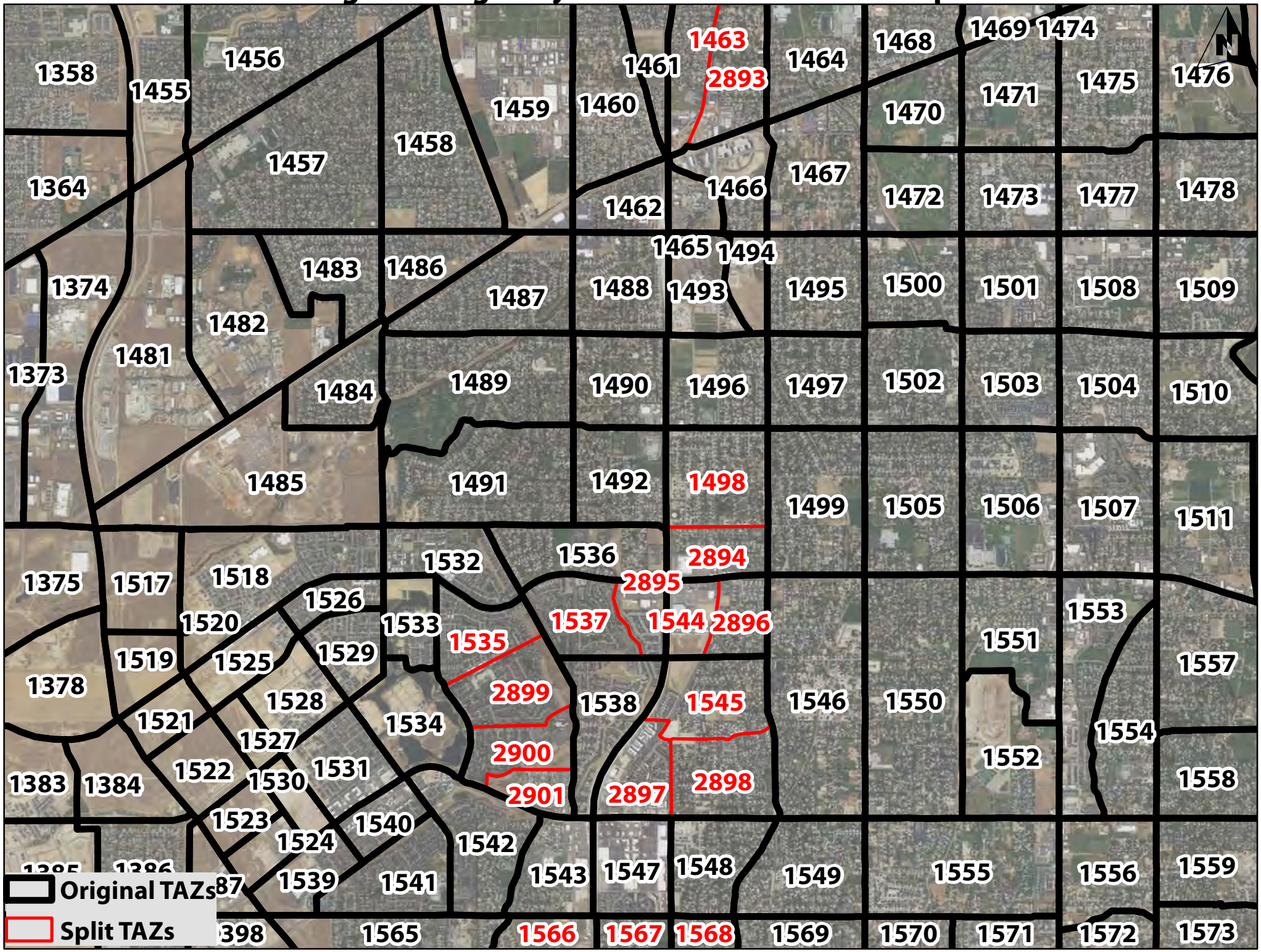
Intersection	Approach	AM Peak Hour			PM Peak Hour		
		Existing (feet)	2050 No Build (feet)	Change (feet)	Existing (feet)	2050 No Build (feet)	Change (feet)
9800 South & 4000 West	Northbound	300	2,125	1,825	300	2,125	1,825
9800 South & 4000 West	Southbound	150	200	50	300	2,250	1,950
9800 South & 4000 West	Eastbound	275	1,850	1,575	200	900	700
9800 South & 4000 West	Westbound	275	450	175	750	675	-75
9800 South & Bangerter Highway	Northbound	475	5,650	5,175	800	3,725	2,925
9800 South & Bangerter Highway	Southbound	525	5,375	4,850	2,175	5,400	3,225
9800 South & Bangerter Highway	Eastbound	1,475	2,575	1,105	500	2,575	2,075
9800 South & Bangerter Highway	Westbound	275	1,075	800	2,650	2,725	75
9800 South & 3200 West	Westbound	125	225	100	775	3,525	2,750

3 CONCLUSION

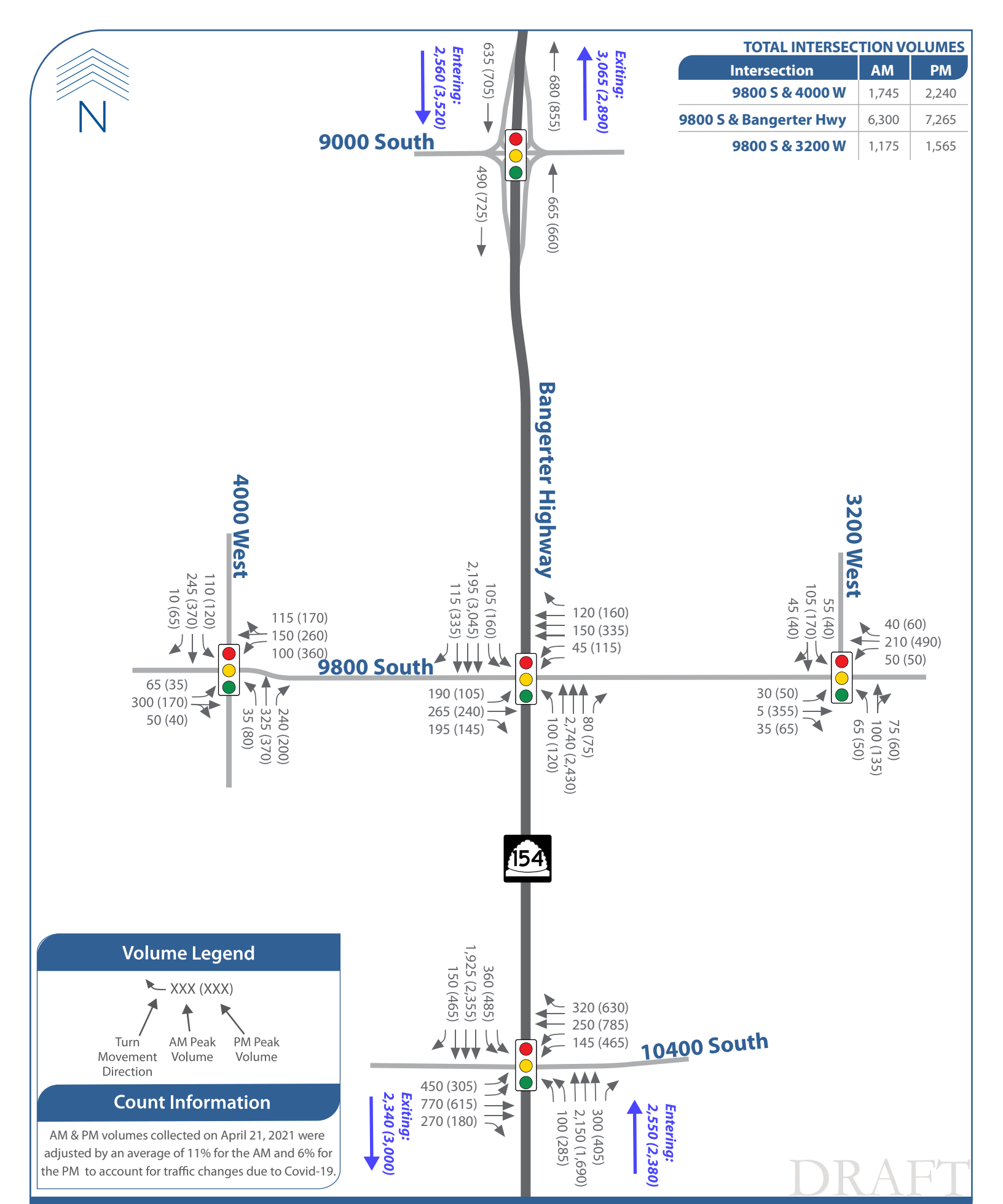
The analysis shows that there are existing movements at the 9800 South and Bangerter Highway intersection that operate at LOS E and F. With no intersection modifications, delays at that intersection are anticipated to increase dramatically by 2050, such that at least eleven of the twelve turning movements will be failing. These issues at the 9800 South intersection will cause extensive queuing that will negatively affect the adjacent interchanges/intersections on both Bangerter Highway and 9800 South.

APPENDIX A: TRAFFIC ANALYSIS ZONES

Bangerter Highway & 9800 South Area TAZ Splits



APPENDIX B: PEAK HOUR TRAFFIC VOLUMES



TOTAL INTERSECTION VOLUMES

Intersection	AM	PM
9800 S & 4000 W	1,745	2,240
9800 S & Bangerter Hwy	6,300	7,265
9800 S & 3200 W	1,175	1,565

Volume Legend

XXX (XXX)

- Turn Movement Direction
- AM Peak Volume
- PM Peak Volume

Count Information

AM & PM volumes collected on April 21, 2021 were adjusted by an average of 11% for the AM and 6% for the PM to account for traffic changes due to Covid-19.

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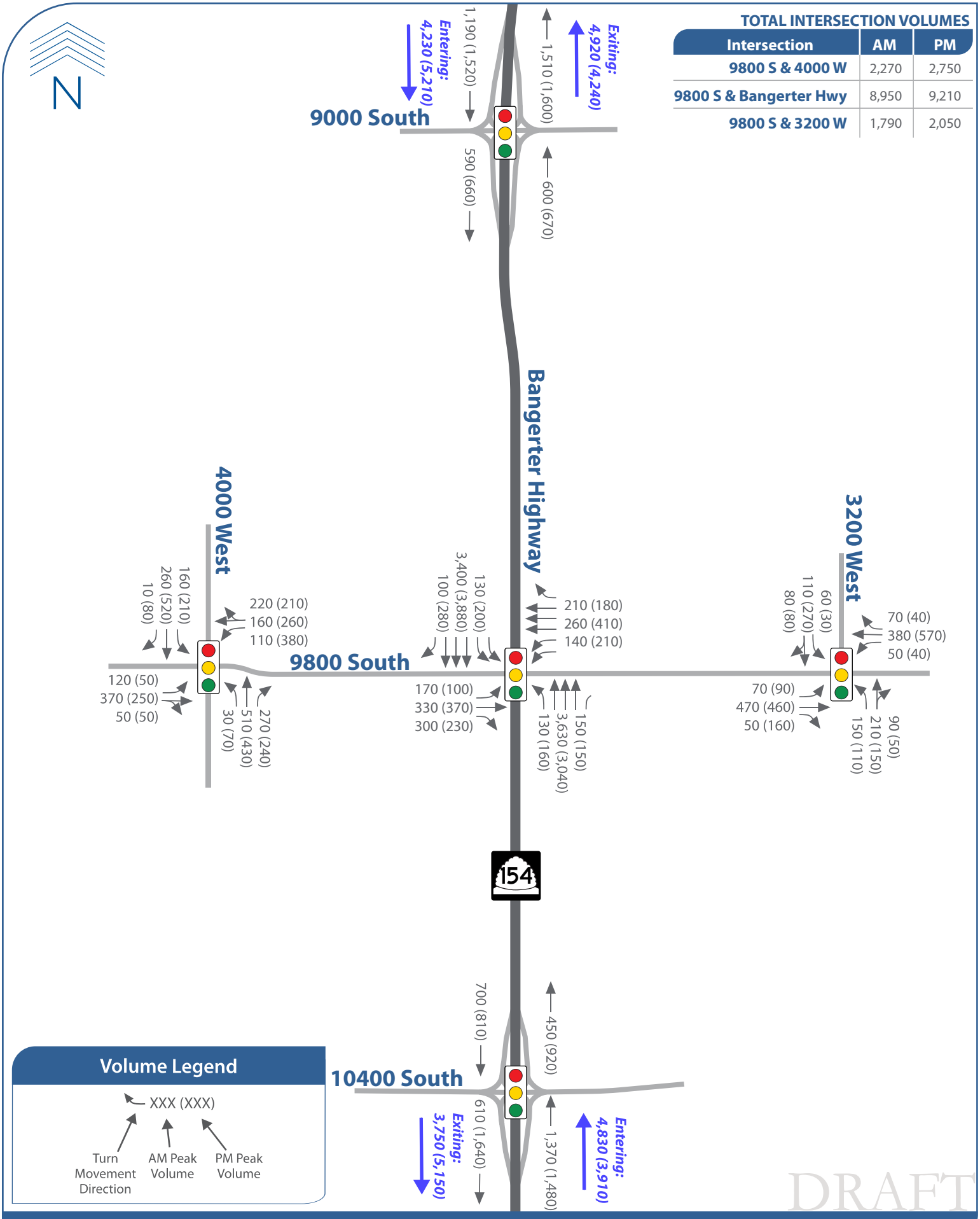
Existing Peak Hour Traffic Volumes

9800 South & Bangerter Highway Environmental Study



TOTAL INTERSECTION VOLUMES

Intersection	AM	PM
9800 S & 4000 W	2,270	2,750
9800 S & Bangerter Hwy	8,950	9,210
9800 S & 3200 W	1,790	2,050

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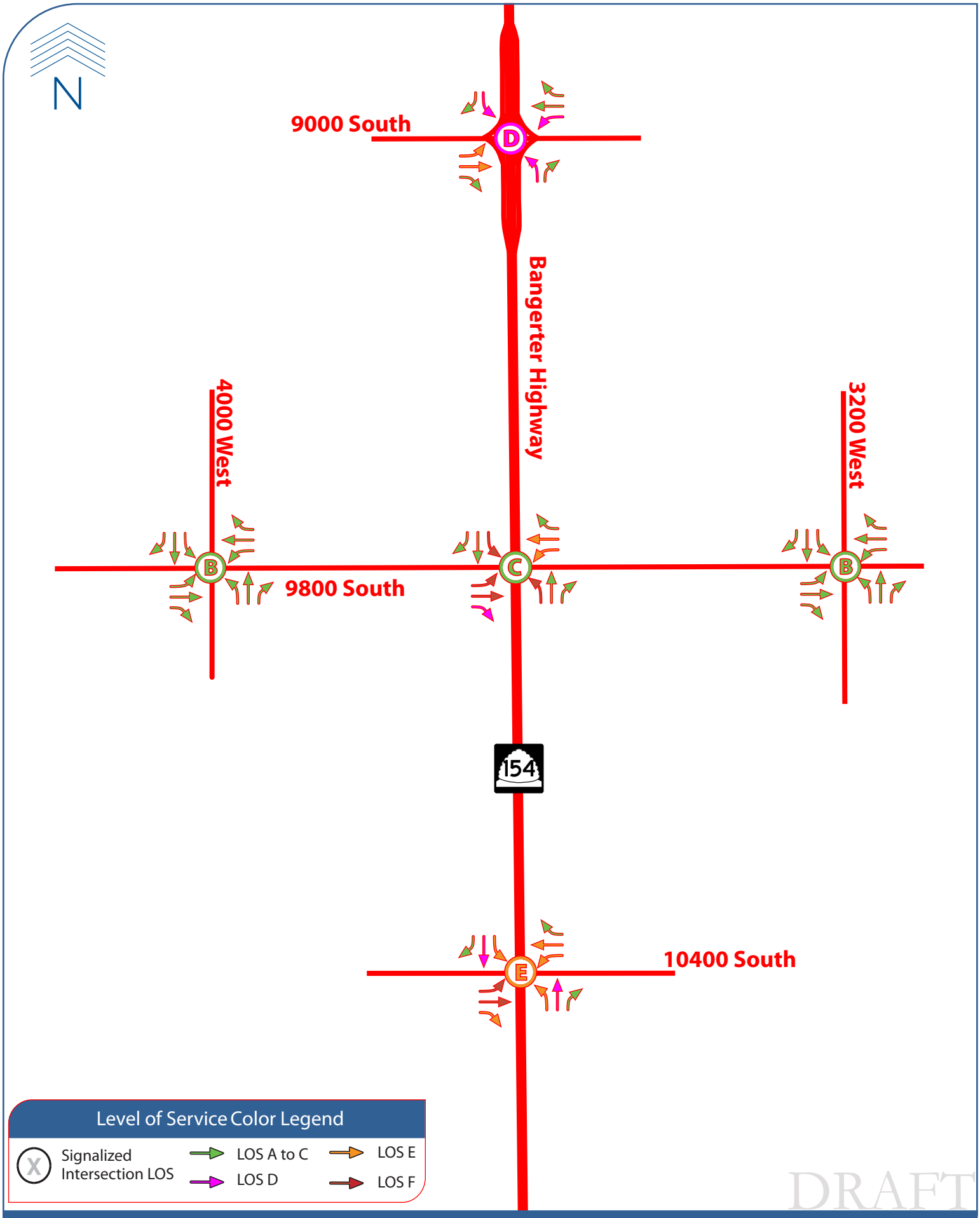
2050 No Build Peak Hour Traffic Volumes

9800 South & Bangerter Highway Environmental Study

APPENDIX C: EXISTING LEVEL OF SERVICE RESULTS



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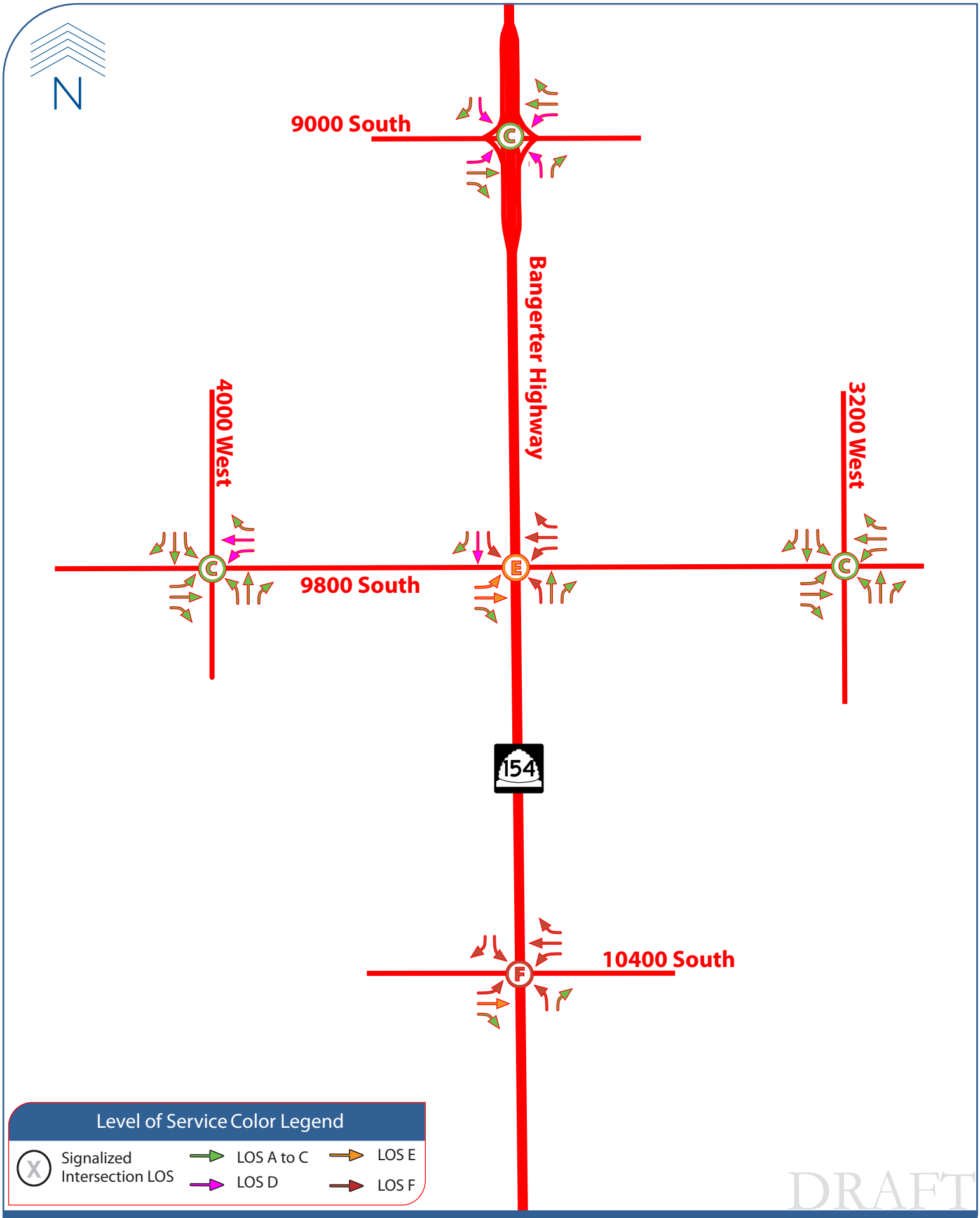
Existing AM Peak Hour Level Of Service

9800 South & Bangerter Highway Environmental Study



DRAFT

Existing PM Peak Hour Level Of Service

9800 South & Bangerter Highway Environmental Study

Bangerter 12 Interchange 9800 South

VISSIM Volume, Queue, and Delay Results

Existing AM

LOS Category: Signalized

1: 9000 South

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	225	229	102%	25	125	41	D
NBR	440	435	99%	25	150	28	C
NB	**665**	**664**	**100%**			**32**	**C**
SBL	375	376	100%	50	175	38	D
SBR	260	251	97%	0	100	10	A
SB	**635**	**627**	**99%**			**27**	**C**
EBL	465	467	100%	50	250	61	E
EBT	1,290	1,282	99%	550	2,775	59	E
EBR	305	308	101%	0	0	26	C
EB	**2,060**	**2,057**	**100%**			**55**	**D**
WBL	180	186	103%	25	100	40	D
WBT	615	603	98%	50	225	25	C
WBR	225	231	103%	0	0	2	A
WB	**1,020**	**1,020**	**100%**			**23**	**C**
Total	**4,380**	**4,368**	**100%**			**40**	**D**

Node Letter: A VISSIM ID: 90

LOS Category: Signalized

2: 9800 South & 4000 West

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	35	36	103%	0	50	22	C
NBT	325	324	100%	50	300	21	C
NBR	270	267	99%	25	125	12	B
NB	**630**	**627**	**100%**			**18**	**B**
SBL	125	122	98%	0	100	21	C
SBT	245	246	100%	25	150	16	B
SBR	10	10	100%	0	25	5	A
SB	**380**	**378**	**99%**			**17**	**B**
EBL	65	63	97%	0	75	19	B
EBT	340	339	100%	50	275	20	B
EBR	50	53	106%	50	275	17	B
EB	**455**	**455**	**100%**			**20**	**B**
WBL	100	100	100%	0	100	23	C
WBT	155	156	101%	25	275	19	B
WBR	115	113	98%	25	275	16	B
WB	**370**	**369**	**100%**			**19**	**B**
Total	**1,835**	**1,829**	**100%**			**18**	**B**

Node Letter: B VISSIM ID: 3200

Existing PM

LOS Category: Signalized

1: 9000 South

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	395	382	97%	50	200	43	D
NBR	265	260	98%	0	100	18	B
NB	**660**	**642**	**97%**			**33**	**C**
SBL	300	299	100%	50	150	38	D
SBR	405	399	99%	25	125	18	B
SB	**705**	**698**	**99%**			**27**	**C**
EBL	405	408	101%	50	200	46	D
EBT	945	938	99%	100	375	32	C
EBR	340	342	101%	0	0	3	A
EB	**1,690**	**1,688**	**100%**			**30**	**C**
WBL	385	386	100%	50	175	41	D
WBT	1,160	1,156	100%	125	550	33	C
WBR	450	453	101%	0	0	6	A
WB	**1,995**	**1,995**	**100%**			**28**	**C**
Total	**5,050**	**5,023**	**99%**			**29**	**C**

Node Letter: A VISSIM ID: 90

LOS Category: Signalized

2: 9800 South & 4000 West

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	80	81	101%	0	75	26	C
NBT	370	370	100%	50	300	23	C
NBR	200	196	98%	0	75	9	A
NB	**650**	**647**	**100%**			**19**	**B**
SBL	120	118	98%	0	100	24	C
SBT	370	373	101%	50	300	20	B
SBR	65	62	95%	0	50	7	A
SB	**555**	**553**	**100%**			**20**	**B**
EBL	35	35	100%	0	50	26	C
EBT	170	168	99%	25	200	28	C
EBR	40	40	100%	25	200	23	C
EB	**245**	**243**	**99%**			**27**	**C**
WBL	360	363	101%	125	750	41	D
WBT	260	252	97%	125	725	38	D
WBR	170	163	96%	125	725	34	C
WB	**790**	**778**	**98%**			**39**	**D**
Total	**2,240**	**2,221**	**99%**			**27**	**C**

Node Letter: B VISSIM ID: 3200

Bangerter 12 Interchange 9800 South

Existing AM

LOS Category: Signalized

3: 9800 South						Delay / LOS
		Volume		Queue (ft) Avg / 95th		Analysis Period
Mvmt	Demand	Served	% Served	900-4500		900-4500
NBL	100	97	97%	50	200	101 F
NBT	2,665	2,675	100%	75	475	16 B
NBR	100	99	99%	0	75	9 A
NB	**2,865**	**2,871**	**100%**			**18 B**
SBL	115	113	98%	100	300	132 F
SBT	1,955	1,983	101%	125	525	26 C
SBR	105	108	103%	0	75	4 A
SB	**2,175**	**2,204**	**101%**			**30 C**
EBL	245	240	98%	150	1,075	85 F
EBT	315	324	103%	325	1,475	90 F
EBR	175	170	97%	25	150	40 D
EB	**735**	**734**	**100%**			**77 E**
WBL	45	48	107%	25	75	57 E
WBT	165	161	98%	75	275	69 E
WBR	110	106	96%	0	100	18 B
WB	**320**	**315**	**98%**			**50 D**
Total	**6,095**	**6,124**	**100%**			**31 C**

Node Letter: C VISSIM ID: 98

Existing PM

LOS Category: Signalized

3: 9800 South						Delay / LOS
		Volume		Queue (ft) Avg / 95th		Analysis Period
Mvmt	Demand	Served	% Served	900-4500		900-4500
NBL	120	116	97%	50	225	90 F
NBT	2,430	2,374	98%	200	800	33 C
NBR	75	70	93%	0	75	14 B
NB	**2,625**	**2,560**	**98%**			**35 C**
SBL	160	148	93%	475	1,850	367 F
SBT	3,045	3,029	99%	600	2,175	53 D
SBR	335	336	100%	25	175	21 C
SB	**3,540**	**3,513**	**99%**			**63 E**
EBL	105	103	98%	25	150	62 E
EBT	240	236	98%	125	500	79 E
EBR	145	147	101%	25	150	30 C
EB	**490**	**486**	**99%**			**61 E**
WBL	115	112	97%	125	400	206 F
WBT	335	325	97%	1,025	2,650	245 F
WBR	160	160	100%	25	150	168 F
WB	**610**	**597**	**98%**			**217 F**
Total	**7,265**	**7,156**	**98%**			**66 E**

Node Letter: C VISSIM ID: 98

Bangerter 12 Interchange 9800 South

Existing AM

LOS Category: Signalized

6: 9800 South & 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	65	63	97%	0	50	14	B
NBT	100	100	100%	0	75	12	B
NBR	75	75	100%	0	50	7	A
NB	**240**	**238**	**99%**			**11**	**B**
SBL	55	54	98%	0	50	14	B
SBT	105	109	104%	0	75	13	B
SBR	45	42	93%	0	25	5	A
SB	**205**	**205**	**100%**			**11**	**B**
EBL	40	42	105%	0	25	7	A
EBT	420	417	99%	25	350	15	B
EBR	50	51	102%	0	25	10	A
EB	**510**	**510**	**100%**			**14**	**B**
WBL	50	49	98%	0	25	6	A
WBT	215	216	100%	0	125	13	B
WBR	40	40	100%	0	25	7	A
WB	**305**	**305**	**100%**			**11**	**B**
Total	**1,260**	**1,258**	**100%**			**12**	**B**

Node Letter: E VISSIM ID: 4000

LOS Category: Signalized

7: 10400 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	100	99	99%	25	100	70	E
NBT	2,150	2,154	100%	225	975	40	D
NBR	300	295	98%	25	175	19	B
NB	**2,550**	**2,548**	**100%**			**38**	**D**
SBL	315	319	101%	75	225	74	E
SBT	1,730	1,751	101%	150	775	36	D
SBR	130	132	102%	0	50	13	B
SB	**2,175**	**2,202**	**101%**			**40**	**D**
EBL	420	424	101%	250	1,375	144	F
EBT	770	763	99%	575	2,200	127	F
EBR	270	261	97%	150	1,400	74	E
EB	**1,460**	**1,448**	**99%**			**122**	**F**
WBL	145	144	99%	50	125	72	E
WBT	250	254	102%	50	175	65	E
WBR	295	292	99%	50	250	22	C
WB	**690**	**690**	**100%**			**49**	**D**
Total	**6,875**	**6,888**	**100%**			**57**	**E**

Node Letter: F VISSIM ID: 104

Existing PM

LOS Category: Signalized

6: 9800 South & 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	50	48	96%	0	50	17	B
NBT	135	134	99%	0	100	15	B
NBR	60	61	102%	0	50	5	A
NB	**245**	**243**	**99%**			**13**	**B**
SBL	40	38	95%	0	50	14	B
SBT	170	173	102%	0	125	15	B
SBR	40	37	93%	0	50	8	A
SB	**250**	**248**	**99%**			**14**	**B**
EBL	50	48	96%	0	25	14	B
EBT	355	333	94%	25	275	22	C
EBR	65	66	102%	0	50	21	C
EB	**470**	**447**	**95%**			**21**	**C**
WBL	50	48	96%	0	25	20	B
WBT	490	490	100%	100	775	30	C
WBR	60	60	100%	0	50	19	B
WB	**600**	**598**	**100%**			**28**	**C**
Total	**1,565**	**1,536**	**98%**			**21**	**C**

Node Letter: E VISSIM ID: 4000

LOS Category: Signalized

7: 10400 South

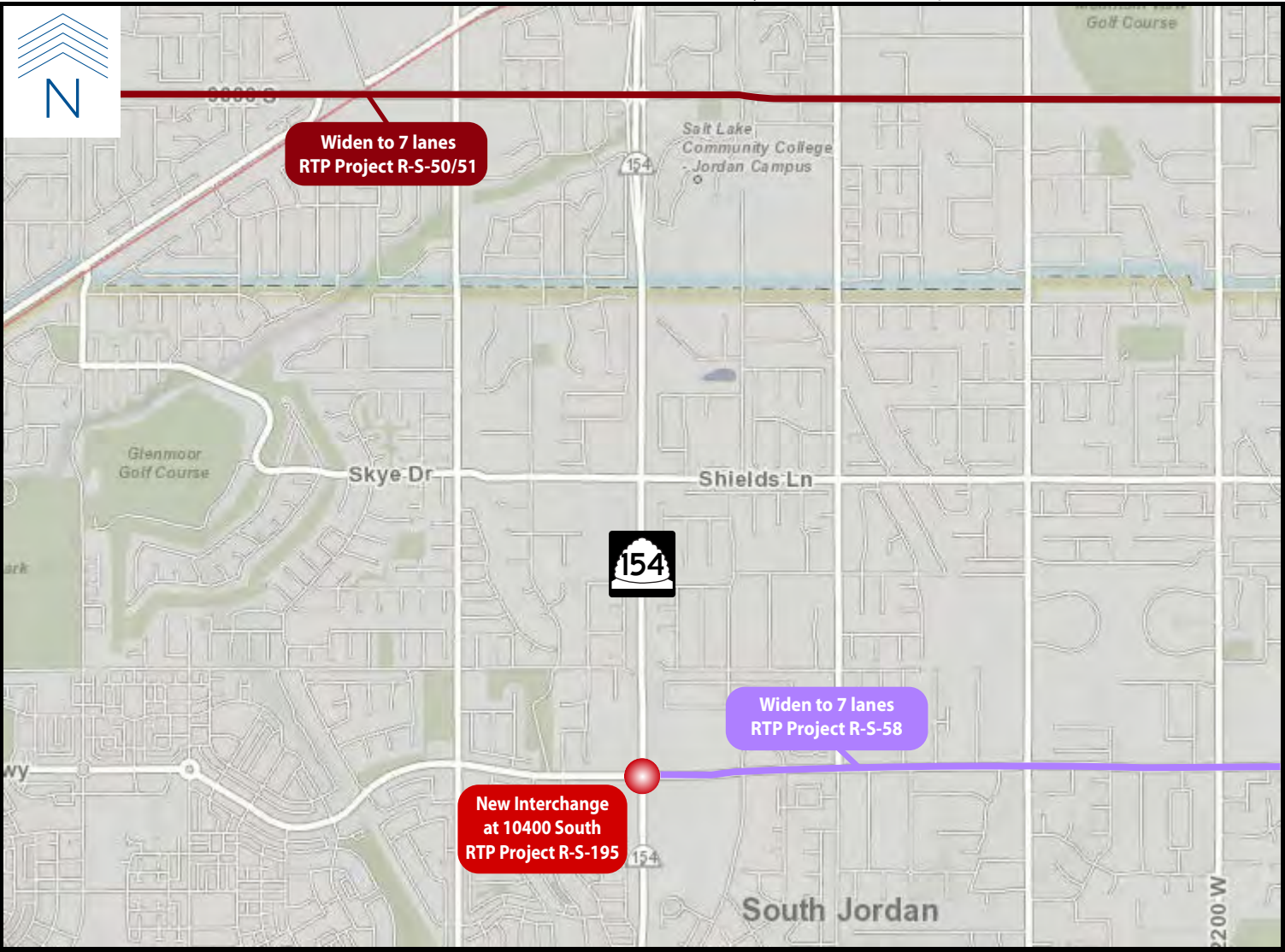
Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	285	281	99%	75	225	87	F
NBT	1,690	2,245	133%	2,075	4,050	171	F
NBR	405	402	99%	50	250	21	C
NB	**2,380**	**2,928**	**123%**			**143**	**F**
SBL	485	458	94%	525	3,475	210	F
SBT	2,355	1,701	72%	150	550	40	D
SBR	465	454	98%	100	425	147	F
SB	**3,305**	**2,613**	**79%**			**89**	**F**
EBL	305	272	89%	525	1,350	360	F
EBT	615	610	99%	350	1,350	68	E
EBR	180	172	96%	25	125	20	B
EB	**1,100**	**1,054**	**96%**			**136**	**F**
WBL	465	408	88%	1,800	4,425	426	F
WBT	785	704	90%	750	4,425	193	F
WBR	630	587	93%	2,075	4,425	212	F
WB	**1,880**	**1,699**	**90%**			**256**	**F**
Total	**8,665**	**8,294**	**96%**			**148**	**F**

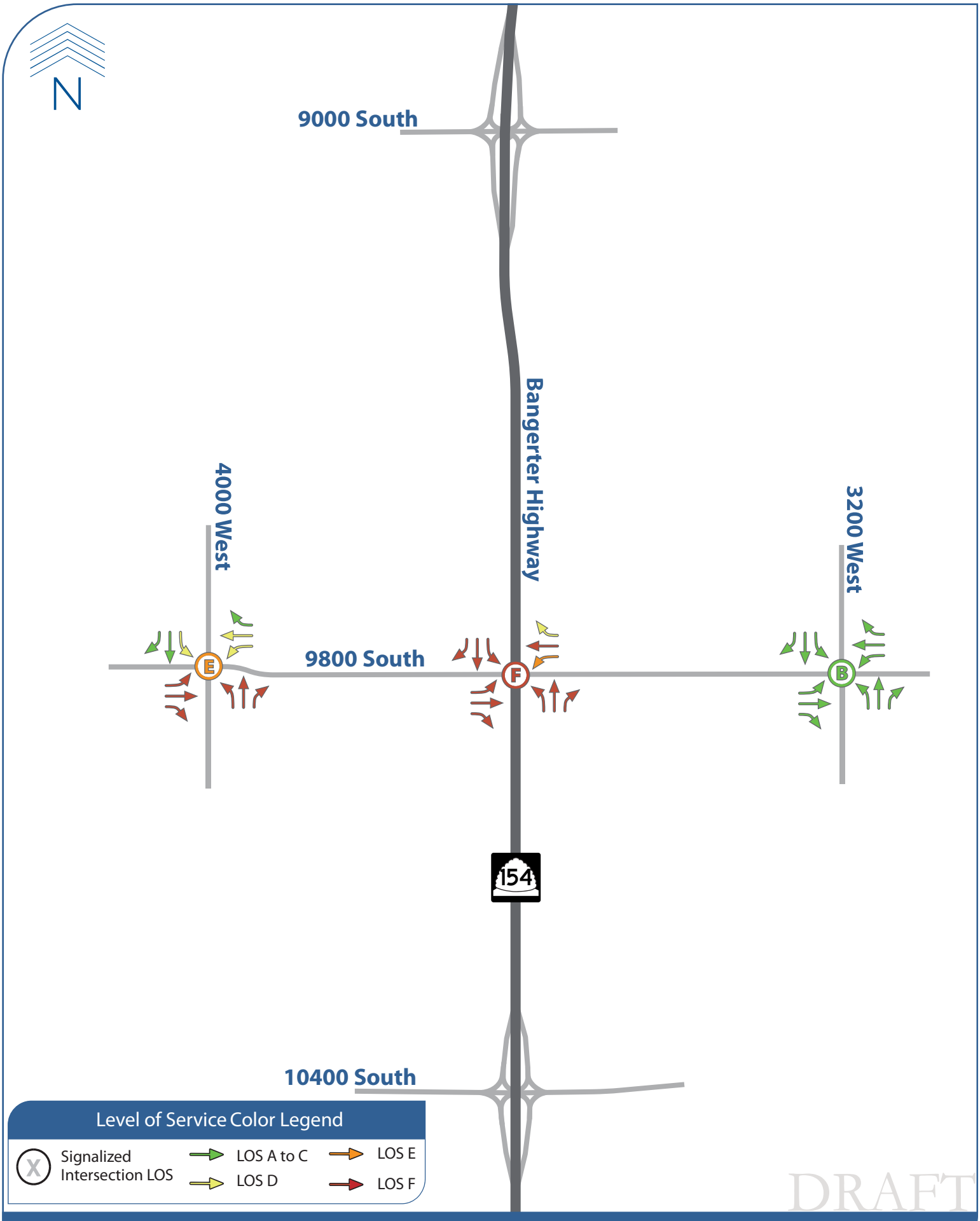
Node Letter: F VISSIM ID: 104

APPENDIX D: PLANNED TRANSPORTATION PROJECTS

WFRC 2019-2050 RTP Study Area Projects

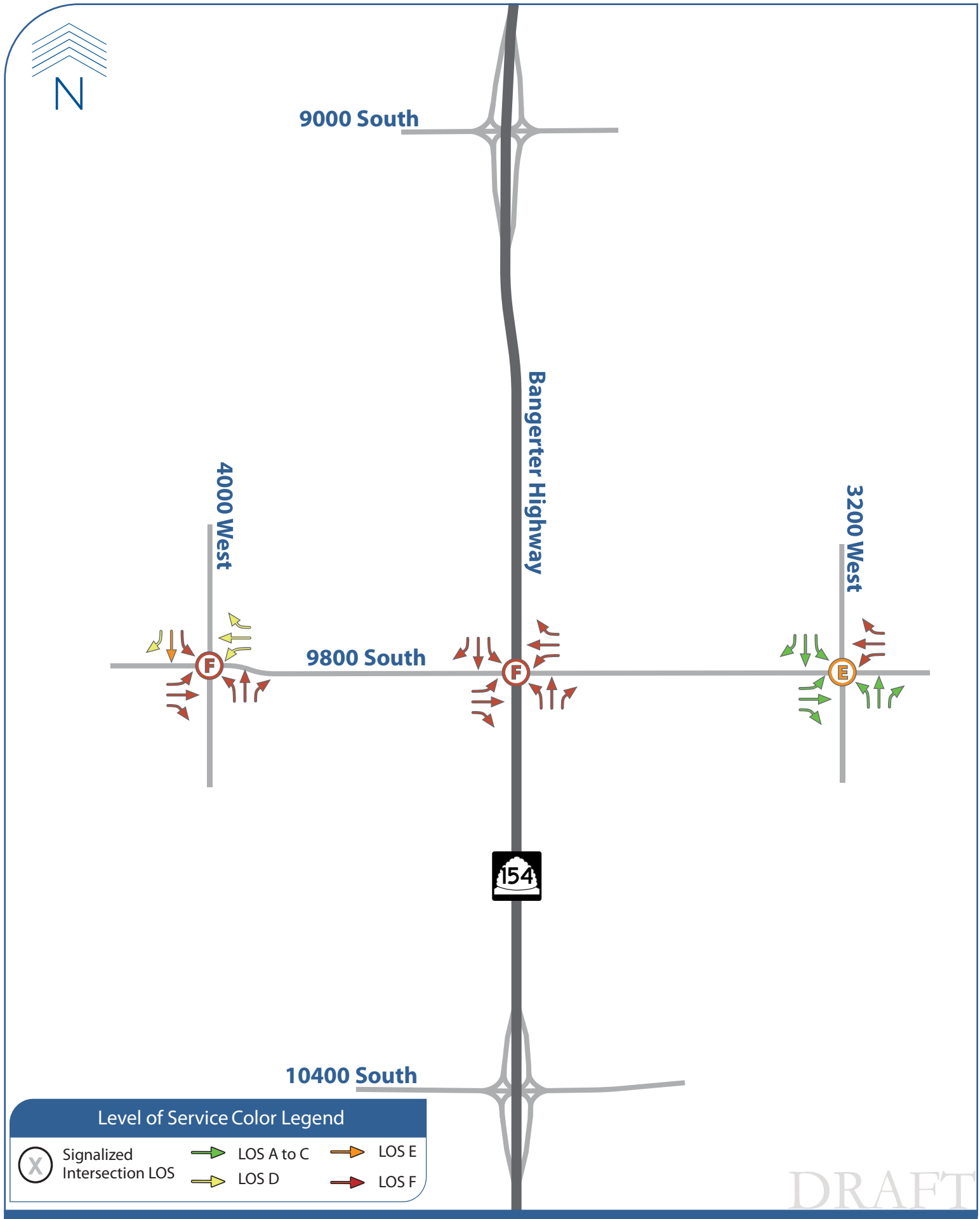


APPENDIX E: 2050 NO BUILD LEVEL OF SERVICE RESULTS



2050 No Build AM Peak Hour Level Of Service

9800 South & Bangerter Highway Environmental Study



2050 No Build PM Peak Hour Level Of Service

9800 South & Bangerter Highway Environmental Study

Bangerter 12 Interchange 9800 South

VISSIM Volume, Queue, and Delay Results

No Build AM 2050

LOS Category: Signalized

1: 9800 South & 4000 West						Delay / LOS	
		Volume		Queue (ft) Avg / 95th		Analysis Period	
Mvmt	Demand	Served	% Served	900-4500		900-4500	
NBL	30	31	103%	0	50	105	F
NBT	510	476	93%	700	2,125	94	F
NBR	270	250	93%	575	2,125	106	F
NB	**810**	**757**	**93%**			**98**	**F**
SBL	160	156	98%	25	200	39	D
SBT	260	261	100%	25	175	17	B
SBR	10	10	100%	0	25	4	A
SB	**430**	**427**	**99%**			**25**	**C**
EBL	120	117	98%	100	1,200	81	F
EBT	370	355	96%	400	1,850	97	F
EBR	50	47	94%	400	1,850	87	F
EB	**540**	**519**	**96%**			**92**	**F**
WBL	110	104	95%	25	225	36	D
WBT	160	145	91%	75	450	36	D
WBR	220	209	95%	75	450	34	C
WB	**490**	**458**	**93%**			**35**	**C**
Total	**2,270**	**2,161**	**95%**			**69**	**E**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

2: 9800 South						Delay / LOS	
		Volume		Queue (ft) Avg / 95th		Analysis Period	
Mvmt	Demand	Served	% Served	900-4500		900-4500	
NBL	130	112	86%	50	225	361	F
NBT	3,630	3,037	84%	4,550	5,650	334	F
NBR	150	117	78%	25	125	303	F
NB	**3,910**	**3,266**	**84%**			**334**	**F**
SBL	130	114	88%	250	525	412	F
SBT	3,400	2,963	87%	4,150	5,375	305	F
SBR	100	90	90%	0	100	265	F
SB	**3,630**	**3,167**	**87%**			**307**	**F**
EBL	170	151	89%	575	2,525	202	F
EBT	330	306	93%	1,500	2,550	239	F
EBR	300	275	92%	1,000	2,575	187	F
EB	**800**	**732**	**92%**			**212**	**F**
WBL	140	144	103%	75	525	72	E
WBT	260	257	99%	250	1,075	115	F
WBR	210	205	98%	50	225	53	D
WB	**610**	**606**	**99%**			**84**	**F**
Total	**8,950**	**7,771**	**87%**			**292**	**F**

Node Letter: C VISSIM ID: 98

No Build PM 2050

LOS Category: Signalized

1: 9800 South & 4000 West						Delay / LOS	
		Volume		Queue (ft) Avg / 95th		Analysis Period	
Mvmt	Demand	Served	% Served	900-4500		900-4500	
NBL	70	50	71%	100	1,525	232	F
NBT	430	304	71%	1,100	2,125	227	F
NBR	240	160	67%	1,125	2,125	303	F
NB	**740**	**514**	**69%**			**251**	**F**
SBL	210	204	97%	425	2,250	119	F
SBT	520	504	97%	425	2,250	68	E
SBR	80	76	95%	0	50	49	D
SB	**810**	**784**	**97%**			**80**	**E**
EBL	50	46	92%	0	75	87	F
EBT	250	233	93%	300	900	138	F
EBR	50	48	96%	300	900	124	F
EB	**350**	**327**	**93%**			**129**	**F**
WBL	380	321	84%	125	650	46	D
WBT	260	211	81%	100	675	41	D
WBR	210	179	85%	100	675	37	D
WB	**850**	**711**	**84%**			**42**	**D**
Total	**2,750**	**2,336**	**85%**			**113**	**F**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

2: 9800 South						Delay / LOS	
		Volume		Queue (ft) Avg / 95th		Analysis Period	
Mvmt	Demand	Served	% Served	900-4500		900-4500	
NBL	160	134	84%	800	3,700	454	F
NBT	3,040	2,901	95%	1,325	3,725	117	F
NBR	150	150	100%	25	150	90	F
NB	**3,350**	**3,185**	**95%**			**130**	**F**
SBL	200	122	61%	2,300	5,375	792	F
SBT	3,880	2,860	74%	4,925	5,400	370	F
SBR	280	208	74%	0	125	320	F
SB	**4,360**	**3,190**	**73%**			**383**	**F**
EBL	100	77	77%	25	150	368	F
EBT	370	306	83%	2,075	2,550	409	F
EBR	230	187	81%	1,050	2,575	344	F
EB	**700**	**570**	**81%**			**382**	**F**
WBL	210	186	89%	1,425	2,725	293	F
WBT	410	365	89%	1,900	2,725	326	F
WBR	180	161	89%	75	400	263	F
WB	**800**	**712**	**89%**			**303**	**F**
Total	**9,210**	**7,657**	**83%**			**270**	**F**

Node Letter: C VISSIM ID: 98

No Build AM 2050

LOS Category: Signalized

5: 9800 South & 3200 West						Delay / LOS	
		Volume		Queue (ft) Avg / 95th		Analysis Period	
Mvmt	Demand	Served	% Served	900-4500		900-4500	
NBL	150	146	97%	0	125	16	B
NBT	210	208	99%	25	150	15	B
NBR	90	92	102%	0	50	7	A
NB	**450**	**446**	**99%**			**14**	**B**
SBL	60	58	97%	0	50	17	B
SBT	110	112	102%	0	75	14	B
SBR	80	78	98%	0	50	6	A
SB	**250**	**248**	**99%**			**13**	**B**
EBL	70	61	87%	0	25	12	B
EBT	470	414	88%	50	425	20	B
EBR	50	46	92%	0	50	14	B
EB	**590**	**521**	**88%**			**18**	**B**
WBL	50	51	102%	0	25	9	A
WBT	380	383	101%	25	225	18	B
WBR	70	68	97%	0	50	10	A
WB	**500**	**502**	**100%**			**16**	**B**
Total	**1,790**	**1,717**	**96%**			**15**	**B**

Node Letter: E VISSIM ID: 4000

No Build PM 2050

LOS Category: Signalized

5: 9800 South & 3200 West						Delay / LOS	
		Volume		Queue (ft) Avg / 95th		Analysis Period	
Mvmt	Demand	Served	% Served	900-4500		900-4500	
NBL	110	111	101%	0	75	29	C
NBT	150	149	99%	0	100	15	B
NBR	50	48	96%	0	25	6	A
NB	**310**	**308**	**99%**			**19**	**B**
SBL	30	30	100%	0	50	17	B
SBT	270	270	100%	25	175	17	B
SBR	80	78	98%	0	75	19	B
SB	**380**	**378**	**99%**			**18**	**B**
EBL	90	74	82%	0	50	31	C
EBT	460	370	80%	25	400	35	C
EBR	160	133	83%	0	75	28	C
EB	**710**	**577**	**81%**			**33**	**C**
WBL	40	38	95%	0	25	109	F
WBT	570	522	92%	750	3,525	131	F
WBR	40	34	85%	0	25	122	F
WB	**650**	**594**	**91%**			**129**	**F**
Total	**2,050**	**1,857**	**91%**			**58**	**E**

Node Letter: E VISSIM ID: 4000

Appendix B: Traffic and Design

Bangerter Highway & 9800 South Future Build Conditions Traffic Analysis

MEMORANDUM

To: UDOT Region Two & Environmental

From: Avenue Consultants

Date: December 6, 2021

Subject: Bangerter Highway & 9800 South Future Build Conditions Traffic Analysis

The Utah Department of Transportation (UDOT) is performing an environmental study for a potential new interchange on Bangerter Highway at the existing 9800 South at-grade intersection. This memorandum summarizes the traffic evaluation for future build conditions within the study area. For this analysis, the study area consists of the Bangerter Highway corridor from 9000 South to 10400 South and the 9800 South corridor from 4000 West to 3200 West, as illustrated in **Figure 1**.

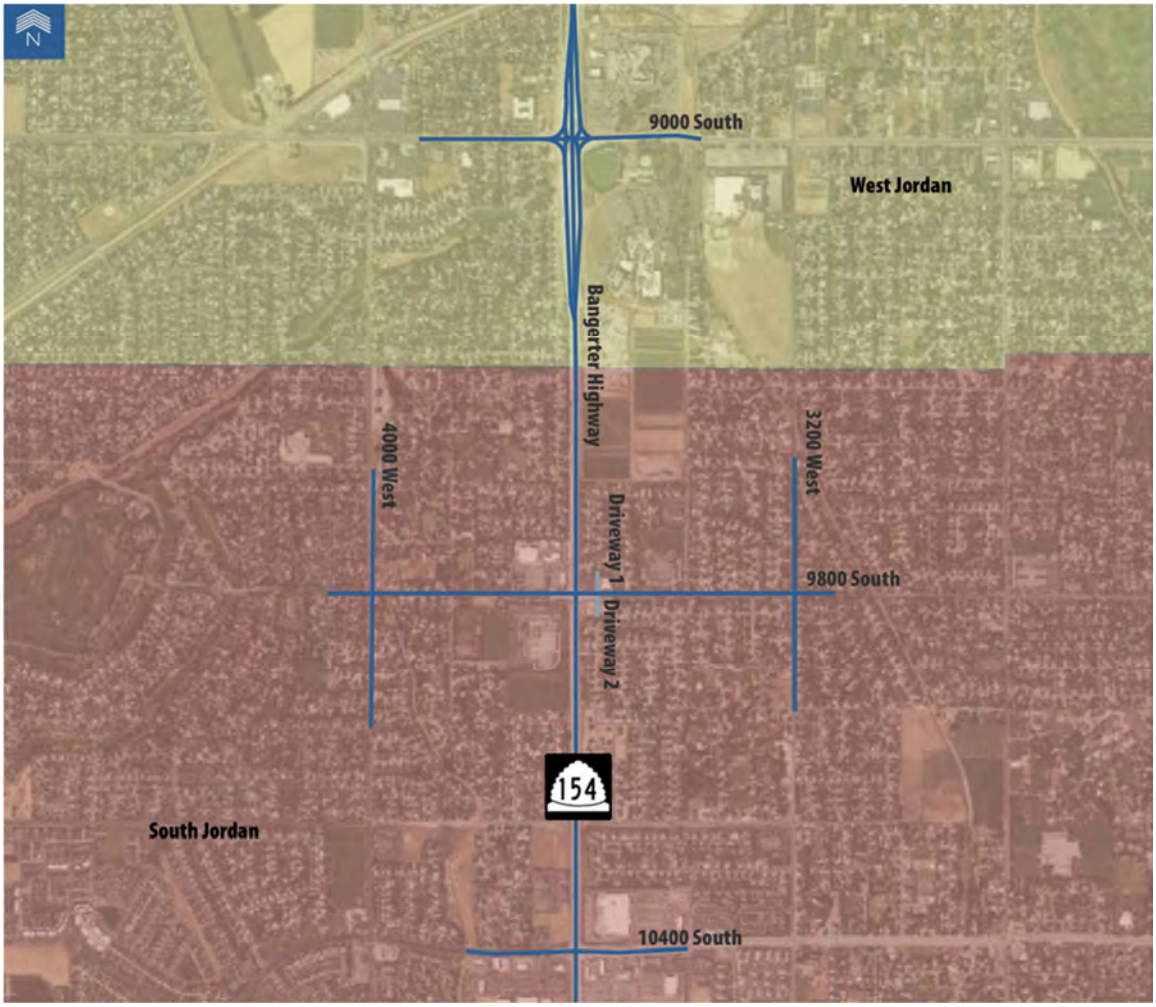


Figure 1: Bangerter Highway & 9800 South Traffic Analysis Study Area

1 ANALYSIS METHODOLOGY

The analysis described in this memorandum utilized project traffic data, Vissim traffic operations software and the Wasatch Front Regional Council (WFRC) / Mountainland Associated of Governments (MAG) travel demand model for year 2050 traffic forecasts. This section describes how each of these tools were implemented for this project.

1.1 Travel Demand Modeling

The WFRC/MAG travel demand model (TDM) was the primary tool used to predict future travel and traffic volumes within the study area. WFRC and MAG are the Metropolitan Planning Organizations (MPOs) for the Wasatch Front and are responsible for coordinating transportation planning in the region. WFRC is responsible for Salt Lake County and prepares the Regional Transportation Plan (RTP) every four years, which is the plan for the development of the future transportation system. The most recent plan is the 2019-2050 RTP, which includes a list of projects that are planned to meet future transportation needs over a 30+ year horizon.

The travel demand model has two primary inputs: land use data and transportation system data. The land use data consists of residential and employment data for the entire region. This data is prepared in geographic blocks called Traffic Analysis Zones (TAZs). The travel model inputs are prepared for a base year, which in this case was 2019, and for a future year, which in this case was 2050. A base year of 2019 was used because both travel model socioeconomic inputs and published traffic volume data are available for that year. In travel modeling, the base year always lags the current year by a few years because of the need to have land use input and calibration data. Details on how the travel model was used for this project can be found in the **Bangerter Highway & 9800 South Existing and 2050 No Build Traffic Analysis** memo.

1.2 Traffic Operations Analysis

The Vissim software was selected for this study because it allows for the evaluation of freeways, closely spaced intersections, and the interaction between the two facilities. Vissim allows for driving behaviors to be modified, can collect travel time data for user-specified segments and can measure queue lengths at study intersections, which collectively are used to calibrate the model to observed conditions.

The intersections within the study area were modeled according to assumed future intersection and roadway geometry based on the RTP and the various build alternatives. The study area was modeled as a network; however, the analysis was completed for each intersection independently.

1.2.1 Traffic Volumes

The future build AM and PM peak hour volumes were developed for year 2050 using principles described in the National Highway Cooperative Research Program (NCHRP) Report 255 document. The forecast peak period intersection volumes were developed from the existing peak hour traffic volumes and data from the WFRC/MAG travel demand model. The travel model was run for the base year (2019) and for the future years. The difference between the base year and future year models was used to estimate the traffic growth for each intersection leg, which was then applied to the existing intersection leg volumes. The future individual movement volumes were then balanced to ensure the correct number of inbound and outbound vehicles on each leg of the intersection. **Appendices A-D** contain figures presenting the 2050 build traffic volumes for each of the four alternatives analyzed. Details on existing and no build conditions volume can be found in the **Bangerter Highway & 9800 South Existing and 2050 No Build Traffic Analysis** memo.

1.2.2 Measures of Effectiveness

The operational analysis is based upon Vissim output correlated to the *Highway Capacity Manual (HCM) 6th Edition* methodologies, which describes how transportation system performance can be measured and ranked by level of service (LOS). LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst.

The primary measure of effectiveness for this study was intersection performance. For intersections LOS is based on average vehicle delay measured in seconds per vehicle. Delay and LOS are determined for each turning movement, approach, and the overall intersection. For signalized intersections, the overall intersection LOS is most commonly reported. **Table 1** provides details regarding LOS criteria thresholds for signalized intersections.

Table 1. Signalized Intersection Level of Service Criteria

Level of Service	Traffic Conditions	Average Delay (seconds/vehicle)
A	Free Flow Operations / Insignificant Delay	0 ≤ 10
B	Smooth Operations / Short Delays	> 10 and ≤ 20
C	Stable Operations / Acceptable Delays	> 20 and ≤ 35
D	Approaching Unstable Operations / Tolerable Delays	> 35 and ≤ 55
E	Unstable Operations / Significant Delays Begin	> 55 and ≤ 80
F	Very Poor Operations / Excessive Delays Occur	> 80

Source: Highway Capacity Manual 6th Edition*, TRB National Research Council, Washington D.C*

Another important measure of effectiveness is 95th percentile queue length for each turning movement and is the vehicle queue distance that will only be exceeded five percent of the time during the analysis period and helps identify issues such as queuing between intersections and queues that exceed their turning movement storage.

2 INTERCHANGE ALTERNATIVES ANALYSIS

For the purposes of the build alternatives analysis, proposed alternatives for the new interchange at 9800 South were developed using projected 2050 traffic volumes. The four interchange alternatives analyzed were a Tight Diamond Interchange, Single Point Urban Interchange (SPUI), Right-In/Right-Out Interchange with roundabouts on 9800 South located 700 to 900 feet east and west of the interchange to facilitate left turn movements via U-turns, and an Overpass Only alternative with no access to or from Bangerter Highway at 9800 South. For this analysis, it was assumed that all left and right turn movements at the interchange would have one lane.

2.1 Tight Diamond Interchange Alternative

This section presents the evaluation of traffic operations and queue lengths for the Tight Diamond alternative. **Table 2** presents the level of service (LOS) and delay in seconds per vehicle for the AM and PM peak hours of the 2050 No Build and Tight Diamond alternatives. Detailed analysis results from the intersection analysis can be found in **Appendix A**.

Table 2. 2050 Tight Diamond Interchange Delay and Level of Service Comparison

Intersection	2050 AM Peak Hour		2050 PM Peak Hour	
	No Build[1]	Diamond[1]	No Build[1]	Diamond[1]
9800 South & 4000 West	E / 69	C / 35	F / 113	D / 40
9800 South & Bangerter Highway	F / >180	C / 27	F / >180	D / 38
9800 South & 3200 West	B / 15	B / 12	E / 58	B / 16
1. Average delay reported in seconds/vehicle				

Comparing the delay per vehicle shows significant improvement when compared to the 2050 No Build baseline. All intersections along 9800 South see significant reduction in delay. Two of the three intersections in the No Build are expected to operate at LOS E or F in the 2050 AM peak hour and all three intersections would be at LOS E or F in the 2050 PM peak hour. No intersections are expected to operate at LOS E or F with the Tight Diamond Interchange.

The 95th percentile queue lengths presented in **Table 3** are of each approach at the 9800 South & Bangerter Highway interchange and compare the Tight Diamond Interchange alternative to the No Build alternative for the 2050 AM and PM peak hours. As shown, the queues for the northbound and southbound approaches are expected to decrease by over 5,000 feet in the AM Peak Hour. The queue for the eastbound and westbound approaches are expected to decrease by over 2,000 feet and 800 feet, respectively. Overall, the largest differences are for northbound approach during the AM peak hour and the southbound approach during the PM peak hour.

Table 3. 2050 Tight Diamond Interchange 95th Percentile Queue Lengths Comparison

Approach	2050 AM Peak Hour		2050 PM Peak Hour	
	No Build (ft)	Diamond (ft)	No Build (ft)	Diamond (ft)
Northbound	5,650	175	3,725	250
Southbound	5,375	175	5,400	425
Eastbound	2,575	325	2,575	375
Westbound	1,075	200	3,725	475

2.2 SPUI Alternative

This section presents the evaluation of traffic operations and queue lengths for the SPUI alternative. **Table 4** presents the level of service (LOS) and delay in seconds per vehicle for the AM and PM peak hours of the 2050 No Build and SPUI alternatives. Detailed analysis results from the intersection analysis can be found in **Appendix B**.

Table 4. 2050 SPUI Delay and Level of Service Comparison

Location	2050 AM Peak Hour		2050 PM Peak Hour	
	No Build[1]	SPUI[1]	No Build[1]	SPUI[1]
9800 South & 4000 West	E / 69	B / 20	F / 113	C / 30
9800 South & Bangerter Highway	F / >180	B / 17	F / >180	C / 22
9800 South & 3200 West	B / 15	B / 11	E / 58	B / 16
1. Average delay reported in seconds/vehicle				

Overall, delay shows significant improvement when compared to the 2050 No Build alternative. All intersections along the 9800 South corridor experience substantial reduction in delay. Two of the three intersections in the No Build are expected to operate at LOS E or F in the 2050 AM peak hour and all three intersections would be at LOS E or F in the 2050 PM peak hour. No intersections are expected to operate at LOS E or F with the SPUI alternative.

The 95th percentile queue lengths presented in **Table 5** are of each approach at the 9800 South & Bangerter Highway interchange and compare the SPUI alternative to the No Build alternative for the 2050 AM and PM peak hours. The SPUI substantially reduces the 95th percentile queues associated with the No Build. Queue length reductions follow similar trends as the Tight Diamond Interchange alternative with reductions of over 5,000 feet on the northbound and southbound approaches in the AM peak hour as well as reductions of over 2,00 feet and 900 feet in the eastbound and westbound directions.

Table 5. 2050 SPUI 95th Percentile Queue Lengths Comparison

Approach	AM Peak Hour		PM Peak Hour	
	No Build (ft)	**SPUI** (ft)	**No Build** (ft)	**SPUI** (ft)
Northbound	5,650	150	3,725	175
Southbound	5,375	150	5,400	300
Eastbound	2,575	200	2,575	200
Westbound	1,075	125	3,725	300

2.3 Right-In/Right-Out Interchange Alternative

This section provides evaluation of traffic operations for the Right-In/Right-Out (RIRO) Interchange alternative. This interchange would have right-in/out access between Bangerter Highway and 9800 South with no left turn allowed at the interchange, instead left turns would be accomplished via U-turns at roundabouts on 9800 South on the east and west sides of the interchange. For this analysis, the west roundabout was assumed at Elk View Drive approximately 700 feet from the interchange and the east roundabout was assumed at 3465 West approximately about 900 feet from the interchange. The roundabouts were modeled conservatively without side street traffic, meaning that the only traffic using the roundabout would be interchange and 9800 South through traffic. It was assumed that the roundabouts would have one lane. **Table 6** compares the intersection delay and level of service results for the Roundabout Interchange and No Build alternatives. The analysis included the roundabouts as part of the 9800 South interchange.

Table 6. 2050 Right-In/Right-Out Interchange Delay and Level of Service Comparison

Location	2050 AM Peak Hour		2050 PM Peak Hour	
	No Build[1]	**RIRO**[1]	**No Build**[1]	**RIRO**[1]
9800 South & 4000 West	E / 69	B / 20	F / 113	C / 24
9800 South & Bangerter Highway	F / >180	B / 20	F / >180	F / 96
9800 South & 3200 West	B / 15	A / 8	E / 58	B / 11

1. Average delay reported in seconds/vehicle

While delay shows significant improvement when compared to the 2050 No Build alternative, the roundabouts associated with the 9800 South and Bangerter Highway interchange are projected to fail in the PM 2050 peak

hour. The failure is primarily due to high circulating volumes in the roundabouts and merging conflicts with the right turns from Bangerter Highway onto 9800 South. Additionally, the interchange delay values presented in the table do not include out of direction travel time, which, if included, would further increase the delay, as would including the side street traffic in the analysis.

The 95th percentile queue lengths presented in **Table 7** are of each approach at the 9800 South & Bangerter Highway interchange and compare the Right-In/Right-Out Interchange alternative to the No Build alternative for the 2050 AM and PM peak hours. The Right-In/Right-Out Interchange alternative eliminates the queues in the eastbound and westbound directions at Bangerter Highway since those would be uncontrolled movements. However, the northbound and southbound queues on Bangerter Highway are substantially longer than those of the other build alternatives, which is due to queuing from the roundabouts extending back to the interchange and up the ramps to the mainline.

Table 7. 2050 Roundabout Interchange 95th Percentile Queue Lengths Comparison

Approach	2050 AM Peak Hour		2050 PM Peak Hour	
	No Build (ft)	**RIRO** (ft)	**No Build** (ft)	**RIRO** (ft)
Northbound	5,650	800	3,725	1,575
Southbound	5,375	150	5,400	5,475
Eastbound	2,575	0	2,575	0
Westbound	1,075	0	3,725	0

2.4 Overpass Only Alternative

This section presents the evaluation of the Overpass Only alternative. The analysis for this alternative was different from those for the other alternatives. This was due to the nature of the alternative, which would remove traffic from 9800 South and reroute it to other interchanges. As such, the analysis for this alternative focused on impacts to adjacent roads and intersections. An initial planning level analysis was performed to look at changes to daily roadway volumes within the study area. Then a detailed operational analysis of the signalized intersections within the study area was performed. A two-page executive summary of the traffic analysis findings can be found in **Appendix E**.

2.4.1 Planning Level Analysis

The planning level analysis followed a process of estimating existing daily traffic volumes throughout the study area followed by development of and comparison to 2050 volumes for the interchange and Overpass Only alternatives.

DAILY TRAFFIC VOLUMES

Existing daily roadway traffic volume data came from South Jordan City traffics count and from UDOT's Automated Traffic Signal Performance Measures (ATSPM). The South Jordan data came from an online GIS map that the city maintains. The ATSPM data is from the online intersection data collection and retrieval system, maintained by UDOT. ATSPMs provide real-time data collection and historical functionality at signalized intersections. A table showing the resulting daily volumes for each study area roadway is shown in Appendix D. The raw counts were adjusted to reflect average weekday daily traffic (AWDT).

2019 Daily Traffic Volumes

Figure 2 illustrates the existing (2019) daily traffic volumes. These traffic volumes represent the two-way volumes for the average weekday. 9000 South has the highest traffic volumes, followed by Redwood Road, and South Jordan Parkway within the study area.

Figure 2. 2019 Daily Traffic Volumes

2050 Daily Traffic Volumes with 9800 South Interchange

The WFRC/MAG travel model was used to project future traffic volumes were estimated using the Wasatch Front Regional Council (WFRC)/Mountainland Association of Governments (MAG) travel demand model. The traffic forecasts include planned transportation improvements from the WFRC. These planned projects include:

- New interchange at 9800 South/Bangerter Highway
- Widening 9000 South to seven lanes from New Bingham Highway to Redwood Road
- Widening South Jordan Parkway to seven lanes from Bangerter Highway to Redwood Road

Figure 3 summarizes the year 2050 forecast traffic volumes. Traffic volumes on 9000 South and South Jordan Parkway increase substantially due to the added capacity of the widening projects. The 9800 South corridor is also expected to see increased traffic volumes with the planned interchange with Bangerter Highway.

Figure 3. 2050 Daily Traffic Volumes with 9800 South Interchange

2050 Daily Traffic Volumes with 9800 South Overpass Only Alternative

Traffic volumes on these adjacent corridors increase without a 9800 South interchange. Both 9000 South and South Jordan Parkway have daily traffic volumes in excess of 40,000 vpd. However, 9800 South traffic volumes decrease without the access to/from Bangerter Highway as shown in **Figure 4.**

Figure 4. 2050 Daily Traffic Volumes with 9800 South Overpass

2050 VOLUME CHANGE WITH 9800 SOUTH OVERPASS ONLY ALTERNATIVE

The travel model was run without an interchange at Bangerter Highway and 9800 South to determine how traffic patterns would change. **Figure 5** illustrates the change in daily traffic volumes. In this alternative, traffic would be able to cross Bangerter Highway on 9800 South but there would not be any access to Bangerter Highway. Without the interchange, traffic volumes decrease on 9800 South but increase on the adjacent roads with interchanges, namely 9000 South and South Jordan Parkway. Additionally, traffic increases on adjacent north/south streets that access these corridors including 4000 West, 3200 West, 2700 West, and Redwood Road.

Figure 5. 2050 Daily Traffic Volume Change with 9800 South Overpass

2.4.2 Traffic Operations Analysis

The 9800 South and Bangerter intersection and the surrounding intersections were analyzed for 2050 traffic conditions for both interchange and Overpass Only alternatives using the Vissim microsimulation traffic analysis software. The Tight Diamond Alternative was used for the interchange scenario described in the following sections. The analysis included the following intersections:

1. 9000 South & 4000 West
2. 9000 South & Bangerter Highway
3. 9000 South & 3400 West
4. 9000 South & 3200 West
5. 9800 South & 4000 West
6. 9800 South & Bangerter Highway
7. 9800 South & 3200 West
8. 10200 South & 4000 West
9. 10400 South & 4000 West
10. 10400 South & Whispering Sands
11. 10400 South & Bangerter Highway
12. 10400 South & River Heights
13. 10400 South & 3200 West

Intersection delay and 95th percentile queue lengths were extracted from the models. Level of service was determined for each movement and the overall intersection. A two-page executive summary of the traffic operations analysis results can be found in **Appendix E**.

INTERSECTION VOLUMES

For each alternative, 2050 volumes were projected from existing volumes using the WFRC/MAG travel demand model. Existing volumes for the intersections in the study area were formed from a composite of recent counts, historical counts from previous studies in the area, and UDOT ATSPM data. As needed, based on when the intersection data was collected, volume adjustments were made to account for COVID and Bangerter Highway construction. The result was a reasonable volume set representing conditions as if Bangerter Highway was not under construction within the study area and as if COVID were not affecting traffic. The 2050 intersection-level volumes between the interchange and overpass scenarios are summarized in **Table 8** below. Full turning movement volume figures comparing the alternative volumes can be found in **Appendix D**.

Table 8. 2050 Peak Hour Intersection Volumes Comparison

Intersection		AM				PM			
		Volumes		Change		Volumes		Change	
		Intchg	Overpass	Total	Percent	Intchg	Overpass	Total	Percent
9000 South	9000 S & 4000 W	5,370	5,650	280	5.2%	6,910	7,280	370	5.4%
	9000 S & Bangerter	6,560	7,120	560	8.5%	7,700	8,430	730	9.5%
	9000 S & 3400 W	5,260	5,540	280	5.3%	5,930	6,290	360	6.1%
	9000 S & 3200 W	4,470	4,750	280	6.3%	5,700	6,050	350	6.1%
9800 S	9800 S & 4000 W	1,940	1,790	-150	-7.7%	2,410	2,430	20	0.8%
	9800 S & Bangerter	1,660	830	-830	-50%	1,980	1,220	-760	-38%
	9800 S & 3200 W	1,390	1,270	-120	-8.6%	1,850	1,620	-230	-12%
10400 South	10200 S & 4000 W	1,120	1,230	110	9.8%	2,180	2,380	200	9.2%
	10400 S & 4000 W	3,210	3,410	200	6.2%	4,810	5,190	380	7.9%
	10400 S & Whispering Sands	3,030	3,230	200	6.6%	3,940	4,240	300	7.6%
	10400 S & Bangerter	4,430	4,830	400	9.0%	6,250	6,990	740	12%
	10400 S & River Heights	3,550	3,750	200	5.6%	6,100	6,460	360	5.9%
	10400 S & 3200 W	3,620	3,820	200	5.5%	5,560	5,920	360	6.5%
Total		**45,610**	**47,220**	**1,610**	**3.5%**	**61,320**	**64,500**	**3,180**	**5.2%**

Overall, volumes increase on all intersections along the 9000 South and 10400 South corridors in both the AM and PM scenarios. In the AM peak hour, the largest amount of growth occurs at 9000 South & Bangerter Highway with a change of 560 vehicles for an 8.5% increase. Additionally, 10400 South & Bangerter Highway changes by 400 vehicles for a 9.0% increase. In the PM peak hour, the largest increase occurs at 10400 South & Bangerter Highway with a change of 740 vehicles for a 12% increase and at 9000 South & Bangerter Highway with 730

more vehicles for a 9.5% increase. Many of the side streets show similar levels of increase in volumes across all intersections in the overpass scenario.

INTERSECTION LEVEL OF SERVICE

A comparison of 2050 intersection performance between the interchange and Overpass Only alternatives is summarized in **Table 9** below, which shows the delay and LOS for each intersection along with the change in each. The change in LOS is based on the letter grade with positive values representing a decrease in performance (e.g. the change of an intersection going from LOS C to D is shown as +1).

Table 9. Intersection Level of Service Comparison

Intersection		AM			PM		
		Intchg	Overpass	Change	Intchg	Overpass	Change
9000 South	9000 S & 4000 W	C / 29	D / 43	+1 / +14	D / 37	D / 48	-- / +11
	9000 S & Bangerter	D / 53	**E / 57**	+1 / +4	D / 38	D / 50	-- / +12
	9000 S & 3400 W	C / 22	C / 28	--- / +6	B / 19	C / 30	+1 / +11
	9000 S & 3200 W	B / 12	B / 15	-- / +3	C / 25	D / 41	+1 / +18
9800 S	9800 S & 4000 W	C / 21	B / 19	-1 / -2	C / 29	C / 26	-- / -3
	9800 S & Bangerter	C / 26	-- / --	-3 / -26	D / 41	-- / --	- 4 / 41
	9800 S & 3200 W	B / 13	B / 12	-- / -1	B / 16	B / 14	-- / -2
10400 South	10200 S & 4000 W	A / 9	A / 9	-- / --	B / 20	C / 34	+1 / +14
	10400 S & 4000 W	B / 17	B / 19	-- / 2	D / 36	D / 55	-- / +19
	10400 S & Whispering Sands	A / 7	A / 7	-- / --	A / 8	C / 25	+2 / +17
	10400 S & Bangerter	C / 25	C / 25	-- / --	D / 41	**E / 57**	+1 / +16
	10400 S & River Heights	B / 15	B / 15	-- / --	C / 34	C / 35	-- / +1
	10400 S & 3200 W	B / 13	B / 13	-- / --	C / 21	**E / 58**	+2 / +37

Overall, there are zero intersections in the interchange scenario that perform LOS E or worse, while there are three in the Overpass Only alternative. Those intersections are 9000 South & Bangerter in the AM and 10400 South & Bangerter and 10400 South & 3200 West in the PM.

Additionally, two intersections at LOS D in the interchange PM scenario see delay increases of 10 or more seconds per vehicle, moving them from low LOS D to high. Those intersections are 9000 South & 4000 West and 10400 South & 4000 West in the PM, the latter of which moves within fractions of a second of LOS E.

In the 2050 PM, all four of the 9000 South study intersections and five of the six 10400 South intersections have delay increases of over 10 seconds per vehicle. Most notable is 10400 South & 3200 West where delay nearly triples, due in large part to the lack of an exclusive southbound right turn lane.

INDIVIDUAL TURNING MOVEMENT ANALYSIS

Each individual intersection turning movement within the study area was compared between the two scenarios to see how delay and level of service differed. There is a 27% increase in turning movements with an LOS of E

or worse in the 2050 AM peak hour with 11 turning movements in the interchange scenario and 14 turning movements in the Overpass Only alternative with an LOS of E or worse. All the movements with poor performance are at 9000 South intersections. Tables showing delay and level of service for each turning movement can be found in **Appendix D**.

Table 10 shows the individual turning movements with the greatest delay increases in the 2050 AM peak hour, namely those movements with a delay increase greater than 10 seconds per vehicle, which in this case are all located on 9000 South. The table also shows the change in 95th percentile queue lengths. In the eastbound direction at 9000 South & 4000 West the delay degrades from a LOS C to a LOS E and the 95th queue length increases from 925 feet to 1,650 feet. At 9000 South and Bangerter, queues increase from 525 feet to 950 feet for the NB right and 275 feet to 550 feet for the SB left. These queues are associated with LOS dropping from D to E for the NB right and reducing the overall intersection LOS from a D to an E.

Table 10. 2050 AM Turning Movements with Delay Increases >10 Seconds

Intersection	Delay			95th Percentile Queue (feet)	
	Movement	Intchg	Overpass	Intchg	Overpass
9000 S & 4000 W	EBL	B / 16	D / 36	175	175
	EBT	C / 28	**E / 57**	925	1,650
	EBR	B / 12	D / 36	75	75
9000 S & Bangerter	NBR	D / 48	**E / 74**	525	950
	SBL	E / 64	**F / 83**	375	550
9000 S & 3400 W	WBL	F / 103	F / 147	975	1,325
	WBT	C / 33	D / 49	975	1,325

In the 2050 PM peak hour, there is a 35% increase in turning movements on 9000 South and 10400 South with an LOS of E or worse with 34 turning movements in the interchange scenario and 46 movements in the overpass scenario.

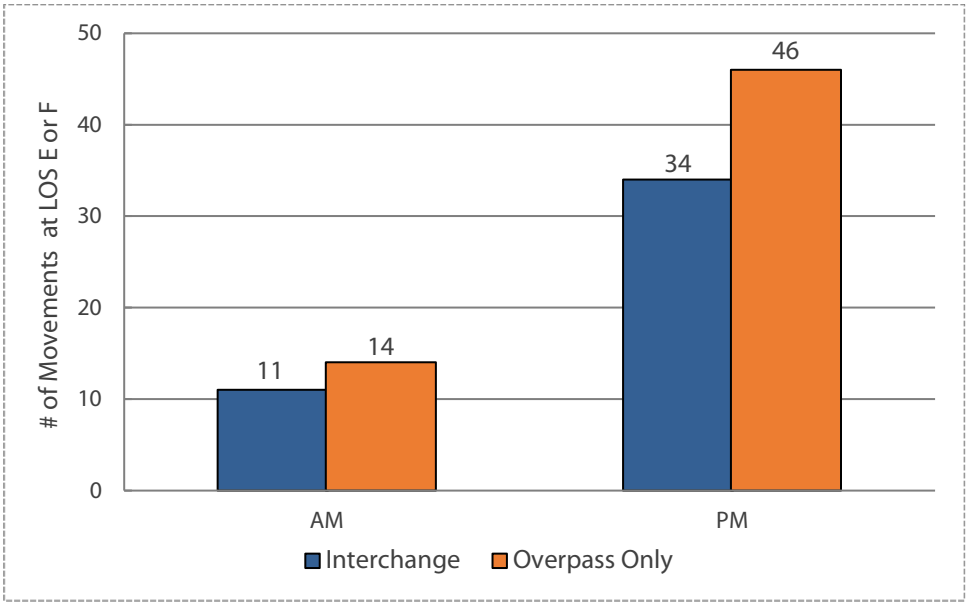


Figure 6. Number of Turning Movements at LOS E or F

In the 2050 PM peak hour there are many movements heavily affected by the overpass scenario. There is no localization of impacted movements as they affect nearly all intersections along the 9000 South and 10400 South corridors. **Table 11** compares the 2050 PM LOS, delay, and queue lengths for the individual turning movements with delay increases of 15 seconds per vehicle or more, which comprise 36% of the total movements on the 9000 South and 10400 South corridors.

Table 11. 2050 PM Select Turning Movements with Delay Increases >=15 Seconds

Intersection	Movement	LOS & Delay (sec/veh)		95th Percentile Queue (feet)	
		Intchg	Overpass	Intchg	Overpass
9000 S & 4000 W	WBL	C / 32	E / 58	150	1,575
	WBT	D / 37	E / 60	975	1,625
	WBR	C / 24	D / 48	150	1,600
9000 S & Bangerter	NBL	F / 81	F / 140	525	1,000
	EBL	E / 58	F / 88	300	925
	WBL	E / 60	E / 75	1,250	1,400
9000 S & 3400 W	NBL	E / 73	F / 116	550	1,225
	NBT	E / 66	F / 90	50	50
	WBL	D / 47	E / 69	100	100
	WBT	B / 19	D / 36	975	1,325
9000 S & 3200 W	SBL	E / 65	F / 127	575	1,425
	SBT	E / 68	F / 138	700	1,375
	EBL	E / 65	F / 89	725	1,400
	WBL	D / 47	E / 73	150	150
	WBT	C / 27	D / 51	1,000	2,075
10400 S & 4000 W	SBL	D / 48	E / 79	875	1,325
	SBT	D / 49	E / 74	1,175	1,325
	WBL	E / 72	F / 102	1,450	1,425
	WBT	D / 40	E / 70	1,475	1,425
10400 S & Whispering Sands	EBL	C / 21	D / 39	25	50
	EBT	A / 5	C / 21	300	1,325
	WBL	A / 6	C / 21	75	75
	WBT	A / 7	C / 26	500	1,175
10400 S & Bangerter	NBL	D / 51	E / 69	275	375
	SBR	C / 28	E / 63	950	1,025
	EBL	F / 85	F / 105	625	1,050
	EBT	D / 39	F / 89	600	1,050
	WBT	D / 47	E / 72	550	1,275
10400 S & 3200 W	SBL	E / 66	F / 121	225	875
	SBT	E / 80	F / 137	525	1,175
	EBL	E / 65	F / 103	525	1,175
	WBL	D / 54	F / 151	175	2,000
	WBT	C / 22	E / 77	1,100	2,500

On 9000 South, the northbound left delay at Bangerter Highway increases by 59 seconds, while at 3200 West delay for the entire southbound approach increases by an average of 65 seconds. On 10400 South, five of the ten movements would increase by 20 or seconds, including the eastbound through at 50 seconds. Also on 10400 South, at 3200 West delay for the westbound approach would increase by an average of 65 seconds per vehicle. Most of these movements would also experience notable increases in 95th percentile queue lengths.

CORRIDOR DELAY

An analysis was performed for the 2050 PM peak hour to determine the total amount of east-west delay on 9000 South and 10400 South in the study area by aggregating the delay for the eastbound and westbound through movements at each study intersection. **Table 13** shows the total eastbound and westbound delay for each corridor for both the Interchange and Overpass Only alternatives. It shows that westbound delay on 9000 South increases by 62%, while delay in both directions on 10400 South increases by 88%.

Table 12. East-West Corridor Delay

Roadway	Direction	Delay (sec/veh)		% Change
		Interchange	Overpass	
9000 South	Westbound	116	188	62%
	Eastbound	85	98	15%
10400 South	Westbound	145	273	88%
	Eastbound	94	177	88%

TOTAL NETWORK DELAY & USER COSTS

Total network delay was measured for 2050 conditions for the Interchange and Overpass Only alternatives. **Table 13** shows the total network delay in hours for the AM and PM peak hours across the study area. Notably, delay increases in the Overpass Only alternative when compared to the interchange. Total delay increases from 201 hours to 225 hours (12%) in the AM and from 367 to 497 hours (35%) in the PM.

Table 13. Total Study Area Network Delay

Total Network Delay	AM Peak Hour		PM Peak Hour	
	Intchg	Overpass	Intchg	Overpass
Hours	201	225	367	497

Using these delay values and annual traffic volume profile data obtain from the UDOT Performance Measurement System (PeMS), annual user costs were estimated based on a vehicle class weighted average value of $19.14 per delay hour. For 2050, this resulted in a user cost increase of $2.4 million for the Overpass Only alternative, while the cumulative user cost value increase from 2025 through 2050 was $50 million.

INTERSECTION IMPROVEMENTS

To mitigate the traffic impact to adjacent intersections in the overpass scenarios and bring the intersections with an intersection LOS of E to D, a high-level analysis looked at possible improvements based on turning movement delay. Potential improvements that would bring these intersections to a LOS D include:

- **9000 South & Bangerter Highway** – Three east-west through lanes were assumed in 2050 in accordance with the RTP. Triple left turns for one of the southbound, eastbound, or westbound left turn

movements is a viable improvement that would likely rectify delay and queuing issues at the interchange.

- **10400 South & Bangerter Highway** – Three east-west lanes were assumed on the east side of the intersection in 2050 in accordance with the RTP. Widening the west side of the intersection to also have three lanes would provide the additional throughput needed to decrease the eastbound and westbound delay and queue lengths. Additionally, triple southbound lefts would provide substantial benefit as the southbound left is the heaviest left turn movement.
- **10400 South & 3200 West** – No improvements were assumed over the existing conditions for the north and south legs of this intersection. Three east-west lanes were assumed at the intersection. The most significant improvement to make to this intersection would be the addition of an exclusive southbound right turn lane.

2.5 Alternative Selection

Multi-disciplinary project meetings were held to evaluate the four alternatives and to select the preferred alternative to move forward. A wide range of issues were considered in making this decision, including traffic operations, design, cost, constructability, impacts to residents and businesses, and other considerations.

The Overpass Only alternative was eliminated due to traffic impacts to nearby intersections and interchanges where 2050 PM peak hour delays would increase by 35% compared to one of the interchange alternatives.

A summary of the traffic performance of the three remaining interchange alternatives, Tight Diamond Interchange, SPUI, and Right-In/Right-Out (RIRO) Interchange, is presented below. **Table 14** compares the intersection levels of service and delay for the 9800 South study intersections for the 2050 AM and PM peak hours.

Table 14. 2050 Interchange Alternatives Intersection Performance Comparison

Location	2050 AM Peak Hour			2050 PM Peak Hour		
	Diamond[1]	SPUI[1]	RIRO[1]	Diamond[1]	SPUI[1]	RIRO[1]
9800 South & 4000 West	B / 20	B / 20	B / 20	C / 34	C / 30	C / 24
9800 South & Bangerter Hwy	C / 27	B / 17	B / 20	D / 38	C / 22	F / 96
9800 South & 3200 West	B / 12	B / 11	A / 8	B / 16	B / 16	B / 11

1. Average delay reported in seconds/vehicle

As shown in the table, the Right-In/Right-Out Interchange is the only interchange alternative that has a failing level of service. Therefore, the Right-In/Right-Out Interchange alternative was eliminated.

Both the Tight Diamond Interchange and the SPUI perform acceptably. Although the SPUI generally performs better than the Tight Diamond, they are both expected to operate very well with good levels of service. Ultimately, the study team selected the Tight Diamond Interchange as the preferred alternative due to a lower construction cost that would save UDOT several million dollars.

3 ALTERNATIVE REFINEMENT

After the selection of the Tight Diamond as the preferred alternative, the design team began preparing conceptual interchange designs for different options to minimize impacts. This section describes an additional traffic analysis that was performed for right turn lane configuration and control options and presents the recommended turn pocket storage lengths to accommodate the anticipated 2050 demand.

3.1 Right Turn Lane Options Analysis

Three different options were analyzed for the right turns from 9800 South to the Bangerter Highway northbound and southbound on-ramps. The three options were:

1. **Free Right Turn Lane** – Vehicles turning right would have their own lane with no stop required before entering the on-ramp
2. **Shared Through-Right Lane** – Vehicles turning right would share a lane with through vehicles on 9800 South and be controlled by the traffic signal
3. **Signal Controlled Right Turn Lane** – Vehicles turning right would have their own lane, but would be controlled by the traffic signal

Table 15 shows the 2050 performance for the 9800 South interchange for the AM and PM peak hour for all three right turn options. The shared through-right lane option performs poorly with LOS E in the AM and LOS F in the PM due to an overall lack of capacity. This option would also result in substantial queuing on 9800 South. The two options where the right turns would be made from their own lane both perform well with slightly better results for the free right turn lane option. Detailed analysis results can be found in **Appendix F**.

Table 15. Right Turn Options Interchange Performance Comparison

Option	2050 AM Peak Hour	2050 PM Peak Hour
Free Right Turn Lane	C / 27	D / 38
Shared Through-Right Lane	E / 60	F / 139
Signal Controlled Right Turn Lane	C / 29	D / 43
1. Average delay reported in seconds/vehicle		

The signal controlled right turn lane was chosen as the preferred options since it provides nearly the same performance as the free right turn lane while increasing safety for pedestrians.

3.2 Turning Vehicle Storage Lengths

After completing the right turns analysis, recommended turning vehicle storage lengths values were developed for the 9800 South interchange using the final models. The recommended values are shown in **Table 16**. It is important to realize that for tight diamond interchanges, the cross-street storage is outside of the interchange, meaning that the distance inside the interchange between the two ramps should not be included in the storage calculations. With the way signal timing is done for tight diamonds, there should not be any vehicles "stuck" in between the ramps, aside for the occasional straggler.

Table 16. Recommended Storage Lengths

Approach	Movement	Storage (feet)
Northbound	Left	250
	Right	250
Southbound	Left	350
	Right	350
Eastbound	Left	250
	Right	150
Westbound	WB Left	250
	Right	150

4 FREEWAY RAMP ANALYSIS

Separate analyses were performed to determine the appropriate gap acceptance lengths for the freeway on-ramps and the required ramp meter storage to meet 2050 traffic demands.

4.1 On-Ramp Gap Acceptance Length

An analysis was performed for the 9800 South on-ramps to determine what the gap acceptance lengths should be for both 2030 and 2050 conditions. Gap acceptance is used in the design of parallel entrance ramps and refers the distance that the on-ramp lane is carried after joining the mainline and before the lane is merged into the mainline via a taper. Essentially, it is the length for a vehicle entering the freeway to complete the merge maneuver with mainline traffic. Guidance for determination of gap acceptance length is provided in the UDOT *Roadway Design Manual* on drawing DM 10.1, Entrance Ramp Geometrics. Note C states that, "for a single lane parallel entrance ramp use a gap acceptance length of 1,200 feet if combined ramp and mainline acceptance lane volume is projected to exceed 2,400 passenger cars per hour during the peak hour. Use a 500-foot length otherwise."

Peak hour volumes for 2030 and 2050 conditions were developed for the 9800 South on-ramp and the Bangerter Highway mainline just upstream of the on-ramp. It was assumed that there would be an even distribution of traffic among mainline lanes on Bangerter Highway. Thus, the mainline acceptance lane volume was one-third of the mainline volume, since the RTP shows Bangerter Highway as a three-lane freeway. The on-ramp volume and the mainline acceptance lane volume were added together and then converted from vehicles to passenger cars by using principles described in Chapter 12 of the *Highway Capacity Manual, 6th Edition*. The resulting number was compared to the 2,400 passenger cars threshold used to determine whether the acceptance lane length should be 500 or 1,200 feet**. Table 17** shows the resulting combined ramp and mainline acceptance lane volume (in passenger cars) and the gap associated acceptance length for each on-ramp. It shows that 1,200 feet is required for both 2030 and 2050 for both the northbound and southbound on-ramps.

Table 17. 9800 South Gap Acceptance Lengths

Year & Time Period	Southbound		Northbound	
	Acceptance Lane Volume (pc/hr)	Acceptance Lane Length (feet)	Acceptance Lane Volume (pc/hr)	Acceptance Lane Length (feet)
2030 AM	1,556	1,200	2,290	500
2030 PM	2,469		1,841	
2050 AM	1,789	1,200	2,458	1,200
2050 PM	2,493		1,944	

4.2 Ramp Meter Storage

Ramp meter storage requirements were obtained from information prepared as part of the Managed Motorways Study. Storage requirements are based on peak hour volumes with the larger of the AM and PM peak hours being used. **Table 18** shows the recommended ramp meter storage lengths for the 9800 South on-ramps.

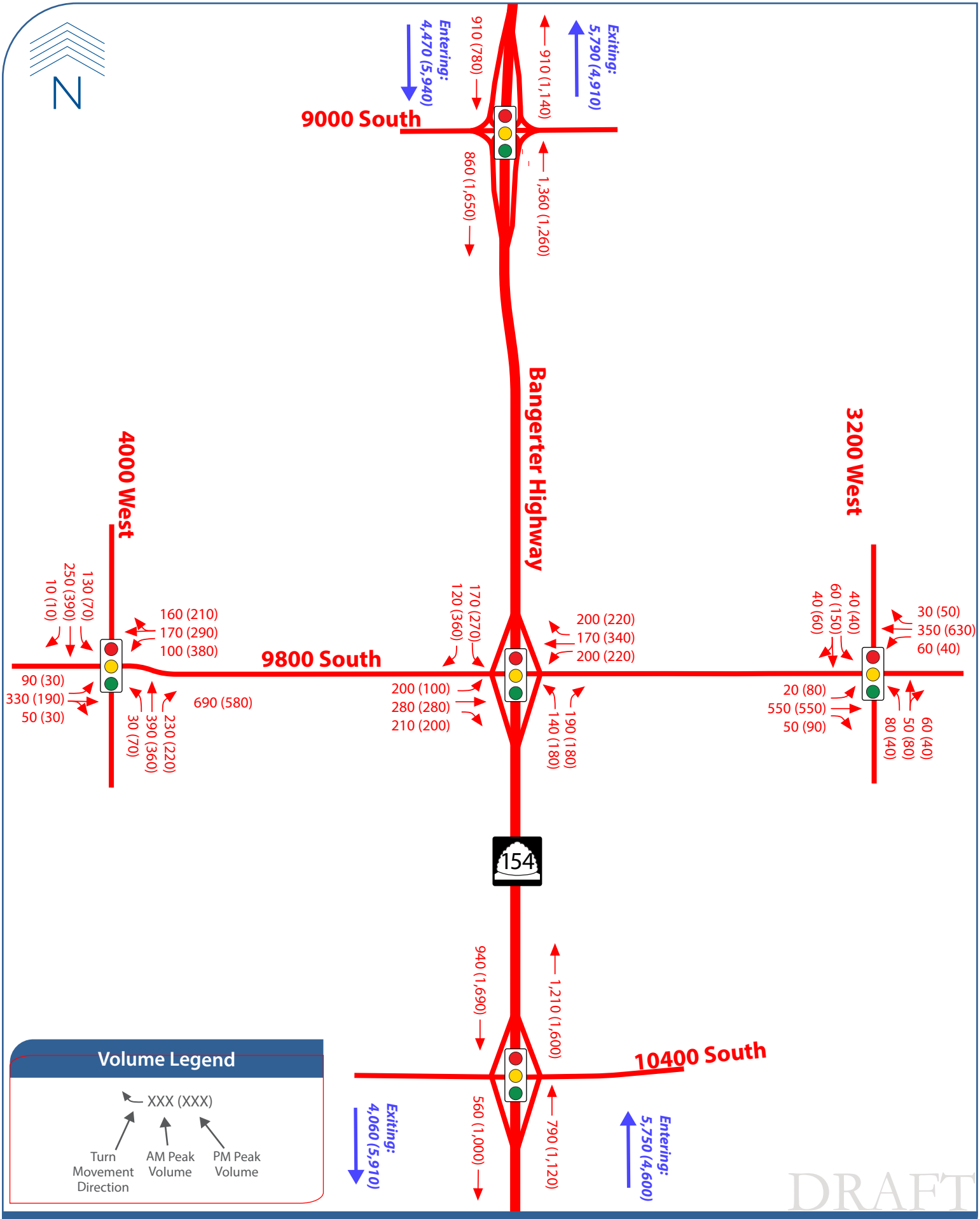
Table 18. 9800 South Ramp Meter Storage Requirements

On-Ramp	2050 Peak Hour Volume (veh /hr)		Total Storage Required (lane-feet)	Storage per Lane (feet)	
	AM	PM		2 Lanes	3 Lanes
Northbound	**400**	310	740	375	250
Southbound	310	**420**	780	400	250

5 CONCLUSION

The traffic analysis shows that a grade-separated interchange will be required to meet the 2050 traffic demands at the intersection of Bangerter Highway & 9800 South. Due to traffic impacts on 9000 South and 10400 South at the Bangerter interchanges and adjacent intersections, the Overpass Only alternative was eliminated. A tight diamond interchange was selected as the preferred interchange alternative due acceptable traffic performance and a lower construction cost than a SPUI. It was also determined that right turns from 9800 South to the on-ramps should be via exclusive signal-controlled lanes, which provides the best combination of traffic performance and pedestrian safety.

Appendix A. Tight Diamond Interchange Alternative Volumes & Vissim Node Results



2050 Tight Diamond / SPUI Peak Hour Traffic Volumes

9800 South & Bangerter Highway Environmental Study

2050 TDI AM

LOS Category: Signalized

1: 4000 West and 9000 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	30	29	97%	0	50	23	C
NBT	390	389	100%	50	400	23	C
NBR	230	229	100%	0	125	13	B
NB	**650**	**647**	**100%**			**20**	**B**
SBL	130	128	98%	0	100	22	C
SBT	250	251	100%	25	175	17	B
SB	**380**	**379**	**100%**			**19**	**B**
EBL	90	92	102%	0	75	24	C
EBT	330	329	100%	50	300	21	C
EBR	50	49	98%	50	300	17	B
EB	**470**	**470**	**100%**			**21**	**C**
WBL	100	95	95%	0	100	24	C
WBT	170	167	98%	25	300	22	C
WBR	160	162	101%	25	300	19	B
WB	**430**	**424**	**99%**			**21**	**C**
Total	**1,930**	**1,920**	**99%**			**20**	**B**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

2: 9800 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	140	126	90%	25	175	43	D
NBR	190	172	91%	25	175	17	B
NB	**330**	**298**	**90%**			**28**	**C**
SBL	170	164	96%	25	175	39	D
SBR	120	123	103%	0	100	7	A
SB	**290**	**287**	**99%**			**25**	**C**
EBL	200	198	99%	25	175	33	C
EBT	280	282	101%	50	325	34	C
EBR	210	210	100%	0	0	5	A
EB	**690**	**690**	**100%**			**25**	**C**
WBL	100	103	103%	25	100	45	D
WBT	170	162	95%	50	200	50	D
WBR	200	196	98%	0	0	4	A
WB	**470**	**461**	**98%**			**30**	**C**
Total	**1,780**	**1,736**	**98%**			**27**	**C**

Node Letter: C VISSIM ID: 98

LOS Category: Signalized

3: 9800 South and 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	80	76	95%	0	75	15	B
NBT	50	51	102%	0	50	15	B
NBR	60	60	100%	0	50	7	A
NB	**190**	**187**	**98%**			**12**	**B**
SBL	40	42	105%	0	50	14	B
SBT	60	61	102%	0	50	14	B
SBR	40	37	93%	0	25	5	A
SB	**140**	**140**	**100%**			**12**	**B**
EBL	20	18	90%	0	25	6	A
EBT	550	542	99%	25	325	14	B
EBR	50	49	98%	0	25	8	A
EB	**620**	**609**	**98%**			**14**	**B**
WBL	60	62	103%	0	50	8	A
WBT	350	350	100%	25	175	14	B
WBR	30	28	93%	0	25	8	A
WB	**440**	**440**	**100%**			**13**	**B**
Total	**1,390**	**1,376**	**99%**			**12**	**B**

Node Letter: E VISSIM ID: 4000

2050 TDI PM

LOS Category: Signalized

1: 9000 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	70	70	100%	0	75	29	C
NBT	360	360	100%	50	400	28	C
NBR	220	217	99%	0	100	11	B
NB	**650**	**647**	**100%**			**22**	**C**
SBL	170	170	100%	25	125	24	C
SBT	390	390	100%	50	325	21	C
SB	**560**	**560**	**100%**			**22**	**C**
EBL	30	30	100%	0	50	33	C
EBT	190	187	98%	25	200	29	C
EBR	30	31	103%	25	200	25	C
EB	**250**	**248**	**99%**			**29**	**C**
WBL	380	371	98%	350	2,100	55	D
WBT	290	276	95%	375	2,175	52	D
WBR	210	206	98%	350	2,050	48	D
WB	**880**	**853**	**97%**			**52**	**D**
Total	**2,340**	**2,308**	**99%**			**34**	**C**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

3: 9800 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	180	179	99%	50	250	57	E
NBR	180	182	101%	25	225	17	B
NB	**360**	**361**	**100%**			**37**	**D**
SBL	270	278	103%	125	425	66	E
SBR	360	355	99%	50	425	12	B
SB	**630**	**633**	**100%**			**36**	**D**
EBL	100	97	97%	25	125	48	D
EBT	280	278	99%	75	375	54	D
EBR	200	202	101%	0	0	6	A
EB	**580**	**577**	**99%**			**36**	**D**
WBL	220	222	101%	75	300	54	D
WBT	340	341	100%	125	475	57	E
WBR	210	212	101%	0	0	8	A
WB	**770**	**775**	**101%**			**43**	**D**
Total	**2,340**	**2,346**	**100%**			**38**	**D**

Node Letter: C VISSIM ID: 98

LOS Category: Signalized

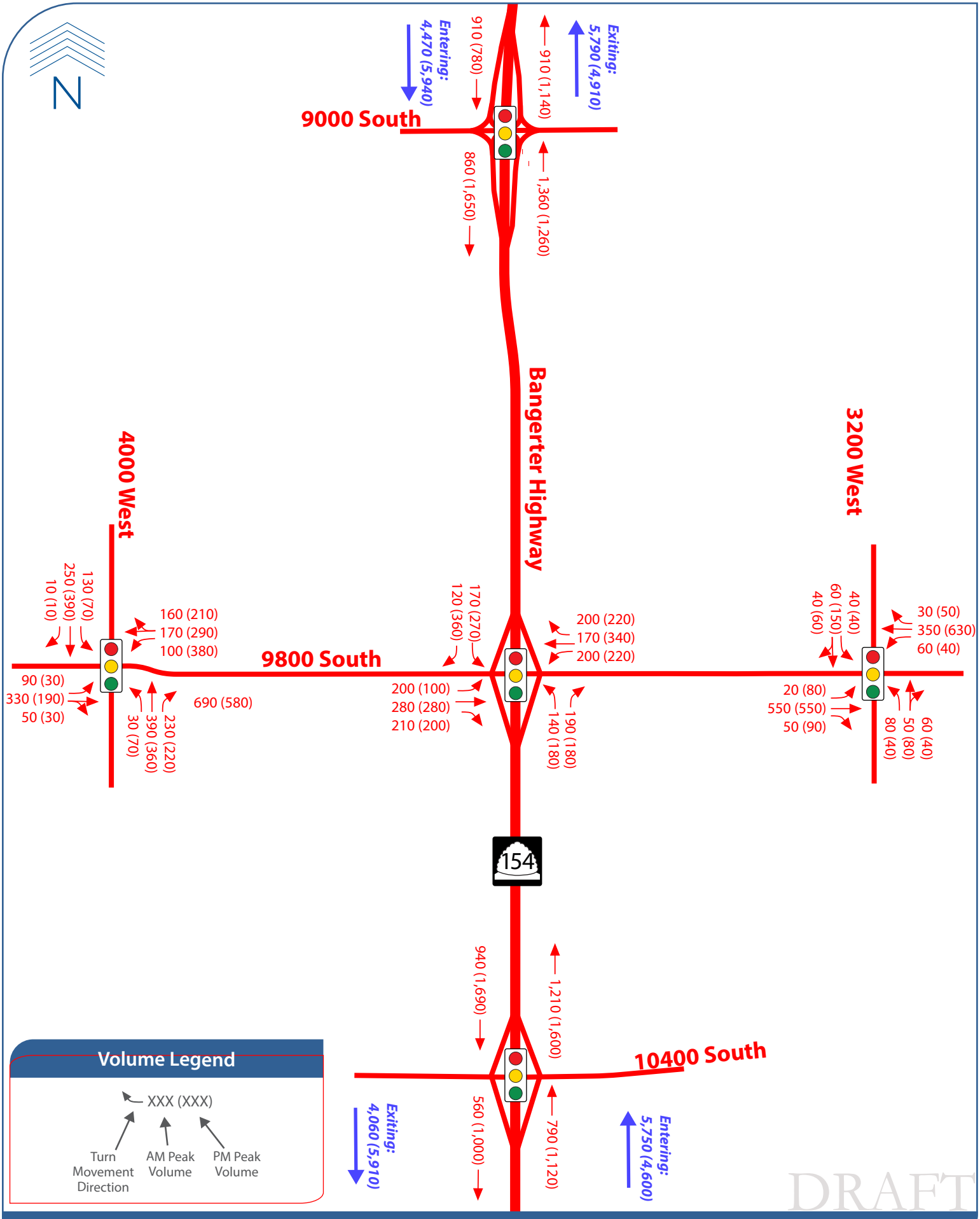
3: 9800 South and 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	40	38	95%	0	50	18	B
NBT	80	81	101%	0	75	16	B
NBR	40	40	100%	0	50	7	A
NB	**160**	**159**	**99%**			**14**	**B**
SBL	40	38	95%	0	50	17	B
SBT	150	152	101%	0	100	16	B
SBR	60	59	98%	0	50	9	A
SB	**250**	**249**	**100%**			**15**	**B**
EBL	80	83	104%	0	50	11	B
EBT	550	543	99%	50	400	17	B
EBR	90	91	101%	0	50	11	B
EB	**720**	**717**	**100%**			**16**	**B**
WBL	40	38	95%	0	25	13	B
WBT	630	632	100%	50	350	19	B
WBR	50	51	102%	0	50	14	B
WB	**720**	**721**	**100%**			**18**	**B**
Total	**1,850**	**1,846**	**100%**			**16**	**B**

Node Letter: E VISSIM ID: 4000

Appendix B. SPUI Alternative Volumes & Vissim Node Results



2050 Tight Diamond / SPUI Peak Hour Traffic Volumes

9800 South & Bangerter Highway Environmental Study

SPUI 2050 AM

LOS Category: Signalized

1: 4000 West and 9800 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	30	28	93%	0	50	24	C
NBT	390	388	99%	75	475	24	C
NBR	230	228	99%	0	100	11	B
NB	**650**	**644**	**99%**			**20**	**B**
SBL	130	128	98%	25	100	29	C
SBT	250	250	100%	25	175	16	B
SB	**380**	**378**	**99%**			**20**	**B**
EBL	90	92	102%	0	75	24	C
EBT	330	329	100%	50	300	22	C
EBR	50	49	98%	50	300	18	B
EB	**470**	**470**	**100%**			**22**	**C**
WBL	100	95	95%	0	100	25	C
WBT	170	167	98%	25	300	20	B
WBR	160	162	101%	25	300	15	B
WB	**430**	**424**	**99%**			**19**	**B**
Total	**1,930**	**1,916**	**99%**			**20**	**B**

Node Letter: A VISSIM ID: 90

LOS Category: Signalized

3: 3200 West and 9800 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	80	75	94%	0	75	16	B
NBT	50	51	102%	0	50	15	B
NBR	60	60	100%	0	50	7	A
NB	**190**	**186**	**98%**			**13**	**B**
SBL	40	42	105%	0	50	16	B
SBT	60	61	102%	0	50	15	B
SBR	40	38	95%	0	25	5	A
SB	**140**	**141**	**101%**			**12**	**B**
EBL	20	18	90%	0	25	5	A
EBT	550	543	99%	25	300	13	B
EBR	50	49	98%	0	25	6	A
EB	**620**	**610**	**98%**			**12**	**B**
WBL	60	61	102%	0	25	5	A
WBT	350	349	100%	25	150	10	A
WBR	30	28	93%	0	25	4	A
WB	**440**	**438**	**100%**			**9**	**A**
Total	**1,390**	**1,375**	**99%**			**11**	**B**

Node Letter: E VISSIM ID: 4000

LOS Category: Signalized

2: 9800 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	140	127	91%	25	150	28	C
NBR	190	173	91%	25	150	13	B
NB	**330**	**300**	**91%**			**19**	**B**
SBL	170	164	96%	25	150	25	C
SBR	120	122	102%	0	100	6	A
SB	**290**	**286**	**99%**			**17**	**B**
EBL	200	197	99%	25	175	32	C
EBT	280	282	101%	25	200	20	B
EBR	210	210	100%	0	0	5	A
EB	**690**	**689**	**100%**			**19**	**B**
WBL	100	104	104%	25	100	34	C
WBT	170	162	95%	25	125	22	C
WBR	200	196	98%	0	0	4	A
WB	**470**	**462**	**98%**			**17**	**B**
Total	**1,780**	**1,737**	**98%**			**17**	**B**

Node Letter: C VISSIM ID: 98

SPUI 2050 PM

LOS Category: Signalized

1: 4000 West and 9800 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	70	70	100%	0	75	29	C
NBT	360	359	100%	50	425	27	C
NBR	220	217	99%	0	100	11	B
NB	**650**	**646**	**99%**			**22**	**C**
SBL	170	170	100%	25	125	24	C
SBT	390	390	100%	50	350	21	C
SB	**560**	**560**	**100%**			**22**	**C**
EBL	30	29	97%	0	50	32	C
EBT	190	187	98%	25	200	30	C
EBR	30	31	103%	25	200	24	C
EB	**250**	**247**	**99%**			**29**	**C**
WBL	380	370	97%	250	1,475	46	D
WBT	290	272	94%	250	1,575	42	D
WBR	210	205	98%	250	1,575	38	D
WB	**880**	**847**	**96%**			**43**	**D**
Total	**2,340**	**2,300**	**98%**			**30**	**C**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

2: 9800 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	180	179	99%	25	175	28	C
NBR	180	182	101%	25	150	13	B
NB	**360**	**361**	**100%**			**20**	**B**
SBL	270	279	103%	50	275	30	C
SBR	360	356	99%	50	300	15	B
SB	**630**	**635**	**101%**			**21**	**C**
EBL	100	96	96%	25	125	37	D
EBT	280	279	100%	50	200	27	C
EBR	200	202	101%	0	0	4	A
EB	**580**	**577**	**99%**			**21**	**C**
WBL	220	222	101%	50	275	38	D
WBT	340	342	101%	50	300	26	C
WBR	210	212	101%	0	0	6	A
WB	**770**	**776**	**101%**			**24**	**C**
Total	**2,340**	**2,349**	**100%**			**22**	**C**

Node Letter: C VISSIM ID: 98

LOS Category: Signalized

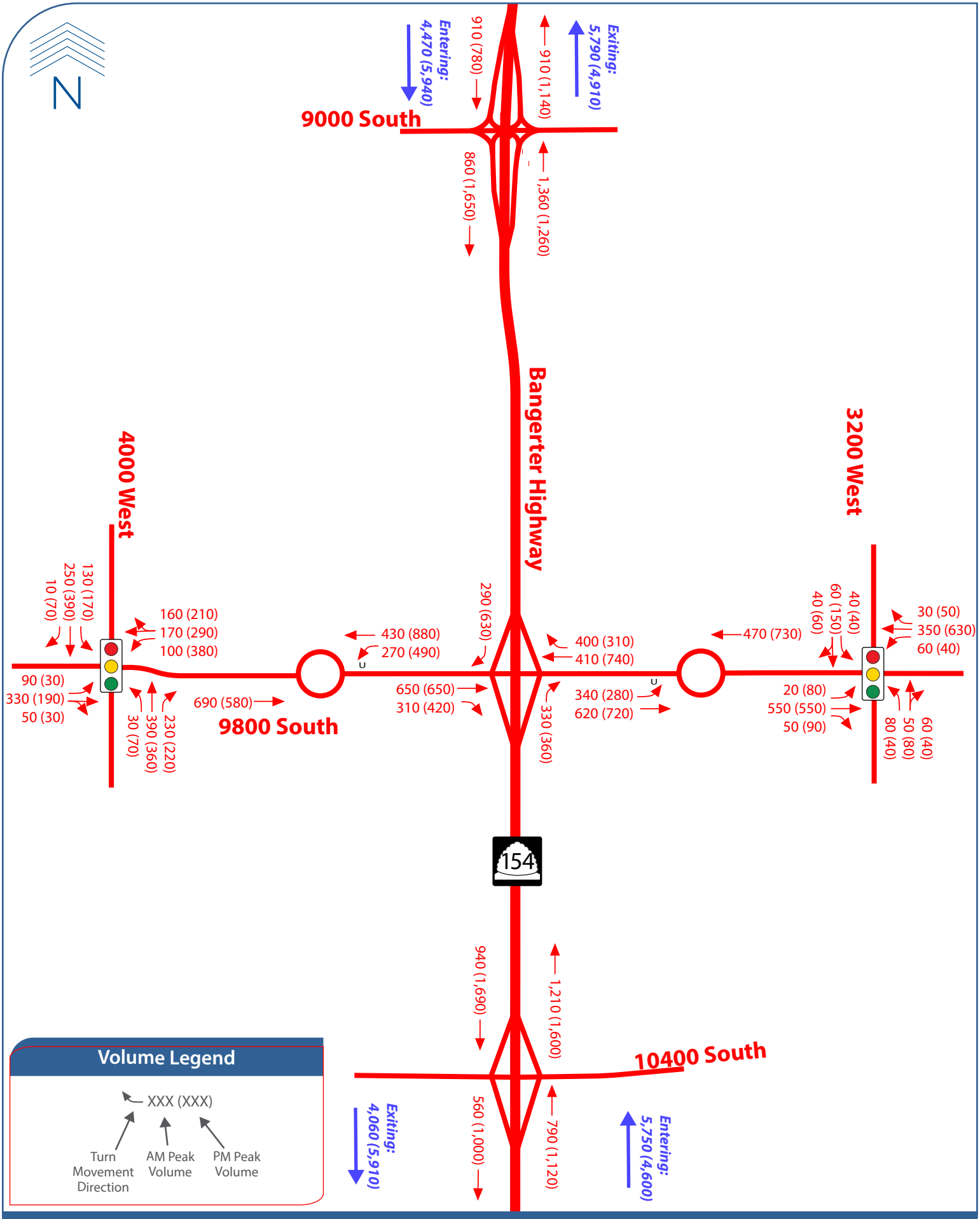
3: 3200 West and 9800 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	40	38	95%	0	50	18	B
NBT	80	81	101%	0	75	16	B
NBR	40	40	100%	0	50	7	A
NB	**160**	**159**	**99%**			**14**	**B**
SBL	40	38	95%	0	50	17	B
SBT	150	152	101%	0	100	16	B
SBR	60	59	98%	0	50	9	A
SB	**250**	**249**	**100%**			**15**	**B**
EBL	80	81	101%	0	50	10	A
EBT	550	535	97%	25	350	16	B
EBR	90	90	100%	0	50	10	A
EB	**720**	**706**	**98%**			**14**	**B**
WBL	40	38	95%	0	25	13	B
WBT	630	630	100%	50	400	19	B
WBR	50	51	102%	0	25	14	B
WB	**720**	**719**	**100%**			**18**	**B**
Total	**1,850**	**1,833**	**99%**			**16**	**B**

Node Letter: E VISSIM ID: 4000

Appendix C. Roundabout Interchange Alternative Volumes & Vissim Node Results



2050 Roundabout Peak Hour Traffic Volumes

9800 South & Bangerter Highway Environmental Study

Right In/Out 2050 AM

LOS Category: Signalized

1: 9800 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBR	330	318	96%	300	800	126	F
NB	**330**	**318**	**96%**			**126**	**F**
SBR	290	282	97%	25	150	11	B
SB	**290**	**282**	**97%**			**11**	**B**
EBT	650	639	98%	0	0	3	A
EBR	310	314	101%	0	0	2	A
EB	**960**	**953**	**99%**			**2**	**A**
WBT	410	400	98%	0	0	1	A
WBR	400	394	99%	0	0	1	A
WB	**810**	**794**	**98%**			**1**	**A**
Total	**2,390**	**2,347**	**98%**			**20**	**B**

Node Letter: C VISSIM ID: 98

LOS Category: Signalized

4: 9000 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	390	368	94%	125	350	117	F
NBT	4,880	4,772	98%	0	0	4	A
NBR	970	858	88%	1,650	5,375	236	F
NB	**6,240**	**5,998**	**96%**			**44**	**D**
SBL	590	597	101%	75	300	46	D
SBT	3,560	3,554	100%	0	0	3	A
SBR	320	314	98%	25	100	19	B
SB	**4,470**	**4,465**	**100%**			**10**	**A**
EBL	510	418	82%	50	250	125	F
EBT	1,580	1,278	81%	4,250	4,650	135	F
EBR	440	364	83%	0	0	93	F
EB	**2,530**	**2,060**	**81%**			**125**	**F**
WBL	420	430	102%	75	225	47	D
WBT	940	936	100%	100	475	33	C
WBR	400	399	100%	0	0	4	A
WB	**1,760**	**1,765**	**100%**			**30**	**C**
Total	**15,000**	**!#####**	**95%**			**43**	**D**

Node Letter: A VISSIM ID: 90

LOS Category: Signalized

5: 10400 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
SBL	630	632	100%	75	275	33	C
SBR	310	306	99%	25	125	8	A
SB	**940**	**938**	**100%**			**25**	**C**
EBL	650	663	102%	100	525	40	D
EBT	930	922	99%	100	650	32	C
EBR	340	333	98%	0	0	3	A
EB	**1,920**	**1,918**	**100%**			**30**	**C**
WBL	220	217	99%	25	125	35	C
WBT	420	415	99%	50	175	30	C
WBR	560	564	101%	0	0	2	A
WB	**1,200**	**1,196**	**100%**			**18**	**B**
Total	**4,060**	**4,052**	**100%**			**25**	**C**

Node Letter: F VISSIM ID: 104

LOS Category: Signalized

6: 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	30	29	97%	0	50	22	C
NBT	390	389	100%	50	400	23	C
NBR	230	228	99%	0	125	11	B
NB	**650**	**646**	**99%**			**19**	**B**
SBL	130	128	98%	25	100	33	C
SBT	250	251	100%	25	150	16	B
SB	**380**	**379**	**100%**			**22**	**C**
EBL	90	92	102%	0	75	24	C
EBT	330	328	99%	50	300	22	C
EBR	50	49	98%	50	300	18	B
EB	**470**	**469**	**100%**			**22**	**C**
WBL	100	94	94%	0	100	25	C
WBR	160	161	101%	25	250	13	B
WB	**260**	**255**	**98%**			**18**	**B**
Total	**1,760**	**1,749**	**99%**			**20**	**B**

Node Letter: B VISSIM ID: 3200

Right In/Out 2050 AM

LOS Category: Signalized

7: 4000 West

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	80	76	95%	0	0	1	A
NBT	50	51	102%	0	50	15	B
NBR	60	60	100%	0	50	7	A
NB	**190**	**187**	**98%**			**7**	**A**
SBL	40	42	105%	0	0	1	A
SBT	60	61	102%	0	50	15	B
SBR	40	38	95%	0	25	6	A
SB	**140**	**141**	**101%**			**8**	**A**
EBL	20	18	90%	0	25	3	A
EBR	50	49	98%	0	25	4	A
EB	**70**	**67**	**96%**			**4**	**A**
WBL	60	61	102%	0	25	4	A
WBT	350	349	100%	25	175	10	A
WBR	30	28	93%	0	25	4	A
WB	**440**	**438**	**100%**			**9**	**A**
Total	**840**	**833**	**99%**			**8**	**A**

Node Letter: E VISSIM ID: 4000

LOS Category: Unsignalized

8: Driveways

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	10	9	90%	0	25	17	C
NBR	10	9	90%	0	25	11	B
NB	**20**	**18**	**90%**			**14**	**B**
SBL	10	9	90%	0	25	14	B
SBR	10	9	90%	0	25	8	A
SB	**20**	**18**	**90%**			**11**	**B**
EBL	20	20	100%	0	50	3	A
EBT	600	919	**153%**	0	50	0	A
EBR	20	20	100%	0	50	0	A
EB	**640**	**959**	**150%**			**0**	**A**
WBL	10	12	**120%**	0	25	5	A
WBT	450	775	**172%**	0	0	1	A
WBR	10	9	90%	0	0	2	A
WB	**470**	**796**	**169%**			**1**	**A**
Total	**1,150**	**1,791**	**156%**			**1**	**A**

Node Letter: D VISSIM ID: 4001

Right In/Out 2050 PM

LOS Category: Signalized

1: 9800 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBR	360	335	93%	625	1,575	238	F
NB	**360**	**335**	**93%**			**238**	**F**
SBR	630	515	82%	3,025	5,475	337	F
SB	**630**	**515**	82%			**337**	**F**
EBT	550	598	109%	0	0	3	A
EBR	420	417	99%	0	0	2	A
EB	**970**	**1,015**	**105%**			**2**	**A**
WBT	740	701	95%	50	250	29	C
WBR	310	306	99%	0	0	1	A
WB	**1,050**	**1,007**	**96%**			**21**	**C**
Total	**3,010**	**2,872**	**95%**			**96**	**F**

Node Letter: C VISSIM ID: 98

LOS Category: Signalized

4: 9000 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	640	638	100%	100	300	48	D
NBT	3,770	3,804	101%	0	0	2	A
NBR	620	611	99%	25	175	22	C
NB	**5,030**	**5,053**	**100%**			**10**	**A**
SBL	400	397	99%	50	200	48	D
SBT	5,160	5,118	99%	75	950	13	B
SBR	380	372	98%	25	125	31	C
SB	**5,940**	**5,887**	**99%**			**16**	**B**
EBL	460	348	76%	50	225	145	F
EBT	1,360	1,013	74%	3,650	4,625	160	F
EBR	660	464	70%	1,075	4,575	140	F
EB	**2,480**	**1,825**	74%			**152**	**F**
WBL	990	808	82%	3,250	5,625	131	F
WBT	1,520	1,268	83%	4,675	5,625	79	E
WBR	680	571	84%	0	0	51	D
WB	**3,190**	**2,647**	83%			**89**	**F**
Total	**16,640**	**!#####**	**93%**			**43**	**D**

Node Letter: A VISSIM ID: 90

LOS Category: Signalized

5: 10400 South

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
SBL	950	848	89%	150	450	53	D
SBR	740	661	89%	100	450	26	C
SB	**1,690**	**1,509**	89%			**41**	**D**
EBL	490	496	101%	75	275	50	D
EBT	840	829	99%	125	450	40	D
EBR	260	254	98%	0	0	2	A
EB	**1,590**	**1,579**	**99%**			**37**	**D**
WBL	740	729	99%	100	375	44	D
WBT	960	941	98%	100	375	34	C
WBR	1,110	1,127	102%	0	0	5	A
WB	**2,810**	**2,797**	**100%**			**25**	**C**
Total	**6,090**	**5,885**	**97%**			**32**	**C**

Node Letter: F VISSIM ID: 104

LOS Category: Signalized

6: 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	70	70	100%	0	75	27	C
NBT	360	359	100%	50	375	26	C
NBR	220	216	98%	0	75	8	A
NB	**650**	**645**	**99%**			**20**	**B**
SBL	170	170	100%	25	150	32	C
SBT	390	389	100%	50	300	20	B
SB	**560**	**559**	**100%**			**24**	**C**
EBL	30	29	97%	0	50	35	C
EBT	190	189	99%	25	200	31	C
EBR	30	32	107%	25	200	23	C
EB	**250**	**250**	**100%**			**30**	**C**
WBL	380	340	89%	75	525	28	C
WBR	210	186	89%	75	475	19	B
WB	**590**	**526**	89%			**25**	**C**
Total	**2,050**	**1,980**	**97%**			**24**	**C**

Node Letter: B VISSIM ID: 3200

Right In/Out 2050 PM

LOS Category: Signalized

7: 4000 West

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	40	38	95%	0	0	1	A
NBT	80	80	100%	0	75	16	B
NBR	40	40	100%	0	25	7	A
NB	**160**	**158**	**99%**			**10**	**A**
SBL	40	38	95%	0	0	1	A
SBT	150	152	101%	0	100	17	B
SBR	60	59	98%	0	50	9	A
SB	**250**	**249**	**100%**			**13**	**B**
EBL	80	77	96%	0	50	6	A
EBR	90	84	93%	0	50	4	A
EB	**170**	**161**	**95%**			**5**	**A**
WBL	40	38	95%	0	25	7	A
WBT	630	629	100%	50	375	13	B
WBR	50	51	102%	0	25	7	A
WB	**720**	**718**	**100%**			**12**	**B**
Total	**1,300**	**1,286**	**99%**			**11**	**B**

Node Letter: E VISSIM ID: 4000

LOS Category: Unsignalized

8: Driveways

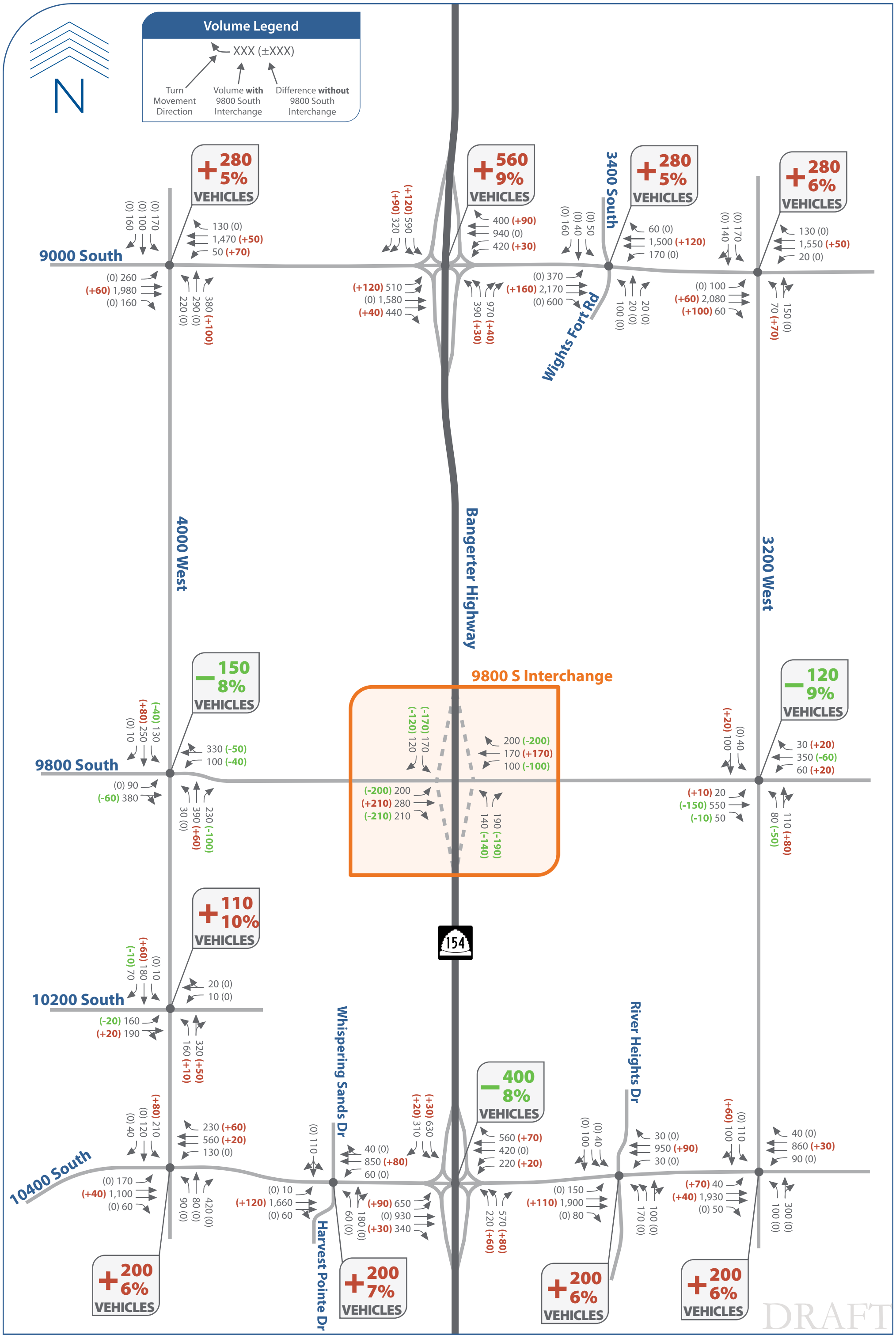
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	20	19	95%	0	50	29	D
NBR	20	19	95%	0	50	12	B
NB	**40**	**38**	**95%**			**21**	**C**
SBL	20	21	105%	0	50	20	C
SBR	50	56	**112%**	0	75	14	B
SB	**70**	**77**	**110%**			**16**	**C**
EBL	30	27	90%	0	150	5	A
EBT	680	886	**130%**	0	125	1	A
EBR	20	20	100%	0	125	0	A
EB	**730**	**933**	**128%**			**1**	**A**
WBL	10	10	100%	0	25	21	C
WBT	700	940	**134%**	175	1,350	23	C
WBR	20	18	90%	250	1,300	23	C
WB	**730**	**968**	**133%**			**23**	**C**
Total	**1,570**	**2,016**	**128%**			**13**	**B**

Node Letter: D VISSIM ID: 4001

Appendix D. Overpass Only Alternative Volumes & Vissim Node Results

Existing (2019) Study Area Daily Traffic Volumes

Roadway	Segment	Source	Date	AWDT
9000 South	4800 W to Old Bingham Hwy	ATSPM	5/21/2019	26,600
9000 South	Old Bingham Hwy to 4000 W	ATSPM	5/21/2019	33,200
9000 South	4000 W to Bangerter	ATSPM	5/21/2019	33,900
9000 South	Bangerter to 3200 West	ATSPM	5/21/2019	35,000
9000 South	3200 West to 2700 West	ATSPM	3/23/2021	35,200
9000 South	2700 West to 2200 West	ATSPM	3/23/2021	37,100
9000 South	2200 West to Redwood	ATSPM	3/23/2021	36,700
9800 South	4800 W to 4000 W	SJ Traffic Counts	7/19/2018 – 7/25/2018	4,000
9800 South	4000 W to Bangerter	SJ Traffic Counts	7/19/2018 – 7/25/2018	8,600
9800 South	Bangerter to 3200 West	SJ Traffic Counts	12/16/2019 – 12/22/2019	8,300
9800 South	3200 West to 2700 West	SJ Traffic Counts	12/16/2019 – 12/22/2019	9,600
9800 South	2700 West to 2200 West	SJ Traffic Counts	8/7/2018 – 8/13/2018	10,700
9800 South	2200 West to Redwood	SJ Traffic Counts	8/1/2018 – 8/7/2018	10,700
S Jordan Pkwy South	4800 W to Oquirrh Lake Dr.	SJ Traffic Counts	6/8/2018 – 6/14/2018	10,500
S Jordan Pkwy South	Oquirrh Lake Dr. to 4000 W	SJ Traffic Counts	2/22/2019 – 2/28/2019	16,700
S Jordan Pkwy South	4000 W to Bangerter	ATSPM	5/21/2019	27,300
S Jordan Pkwy South	Bangerter to River Heights	ATSPM	5/21/2019	29,400
S Jordan Pkwy South	River Heights to 3200 West	ATSPM	5/21/2019	27,300
S Jordan Pkwy South	3200 West to 2700 West	ATSPM	5/21/2019	30,000
S Jordan Pkwy South	2700 West to 2200 West	ATSPM	5/21/2019	30,200
S Jordan Pkwy South	2200 West to Redwood	ATSPM	5/21/2019	27,600
4800 West	9000 S to Old Bingham Hwy	ATSPM	5/21/2019	7,300
4800 West	Old Bingham Hwy to 9800 S	SJ Traffic Counts	7/31/2018 – 8/4/2018	5,400
4800 West	9800 S to S Jordan Pkwy	SJ Traffic Counts	7/24/2019 – 7/30/2019	2,100
4000 West	9000 S to 9800 S	ATSPM	5/21/2019	14,000
4000 West	9800 S to S Jordan Pkwy	SJ Traffic Counts	1/14/2021 – 1/20/2021	10,700
3200 West	9000 S to 9800 S	ATSPM	5/21/2019	7,000
3200 West	3200 West	SJ Traffic Counts	7/3/2018 – 7/9/2018	4,800
2700 West	9000 S to 9800 S	ATSPM	3/23/2021	9,100
2700 West	9800 S to S Jordan Pkwy	ATSPM	5/21/2019	8,400
2200 West	9000 S to 9800 S	ATSPM	3/23/2021	4,500
2200 West	9800 S to S Jordan Pkwy	ATSPM	5/21/2019	6,900
Redwood Rd	9000 S to 9800 S	ATSPM	5/21/2019	31,000
Redwood Rd	9800 S to S Jordan Pkwy	ATSPM	5/21/2019	32,500



2050 AM Peak Hour Volumes Comparison with & without 9800 S Interchange

Bangerter & 9800 South State Environmental Study

N

Volume Legend

XXX (±XXX)

- Turn Movement Direction
- Volume **with** 9800 South Interchange
- Difference **without** 9800 South Interchange

9000 South

+370 5% VEHICLES

(0) 480 (0) 440 (0) 310

260 (0)
2,070 (+80)
160 (+160)

(0) 270
(+50) 2,050
(0) 210

270 (0) 270 (0) 120 (+80)

(+130) 450 (+180) 340

(+100) 460
(0) 1,350
(+30) 670

+730 9% VEHICLES

670 (+140)
1,510 (0)
990 (+50)

640 (+60) 620 (+40)

(0) 290 (0) 10 (0) 100

(0) 170
(+170) 1,950
(0) 300

3400 South

+360 16% VEHICLES

20 (0)
2,560 (+190)
110 (0)

320 (0) 20 (0) 80 (0)

(0) 330 (0) 180

(0) 100
(+60) 1,940
(+110) 90

+360 6% VEHICLES

230 (0)
2,500 (+70)
120 (0)

90 (+120) 110 (0)

Wights Fort Rd

4000 West

Bangerter Highway

3200 West

9800 S Interchange

9800 South

+20 1% VEHICLES

(+60) 70 (+70) 390 (-10) 170

400 (-140)
380 (-40)

(+30) 30
(-20) 220

70 (+20) 360 (+60) 220 (-10)

(-360) 360 (-270) 270

210 (-210)
340 (+360)
220 (-220)

(-100) 100
(+240) 280
(-200) 200

180 (-180) 180 (-180)

(-50) 210 (+40) 40

−230 12% VEHICLES

50 (+20)
620 (-90)
40 (+20)

(-180) 550 (-20) 80 (-10) 90

50 (+10) 120 (+30)

10200 South

+200 9% VEHICLES

(-10) 240 (+60) 710 (0) 10

30 (0)
30 (0)

(-20) 120
(+20) 260

250 (+30) 530 (+120)

154

Whispering Sands Dr

River Heights Dr

10400 South

+740 10% VEHICLES

(0) 260 (0) 410 (+80) 320

490 (+150)
1,170 (+100)
320 (0)

(0) 150
(+50) 1,010
(0) 130

150 (0) 140 (0) 260 (0)

(0) 40

(+60) 740 (+40) 950

50 (0)
1,890 (+250)
170 (0)

(0) 50
(+130) 1,460
(0) 80

80 (0) 120 (0)

(+100) 490
(0) 840
(+30) 260

410 (+190) 710 (+130)

(0) 190 (0) 100

100 (0)
2,210 (+190)
370 (0)

(0) 310
(+170) 2,020
(0) 170

490 (0) 140 (0)

(+120) 250 (0) 100

(+110) 90
(+60) 1,980
(0) 150

110 (0)
2,450 (+70)
160 (0)

110 (0) 160 (0)

Harvest Pointe Dr

+380 8% VEHICLES

+380 10% VEHICLES

+360 6% VEHICLES

+360 6% VEHICLES

DRAFT

2050 PM Peak Hour Volumes Comparison with & without 9800 S Interchange

Bangerter & 9800 South State Environmental Study

2050 All Intersections TDI AM

LOS Category: Signalized

1: 9000 South and 4000 West

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	220	218	99%	100	850	68	E
NBT	290	286	99%	350	2,250	82	F
NBR	380	382	101%	250	2,125	52	D
NB	**890**	**886**	**100%**			**66**	**E**
SBL	170	170	100%	50	200	40	D
SBT	100	97	97%	25	125	49	D
SBR	160	162	101%	0	75	8	A
SB	**430**	**429**	**100%**			**30**	**C**
EBL	260	255	98%	25	175	16	B
EBT	1,980	1,989	100%	175	925	28	C
EBR	160	162	101%	0	75	12	B
EB	**2,400**	**2,406**	**100%**			**26**	**C**
WBL	50	48	96%	0	75	22	C
WBT	1,470	1,474	100%	50	450	14	B
WBR	130	130	100%	0	75	8	A
WB	**1,650**	**1,652**	**100%**			**14**	**B**
Total	**5,370**	**5,373**	**100%**			**29**	**C**

Node Letter: G VISSIM ID: 4019

LOS Category: Signalized

2: 9000 South and Bangerter

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	390	393	101%	75	250	63	E
NBR	970	980	101%	150	525	48	D
NB	**1,360**	**1,373**	**101%**			**52**	**D**
SBL	590	603	102%	125	375	64	E
SBR	320	317	99%	0	75	9	A
SB	**910**	**920**	**101%**			**45**	**D**
EBL	510	515	101%	275	1,325	115	F
EBT	1,580	1,587	100%	500	1,575	73	E
EBR	440	447	102%	0	0	30	C
EB	**2,530**	**2,549**	**101%**			**74**	**E**
WBL	420	420	100%	75	275	47	D
WBT	940	935	99%	50	350	29	C
WBR	400	394	99%	25	225	11	B
WB	**1,760**	**1,749**	**99%**			**29**	**C**
Total	**6,560**	**6,591**	**100%**			**53**	**D**

Node Letter: A VISSIM ID: 90

2050 All Intersections Overpass AM

LOS Category: Signalized

1: 9000 South and 4000 West

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	220	219	100%	150	1,625	60	E
NBT	290	288	99%	350	2,250	73	E
NBR	480	481	100%	400	2,250	55	D
NB	**990**	**988**	**100%**			**61**	**E**
SBL	170	170	100%	25	200	33	C
SBT	100	97	97%	25	150	45	D
SBR	160	162	101%	0	75	9	A
SB	**430**	**429**	**100%**			**26**	**C**
EBL	260	252	97%	0	175	36	D
EBT	2,040	2,049	100%	475	1,650	57	E
EBR	160	164	103%	0	75	36	D
EB	**2,460**	**2,465**	**100%**			**54**	**D**
WBL	120	120	100%	25	150	32	C
WBT	1,520	1,524	100%	75	550	22	C
WBR	130	130	100%	0	75	11	B
WB	**1,770**	**1,774**	**100%**			**22**	**C**
Total	**5,650**	**5,656**	**100%**			**43**	**D**

Node Letter: G VISSIM ID: 4019

LOS Category: Signalized

2: 9000 South and Bangerter

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Delay / LOS Analysis Period 900-4500	
NBL	420	425	101%	75	250	65	E
NBR	1,010	1,024	101%	275	950	74	E
NB	**1,430**	**1,449**	**101%**			**71**	**E**
SBL	710	715	101%	200	550	83	F
SBR	410	409	100%	0	100	12	B
SB	**1,120**	**1,124**	**100%**			**57**	**E**
EBL	630	634	101%	425	1,650	105	F
EBT	1,580	1,575	100%	450	1,700	62	E
EBR	480	484	101%	0	0	26	C
EB	**2,690**	**2,693**	**100%**			**66**	**E**
WBL	450	442	98%	75	275	51	D
WBT	940	929	99%	75	475	36	D
WBR	490	482	98%	50	550	17	B
WB	**1,880**	**1,853**	**99%**			**35**	**C**
Total	**7,120**	**7,119**	**100%**			**57**	**E**

Node Letter: A VISSIM ID: 90

2050 All Intersections TDI AM

LOS Category: Signalized

3: 9000 South and 3400 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	100	97	97%	25	125	51	D
NBT	20	21	105%	0	50	53	D
NBR	20	20	100%	0	25	7	A
NB	**140**	**138**	**99%**			**45**	**D**
SBL	50	51	102%	25	100	49	D
SBT	40	40	100%	0	75	55	D
SBR	160	157	98%	0	75	7	A
SB	**250**	**248**	**99%**			**23**	**C**
EBL	370	381	103%	50	325	29	C
EBT	2,170	2,182	101%	50	550	10	A
EBR	600	607	101%	25	300	11	B
EB	**3,140**	**3,170**	**101%**			**12**	**B**
WBL	170	169	99%	150	975	103	F
WBT	1,500	1,498	100%	150	975	33	C
WBR	60	59	98%	0	50	13	B
WB	**1,730**	**1,726**	**100%**			**39**	**D**
Total	**5,260**	**5,282**	**100%**			**22**	**C**

Node Letter: H VISSIM ID: 4020

LOS Category: Signalized

4: 9000 South and 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	70	70	100%	25	125	43	D
NBT	80	78	98%	25	200	51	D
NBR	70	71	101%	50	200	28	C
NB	**220**	**219**	**100%**			**41**	**D**
SBL	170	170	100%	75	275	44	D
SBT	30	28	93%	25	150	46	D
SBR	110	110	100%	25	175	18	B
SB	**310**	**308**	**99%**			**35**	**C**
EBL	100	100	100%	0	75	20	B
EBT	2,080	2,098	101%	25	400	6	A
EBR	60	65	108%	0	25	5	A
EB	**2,240**	**2,263**	**101%**			**7**	**A**
WBL	20	22	110%	0	25	28	C
WBT	1,550	1,546	100%	25	300	11	B
WBR	130	134	103%	0	50	5	A
WB	**1,700**	**1,702**	**100%**			**11**	**B**
Total	**4,470**	**4,492**	**100%**			**12**	**B**

Node Letter: I VISSIM ID: 4021

2050 All Intersections Overpass AM

LOS Category: Signalized

3: 9000 South and 3400 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	100	97	97%	25	150	50	D
NBT	20	21	105%	0	50	52	D
NBR	20	20	100%	0	25	7	A
NB	**140**	**138**	**99%**			**45**	**D**
SBL	50	50	100%	25	100	48	D
SBT	40	39	98%	0	75	55	D
SBR	160	159	99%	0	100	7	A
SB	**250**	**248**	**99%**			**23**	**C**
EBL	370	382	103%	50	325	30	C
EBT	2,330	2,334	100%	50	550	10	A
EBR	600	593	99%	25	250	10	A
EB	**3,300**	**3,309**	**100%**			**12**	**B**
WBL	170	167	98%	275	1,325	147	F
WBT	1,620	1,599	99%	275	1,325	49	D
WBR	60	60	100%	0	50	21	C
WB	**1,850**	**1,826**	**99%**			**57**	**E**
Total	**5,540**	**5,521**	**100%**			**28**	**C**

Node Letter: H VISSIM ID: 4020

LOS Category: Signalized

4: 9000 South and 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	140	140	100%	50	200	43	D
NBT	80	76	95%	25	175	50	D
NBR	70	75	107%	50	200	29	C
NB	**290**	**291**	**100%**			**41**	**D**
SBL	170	169	99%	75	275	44	D
SBT	30	29	97%	25	150	51	D
SBR	110	109	99%	25	175	22	C
SB	**310**	**307**	**99%**			**37**	**D**
EBL	100	97	97%	0	100	26	C
EBT	2,140	2,152	101%	50	550	8	A
EBR	160	165	103%	0	50	6	A
EB	**2,400**	**2,414**	**101%**			**8**	**A**
WBL	20	21	105%	0	50	37	D
WBT	1,600	1,594	100%	50	375	15	B
WBR	130	133	102%	0	50	6	A
WB	**1,750**	**1,748**	**100%**			**15**	**B**
Total	**4,750**	**4,760**	**100%**			**15**	**B**

Node Letter: I VISSIM ID: 4021

2050 All Intersections TDI AM

LOS Category: Signalized

5: 9800 South 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	30	30	100%	0	50	23	C
NBT	390	390	100%	50	425	24	C
NBR	230	228	99%	0	100	12	B
NB	**650**	**648**	**100%**			**20**	**B**
SBL	130	126	97%	0	100	23	C
SBT	250	255	102%	25	175	19	B
SBR	10	9	90%	0	25	6	A
SB	**390**	**390**	**100%**			**20**	**B**
EBL	90	87	97%	0	75	24	C
EBT	330	327	99%	50	300	23	C
EBR	50	54	108%	50	300	18	B
EB	**470**	**468**	**100%**			**22**	**C**
WBL	100	95	95%	0	100	24	C
WBT	170	174	102%	25	325	23	C
WBR	160	158	99%	25	325	20	B
WB	**430**	**427**	**99%**			**22**	**C**
Total	**1,940**	**1,933**	**100%**			**21**	**C**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

6: 9800 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	140	142	101%	25	150	26	C
NBR	190	184	97%	25	150	14	B
NB	**330**	**326**	**99%**			**19**	**B**
SBL	170	163	96%	25	150	25	C
SBR	120	123	103%	25	150	6	A
SB	**290**	**286**	**99%**			**17**	**B**
EBL	200	206	103%	50	375	33	C
EBT	280	276	99%	50	425	35	C
EBR	210	204	97%	0	100	13	B
EB	**690**	**686**	**99%**			**28**	**C**
WBL	100	104	104%	25	125	38	D
WBT	170	160	94%	25	225	42	D
WBR	200	198	99%	25	125	13	B
WB	**470**	**462**	**98%**			**29**	**C**
Total	**1,780**	**1,760**	**99%**			**25**	**C**

Node Letter: C VISSIM ID: 98

2050 All Intersections Overpass AM

LOS Category: Signalized

5: 9800 South 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	30	32	107%	0	50	21	C
NBT	450	453	101%	50	350	20	B
NBR	130	123	95%	0	75	9	A
NB	**610**	**608**	**100%**			**18**	**B**
SBL	90	89	99%	0	75	23	C
SBT	330	334	101%	25	200	17	B
SBR	10	10	100%	0	25	6	A
SB	**430**	**433**	**101%**			**18**	**B**
EBL	90	87	97%	0	75	20	B
EBT	270	266	99%	25	225	19	B
EBR	50	55	110%	25	225	16	B
EB	**410**	**408**	**100%**			**19**	**B**
WBL	60	58	97%	0	75	23	C
WBT	130	132	102%	25	200	21	C
WBR	150	142	95%	25	200	18	B
WB	**340**	**332**	**98%**			**20**	**B**
Total	**1,790**	**1,781**	**99%**			**19**	**B**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

6: 9800 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
EBT	490	481	98%	0	0	5	A
EB	**490**	**481**	**98%**			**5**	**A**
WBT	340	332	98%	0	125	8	A
WB	**340**	**332**	**98%**			**8**	**A**
Total	**830**	**813**	**98%**			**6**	**A**

Node Letter: C VISSIM ID: 98

2050 All Intersections TDI AM

LOS Category: Signalized

7: 9800 South 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	80	79	99%	0	75	15	B
NBT	50	48	96%	0	50	13	B
NBR	60	60	100%	0	50	7	A
NB	**190**	**187**	**98%**			**12**	**B**
SBL	40	38	95%	0	50	15	B
SBT	60	62	103%	0	50	14	B
SBR	40	40	100%	0	25	5	A
SB	**140**	**140**	**100%**			**12**	**B**
EBL	20	18	90%	0	25	6	A
EBT	550	535	97%	25	350	14	B
EBR	50	51	102%	0	25	8	A
EB	**620**	**604**	**97%**			**14**	**B**
WBL	60	62	103%	0	25	9	A
WBT	350	344	98%	25	150	14	B
WBR	30	32	107%	0	25	7	A
WB	**440**	**438**	**100%**			**13**	**B**
Total	**1,390**	**1,369**	**98%**			**13**	**B**

Node Letter: E VISSIM ID: 4000

LOS Category: Signalized

8: 10200 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	160	162	101%	0	75	9	A
NBT	310	308	99%	0	125	9	A
NBR	10	10	100%	0	125	6	A
NB	**480**	**480**	**100%**			**9**	**A**
SBL	10	11	110%	0	25	12	B
SBT	180	178	99%	0	75	10	A
SBR	70	70	100%	0	50	5	A
SB	**260**	**259**	**100%**			**8**	**A**
EBL	160	160	100%	0	100	13	B
EBT	10	10	100%	0	75	10	A
EBR	180	179	99%	0	75	5	A
EB	**350**	**349**	**100%**			**9**	**A**
WBL	10	9	90%	0	25	12	B
WBT	10	10	100%	0	25	9	A
WBR	10	10	100%	0	25	4	A
WB	**30**	**29**	**97%**			**9**	**A**
Total	**1,120**	**1,117**	**100%**			**9**	**A**

Node Letter: J VISSIM ID: 4022

2050 All Intersections Overpass AM

LOS Category: Signalized

7: 9800 South 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	30	26	**87%**	0	25	13	B
NBT	60	60	100%	0	50	12	B
NBR	130	131	101%	0	50	6	A
NB	**220**	**217**	**99%**			**9**	**A**
SBL	40	41	103%	0	50	14	B
SBT	100	99	99%	0	75	13	B
SBR	20	19	95%	0	25	5	A
SB	**160**	**159**	**99%**			**12**	**B**
EBL	30	33	110%	0	25	6	A
EBT	400	397	99%	25	225	14	B
EBR	40	34	**85%**	0	25	8	A
EB	**470**	**464**	**99%**			**13**	**B**
WBL	80	78	98%	0	25	7	A
WBT	290	290	100%	0	150	14	B
WBR	50	50	100%	0	25	8	A
WB	**420**	**418**	**100%**			**12**	**B**
Total	**1,270**	**1,258**	**99%**			**12**	**B**

Node Letter: E VISSIM ID: 4000

LOS Category: Signalized

8: 10200 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	170	169	99%	0	100	9	A
NBT	360	358	99%	25	175	9	A
NBR	10	10	100%	25	175	6	A
NB	**540**	**537**	**99%**			**9**	**A**
SBL	10	10	100%	0	25	12	B
SBT	240	238	99%	0	125	11	B
SBR	60	59	98%	0	50	4	A
SB	**310**	**307**	**99%**			**10**	**A**
EBL	140	139	99%	0	100	13	B
EBT	10	11	110%	0	75	12	B
EBR	200	199	100%	0	100	6	A
EB	**350**	**349**	**100%**			**9**	**A**
WBL	10	9	90%	0	25	12	B
WBT	10	10	100%	0	25	12	B
WBR	10	10	100%	0	25	4	A
WB	**30**	**29**	**97%**			**9**	**A**
Total	**1,230**	**1,222**	**99%**			**9**	**A**

Node Letter: J VISSIM ID: 4022

2050 All Intersections TDI AM

LOS Category: Signalized

9: 10400 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	90	93	103%	25	100	29	C
NBT	80	78	98%	25	100	32	C
NBR	420	420	100%	50	300	20	B
NB	**590**	**591**	**100%**			**23**	**C**
SBL	210	207	99%	25	175	26	C
SBT	120	122	102%	25	125	26	C
SBR	40	39	98%	0	50	6	A
SB	**370**	**368**	**99%**			**24**	**C**
EBL	170	173	102%	0	100	14	B
EBT	1,100	1,094	99%	50	325	14	B
EBR	60	60	100%	0	25	5	A
EB	**1,330**	**1,327**	**100%**			**14**	**B**
WBL	130	129	99%	0	100	25	C
WBT	560	571	102%	25	200	14	B
WBR	230	227	99%	0	100	8	A
WB	**920**	**927**	**101%**			**14**	**B**
Total	**3,210**	**3,213**	**100%**			**17**	**B**

Node Letter: K VISSIM ID: 4023

LOS Category: Signalized

10: 10400 South and Whispering Sands

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	60	62	103%	0	75	30	C
NBT	10	8	**80%**	0	100	35	C
NBR	170	169	99%	0	100	8	A
NB	**240**	**239**	**100%**			**14**	**B**
SBL	90	88	98%	0	100	2	A
SBT	10	9	90%	0	75	29	C
SBR	10	11	110%	0	75	9	A
SB	**110**	**108**	**98%**			**5**	**A**
EBL	10	8	**80%**	0	0	10	A
EBT	1,660	1,654	100%	50	425	8	A
EBR	60	59	98%	0	25	4	A
EB	**1,730**	**1,721**	**99%**			**8**	**A**
WBL	60	63	105%	0	25	4	A
WBT	850	852	100%	0	175	5	A
WBR	40	43	108%	0	25	5	A
WB	**950**	**958**	**101%**			**5**	**A**
Total	**3,030**	**3,026**	**100%**			**7**	**A**

Node Letter: L VISSIM ID: 4024

2050 All Intersections Overpass AM

LOS Category: Signalized

9: 10400 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	90	93	103%	25	100	32	C
NBT	80	79	99%	25	100	36	D
NBR	420	419	100%	75	350	25	C
NB	**590**	**591**	**100%**			**27**	**C**
SBL	290	290	100%	50	250	27	C
SBT	120	118	98%	25	125	25	C
SBR	40	40	100%	0	25	5	A
SB	**450**	**448**	**100%**			**25**	**C**
EBL	170	174	102%	0	125	16	B
EBT	1,140	1,135	100%	50	375	17	B
EBR	60	62	103%	0	25	6	A
EB	**1,370**	**1,371**	**100%**			**16**	**B**
WBL	130	132	102%	25	125	31	C
WBT	580	591	102%	25	225	16	B
WBR	290	284	98%	0	150	9	A
WB	**1,000**	**1,007**	**101%**			**16**	**B**
Total	**3,410**	**3,417**	**100%**			**19**	**B**

Node Letter: K VISSIM ID: 4023

LOS Category: Signalized

10: 10400 South and Whispering Sands

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	60	61	102%	0	75	33	C
NBT	10	9	90%	0	100	29	C
NBR	170	169	99%	0	100	9	A
NB	**240**	**239**	**100%**			**16**	**B**
SBL	90	88	98%	0	100	4	A
SBT	10	9	90%	0	75	33	C
SBR	10	11	110%	0	75	7	A
SB	**110**	**108**	**98%**			**6**	**A**
EBL	10	10	100%	0	25	13	B
EBT	1,780	1,773	100%	50	450	8	A
EBR	60	60	100%	0	25	4	A
EB	**1,850**	**1,843**	**100%**			**8**	**A**
WBL	60	53	**88%**	0	25	4	A
WBT	930	936	101%	0	175	5	A
WBR	40	39	98%	0	25	5	A
WB	**1,030**	**1,028**	**100%**			**5**	**A**
Total	**3,230**	**3,218**	**100%**			**7**	**A**

Node Letter: L VISSIM ID: 4024

2050 All Intersections TDI AM

LOS Category: Signalized

11: 10400 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	220	222	101%	25	100	39	D
NBR	570	547	96%	0	75	13	B
NB	**790**	**769**	**97%**			**20**	**B**
SBL	630	642	102%	75	300	36	D
SBR	310	313	101%	25	300	13	B
SB	**940**	**955**	**102%**			**29**	**C**
EBL	650	649	100%	75	475	40	D
EBT	930	926	100%	100	725	32	C
EBR	340	338	99%	0	0	3	A
EB	**1,920**	**1,913**	**100%**			**30**	**C**
WBL	220	218	99%	25	125	37	D
WBT	420	424	101%	50	200	30	C
WBR	560	558	100%	0	0	2	A
WB	**1,200**	**1,200**	**100%**			**18**	**B**
Total	**4,850**	**4,837**	**100%**			**25**	**C**

Node Letter: F VISSIM ID: 104

LOS Category: Signalized

12: 10400 South and River Heights

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	170	167	98%	25	125	49	D
NBT	20	22	110%	25	125	58	E
NBR	80	79	99%	25	125	19	B
NB	**270**	**268**	**99%**			**41**	**D**
SBL	40	39	98%	0	50	53	D
SBT	20	20	100%	0	25	2	A
SBR	80	82	103%	0	50	8	A
SB	**140**	**141**	**101%**			**20**	**B**
EBL	150	147	98%	25	125	59	E
EBT	1,900	1,892	100%	50	375	11	B
EBR	80	80	100%	0	50	4	A
EB	**2,130**	**2,119**	**99%**			**14**	**B**
WBL	30	30	100%	0	50	53	D
WBT	950	949	100%	25	175	9	A
WBR	30	31	103%	0	25	3	A
WB	**1,010**	**1,010**	**100%**			**10**	**A**
Total	**3,550**	**3,538**	**100%**			**15**	**B**

Node Letter: M VISSIM ID: 4025

2050 All Intersections Overpass AM

LOS Category: Signalized

11: 10400 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	280	282	101%	25	150	39	D
NBR	650	623	96%	0	75	13	B
NB	**930**	**905**	**97%**			**21**	**C**
SBL	660	670	102%	75	300	34	C
SBR	330	323	98%	25	275	9	A
SB	**990**	**993**	**100%**			**26**	**C**
EBL	740	742	100%	125	625	42	D
EBT	930	921	99%	125	650	34	C
EBR	370	371	100%	0	0	4	A
EB	**2,040**	**2,034**	**100%**			**31**	**C**
WBL	240	240	100%	25	125	38	D
WBT	420	420	100%	50	200	34	C
WBR	630	628	100%	0	0	3	A
WB	**1,290**	**1,288**	**100%**			**19**	**B**
Total	**5,250**	**5,220**	**99%**			**26**	**C**

Node Letter: F VISSIM ID: 104

LOS Category: Signalized

12: 10400 South and River Heights

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	170	167	98%	25	125	49	D
NBT	20	22	110%	25	125	61	E
NBR	80	79	99%	25	125	19	B
NB	**270**	**268**	**99%**			**41**	**D**
SBL	40	40	100%	0	50	52	D
SBT	20	20	100%	0	50	2	A
SBR	80	82	103%	0	50	8	A
SB	**140**	**142**	**101%**			**20**	**B**
EBL	150	149	99%	25	125	58	E
EBT	2,010	1,986	99%	50	400	12	B
EBR	80	80	100%	0	50	4	A
EB	**2,240**	**2,215**	**99%**			**15**	**B**
WBL	30	31	103%	0	50	52	D
WBT	1,040	1,040	100%	25	200	9	A
WBR	30	31	103%	0	25	2	A
WB	**1,100**	**1,102**	**100%**			**10**	**A**
Total	**3,750**	**3,727**	**99%**			**15**	**B**

Node Letter: M VISSIM ID: 4025

2050 All Intersections TDI AM

LOS Category: Signalized

13: 10400 South and 3200 West						Delay / LOS	
		Volume		Queue (ft) Avg / 95th		Analysis Period	
Mvmt	Demand	Served	% Served	900-4500		900-4500	
NBL	100	97	97%	25	125	43	D
NBT	80	80	100%	75	400	62	E
NBR	220	224	102%	75	400	39	D
NB	**400**	**401**	**100%**			**45**	D
SBL	110	107	97%	25	125	39	D
SBT	50	50	100%	25	125	45	D
SBR	50	50	100%	25	125	18	B
SB	**210**	**207**	**99%**			**36**	D
EBL	40	38	95%	0	25	9	A
EBT	1,930	1,919	99%	25	350	5	A
EBR	50	50	100%	0	25	4	A
EB	**2,020**	**2,007**	**99%**			**5**	**A**
WBL	90	83	92%	0	75	33	C
WBT	860	862	100%	25	150	9	A
WBR	40	42	105%	0	25	2	A
WB	**990**	**987**	**100%**			**11**	**B**
Total	**3,620**	**3,602**	**100%**			**13**	**B**

Node Letter: N VISSIM ID: 4026

2050 All Intersections Overpass AM

LOS Category: Signalized

13: 10400 South and 3200 West						Delay / LOS	
		Volume		Queue (ft) Avg / 95th		Analysis Period	
Mvmt	Demand	Served	% Served	900-4500		900-4500	
NBL	100	96	96%	25	125	44	D
NBT	80	80	100%	75	350	59	E
NBR	220	223	101%	75	350	37	D
NB	**400**	**399**	**100%**			**43**	D
SBL	110	107	97%	25	150	38	D
SBT	50	50	100%	25	150	46	D
SBR	110	111	101%	25	150	19	B
SB	**270**	**268**	**99%**			**31**	**C**
EBL	110	107	97%	0	50	12	B
EBT	1,970	1,949	99%	25	350	6	A
EBR	50	49	98%	0	25	4	A
EB	**2,130**	**2,105**	**99%**			**6**	**A**
WBL	90	85	94%	0	100	39	D
WBT	890	893	100%	25	175	10	A
WBR	40	39	98%	0	25	3	A
WB	**1,020**	**1,017**	**100%**			**12**	**B**
Total	**3,820**	**3,789**	**99%**			**13**	**B**

Node Letter: N VISSIM ID: 4026

2050 All intersections TDI PM

LOS Category: Signalized

1: 9000 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	270	273	101%	75	350	51	D
NBT	270	266	99%	75	350	54	D
NBR	120	119	99%	0	75	15	B
NB	**660**	**658**	**100%**			**46**	D
SBL	310	310	100%	100	750	54	D
SBT	440	443	101%	250	975	60	E
SBR	480	475	99%	125	825	28	C
SB	**1,230**	**1,228**	**100%**			**46**	D
EBL	270	264	98%	25	225	23	C
EBT	2,050	2,049	100%	225	850	36	D
EBR	210	214	102%	0	75	14	B
EB	**2,530**	**2,527**	**100%**			**33**	**C**
WBL	160	160	100%	25	150	32	C
WBT	2,070	2,069	100%	225	975	37	D
WBR	260	259	100%	25	150	24	C
WB	**2,490**	**2,488**	**100%**			**35**	**C**
Total	**6,910**	**6,901**	**100%**			**37**	D

Node Letter: G VISSIM ID: 4019

LOS Category: Signalized

2: 9000 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	640	644	101%	175	525	81	F
NBR	620	614	99%	25	200	19	B
NB	**1,260**	**1,258**	**100%**			**51**	D
SBL	450	451	100%	100	275	62	E
SBR	340	335	99%	0	75	11	B
SB	**790**	**786**	**99%**			**41**	D
EBL	460	456	99%	75	300	58	E
EBT	1,350	1,357	101%	100	575	35	C
EBR	670	670	100%	0	0	11	B
EB	**2,480**	**2,483**	**100%**			**33**	**C**
WBL	990	979	99%	250	1,250	60	E
WBT	1,510	1,512	100%	100	550	33	C
WBR	670	666	99%	0	0	10	A
WB	**3,170**	**3,157**	**100%**			**37**	D
Total	**7,700**	**7,684**	**100%**			**38**	D

Node Letter: A VISSIM ID: 90

2050 All Intersections Overpass PM

LOS Category: Signalized

1: 9000 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	270	276	102%	125	875	65	E
NBT	270	265	98%	75	425	60	E
NBR	200	198	99%	25	150	27	C
NB	**740**	**739**	**100%**			**53**	D
SBL	310	310	100%	125	825	56	E
SBT	440	443	101%	250	1,000	63	E
SBR	480	475	99%	150	925	31	C
SB	**1,230**	**1,228**	**100%**			**49**	D
EBL	270	263	97%	25	225	27	C
EBT	2,100	2,100	100%	250	925	39	D
EBR	210	215	102%	0	75	17	B
EB	**2,580**	**2,578**	**100%**			**36**	D
WBL	320	311	97%	125	1,575	58	E
WBT	2,150	2,103	98%	525	1,625	60	E
WBR	260	256	98%	125	1,600	48	D
WB	**2,730**	**2,670**	**98%**			**58**	E
Total	**7,280**	**7,215**	**99%**			**48**	D

Node Letter: G VISSIM ID: 4019

LOS Category: Signalized

2: 9000 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	700	681	97%	400	1,000	140	F
NBR	660	653	99%	50	200	20	B
NB	**1,360**	**1,334**	**98%**			**81**	F
SBL	580	586	101%	150	375	74	E
SBR	520	516	99%	25	100	14	B
SB	**1,100**	**1,102**	**100%**			**46**	D
EBL	560	557	99%	200	925	88	F
EBT	1,350	1,360	101%	150	825	41	D
EBR	700	697	100%	25	25	15	B
EB	**2,610**	**2,614**	**100%**			**44**	D
WBL	1,040	1,031	99%	425	1,400	75	E
WBT	1,510	1,494	99%	125	575	41	D
WBR	810	795	98%	0	0	14	B
WB	**3,360**	**3,320**	**99%**			**45**	D
Total	**8,430**	**8,370**	**99%**			**50**	D

Node Letter: A VISSIM ID: 90

2050 All intersections TDI PM

LOS Category: Signalized

3: 9000 South and 3400 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	320	317	99%	150	550	73	E
NBT	20	19	95%	0	50	66	E
NBR	80	83	104%	0	75	13	B
NB	**420**	**419**	**100%**			**61**	**E**
SBL	100	101	101%	25	150	48	D
SBT	10	9	90%	0	50	58	E
SBR	290	286	99%	25	125	10	A
SB	**400**	**396**	**99%**			**21**	**C**
EBL	170	166	98%	50	200	65	E
EBT	1,950	1,957	100%	25	225	6	A
EBR	300	299	100%	0	75	5	A
EB	**2,420**	**2,422**	**100%**			**10**	**A**
WBL	110	108	98%	0	100	47	D
WBT	2,560	2,560	100%	125	975	19	B
WBR	20	18	90%	0	25	8	A
WB	**2,690**	**2,686**	**100%**			**20**	**B**
Total	**5,930**	**5,923**	**100%**			**19**	**B**

Node Letter: H VISSIM ID: 4020

LOS Category: Signalized

4: 9000 South and 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	90	90	100%	50	150	49	D
NBT	70	67	96%	25	175	56	E
NBR	40	43	108%	50	175	32	C
NB	**200**	**200**	**100%**			**48**	**D**
SBL	180	187	104%	100	575	65	E
SBT	230	225	98%	175	700	68	E
SBR	100	95	95%	175	725	59	E
SB	**510**	**507**	**99%**			**65**	**E**
EBL	105	111	106%	25	175	65	E
EBT	1,930	1,937	100%	25	250	8	A
EBR	95	97	102%	0	25	4	A
EB	**2,130**	**2,145**	**101%**			**11**	**B**
WBL	120	127	106%	25	150	47	D
WBT	2,500	2,489	100%	200	1,000	27	C
WBR	230	231	100%	0	75	17	B
WB	**2,850**	**2,847**	**100%**			**27**	**C**
Total	**5,690**	**5,699**	**100%**			**25**	**C**

Node Letter: I VISSIM ID: 4021

2050 All Intersections Overpass PM

LOS Category: Signalized

3: 9000 South and 3400 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	320	314	98%	275	1,225	116	F
NBT	20	21	105%	0	50	90	F
NBR	80	82	103%	0	75	37	D
NB	**420**	**417**	**99%**			**99**	**F**
SBL	100	101	101%	25	150	47	D
SBT	10	10	100%	0	25	55	D
SBR	290	285	98%	25	150	12	B
SB	**400**	**396**	**99%**			**22**	**C**
EBL	170	175	103%	50	250	79	E
EBT	2,120	2,115	100%	25	300	8	A
EBR	300	308	103%	0	75	6	A
EB	**2,590**	**2,598**	**100%**			**13**	**B**
WBL	110	102	93%	25	100	69	E
WBT	2,750	2,732	99%	300	1,325	36	D
WBR	20	21	105%	0	25	19	B
WB	**2,880**	**2,855**	**99%**			**37**	**D**
Total	**6,290**	**6,266**	**100%**			**30**	**C**

Node Letter: H VISSIM ID: 4020

LOS Category: Signalized

4: 9000 South and 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	210	214	102%	75	300	47	D
NBT	70	67	96%	25	150	52	D
NBR	40	40	100%	25	150	29	C
NB	**320**	**321**	**100%**			**46**	**D**
SBL	180	185	103%	325	1,425	127	F
SBT	230	224	97%	450	1,375	138	F
SBR	100	97	97%	450	1,400	122	F
SB	**510**	**506**	**99%**			**131**	**F**
EBL	100	102	102%	50	175	89	F
EBT	2,000	2,000	100%	50	400	10	A
EBR	200	198	99%	0	50	7	A
EB	**2,300**	**2,300**	**100%**			**13**	**B**
WBL	120	120	100%	25	150	73	E
WBT	2,570	2,557	99%	500	2,075	51	D
WBR	230	233	101%	50	100	37	D
WB	**2,920**	**2,910**	**100%**			**51**	**D**
Total	**6,050**	**6,037**	**100%**			**43**	**D**

Node Letter: I VISSIM ID: 4021

2050 All intersections TDI PM

LOS Category: Signalized

5: 9800 South 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	70	71	101%	0	75	26	C
NBT	360	359	100%	50	325	27	C
NBR	220	217	99%	0	100	9	A
NB	**650**	**647**	**100%**			**21**	**C**
SBL	170	167	98%	25	125	27	C
SBT	390	395	101%	50	325	25	C
SBR	70	71	101%	0	50	11	B
SB	**630**	**633**	**100%**			**24**	**C**
EBL	30	28	93%	0	50	33	C
EBT	190	188	99%	25	200	31	C
EBR	30	32	107%	25	200	25	C
EB	**250**	**248**	**99%**			**31**	**C**
WBL	380	370	97%	150	1,100	41	D
WBT	290	281	97%	175	1,250	37	D
WBR	210	207	99%	175	1,250	34	C
WB	**880**	**858**	**98%**			**38**	**D**
Total	**2,410**	**2,386**	**99%**			**29**	**C**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

6: 9800 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	180	170	94%	50	200	38	D
NBR	180	181	101%	50	200	19	B
NB	**360**	**351**	**98%**			**28**	**C**
SBL	270	276	102%	75	325	44	D
SBR	360	355	99%	75	350	13	B
SB	**630**	**631**	**100%**			**27**	**C**
EBL	100	100	100%	25	125	52	D
EBT	280	278	99%	125	675	60	E
EBR	200	201	101%	25	125	19	B
EB	**580**	**579**	**100%**			**44**	**D**
WBL	220	220	100%	75	500	53	D
WBT	340	334	98%	125	675	55	D
WBR	210	206	98%	25	125	18	B
WB	**770**	**760**	**99%**			**44**	**D**
Total	**2,340**	**2,321**	**99%**			**37**	**D**

Node Letter: C VISSIM ID: 98

2050 All Intersections Overpass PM

LOS Category: Signalized

5: 9800 South 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	90	94	104%	0	100	30	C
NBT	420	416	99%	75	475	28	C
NBR	210	205	98%	0	75	10	A
NB	**720**	**715**	**99%**			**23**	**C**
SBL	160	158	99%	25	125	31	C
SBT	460	467	102%	75	500	27	C
SBR	130	128	98%	0	75	13	B
SB	**750**	**753**	**100%**			**25**	**C**
EBL	60	59	98%	0	75	29	C
EBT	150	152	101%	25	175	32	C
EBR	50	48	96%	25	175	23	C
EB	**260**	**259**	**100%**			**30**	**C**
WBL	340	351	103%	50	400	30	C
WBT	190	184	97%	50	325	28	C
WBR	170	165	97%	50	325	24	C
WB	**700**	**700**	**100%**			**28**	**C**
Total	**2,430**	**2,427**	**100%**			**26**	**C**

Node Letter: B VISSIM ID: 3200

LOS Category: Signalized

6: 9800 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
EBT	520	518	100%	0	0	5	A
EB	**520**	**518**	**100%**			**5**	**A**
WBT	700	696	99%	25	325	10	A
WB	**700**	**696**	**99%**			**10**	**A**
Total	**1,220**	**1,214**	**100%**			**8**	**A**

Node Letter: C VISSIM ID: 98

2050 All intersections TDI PM

LOS Category: Signalized

7: 9800 South 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	50	51	102%	0	50	18	B
NBT	80	79	99%	0	75	15	B
NBR	40	39	98%	0	25	7	A
NB	**170**	**169**	**99%**			**14**	**B**
SBL	40	36	90%	0	50	16	B
SBT	150	153	102%	0	100	16	B
SBR	60	58	97%	0	50	8	A
SB	**250**	**247**	**99%**			**15**	**B**
EBL	80	82	103%	0	50	11	B
EBT	550	549	100%	50	425	17	B
EBR	90	91	101%	0	50	12	B
EB	**720**	**722**	**100%**			**16**	**B**
WBL	40	44	110%	0	25	13	B
WBT	620	616	99%	50	375	19	B
WBR	50	49	98%	0	25	12	B
WB	**710**	**709**	**100%**			**18**	**B**
Total	**1,850**	**1,847**	**100%**			**16**	**B**

Node Letter: E VISSIM ID: 4000

LOS Category: Signalized

8: 10200 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	250	251	100%	25	175	20	B
NBT	510	509	100%	25	250	9	A
NBR	20	19	95%	25	250	7	A
NB	**780**	**779**	**100%**			**13**	**B**
SBL	10	10	100%	0	25	24	C
SBT	710	709	100%	250	1,450	31	C
SBR	240	241	100%	0	100	22	C
SB	**960**	**960**	**100%**			**29**	**C**
EBL	120	119	99%	25	100	21	C
EBT	10	9	90%	25	150	19	B
EBR	250	250	100%	25	150	13	B
EB	**380**	**378**	**99%**			**16**	**B**
WBL	30	28	93%	0	50	21	C
WBT	20	20	100%	0	50	20	B
WBR	10	10	100%	0	50	6	A
WB	**60**	**58**	**97%**			**18**	**B**
Total	**2,180**	**2,175**	**100%**			**20**	**B**

Node Letter: J VISSIM ID: 4022

2050 All Intersections Overpass PM

LOS Category: Signalized

7: 9800 South 3200 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	60	59	98%	0	50	15	B
NBT	100	99	99%	0	75	14	B
NBR	50	51	102%	0	50	5	A
NB	**210**	**209**	**100%**			**12**	**B**
SBL	80	77	96%	0	75	16	B
SBT	90	93	103%	0	75	14	B
SBR	70	70	100%	0	50	7	A
SB	**240**	**240**	**100%**			**13**	**B**
EBL	60	60	100%	0	50	8	A
EBT	370	368	99%	25	175	15	B
EBR	80	81	101%	0	50	8	A
EB	**510**	**509**	**100%**			**13**	**B**
WBL	60	61	102%	0	25	10	A
WBT	530	528	100%	25	300	18	B
WBR	70	69	99%	0	50	12	B
WB	**660**	**658**	**100%**			**17**	**B**
Total	**1,620**	**1,616**	**100%**			**14**	**B**

Node Letter: E VISSIM ID: 4000

LOS Category: Signalized

8: 10200 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	280	248	**89%**	125	1,350	28	C
NBT	630	564	**90%**	0	175	6	A
NBR	20	19	95%	0	175	5	A
NB	**930**	**831**	**89%**			**13**	**B**
SBL	10	9	90%	0	25	28	C
SBT	770	704	91%	475	2,350	37	D
SBR	230	211	92%	0	75	27	C
SB	**1,010**	**924**	**91%**			**34**	**C**
EBL	100	90	90%	100	950	83	F
EBT	10	9	90%	275	1,425	98	F
EBR	270	240	**89%**	275	1,425	82	F
EB	**380**	**339**	**89%**			**82**	**F**
WBL	30	26	**87%**	0	50	38	D
WBT	20	20	100%	0	50	36	D
WBR	10	10	100%	0	50	12	B
WB	**60**	**56**	**93%**			**33**	**C**
Total	**2,380**	**2,150**	**90%**			**34**	**C**

Node Letter: J VISSIM ID: 4022

2050 All intersections TDI PM

LOS Category: Signalized

9: 10400 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	150	145	97%	25	150	39	D
NBT	140	140	100%	25	150	39	D
NBR	260	265	102%	25	125	12	B
NB	**550**	**550**	**100%**			**26**	**C**
SBL	320	318	99%	125	875	48	D
SBT	410	413	101%	225	1,175	49	D
SBR	260	260	100%	25	150	28	C
SB	**990**	**991**	**100%**			**43**	**D**
EBL	150	155	103%	25	125	25	C
EBT	1,010	1,005	100%	75	375	23	C
EBR	130	127	98%	0	75	11	B
EB	**1,290**	**1,287**	**100%**			**22**	**C**
WBL	320	300	94%	275	1,450	72	E
WBT	1,170	1,125	96%	325	1,475	40	D
WBR	490	479	98%	200	1,475	35	C
WB	**1,980**	**1,904**	**96%**			**44**	**D**
Total	**4,810**	**4,732**	**98%**			**36**	**D**

Node Letter: K VISSIM ID: 4023

LOS Category: Signalized

10: 10400 South and Whispering Sands

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	80	80	100%	25	150	71	E
NBT	10	12	120%	0	125	65	E
NBR	110	107	97%	25	125	14	B
NB	**200**	**199**	**100%**			**40**	**D**
SBL	20	19	95%	0	75	5	A
SBT	10	10	100%	0	50	65	E
SBR	10	9	90%	0	50	18	B
SB	**40**	**38**	**95%**			**24**	**C**
EBL	50	48	96%	0	25	21	C
EBT	1,460	1,456	100%	25	300	5	A
EBR	80	82	103%	0	25	4	A
EB	**1,590**	**1,586**	**100%**			**5**	**A**
WBL	170	158	93%	0	75	6	A
WBT	1,890	1,813	96%	50	500	7	A
WBR	50	47	94%	0	25	6	A
WB	**2,110**	**2,018**	**96%**			**7**	**A**
Total	**3,940**	**3,841**	**97%**			**8**	**A**

Node Letter: L VISSIM ID: 4024

2050 All Intersections Overpass PM

LOS Category: Signalized

9: 10400 South and 4000 West

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	150	138	92%	25	125	38	D
NBT	140	130	93%	100	575	40	D
NBR	260	252	97%	25	150	13	B
NB	**550**	**520**	**95%**			**26**	**C**
SBL	400	358	90%	600	1,325	79	E
SBT	410	378	92%	600	1,325	74	E
SBR	260	230	88%	50	175	52	D
SB	**1,070**	**966**	**90%**			**71**	**E**
EBL	150	144	96%	75	400	27	C
EBT	1,060	1,031	97%	125	550	27	C
EBR	130	124	95%	0	75	15	B
EB	**1,340**	**1,299**	**97%**			**26**	**C**
WBL	320	282	88%	700	1,425	102	F
WBT	1,270	1,139	90%	800	1,425	70	E
WBR	640	569	89%	750	1,425	66	E
WB	**2,230**	**1,990**	**89%**			**74**	**E**
Total	**5,190**	**4,775**	**92%**			**55**	**D**

Node Letter: K VISSIM ID: 4023

LOS Category: Signalized

10: 10400 South and Whispering Sands

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	80	80	100%	25	150	72	E
NBT	10	11	110%	25	125	70	E
NBR	110	107	97%	25	150	22	C
NB	**200**	**198**	**99%**			**45**	**D**
SBL	20	19	95%	0	75	9	A
SBT	10	10	100%	0	50	65	E
SBR	10	9	90%	0	50	21	C
SB	**40**	**38**	**95%**			**27**	**C**
EBL	50	46	92%	0	50	39	D
EBT	1,590	1,510	95%	150	1,325	22	C
EBR	80	76	95%	0	25	14	B
EB	**1,720**	**1,632**	**95%**			**22**	**C**
WBL	170	154	91%	0	75	21	C
WBT	2,140	1,926	90%	350	1,175	26	C
WBR	50	43	86%	0	25	20	B
WB	**2,360**	**2,123**	**90%**			**26**	**C**
Total	**4,320**	**3,991**	**92%**			**25**	**C**

Node Letter: L VISSIM ID: 4024

2050 All intersections TDI PM

LOS Category: Signalized

11: 10400 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	410	372	91%	150	275	51	D
NBR	710	679	96%	0	125	13	B
NB	**1,120**	**1,051**	**94%**			**26**	**C**
SBL	950	944	99%	200	950	56	E
SBR	740	732	99%	200	950	28	C
SB	**1,690**	**1,676**	**99%**			**44**	**D**
EBL	490	483	99%	150	625	85	F
EBT	840	844	100%	125	600	39	D
EBR	260	258	99%	0	0	4	A
EB	**1,590**	**1,585**	**100%**			**47**	**D**
WBL	740	709	96%	300	1,350	90	F
WBT	960	908	95%	200	550	47	D
WBR	1,110	1,078	97%	0	0	10	A
WB	**2,810**	**2,695**	**96%**			**43**	**D**
Total	**7,210**	**7,007**	**97%**			**42**	**D**

Node Letter: F VISSIM ID: 104

LOS Category: Signalized

12: 10400 South and River Heights

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	490	470	96%	175	675	60	E
NBT	40	42	105%	125	650	77	E
NBR	100	96	96%	125	650	40	D
NB	**630**	**608**	**97%**			**58**	**E**
SBL	100	101	101%	25	100	66	E
SBT	80	77	96%	25	150	12	B
SBR	110	106	96%	25	150	20	B
SB	**290**	**284**	**98%**			**34**	**C**
EBL	310	313	101%	75	225	76	E
EBT	2,020	1,992	99%	125	800	22	C
EBR	170	166	98%	0	75	8	A
EB	**2,500**	**2,471**	**99%**			**28**	**C**
WBL	370	350	95%	75	275	72	E
WBT	2,210	2,140	97%	225	1,325	29	C
WBR	100	94	94%	0	50	12	B
WB	**2,680**	**2,584**	**96%**			**34**	**C**
Total	**6,100**	**5,947**	**97%**			**34**	**C**

Node Letter: M VISSIM ID: 4025

2050 All Intersections Overpass PM

LOS Category: Signalized

11: 10400 South and Bangerter

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	600	544	91%	175	375	69	E
NBR	840	815	97%	0	225	28	C
NB	**1,440**	**1,359**	**94%**			**44**	**D**
SBL	990	894	90%	300	1,000	60	E
SBR	800	706	**88%**	300	1,025	63	E
SB	**1,790**	**1,600**	**89%**			**61**	**E**
EBL	590	558	95%	300	1,050	105	F
EBT	840	801	95%	425	1,050	89	F
EBR	290	277	96%	0	0	26	C
EB	**1,720**	**1,636**	**95%**			**84**	**F**
WBL	790	746	94%	275	1,225	81	F
WBT	960	880	92%	300	1,275	72	E
WBR	1,250	1,190	95%	0	0	12	B
WB	**3,000**	**2,816**	**94%**			**49**	**D**
Total	**7,950**	**7,411**	**93%**			**58**	**E**

Node Letter: F VISSIM ID: 104

LOS Category: Signalized

12: 10400 South and River Heights

Delay / LOS

Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	490	475	97%	150	625	60	E
NBT	40	40	100%	75	500	77	E
NBR	100	97	97%	75	525	41	D
NB	**630**	**612**	**97%**			**59**	**E**
SBL	100	101	101%	25	100	64	E
SBT	80	79	99%	0	125	9	A
SBR	110	109	99%	25	125	21	C
SB	**290**	**289**	**100%**			**33**	**C**
EBL	310	296	95%	75	250	81	F
EBT	2,190	2,060	94%	175	900	26	C
EBR	170	160	94%	0	75	10	A
EB	**2,670**	**2,516**	**94%**			**32**	**C**
WBL	370	339	92%	75	250	69	E
WBT	2,400	2,245	94%	275	1,300	28	C
WBR	100	91	91%	0	25	15	B
WB	**2,870**	**2,675**	**93%**			**33**	**C**
Total	**6,460**	**6,092**	**94%**			**35**	**C**

Node Letter: M VISSIM ID: 4025

2050 All intersections TDI PM

LOS Category: Signalized

13: 10400 South and 3200 West						Delay / LOS	
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	110	106	96%	50	175	50	D
NBT	80	77	96%	50	200	57	E
NBR	80	76	95%	50	200	34	C
NB	**270**	**259**	**96%**			**48**	D
SBL	100	95	95%	25	225	66	E
SBT	130	129	99%	150	525	80	E
SBR	120	115	96%	150	525	62	E
SB	**350**	**339**	**97%**			**70**	E
EBL	90	88	98%	25	150	65	E
EBT	1,980	1,948	98%	0	100	5	A
EBR	150	147	98%	0	25	7	A
EB	**2,220**	**2,183**	**98%**			**8**	**A**
WBL	160	152	95%	25	175	54	D
WBT	2,450	2,372	97%	225	1,100	22	C
WBR	110	104	95%	0	50	10	A
WB	**2,720**	**2,628**	**97%**			**24**	**C**
Total	**5,560**	**5,409**	**97%**			**21**	**C**

Node Letter: N VISSIM ID: 4026

2050 All Intersections Overpass PM

LOS Category: Signalized

13: 10400 South and 3200 West						Delay / LOS	
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	110	106	96%	25	150	44	D
NBT	80	79	99%	25	175	47	D
NBR	80	78	98%	25	175	29	C
NB	**270**	**263**	**97%**			**41**	D
SBL	100	94	94%	100	875	121	F
SBT	130	131	101%	425	1,175	137	F
SBR	240	227	95%	425	1,175	119	F
SB	**470**	**452**	**96%**			**124**	F
EBL	200	195	98%	125	675	103	F
EBT	2,040	1,916	94%	50	375	13	B
EBR	150	139	93%	0	75	10	A
EB	**2,390**	**2,250**	**94%**			**21**	**C**
WBL	160	144	90%	250	2,000	151	F
WBT	2,520	2,375	94%	825	2,500	77	E
WBR	110	106	96%	0	50	53	D
WB	**2,790**	**2,625**	**94%**			**80**	E
Total	**5,920**	**5,590**	**94%**			**58**	E

Node Letter: N VISSIM ID: 4026

Appendix E. Overpass Only Alternative Executive Summary

9800 South & Bangerter Highway
INTERCHANGE vs. OVERPASS TRAFFIC ANALYSIS

This is an Executive Summary of the traffic analysis comparison between two access options for 9800 South & Bangerter Highway:

» ***Interchange*** at 9800 South – providing access to Bangerter Highway

» ***Overpass*** at 9800 South – not providing access to Bangerter Highway

The ***Study Area*** includes the interchanges and intersections along the 9000 South, 9800 South and 10400 South corridors from 4000 West to 3200 West. The following is a summary of the traffic analysis results.

❶ TRAFFIC VOLUMES

» An ***Overpass*** at 9800 South would increase 2050 peak hour traffic volumes at the 9000 South / 10400 South and Bangerter Highway interchanges by **8-12%**

❷ VEHICLE DELAY

» The ***Overpass*** would increase total ***Study Area*** delay by **12%** in the AM peak hour and **35%** in the PM peak hour

» User costs (based on ***Study Area*** delay) for the Overpass would be an additional:

— **$2.4 million** in 2050 and

— **$50 million** total from 2025 to 2050

» The ***Overpass*** would push three intersections over the LOS E threshold: 9000 South & Bangerter, 10400 South & Bangerter, and 10400 South & 3200 West

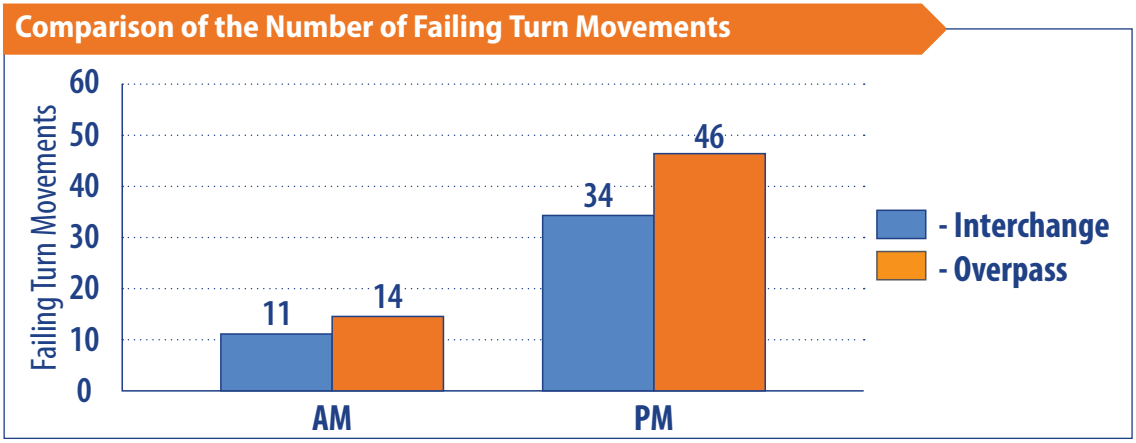
» The 2050 PM delay experienced on the 9000 South and 10400 South corridors with the ***Overpass*** would increase by:

— **62%** for westbound and **15%** for eastbound on 9000 South

— **88%** for westbound and **88%** for eastbound on 10400 South

» The ***Overpass*** results in a **35% increase** in 2050 PM peak hour turning movements that operate at LOS E or worse (shown below)

Comparison of the Number of Failing Turn Movements



❸ QUEUE LENGTHS

» The additional failing movements with the ***Overpass*** translates directly into an increase in queue lengths along 9000 South and 10400 South, as shown in the figures on the next page

❹ OTHER CONSIDERATIONS

In addition to the traffic performance information presented above, here are some other items that may merit consideration:

» Preserving Existing
— Businesses Access
— Local Access
— School Access

» Construction Costs

» Public Sentiment

» Local Government Sentiment

» Vehicle Travel Times

2050 PM Queue Length Comparison
9000 South Corridor
N
Bangerter Highway
62% increase in westbound delay with OVERPASS
9000 South
9000 S westbound queue backs from Bangerter Hwy through 3200 S intersection with OVERPASS
15% increase in eastbound delay with OVERPASS
4000 West
3200 West
2700 West
Queue Length
- INTERCHANGE
- OVERPASS

2050 PM Queue Length Comparison
10400 South Corridor
N
9800 South
Bangerter Highway
88% increase in westbound delay with OVERPASS
2700 West
Whispering Sands Dr / Harvest Pointe Dr
River Heights Dr
3200 West
10200 South
10400 S westbound queue backs from 4000 W through 3200 W intersection with INTERCHANGE and OVERPASS
10400 South
4000 West
10400 S eastbound queue backs from Bangerter Hwy through Harvest Pointe Dr with OVERPASS
88% increase in eastbound delay with OVERPASS
Queue Length
- INTERCHANGE
- OVERPASS

Appendix F. Right Turn Options Vissim Node Results

TDI Free Right AM

LOS Category: Signalized

1: 9800 South						Delay / LOS	
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	140	137	98%	25	175	43	D
NBR	190	186	98%	25	150	18	B
NB	**330**	**323**	**98%**			**29**	**C**
SBL	170	164	96%	25	175	39	D
SBR	120	122	102%	0	75	7	A
SB	**290**	**286**	**99%**			**25**	**C**
EBL	200	197	99%	25	175	32	C
EBT	280	282	101%	50	300	32	C
EBR	210	209	100%	0	0	4	A
EB	**690**	**688**	**100%**			**24**	**C**
WBL	100	103	103%	25	125	40	D
WBT	170	162	95%	50	175	46	D
WBR	200	196	98%	0	0	1	A
WB	**470**	**461**	**98%**			**25**	**C**
Total	**1,780**	**1,758**	**99%**			**25**	**C**

Node Letter: C VISSIM ID: 98

TDI Shared Through-Right AM

LOS Category: Signalized

1: 9800 South						Delay / LOS	
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	140	126	90%	50	200	58	E
NBR	190	175	92%	50	225	18	B
NB	**330**	**301**	**91%**			**35**	**C**
SBL	170	164	96%	50	225	58	E
SBR	120	122	102%	50	225	7	A
SB	**290**	**286**	**99%**			**36**	**D**
EBL	200	199	100%	250	1,600	92	F
EBT	280	284	101%	550	1,900	95	F
EBR	210	212	101%	500	1,950	82	F
EB	**690**	**695**	**101%**			**90**	**F**
WBL	100	104	104%	25	200	48	D
WBT	170	161	95%	100	425	51	D
WBR	200	196	98%	150	475	39	D
WB	**470**	**461**	**98%**			**45**	**D**
Total	**1,780**	**1,743**	**98%**			**60**	**E**

Node Letter: C VISSIM ID: 98

TDI Controlled Right Turn Lane AM

LOS Category: Signalized

1: 9800 South						Delay / LOS	
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	140	128	91%	25	200	44	D
NBR	190	176	93%	50	200	18	B
NB	**330**	**304**	**92%**			**29**	**C**
SBL	170	164	96%	50	200	43	D
SBR	120	123	103%	50	200	7	A
SB	**290**	**287**	**99%**			**27**	**C**
EBL	200	197	99%	25	275	36	D
EBT	280	281	100%	50	400	38	D
EBR	210	210	100%	25	150	12	B
EB	**690**	**688**	**100%**			**29**	**C**
WBL	100	104	104%	25	100	41	D
WBT	170	162	95%	25	225	41	D
WBR	200	197	99%	25	150	13	B
WB	**470**	**463**	**99%**			**29**	**C**
Total	**1,780**	**1,742**	**98%**			**29**	**C**

Node Letter: C VISSIM ID: 98

TDI Free Right PM

LOS Category: Signalized

1: 9800 South						Delay / LOS	
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	180	178	99%	50	250	58	E
NBR	180	183	102%	25	200	19	B
NB	**360**	**361**	**100%**			**38**	**D**
SBL	270	278	103%	100	325	62	E
SBR	360	356	99%	50	300	19	B
SB	**630**	**634**	**101%**			**38**	**D**
EBL	100	97	97%	25	100	42	D
EBT	280	279	100%	75	425	50	D
EBR	200	202	101%	0	0	5	A
EB	**580**	**578**	**100%**			**33**	**C**
WBL	220	221	100%	50	200	47	D
WBT	340	340	100%	125	250	51	D
WBR	210	212	101%	0	0	1	A
WB	**770**	**773**	**100%**			**36**	**D**
Total	**2,340**	**2,346**	**100%**			**36**	**D**

Node Letter: C VISSIM ID: 98

TDI Shared Through-Right AM

LOS Category: Signalized

1: 9800 South						Delay / LOS	
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	180	177	98%	125	425	115	F
NBR	180	183	102%	150	450	20	B
NB	**360**	**360**	**100%**			**67**	**E**
SBL	270	276	102%	175	500	93	F
SBR	360	356	99%	175	525	14	B
SB	**630**	**632**	**100%**			**49**	**D**
EBL	100	86	86%	425	2,425	363	F
EBT	280	241	86%	1,675	2,450	365	F
EBR	200	175	88%	1,675	2,525	360	F
EB	**580**	**502**	**87%**			**363**	**F**
WBL	220	223	101%	375	925	101	F
WBT	340	341	100%	475	1,250	107	F
WBR	210	213	101%	550	1,300	97	F
WB	**770**	**777**	**101%**			**102**	**F**
Total	**2,340**	**2,271**	**97%**			**139**	**F**

Node Letter: C VISSIM ID: 98

TDI Controlled Right Turn Lane PM

LOS Category: Signalized

1: 9800 South						Delay / LOS	
Mvmt	Demand	Volume Served	% Served	Queue (ft) Avg / 95th 900-4500		Analysis Period 900-4500	
NBL	180	179	99%	75	275	69	E
NBR	180	182	101%	100	300	18	B
NB	**360**	**361**	**100%**			**43**	**D**
SBL	270	277	103%	125	400	70	E
SBR	360	356	99%	125	400	13	B
SB	**630**	**633**	**100%**			**38**	**D**
EBL	100	97	97%	25	100	46	D
EBT	280	279	100%	75	450	53	D
EBR	200	203	102%	25	125	15	B
EB	**580**	**579**	**100%**			**38**	**D**
WBL	220	223	101%	125	600	61	E
WBT	340	341	100%	175	850	63	E
WBR	210	213	101%	25	225	22	C
WB	**770**	**777**	**101%**			**51**	**D**
Total	**2,340**	**2,350**	**100%**			**43**	**D**

Node Letter: C VISSIM ID: 98

Appendix B: Traffic and Design

Bangerter Highway at 9800 South Alternatives Memo

BANGERTER
9800 SOUTH

ALTERNATIVES MEMO

BANGERTER HIGHWAY AT 9800 SOUTH

FEBRUARY 22, 2022

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Alternatives

INTRODUCTION

The Utah Department of Transportation (UDOT) is conducting a State Environmental Study (SES) to analyze improvements at the Bangerter Highway (State Route 154) and 9800 South intersection in South Jordan, Utah. The Wasatch Front Regional Council 2019-2050 Regional Transportation Plan (RTP) includes the conversion of Bangerter Highway into a freeway system by changing the remaining at-grade intersections to grade-separated conditions.

Currently, vehicles at the Bangerter Highway and 9800 South intersection wait an average of 66 seconds (equivalent to a level of service [LOS] E) to get through the intersection during the PM peak periods. For this analysis, the AM peak period is from 7:00 to 9:00 AM, and the PM peak period is from 4:00 to 6:00 PM.

Level of service is a measure of the operating conditions on a road or at an intersection. Level of service is represented by a letter "grade" ranging from A (free-flowing traffic and little delay) to F (extremely congested, stop-and-go traffic and excessive delay). For roads like Bangerter Highway, UDOT considers LOS A through D as acceptable operating conditions and LOS E and F as unacceptable operating conditions.

If operational improvements are not made at this intersection, traffic modeling indicates that by 2050 the intersection would operate at LOS F, and delays would exceed 180 seconds per vehicle during both AM peak and PM peak hours. Additionally, traffic modeling indicates that by 2050, long queues of vehicles stopped at the Bangerter Highway and 9800 South intersection would extend through adjacent intersections on 9800 South (4000 West and 3200 West) and cause them to operate at failing conditions. See *Bangerter Highway & 9800 South Existing and 2050 No Build Traffic Analysis*.

The needs for the current project are:

- Current failing conditions (LOS E) at the Bangerter Highway and 9800 South intersection
- Future failing conditions (LOS F) at the Bangerter Highway and 9800 South intersection
- Future congestion throughout the local street network

The purpose of the proposed project is to:

- Reduce current and future delay at the Bangerter Highway and 9800 South intersection (metric: LOS at the intersection)
- Improve traffic operations and mobility on Bangerter Highway at the 9800 South intersection (metric: vehicle queue lengths on mainline Bangerter Highway)
- Reduce future congestion throughout the local street network (metric: LOS at local intersections)

ALTERNATIVES DEVELOPMENT AND SCREENING

As part of this project, UDOT developed and screened a range of alternatives. Two screenings were conducted: a purpose and need screening and a key environmental impacts screening. The purpose of this memo is to describe that process and how UDOT arrived at the alternative selected to be evaluated in the SES.

A range of alternatives for the Bangerter Highway and 9800 South intersection were developed and evaluated. In this location, certain corridor constraints limited which alternatives were feasible.

CORRIDOR CONSTRAINTS

JORDAN VALLEY AQUEDUCT

The Jordan Valley Aqueduct (JVA) is a 72-inch to 78-inch diameter pipeline that supplies drinking water to most areas in the Salt Lake Valley. The aqueduct is owned by the United States Bureau of Reclamation (BOR). The pipeline and associated 50-foot easement run parallel to Bangerter Highway on the east side from approximately 10200 South to 8180 South, beyond the northern limits of study area.

The project evaluated impacts to the JVA that included the relocation of the JVA, impacts to the JVA easement, and additional traffic and traffic bearing infrastructure in close proximity to the easement causing issues like vibration.

If the aqueduct is relocated, the construction of any alternatives considered would add one year to the construction schedule, with additional impacts to nearby property owners and additional project costs. If the project constructs anything within the JVA easement, the BOR needs to approve the location and it must meet the BOR requirements. During coordination with the BOR, the project team learned that permanent structures like noise walls are not permitted within the JVA easement. Additionally, structures that are constructed over the JVA easement must leave 35-feet of clearance so the BOR can perform aqueduct maintenance. Adding structures or traffic lanes in close proximity to the JVA pipeline would require careful coordination and mitigation to avoid impacting the pipeline. See *Correspondence and Coordination*.

To avoid additional construction time, cost, and property impacts, major impacts to the aqueduct and associated easement were avoided to the greatest extent practicable.

JORDAN SCHOOL DISTRICT ELEMENTARY AND MIDDLE SCHOOLS

The project team began coordination with the Jordan School District, Elk Ridge Middle School, and Elk Meadows Elementary School early in the process. Avoiding relocation impacts to Elk Ridge Middle School (3649 West 9800 South, South Jordan UT) and Elk Meadows Elementary School (3448 West 9800 South, South Jordan UT) was a priority for UDOT. See *Correspondence and Coordination*.

INTERCHANGE VERSUS NO INTERCHANGE ALTERNATIVES

INTERCHANGE ALTERNATIVES

UDOT developed three alternatives for the interchange at Bangerter Highway and 9800 South: a Single-Point Urban Interchange (SPUI), a Tight Diamond Interchange, and a Right-In/Right-Out Interchange. The SPUI and Tight Diamond Interchange Alternatives included one lane for right and left turn movements

from 9800 South. The Right-In/Right-Out Alternative would allow right-turns only onto or from Bangerter Highway. To change directions, a roundabout would be available on 9800 South on the west and east side of Bangerter Highway.

NO INTERCHANGE ALTERNATIVE

One no interchange alternative was developed: a Grade-Separation Only. The Grade-Separation Only Alternative would allow 9800 South to pass over Bangerter Highway with no access to Bangerter Highway from 9800 South.

NO BUILD ALTERNATIVE

With the No Build Alternative, all of the projects proposed in the Wasatch Front Regional Council 2019-2050 RTP would be built except the Bangerter Highway and 9800 South intersection would continue to be an at-grade intersection. The RTP projects included as part of the No Build Alternative are:

- Bangerter Highway as a freeway except for 9800 South
- Mountain View Corridor as a freeway (RTP project R-S-101)
- Widening 9000 South from five to seven lanes from Bangerter Highway to Redwood Road (RTP project R-S-50)
- Widening 9000 South from five to seven lanes from New Bingham Highway to Bangerter Highway (RTP project R-S-51)
- Widening 10400 South from five to seven lanes from Bangerter Highway to Redwood Road (RTP project R-S-58)

PURPOSE AND NEED SCREENING

The purpose and need screening evaluated the ability of each alternative to meet the purpose and need, as described in the Introduction. This evaluation includes three measures of effectiveness, which are listed in Table 1.

The Right-In/Right-Out Interchange Alternative is projected to fail in the PM 2050 peak hour primarily due to volumes in the roundabout and right-turn merging conflicts from Bangerter Highway onto 9800 South. See *Bangerter Highway & 9800 South Future Build Conditions Traffic Analysis*.

The *Bangerter Highway & 9800 South Future Build Conditions Traffic Analysis* evaluated traffic focusing on local street operations using the interchange scenario and no interchange (overpass) scenario. In the 2050 overpass scenario, traffic volumes increase on all intersections along the 9000 South and 10400 South corridors with peak hour traffic volumes increasing between 8 and 12% at the 9000 South and Bangerter Highway and 10400 South and Bangerter Highway intersections. In the 2050 interchange scenario, no intersections perform at LOS E or worse compared to three intersections in the overpass scenario that operate at LOS E or worse: 9000 South and Bangerter Highway, 10400 South and Bangerter Highway, and 10400 South and 3200 West. In the PM peak hours, there would be an 88% increase in westbound and eastbound delays at 10400 South and a 62% increase in delays for westbound traffic at 9000 South.

Table 1. Purpose and Need Screening: Interchange and No Interchange

Need	Measure of Effectiveness	Interchange Alternatives			No Interchange Alternative	No Build Alternative
		SPUI	Tight Diamond	Right-In/ Right-Out	Grade-Separation	At-grade Intersection
Current failing conditions (LOS E) at the Bangerter Highway and 9800 South intersection	Provides LOS D or better at the Bangerter Highway and 9800 South intersection (2050 PM Peak Hour)	Yes (LOS C)	Yes (LOS D)	No (LOS F)	Not Applicable	No (LOS F)
Future failing conditions (LOS F) at the Bangerter Highway and 9800 South intersection						
Future congestion throughout the local street network	Prevents future congestion throughout the local street network	Yes	Yes	Yes	No	No
Results		**Advanced**	**Advanced**	**Eliminated**	**Eliminated**	**Eliminated**

References: Bangerter Highway & 9800 South Existing and 2050 No Build Traffic Analysis; Bangerter Highway & 9800 South Interchange Future Build Conditions Traffic Analysis

Additional considerations that added to the elimination of the Right-In/Right Out Interchange Alternative included the impacts to Elk Ridge Middle School and Elk Meadows Elementary School due to the space needed to construct roundabouts.

Other considerations that led to the elimination of the Grade-Separation Alternative was the structure height requirements due to the JVA easement criteria. This criteria required the structure height to be double due to the JVA easement criteria, adding cost and a larger project footprint. Business access, local and school access, public and local government sentiment, vehicle travel times, and construction costs added to the determination for each alternative.

As a result of the purpose and need screening along with the additional considerations, the Right-In/Right-Out Interchange Alternative, the Grade-Separation Alternative, and the No Build Alternative were eliminated.

OPERATIONS AND COSTS

The SPUI Alternative and the Tight Diamond Interchange Alternative both operated well with good levels of service. The SPUI operated slightly better than the Tight Diamond Interchange but estimated cost shows an additional six million dollars to construct because SPUI designs require a larger structure. Due to this additional cost, the SPUI alternative was eliminated, and the Tight Diamond Interchange was advanced as the recommended interchange alternative.

HORIZONTAL ALIGNMENT ALTERNATIVES

UDOT evaluated three different horizontal alignment alternatives:

1. **Shift east:** Shift the Bangerter Highway alignment to the east.
2. **Shift west:** Shift the Bangerter Highway alignment to the west.
3. **Hybrid shift:** Maintain Bangerter Highway in place, widening to both the west side and east side.

KEY ENVIRONMENTAL IMPACTS SCREENING

The key environmental impacts screening evaluated the horizontal alignment alternatives based on their expected impacts to select environmental resources including the number of business and residential relocations, the total number of parcels affected by right-of-way (ROW) impacts, and impacts to existing utilities.

Table 2. Key Environmental Impacts Screening: Horizontal Alignment Alternatives

Resource	Horizontal Alignment		
	East Shift (Figure 1)	**Hybrid Shift** (Figure 2)	**West Shift** (Figure 3)
Business Relocations	3 (2 buildings)	5 (1 building)	11 (3 buildings)
Residential Relocations	21	10	13
Total # of Parcels Impacted*	12.72 acres from 30 parcels	8.50 acres from 63 parcels	10.85 acres from 41 parcels
Jordan Valley Aqueduct Impact	Yes	Yes	No
Cell Phone Tower Impact	No	No	Yes
Results	**Eliminated**	**Eliminated**	**Advanced**

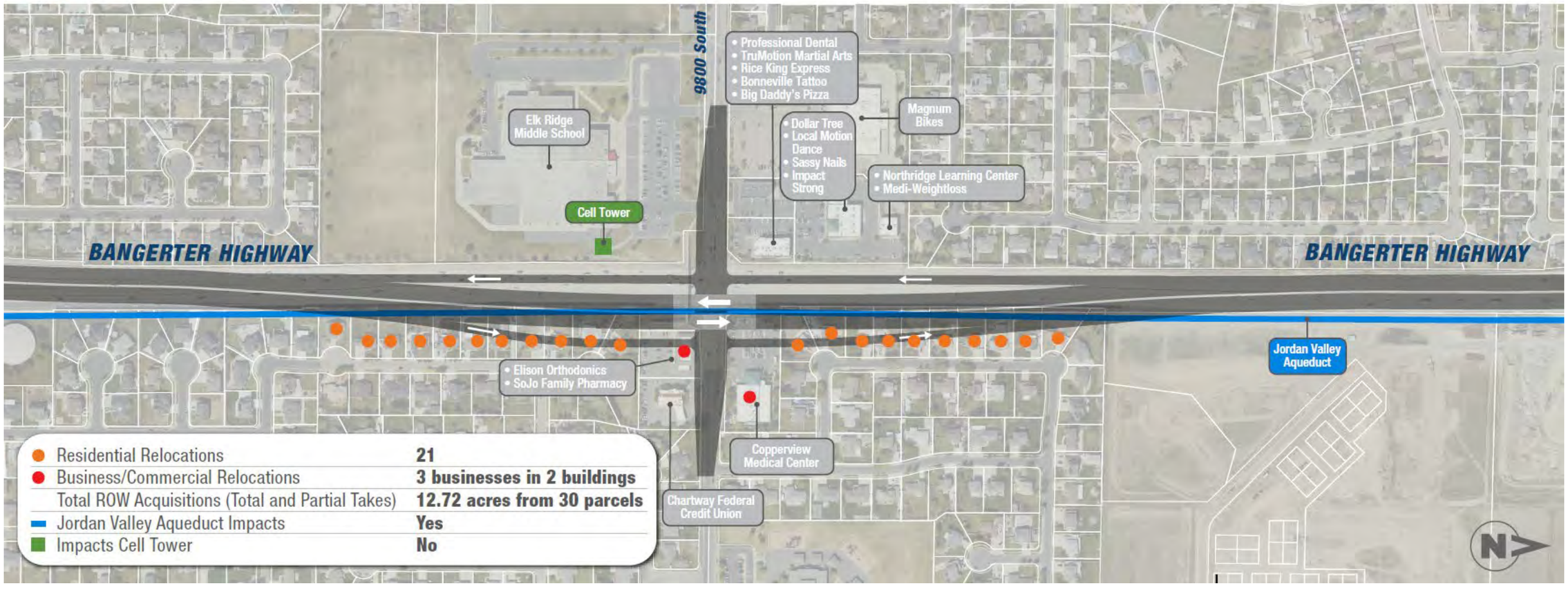
**The horizontal alignment alternatives combined any potential relocations and partial acquisitions into total number of parcels impacted. This is due to the level of detail conducted at this stage of the alternative's development process.*

The East Shift Alternative was eliminated because the impact to the JVA would require its relocation which is considered a major impact. Additionally, the East Shift Alternative requires eight more residential relocations compared to the west shift and 11 more than the hybrid shift.

The Hybrid Shift Alternative would require the relocation of 450 feet of the JVA because the pipe is not centered in the easement, and it would be too close to the structure. The Hybrid Shift Alternative also impacts approximately 22 additional parcels compared to the West Shift Alternative. Other items that were included in the final determination between the Hybrid Shift Alternative and West Shift Alternative included coordination with the Jordan School District regarding the relocation of the cell phone tower, coordination with the BOR, local government sentiment, and construction schedule and estimated costs.

Ultimately, the team decided to move forward with the West Shift Alternative because it avoided impacts to the JVA. Selecting the West Shift Alternative also allowed the team to evaluate vertical alignment options. The East Shift Alternative and Hybrid Shift Alternative would not have allowed the team to consider a Bangerter Highway under 9800 South due to impacts to the JVA.

Tight Diamond East Shift



Tight Diamond Hybrid Shift

Tight Diamond West Shift

Figure 3. Tight Diamond West Shift

VERTICAL ALIGNMENT OPTIONS

UDOT evaluated three vertical alignment options:

1. **Over**: Bangerter Highway over 9800 South with 9800 South at the existing grade
2. **Under**: Bangerter Highway under 9800 South with 9800 South at the existing grade

UDOT coordinated these vertical alignment options with South Jordan City and the Jordan Valley School District early in the decision-making process.

KEY ENVIRONMENTAL IMPACTS SCREENING

Table 3. Key Environmental Impacts Screening: Vertical Alignment

Resource	Vertical Alignment	
	Bangerter Highway Over 9800 South (Figure 4)	**Bangerter Highway Under 9800 South** (Figure 5)
Potential residential relocations	9	11
Potential business relocations	3 (1 building)	3 (1 building)
Business relocations	11 (3 buildings)	11 (3 buildings)
Residential relocations	10	10
Partial property acquisitions	19	19
Total number of parcels impacted	11.54 acres from 42 parcels	11.95 acres from 44 parcels
Pedestrian bridge location	North of present location adding out of direction travel for students	Present location
Noise impacts	Noise levels would range from 34 dBA to 80 dBA compared to existing noise levels from 33 dBA and 71 dBA. 118 receptors would be impacted by Bangerter Highway Over Option noise levels.	Noise levels would range from 42 dBA to 80 dBA compared to existing noise levels from 33 dBA and 71 dBA. 72 receptors would be impacted by Bangerter Highway Under Option noise levels.
Estimated cost *Updated Feb. 2022	$118 million*	$141 million*
Results	**Carried Forward**	**Carried Forward**

As seen in Table 3, the key environmental impacts for both the under and over option are similar. The biggest differences between the two options are the location of the pedestrian bridge and the estimated

cost to construct Bangerter Highway under 9800 South instead of over 9800 South. Another difference is the number of receptors impacted by noise. For both options the same three walls are recommended as replace “in-kind” but the number of receptors benefited by the walls vary slightly.

This decision will continue to be coordinated with South Jordan City and a final decision will be made at a future date. Once a decision is made, UDOT will communicate this decision using various outreach channels.

SUMMARY

The alternative selected to advance is the Tight Diamond Interchange West Shift Alternative with both vertical alignment options being carried forward for consideration.

Tight Diamond West Shift - Over 9800 South Option

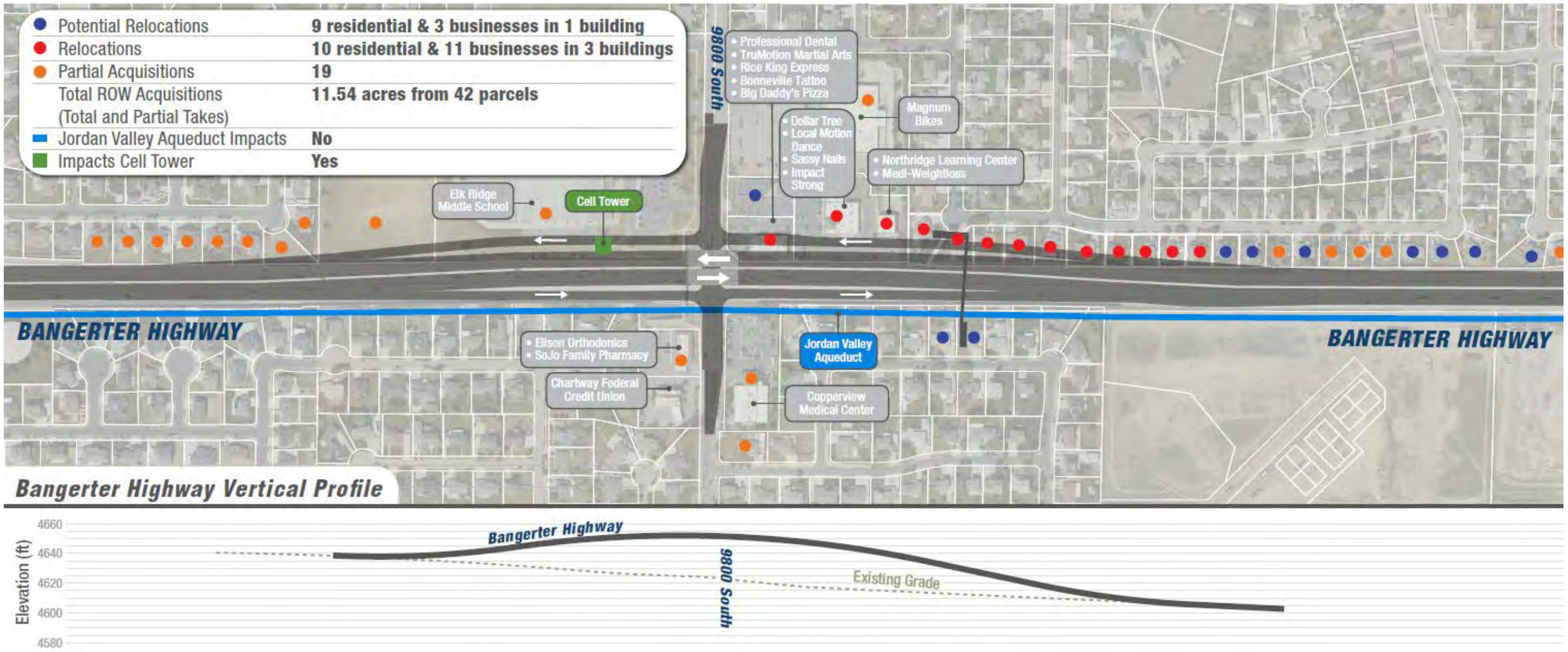


Figure 4. Tight Diamond West Shift - Over 9800 South Option

Tight Diamond West Shift - Under 9800 South Option

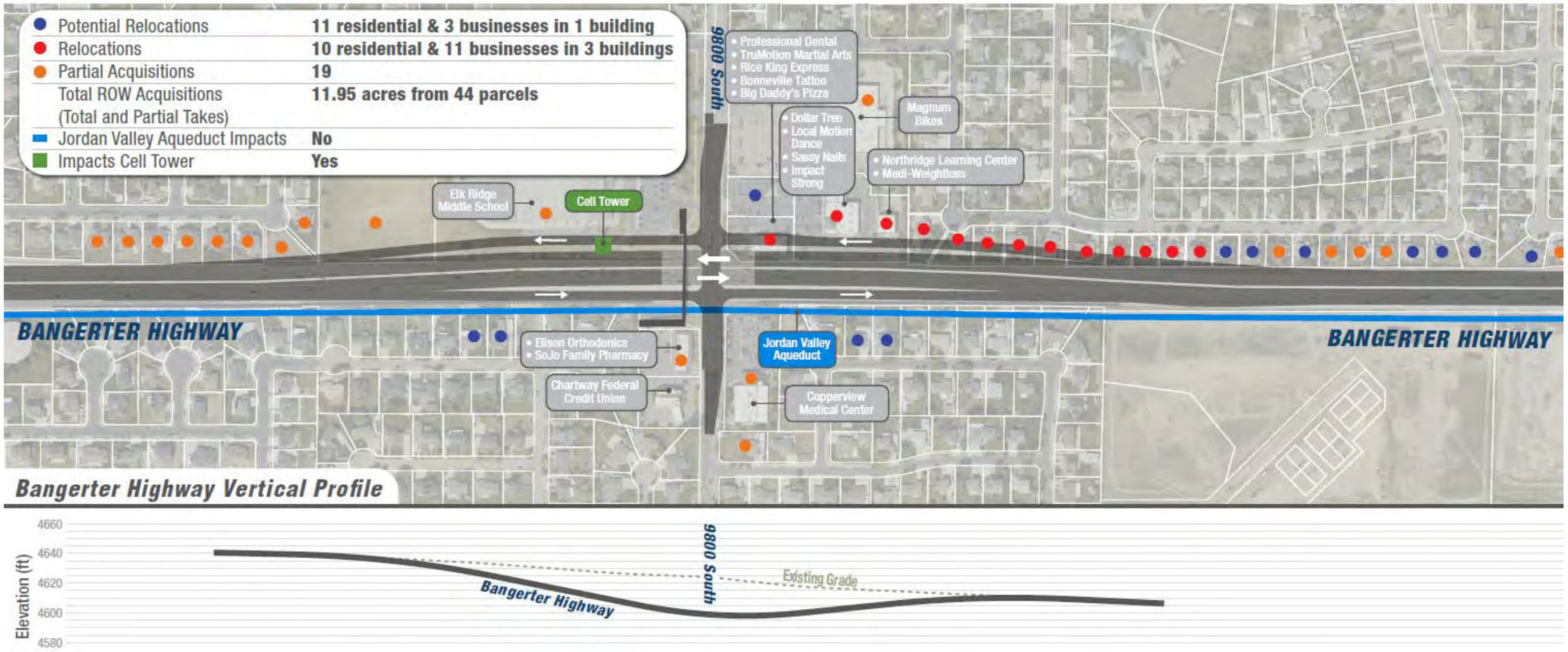


Figure 5. Tight Diamond West Shift - Under 9800 South Option

Appendix C: Public Involvement

Bangerter Highway at 9800 South Public Scoping Report

BANGERTER HIGHWAY AT 9800 SOUTH
PUBLIC SCOPING REPORT

PIN:	**18808**
Project Number:	**S-0154(92)0**
Prepared For:	**Utah Department of Transportation**
Prepared By:	**Horrocks Engineers**
Date:	**Aug. 26, 2021**

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PROJECT OVERVIEW

The Utah Department of Transportation (UDOT) has initiated State Environmental Studies (SESs) for the following intersections along Bangerter Highway:

- 2700 West
- 13400 South
- 9800 South
- 4700 South
- 4100 South
- 3500 South to S.R. 201
- California Avenue

Bangerter Highway is a major north-south corridor in the state of Utah, and with continued population growth in the area, the amount of traffic on Bangerter Highway is expected to increase. This projected increase in traffic will also increase delays on Bangerter Highway by up to four times longer than the current conditions. UDOT is proposing to replace at-grade, signalized intersections along the corridor with grade-separated interchanges, which will allow one street to pass over the other. This separation will move Bangerter Highway and cross-street traffic more efficiently and will eliminate points of conflict along this busy highway.

The purpose of this study is to identify the best solution to address the needs along Bangerter Highway, evaluate the impacts of the proposed improvements to the natural and built environments, and provide opportunities for public input.

PUBLIC SCOPING MEETING

Meeting Overview

An online public scoping meeting and an in-person public scoping meeting (open house format) were held to educate and inform the public about the SES process and gather input regarding the study.

When and Where

Online Presentation and Q&A	**When:** Wednesday, July 28, 2021, 6 – 7 p.m.
	Where: Zoom Webinar – A link to join the online meeting was posted on the study website: udot.utah.gov/bangerter9800South
In-Person Open House	**When:** Thursday, July 29, 2021, 6 – 7:30 p.m.
	Where: Elk Ridge Middle School 3659 West 9800 South South Jordan, UT 84009

Advertisements

The project team (consisting of UDOT staff and consultant firms) developed and executed a comprehensive outreach plan to invite adjacent property owners, residents, and the general public to attend the public scoping meeting, including:

- A legal notice published in statewide and local newspapers according to the UDOT's Environmental Manual of Instruction (MOI). The legal notice was published on July 9, 2021 and July 16, 2021 in the Deseret News. It was also published on July 11, 2021 and July 18, 2021 in the Salt Lake Tribune.
- 5,947 postcards mailed on July 14, 2021, to properties surrounding the study area.
- An advertisement posted on South Jordan City's existing social media, website, and newsletter.
- An email update to the environmental stakeholder list (533 subscribers) sent on July 22, 2021 and to the construction stakeholder list (1,846 subscribers) on July 13, 2021 to advertise the public open house.
- A project website that was updated with registration details.

Copies of the meeting advertisements are available in Appendix A.

Attendance

216 members of the public attended the online public meeting, as well as 15 members of the project team who facilitated and served as panelists during the Q&A portion. The in-person public meeting had 140 attendees who provided their information on the sign-in sheets at the meeting. *A list of online meeting attendees and scanned copies of the sign-in sheets from the in-person meeting are available in Appendix B.*

Information Presented

Online Presentation and Q&A

The project team gave a presentation at the start of the online public meeting that included information about the environmental study process, existing and future traffic conditions, the study area, the study schedule, possible interchange design alternatives, and project contact information. After the presentation, attendees had the opportunity to ask questions via the Zoom Question and Answer feature, with project team members providing responses to questions submitted live during the meeting.

Due to time limitations and the number of comments received, the project team extended the online open house by an additional 30 minutes to address additional comments and questions. The project team was not able to answer or address all questions and encouraged those who did not receive a response to attend the in-person open house or follow up with the team via email.

In-Person Open House

The same project information presented during the online public meeting was also available at the public open house via informational display boards, which included information about the environmental study process, existing and future traffic conditions, the study area, the study schedule, possible interchange design alternatives, and project contact information. Scroll plot maps that showed an aerial view of the study area and the existing 9800 South and Bangerter intersection were displayed to facilitate public discussion. Representatives from the project team were available to answer questions and provide additional information as needed. A comment area and comment forms were provided for attendees to leave written comments to be included as part of the formal comment period.

Materials presented at these meetings are available in Appendix C.

AGENCY SCOPING

Comments were solicited from key agencies and public organizations. Agency scoping letters were mailed to 12 agencies on June 10, 2021, to request input. One comment was received from Utah Transit Authority (UTA). *A list of agencies and public organizations contacted, a sample of the agency scoping letters, and the UTA comment are included in Appendix D.*

PUBLIC COMMENTS

A formal public comment period was held from July 9, 2021 through Aug. 13, 2021. Members of the public were encouraged to leave comments via postal mail and email. A comment form was available at the in-person public meeting and on the project website for the general public's use. A total of 147 comments were received (91 online public Q&A comments, 34 comment forms collected during the in-person public meeting, 19 email comments, and 7 comment forms received via postal mail).

Common themes from the public comments include:

- Against intersection access from 9800 South.
    - Suggestion to utilize the other intersections to travel east and westbound as an alternative.
- For single lane or right on/right off of Bangerter Highway option.
- For the no left turn option off Bangerter Highway at 9800 South.
- Concerns for school kids safety with the two elementary schools and one middle school being near the intersection.
- Desire to maintain "neighborhood" feel.
- Importance of business access for local businesses at the intersection.
- Importance of being budget-conscious and not including unnecessary things.
- Avoid moving the aqueduct because it is unnecessary.
- Safety for pedestrians and bicyclists.
- Concern about additional congestion on neighborhood streets.

The verbatim public comments and associated responses are provided in Appendix E.

A. Appendix A: Advertisements

Legal Notice Proof of Publication (Salt Lake Tribune)

90 S 400 W STE 700
SALT LAKE CITY, UT 84101-1431

The Salt Lake Tribune

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CUSTOMER NAME AND ADDRESS
HORROCKS ENGINEERS, INC.
MACEY MORTIMER
2162 W GROVE PARKWAY STE 400
PLEASANT GROVE, UT 84062

ACCOUNT NUMBER
6184

ACCOUNT NAME
HORROCKS ENGINEERS, INC.

TELEPHONE
801-673-5063

ORDER #
SLT0012995

CUSTOMER REFERENCE NUMBER

CAPTION
NOTICE OF PUBLIC MEETING On Proposed Improvements for the Bangerter Highway (S.R. 154) and 9800 South Intersection in Salt Lake County, UT; UDOT Project No.

TOTAL COST
$407.60

NOTICE OF PUBLIC MEETING

On Proposed Improvements for the
Bangerter Highway (S.R. 154) and 9800 South Intersection
in Salt Lake County, UT;
UDOT Project No. S-0154(920)

As part of the State Environmental Study, the Utah Department of Transportation (UDOT) advises all interested persons or groups that two Public Meeting opportunities, in both an online and in-person format, will be held for the proposed improvements at the Bangerter Highway and 9800 South intersection in Salt Lake County, UT.

The proposed project includes constructing a grade-separated interchange at the intersection of Bangerter Highway and 9800 South.

Online Public Meeting
When: Wednesday, July 28, 2021, from 6 — 7 p.m.
Where: Visit udot.utah.gov/bangerter9800south for instructions on how to join the online meeting.

In-person Public Meeting
When: Thursday, July 29, 2021, from 6 — 7:30 p.m.
Where: Elk Ridge Middle School, 3659 West 9800 South, South Jordan, UT 84009

Members of the public are invited to attend the Public Meetings and are encouraged to provide comments for consideration as the study progresses. Information to be presented at the meetings will include the study goals, the State Environmental Study process, and schedule. Specific alternatives or concepts are not available at this point in the study and will not be presented at the meetings.

The meeting materials will be available on the study website starting on July 28, 2021, at udot.utah.gov/bangerter9800south. Written comments should be sent to:

Bangerter Environmental c/o Horrocks Engineers
2162 West Grove Parkway, Suite 400
Pleasant Grove, UT 84062

Comments may also be submitted via email at bangerter@utah.gov. Comments need to be submitted by Aug. 11, 2021, to be included in the official transcripts of the Public Meetings. Comments provided to the study team will be reviewed and considered by UDOT as the study develops. All comments received will be documented in the project record. The study team will contact you if they need additional information or clarification.

If you have questions about the Public Meetings, please contact a study representative at 888-766-ROAD (7623) or bangerter@utah.gov or visit udot.utah.gov/bangerter9800south.

In compliance with the Americans with Disabilities Act, individuals needing special accommodations including auxiliary communicative aids and services or language translation services during this meeting should notify the study team five days in advance at 888-766-ROAD (7623) or bangerter@utah.gov.

Para información en español, llame al 888-766-ROAD (7623).
SLT0012995

AFFIDAVIT OF PUBLICATION

AS THE SALT LAKE TRIBUNE, INC. LEGAL BOOKER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF NOTICE OF PUBLIC MEETING On Proposed Improvements for the Bangerter Highway (S.R. 154) and 9800 South Intersection in Salt Lake County, UT; UDOT Project No. FOR HORROCKS ENGINEERS, INC. WAS PUBLISHED BY THE SALT LAKE TRIBUNE, INC., WEEKLY NEWSPAPER PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH. NOTICE IS ALSO POSTED ON UTAHLEGALS.COM ON THE SAME DAY AS THE FIRST NEWSPAPER PUBLICATION DATE AND REMAINS ON UTAHLEGALS.COM INDEFINITELY. COMPLIES WITH UTAH DIGITAL SIGNATURE ACT UTAH CODE 46-2-101; 46-3-104.

PUBLISHED ON 07/11/2021, 07/18/2021

DATE 07/19/2021

SIGNATURE Jordyn gallegos

STATE OF UTAH
COUNTY OF SALT LAKE

SUBSCRIBED AND SWORN TO BEFORE ME ON THIS 19th DAY OF JULY IN THE YEAR 2021

BY Jordyn Gallegos

MAKAYLA THEE
Notary Public, State of Utah
Commission #
My Commission Expires
[illegible] 2022

NOTARY PUBLIC SIGNATURE

Legal Notice Proof of Publication (Deseret News)

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FED. TAX I.D.# 87-0128317
801-204-6910

DeseretNews

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Brittany Kidd
1265 Fort Union Blvd
Cottonwood Heights, UT 84047

ACCOUNT NUMBER
54946

ACCOUNT NAME
Horrocks Engineers

TELEPHONE
801-635-4218

ORDER #
DN0012737

CUSTOMER REFERENCE NUMBER
BANGERTER HWY PROJECT

CAPTION
NOTICE OF PUBLIC MEETING On Proposed Improvements for the Bangerter Highway (S.R. 154) and 9800 South Intersection in Salt Lake County, UT; UDOT Project No.

TOTAL COST
$309.80

NOTICE OF PUBLIC MEETING

On Proposed Improvements for the
Bangerter Highway (S.R. 154) and 9800 South Intersection
in Salt Lake County, UT;
UDOT Project No. S-0154(92)0

As part of the State Environmental Study, the Utah Department of Transportation (UDOT) advises all interested persons or groups that two Public Meeting opportunities, in both an online and in-person format, will be held for the proposed improvements at the Bangerter Highway and 9800 South intersection in Salt Lake County, UT.

The proposed project includes constructing a grade-separated interchange at the intersection of Bangerter Highway and 9800 South.

Online Public Meeting
When: Wednesday, July 28, 2021, from 6 - 7 p.m.
Where: Visit udot.utah.gov/bangerter9800south for instructions on how to join the online meeting

In-person Public Meeting
When: Thursday, July 29, 2021, from 6 - 7:30 p.m.
Where: Elk Ridge Middle School, 3639 West 9800 South, South Jordan, UT 84009

Members of the public are invited to attend the Public Meetings and are encouraged to provide comments for consideration as the study progresses. Information to be presented at the meetings will include the study goals, the State Environmental Study process, and schedule. Specific alternatives or concepts are not available at this point in the study and will not be presented at the meetings.

The meeting materials will be available on the study website starting on July 28, 2021 at udot.utah.gov/bangerter9800south. Written comments should be sent to:

Bangerter Environmental c/o Horrocks Engineers
2162 West Grove Parkway, Suite 400
Pleasant Grove, UT 84062

Comments may also be submitted via email at bangerter@utah.gov. Comments need to be submitted by Aug. 11, 2021, to be included in the official transcripts of the Public Meetings. Comments provided to the study team will be reviewed and considered by UDOT as the study develops. All comments received will be documented in the project record. The study team will contact you if they need additional information or clarification.

If you have questions about the Public Meetings, please contact a study representative at 888-766-ROAD (7623) or bangerter@utah.gov or visit udot.utah.gov/bangerter9800south.

In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) or language translation services during this meeting should notify the study team five days in advance at 888-766-ROAD (7623) or bangerter@utah.gov.

Para información en español, llame al 888-766-ROAD (7623).
DN0000000

AFFIDAVIT OF PUBLICATION

AS THE DESERET NEWS, INC. LEGAL BOOKER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF LEGAL NOTICE FOR HORROCKS ENGINEERS WAS PUBLISHED BY DESERET NEWS, INC., WEEKLY NEWSPAPER PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH. NOTICE IS ALSO POSTED ON UTAHLEGALS.COM ON THE SAME DAY AS THE FIRST NEWSPAPER PUBLICATION DATE AND REMAINS ON UTAHLEGALS.COM INDEFINITELY. COMPLIES WITH UTAH DIGITAL SIGNATURE ACT UTAH CODE 46-2-101; 46-3-104.

PUBLISHED ON 07/09/2021, 07/16/2021

DATE 08/09/2021

SIGNATURE Lmadmundson

STATE OF UTAH
COUNTY OF Salt Lake

SUBSCRIBED AND SWORN TO BEFORE ME ON THIS 9th DAY OF AUGUST IN THE YEAR 2021

BY Lorraine Gudmundson

LENEA TAPUSOA
NOTARY PUBLIC-STATE OF UTAH
COMMISSION# 712892
COMM. EXP. 07-06-2024

LTapusoa
NOTARY PUBLIC SIGNATURE

Mailed Postcard

BANGERTER
9800 SOUTH

YOU'RE INVITED! ENVIRONMENTAL STUDY PUBLIC MEETING OPPORTUNITIES

The Utah Department of Transportation (UDOT) has recently started a State Environmental Study (SES) to evaluate a potential freeway-style interchange at Bangerter Highway and 9800 South in order to reduce congestion and improve safety. The study is scheduled for completion in early 2022, with construction slated for 2023*.

The study team is hosting two initial public meetings to gather feedback about overall transportation needs and environmental issues that should be considered during the study. Input received will help the team develop and refine the preferred design concept that will be available for further public comment later in the SES process. **For more information and to stay informed about the study's progress and future public engagement opportunities, visit the study website and sign up for email updates.**

ONLINE PRESENTATION AND Q&A

When: Wednesday, July 28, 2021
6 - 7 p.m.

Where: Zoom Webinar
Visit the study website for information on how to join the online meeting:
udot.utah.gov/Bangerter9800South

IN-PERSON OPEN HOUSE

When: Thursday, July 29, 2021
6 - 7:30 p.m.

Where: Elk Ridge Middle School
3659 West 9800 South
South Jordan, UT 84009
(See map on reverse side)

The same information and materials will be available at both meetings. If you cannot participate in either opportunity, materials can be viewed on the project website and you can send feedback via email or mail.

**Hotline:* 888-766-ROAD (7623) | **Email:* bangerter@utah.gov | **Website:* udot.utah.gov/Bangerter9800South

A UDOT PROJECT

In-person Open House Location

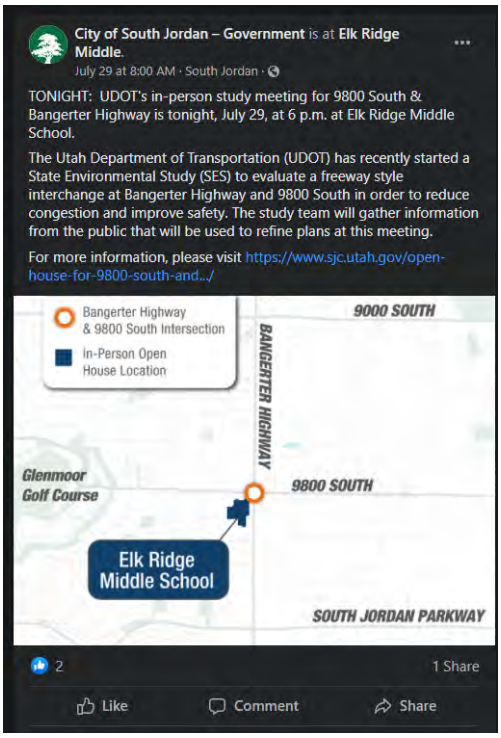
Parking is available at Elk Ridge Middle School.

2162 W. Grove Parkway, Suite 400
Pleasant Grove, UT 84062

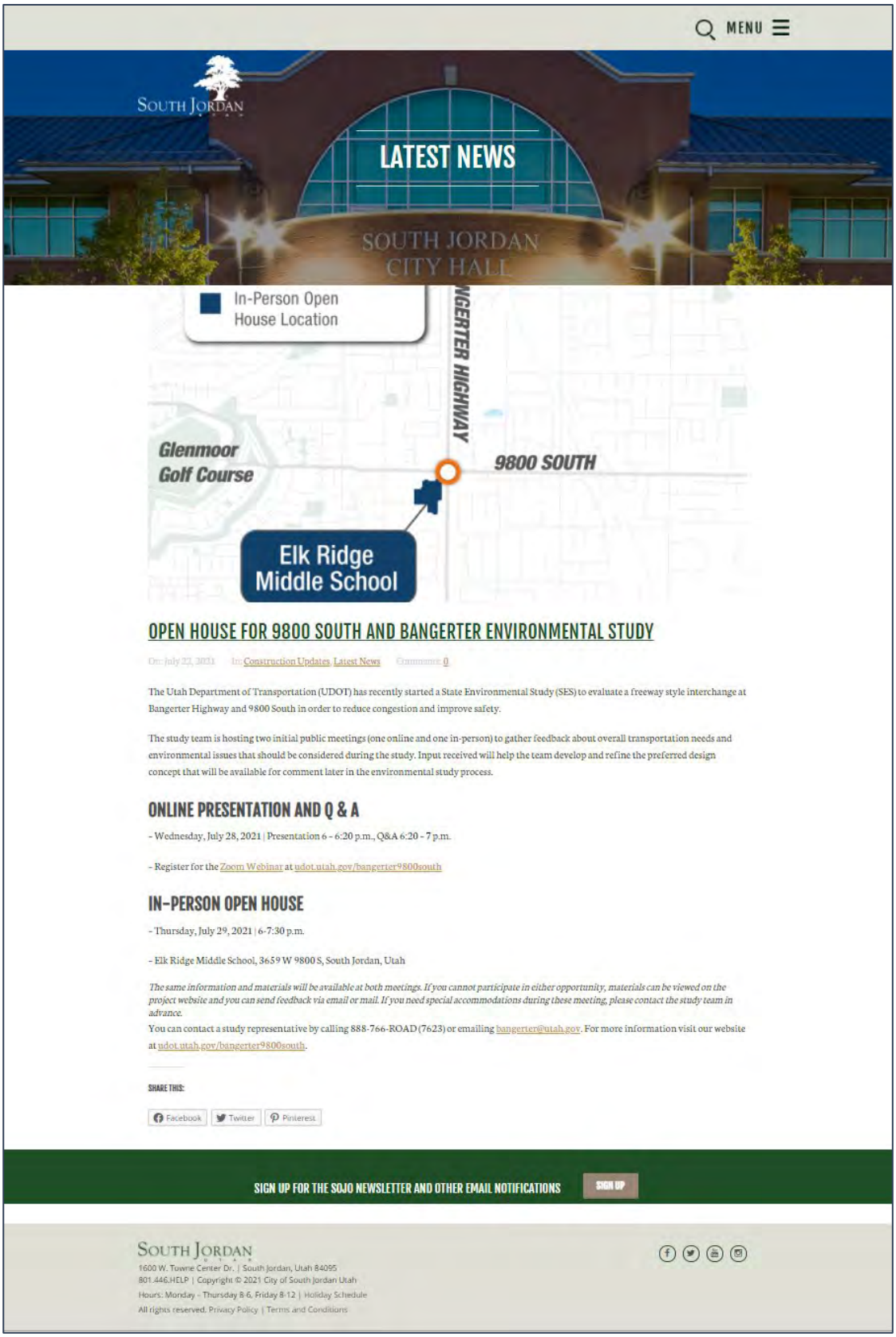
Elk Ridge Middle School meets the Americans with Disabilities Act (ADA) accessibility standards. If you need special accommodations during these meetings, please contact the study team in advance.

Contáctenos también si necesita esta información en Español.

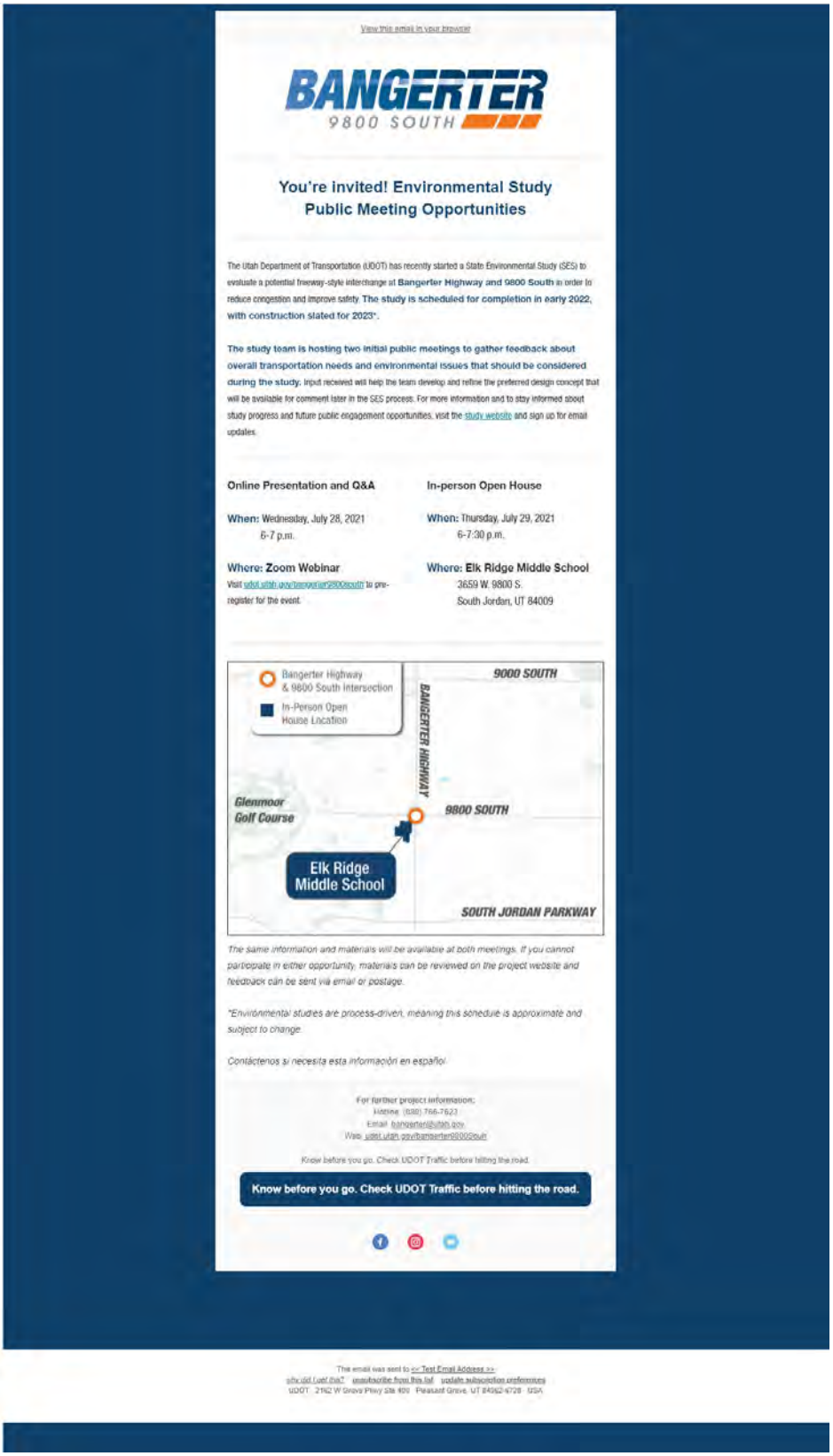
South Jordan Advertisements



South Jordan Website Advertisement



Email Update – Environmental Stakeholder List – 7.22.2021



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BANGERTER
9800 SOUTH

You're invited! Environmental Study Public Meeting Opportunities

The Utah Department of Transportation (UDOT) has recently started a State Environmental Study (SES) to evaluate a potential freeway-style interchange at **Bangerter Highway and 9800 South** in order to reduce congestion and improve safety. **The study is scheduled for completion in early 2022, with construction slated for 2023*.**

The study team is hosting two initial public meetings to gather feedback about overall transportation needs and environmental issues that should be considered during the study. Input received will help the team develop and refine the preferred design concept that will be available for comment later in the SES process. For more information and to stay informed about study progress and future public engagement opportunities, visit the study website and sign up for email updates.

Online Presentation and Q&A

When: Wednesday, July 28, 2021
6-7 p.m.

Where: Zoom Webinar
Visit udot.utah.gov/bangerter9800south to pre-register for the event.

In-person Open House

When: Thursday, July 29, 2021
6-7:30 p.m.

Where: Elk Ridge Middle School
3659 W. 9800 S.
South Jordan, UT 84009

The same information and materials will be available at both meetings. If you cannot participate in either opportunity, materials can be reviewed on the project website and feedback can be sent via email or postage.

**Environmental studies are process-driven, meaning this schedule is approximate and subject to change.*

Contáctenos si necesita esta información en español.

For further project information:
Hotline: (888) 766-7623
Email: bangerter@utah.gov
Web: udot.utah.gov/bangerter9800South

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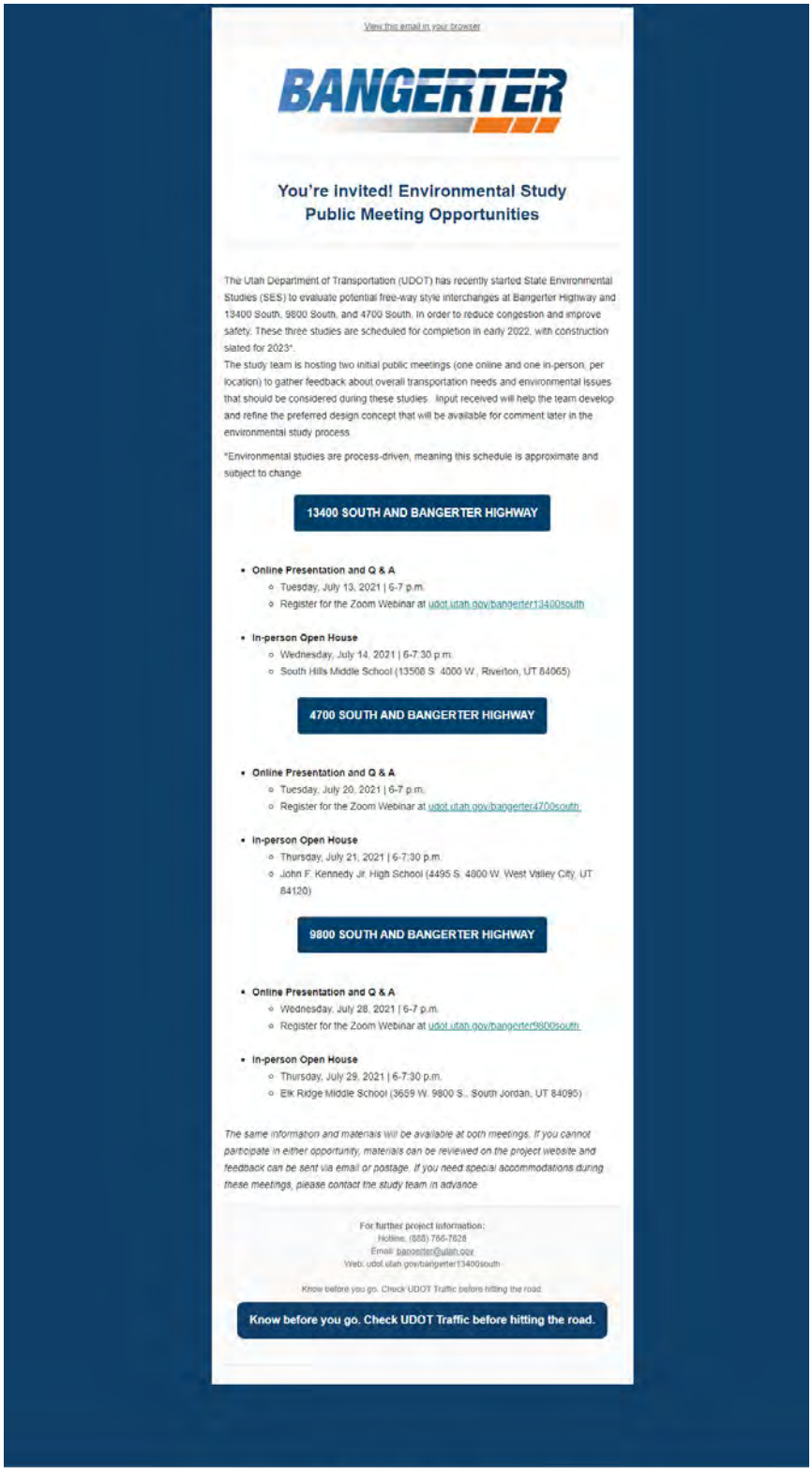
Email Update – Construction Stakeholder List – 7.13.2021



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BANGERTER

You're invited! Environmental Study Public Meeting Opportunities

The Utah Department of Transportation (UDOT) has recently started State Environmental Studies (SES) to evaluate potential free-way style interchanges at Bangerter Highway and 13400 South, 9800 South, and 4700 South. In order to reduce congestion and improve safety. These three studies are scheduled for completion in early 2022, with construction slated for 2023*.

The study team is hosting two initial public meetings (one online and one in-person, per location) to gather feedback about overall transportation needs and environmental issues that should be considered during these studies. Input received will help the team develop and refine the preferred design concept that will be available for comment later in the environmental study process.

*Environmental studies are process-driven, meaning this schedule is approximate and subject to change.

13400 SOUTH AND BANGERTER HIGHWAY

- **Online Presentation and Q & A**
  - Tuesday, July 13, 2021 | 6-7 p.m.
  - Register for the Zoom Webinar at udot.utah.gov/bangerter13400south
- **In-person Open House**
  - Wednesday, July 14, 2021 | 6-7:30 p.m.
  - South Hills Middle School (13508 S. 4000 W., Riverton, UT 84065)

4700 SOUTH AND BANGERTER HIGHWAY

- **Online Presentation and Q & A**
  - Tuesday, July 20, 2021 | 6-7 p.m.
  - Register for the Zoom Webinar at udot.utah.gov/bangerter4700south
- **In-person Open House**
  - Thursday, July 21, 2021 | 6-7:30 p.m.
  - John F. Kennedy Jr. High School (4495 S. 4800 W. West Valley City, UT 84120)

9800 SOUTH AND BANGERTER HIGHWAY

- **Online Presentation and Q & A**
  - Wednesday, July 28, 2021 | 6-7 p.m.
  - Register for the Zoom Webinar at udot.utah.gov/bangerter9800south
- **In-person Open House**
  - Thursday, July 29, 2021 | 6-7:30 p.m.
  - Elk Ridge Middle School (3659 W. 9800 S., South Jordan, UT 84095)

The same information and materials will be available at both meetings. If you cannot participate in either opportunity, materials can be reviewed on the project website and feedback can be sent via email or postage. If you need special accommodations during these meetings, please contact the study team in advance.

For further project information:
Hotline: (888) 766-7628
Email: bangerter@utah.gov
Web: udot.utah.gov/bangerter13400south

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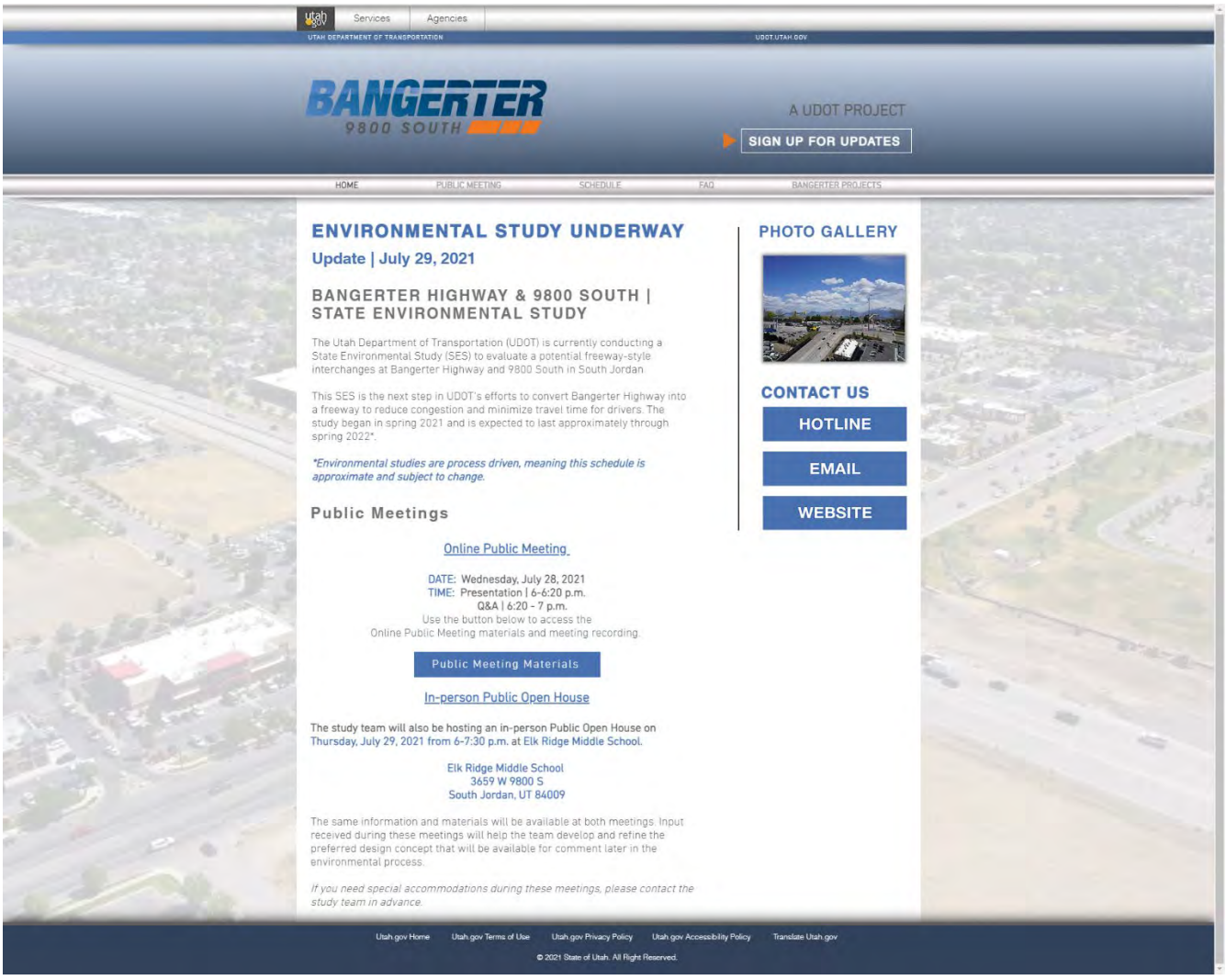
Project Website Advertisement



B. Appendix B: Attendance

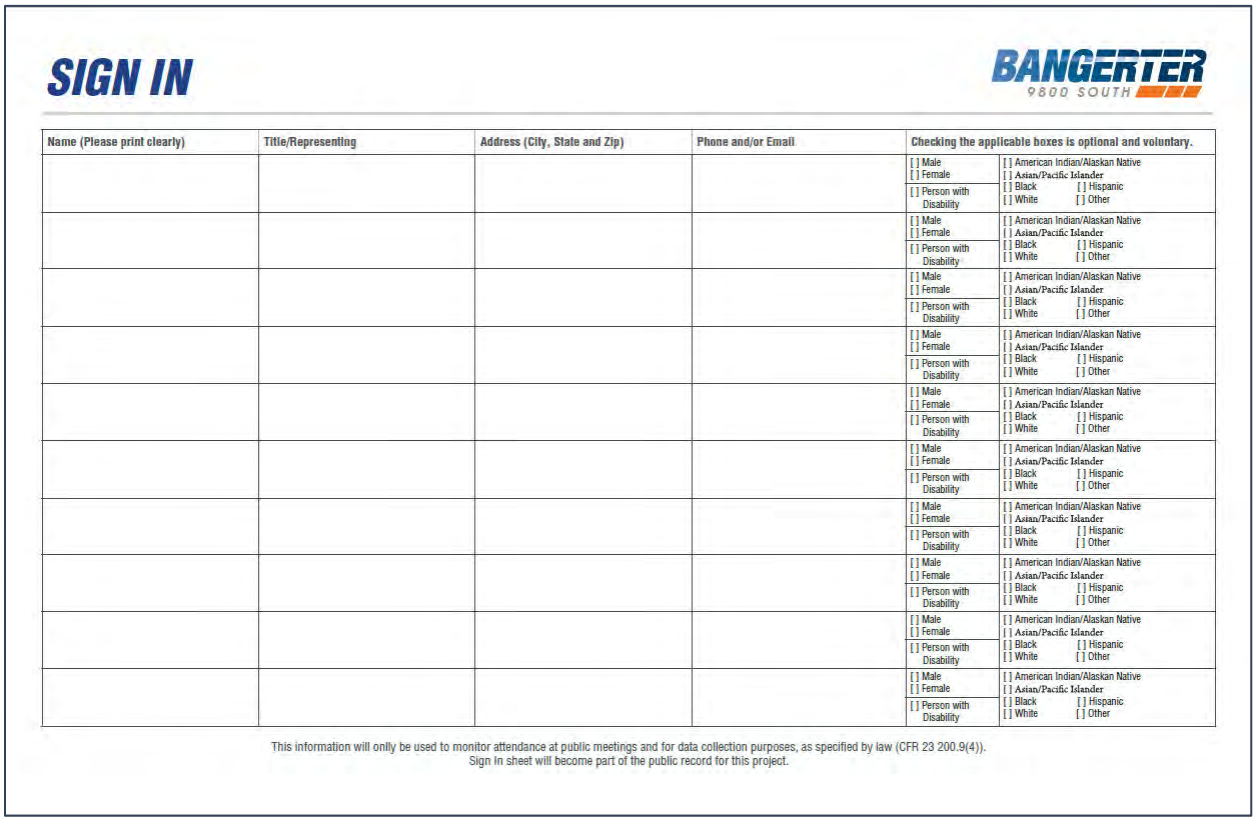
Online Public Meeting Attendees (Public usernames as they appeared in Zoom)

Alice Stitzer	Courtney Hamilton	Heidi McDonald
Alicia Summers	curt jemison	Hillary Carter
Alyson Kirkham	Curtis Andrews	Ileen Kennedy
Andy Lovell	Cyndi Furner	Isaac Gifford
Angela Whitney	Dale Robinson	J Jones
Angelo Kallas	Dan Whalen	J M
Angie Cote	Danner Banks	Jacob Kresser
Ann Ingleby	Darrell Malloy	Jacques Booth
Ashlee Child	Darwin Knight	Jaime Christensen
Barbara Lenhart	Daryl McCarty	James Yeates
Beau Pettit	David Coulam	Jamie Denning
Beth Harvey	David Lowe	Jamilyn Bell
Bill Provost	David Pratt	Jan La Bard
Billie Pardoe	David Wright	Janie Richardson
Blaine Furner	David Yeager	Jared Worthen
Bob & Cathie McCann	Dawn Tucker	Jason Fulks
Bob Herlin	Debora Blankman	Jay Eastley
Brad Ashby	Deborah Murdock	Jeff Erekson
Brandi Gibbs	Deborah Veater	Jeff Merrick
Branson Evans	Dianne Hodnett	Jeff Williams
Brett Bostock	Don Arnold	Jeffrey Cook
Brett Remund	Doreen Foote	Jenell Goates
Brian Prince	Doug Kimber	Jennifer Adams
Brook Wagnrt	Dustin Brusch	Jennifer Adams
Bruce Chapple	Earline Riddle	Jennifer Brown
Calvin Johnson	Elaine Nielson	Jennifer Daniluc
Cari Eubanks	Elisa Bateman	Jennifer Zollinger
Carrie Condie	Emily Kartchner	Jeremy Nielson
Cassie Wallace	Emily McCleve	Jerry Pulsipher
CATHERINE AUSBURN	Emily Simpson	Jill Tinkham
Celeste Randall	Fox 13 News	Jim Draper
Chad Michaelsen	Frank Tegtmeier	Jim Oliphant
Chris Baker	Gavin Pehrson	Jo Brown
CHRIS BOWTHORPE	Gaylon Behunin	JoAnne Myers
Clark Bell	Gerry Holman	Jocelyn Brown
Cleo Reid	Gordon Allen	John Green
Connie Chamberlain	Greg Denning	John Savage

Jon Lloyd
Josh Westerfield
Julia Jones
Julie Curtis
Julie Good
Karen Heser
Karin Terry
Katie Allred
Keith Wellington
Kelly Ball
Kelly Hopkins
Kerry Powell
Kevin Bowman
Kevin Jones
Kevin Withers
Kirk Brown
Kristen Christensen
lacey jolley
Larry Allen
Laura Rasmussen
LeAnn Warburton
LINDAU M RIGGS
Lisa Meadows
Lucas Manning
Maddie Rolfes
Mardi Pearson
Marisa Fox
MARK TIMPSON
Marne Ruesch
Martin Hollingsworth
Mathew Harper
Matt Coles
Matt Reynolds
Meggen Pettit
Melissa Jacobsen
Michael Killeen
Michele Gatti
Michele Rosqvist
Monique Shawver
Morgen Baldwin
Natalie Bate
Natalie Mendenhall
Natalie Monsen
Nathan Barlow
Norm Badger
pat lenhart
Paul Bateman
Paul Morton
Paul Nauta
Paulette Hedrick
Phani Balusu
Rachel Lebo
Randy McCleve
Rebecca Bearden
Rebecca Hales
Rebecca Oldroyd
Rich Agren
Richard Kocherhans
Richard Linton
Richard Zierse
Rick Dalanhese
Rick Grigsby
Rob
Rob Tudor
Robin Lance
Robyn Schneider
Roger Peterson
Rona Murphy
Ryan Finley
Rylar Masco
S Haider
Sam Eggers
Sandra Bennion
Schyler Namanny
Scott Bishop
Scott Iverson
Scott Woolley
Scott Worley
Shad Hall
Shane Alldredge
Sharon Hanson
Shaun Schulz
Spencer Snyder
Stephanie Wade
Stephen James
Steven Sara
Stewart Christensen
T Zander
Tai Laban
Tamra Madsen
Taylor Foote
Terry (Troy) Williams
Terry Shields
Tiffany Hughes
Tiffini Sorcic
Tim Riker
Tommy Mecham
Travis Umpleby
Tyson Malstrom
Wayne Margetts
Wendy Parikh
William Worsley
Yogendra Parikh
Zachary Druce
Zoom user

Project Team Panelists & Presenters
Brian Allen - UDOT PM (Presenter & Panelist)
Justin Beddoes – Consultant Design Manager (Panelist)
Marwan Farah – UDOT Program Manager (Additional Support)
Brian Atkinson – Consultant PM (Panelist)
Samantha Patterson – 9800 South Environmental Lead (Panelist)
Dustin Richins – 9800 South Design Lead (Additional Support)
Ryan Pitts – Consultant Environmental Lead (Additional Support)
Haylie Ferguson – 9800 South Environmental Team (Additional Support)
Ivan Hooper – Traffic Lead (Panelist)
Tyler Allen – UDOT Environmental (Presenter & Panelist)
Eric Lyon – UDOT ROW (Additional Support)
Katie Kourianos – Consultant PI Manager (Facilitator & Moderator)
Duke Richardson – PI Lead (Moderator)
Brittany Kidd – 9800 South PI Interchange Lead (Additional Support)
Macey Mortimer – 9800 South PI Team (Zoom Host & Additional Support)

Sample Sign In Sheet



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.	
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
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				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

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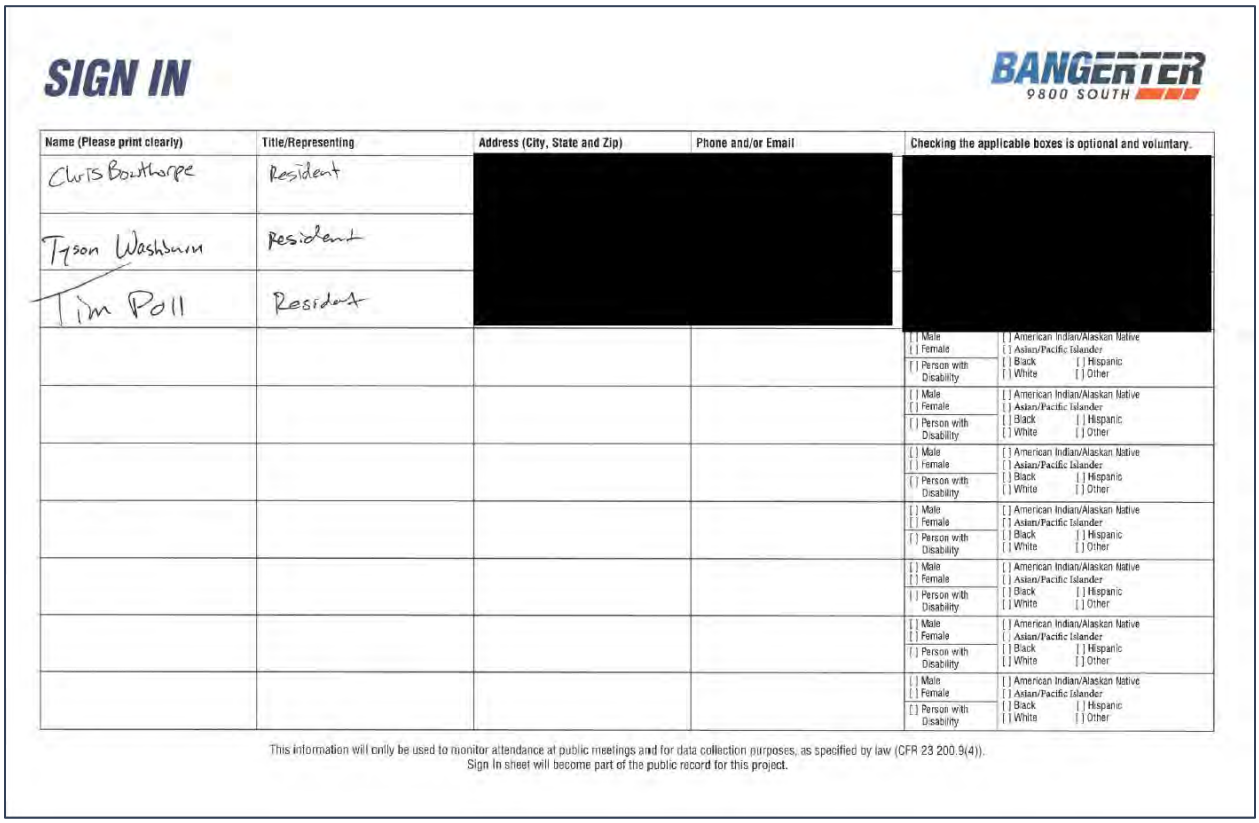
Scanned In Person Open House Sign In Sheets



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Chris Boothorpe	Resident	[redacted]	[redacted]	[redacted]
Tyson Washburn	Resident			
Tim Poll	Resident			
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

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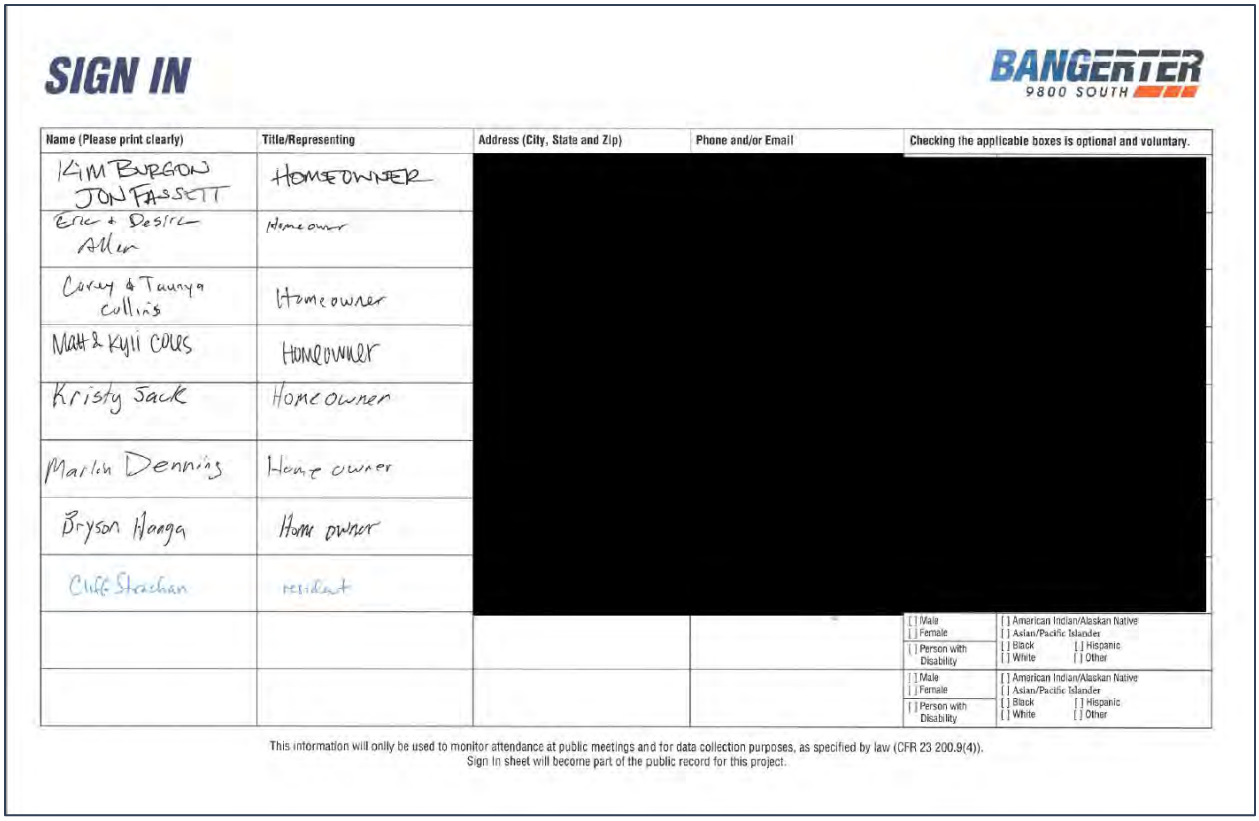

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Kim Burgon Jon Fassett	Homeowner	[redacted]	[redacted]	[redacted]
Eric + Desire Allen	Homeowner			
Corey & Tanya Collins	Homeowner			
Matt & Kyli Coles	Homeowner			
Kristy Sack	Homeowner			
Marlin Dennis	Home owner			
Bryson Haaga	Home owner			
Cliff Strachan	resident			
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

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SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Bruce & Shaunna Applegate	Home owner	[redacted]		
Craig & Liz Taylor	Homeowner			
Brock & Dara Bowen	Home owner			
Tim Elison	Business owner			
Jess & Amy Jensen	Homeowner			
Janet Frandsen	Homeowner			
AJ Mlazgar	Homeowner			
Scott Osborne	Resident Previous Mayor			
Stephen Gibson	Resident Homeowner			
Grant Goodmansen	Home Owner			

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Sign In sheet will become part of the public record for this project.

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
[illegible]	Home Owner	[redacted]		
Marc & Dawn Harris				
Marilyn West				
SHAY FRANK				
Steve & Vickie Van De Merwe				
CLINT & ANGGLA COTG				
Steve Cutmull				
Criacobin Eamann				
Trace Robinson				
Lacey Jolley				

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Sign In sheet will become part of the public record for this project.

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Bob May		[redacted]		
Erin Tenney				
Tim + Marie Riker				
Tony Owens				
Barbara				
DILLON KERN	FAST TIMES BARBER COMPANY			
Rosalie Ashby				
Dirk Burton	West Jordan City			
Chuck Newton				
Stanley Hawker	Local Motor DANCE			

This information will only be used to monitor attendance at public meetings and for data collection purposes, as specified by law (CFR 23.200.9(4)).
Sign In sheet will become part of the public record for this project.

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
JOHN CALLUS	HOME OWNER	[redacted]		
SCHYLER NAMANNY	HOME OWNER			
Brock Jones	Homeowner			
GARY MCCOY	"			
Gary & Cari Edwards	HomeOwner			
Josh Jones	Home Owner			
Mark & Stacey Tingey	Home Owner			
Todd & Angela Anderson	Homeowners			
Karen Bacon	Homeowner			
Mike & Karen Mayfield	Homeowner			

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SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Kevin Derby		[redacted]		
David Powell Elaine Powell				
JANE ADDISON RAY ADDISON				
Dave Pratt Linda Pratt				
Brandee Johnson				
MARVIN J LA BARD JAN SMITH LA BARD				
Lynn & Robyn Schneider				
Mable TIEDEMANN				
Lexi Zucker	Representing: Patty Medgley			
Andrew Broschinsky				

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SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Don Arnold	Resident	[redacted]		
Brad Klavano	City Engineer/ South Jordan City			
Terry & Bonnie Headley				
Wendy Parikh	Resident			
Richard & Shirley Joos	Resident			
KARL & JUDITH ROSENBERG	RESIDENT			
Melinda Telford	Resident			
Bob O'Brien	Resident			
Katie Lombardi	Business owner			
[illegible]	RETIRED			

This information will only be used to monitor attendance at public meetings and for data collection purposes, as specified by law (CFR 23 200.9(4))
Sign In sheet will become part of the public record for this project.

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
RICHARD ZIERSE	RESIDENT	[redacted]		
CAROL ZIERSE	RESIDENT			
John Collins	Home Owner			
Penny + Richard Kogerhans	Home Owner			
[illegible]	Resident			
Carol & Rachel Latimer	Home Owner			
Roger & Marie Peterson	Home Owner			
BRANDON PHELPS	HOME OWNER			
Tim & Jolene Brocen	Home Owner			
Rex Hoxi	Resident			

This information will only be used to monitor attendance at public meetings and for data collection purposes, as specified by law (CFR 23 200.9(4)).
Sign In sheet will become part of the public record for this project.

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
THUY PHAM	Big Daddy Pizza	[redacted]		
Shane Garrison				
Jaxdy Mamales				
Dave Baker Lori Webb				
Eileen Davis Lane Davis				
BRYANT NORMAN				
GORDON ALLEN				
TUS LIMBERG				
SAM TRAN				
Diane Hawker	Local Motion Dance Studio			

This information will only be used to monitor attendance at public meetings and for data collection purposes, as specified by law (CFR 23 200.9(4)).
Sign In sheet will become part of the public record for this project.

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Debbie Randall Clark Randall	home owner	[redacted]		[redacted]
Garth Limburg				
Debra Sadler	home owner			
Kristen Peterson	Home Owner			
Daired George-Kennedy	Home Owner			
Jake Vickrey	business owner			
Bob Sall	owner			
Justine Natalie Bay	home owner			
Debbie Wright	home owner			
				[ ] Male [ ] Female [ ] Person with Disability [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

This information will only be used to monitor attendance at public meetings and for data collection purposes, as specified by law (CFR 23 200.9(4)).
Sign In sheet will become part of the public record for this project..

SIGN IN

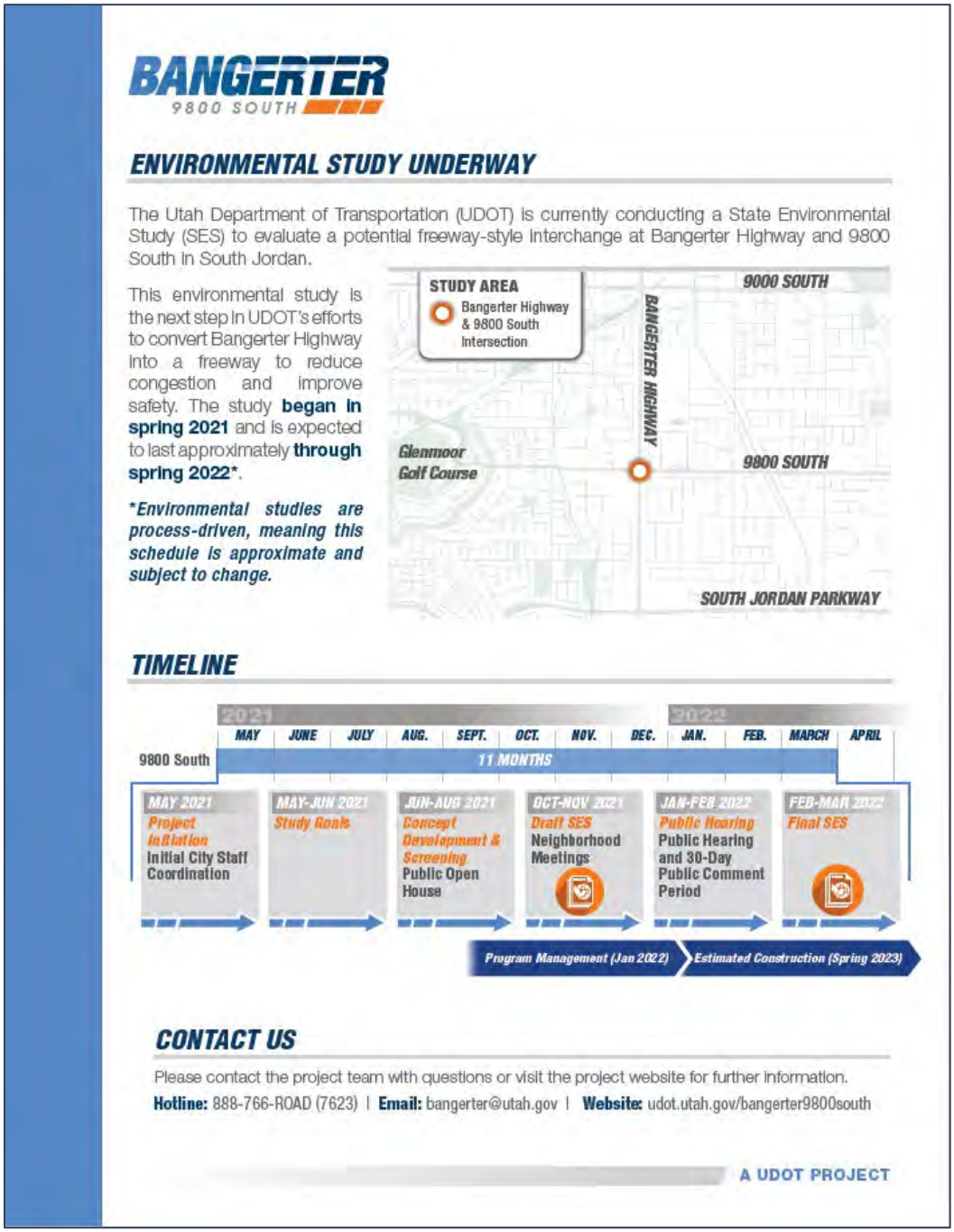
BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Jeff Johnson	Sojo family Pharmacy	[redacted]		[redacted]
Jennifer Rasskopf				
Todd Mendenhall				
Barbara Tyndall	Self/family			
Dean & Peggy Pettit				
David & Angela Osborne	Family			
Scott R Jenkins				
				[ ] Male [ ] Female [ ] Person with Disability [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

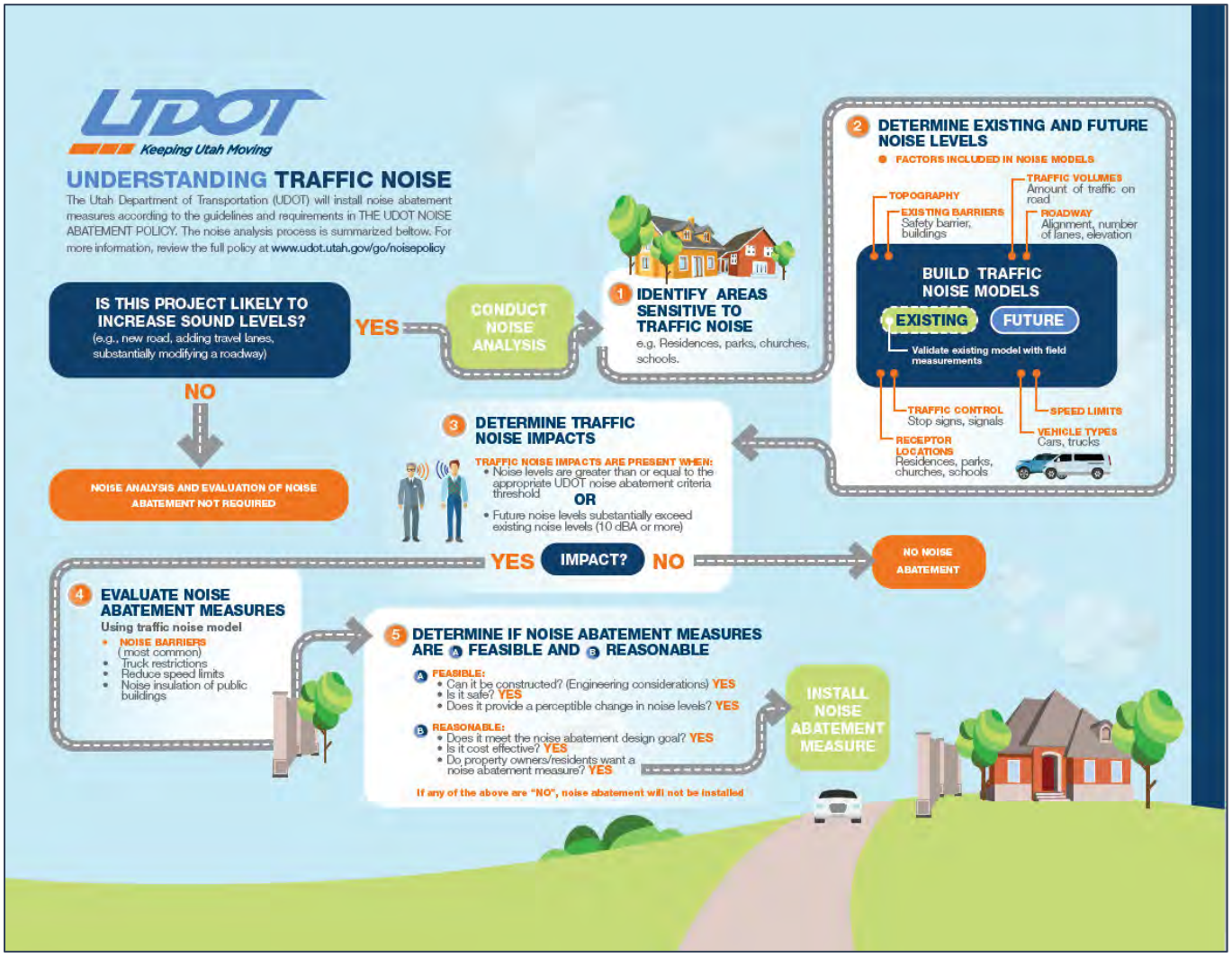
This information will only be used to monitor attendance at public meetings and for data collection purposes, as specified by law (CFR 23 200.9(4)).
Sign In sheet will become part of the public record for this project.

C. Appendix C: Meeting Materials

Project Overview Flyer



Noise Brochure



Public Meeting Presentation/ Display Boards

BANGERTER

WELCOME

ONLINE PUBLIC MEETING

Bangerter | 9800 South State Environmental Study (SES)

The meeting will begin shortly after 6 p.m. to allow participants time to join the Zoom webinar. Please visit the study website at **udot.utah.gov/bangerter9800south** to access supporting materials for today's presentation.

To submit questions, click the Q&A button on your screen. Our study team will be monitoring the questions and will answer as many as possible following the presentation.

Please note, this event is being recorded and will be available for viewing at **udot.utah.gov/bangerter9800south**

A UDOT PROJECT

Q&A

BANGERTER

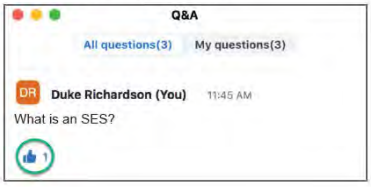
1. TO SUBMIT A QUESTION

Click on the Q&A button at the bottom of the screen

Type question in the Q&A Window

2. TO LIKE OR UPVOTE A QUESTION

Click on the "thumbs-up" button underneath questions



This helps us to know how many people have the same question

A UDOT PROJECT

PRESENTERS

BANGERTER

Brian Allen, P.E.
UDOT Project Manager

Tyler Allen
UDOT Environmental Manager

A UDOT PROJECT

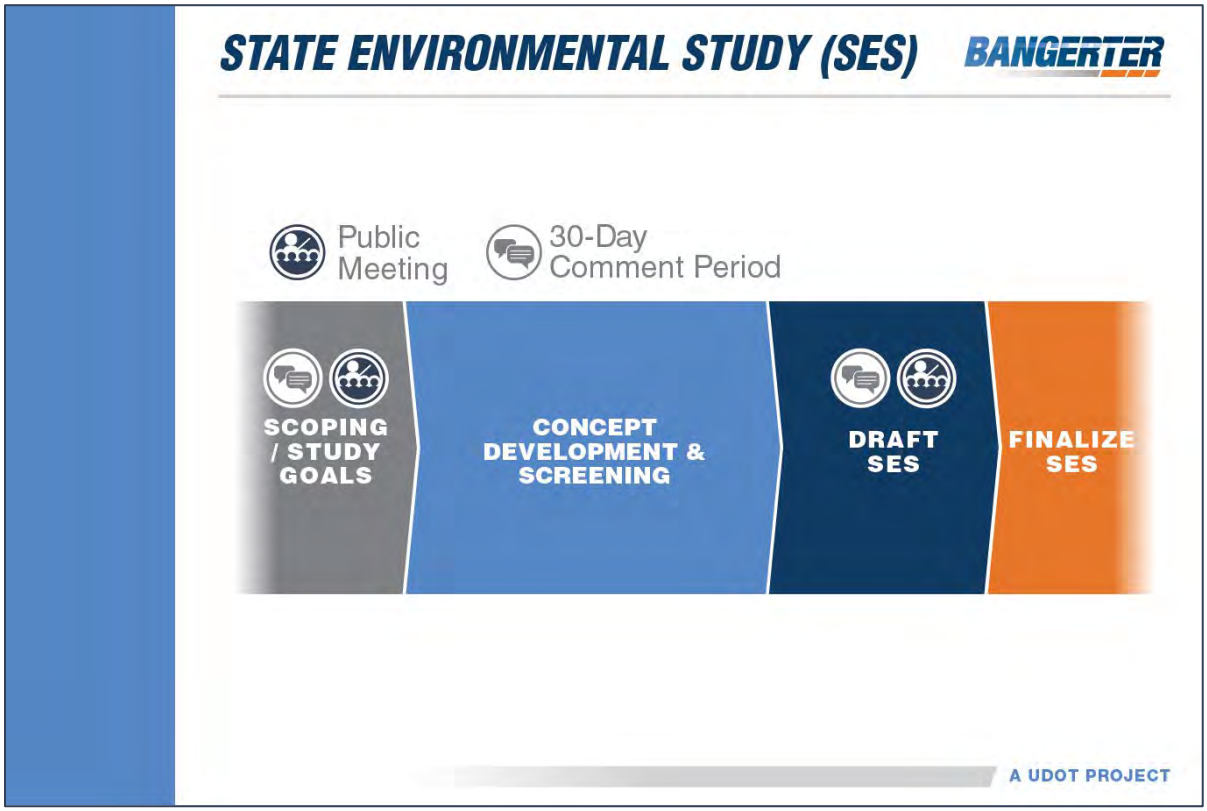
MEETING PURPOSE

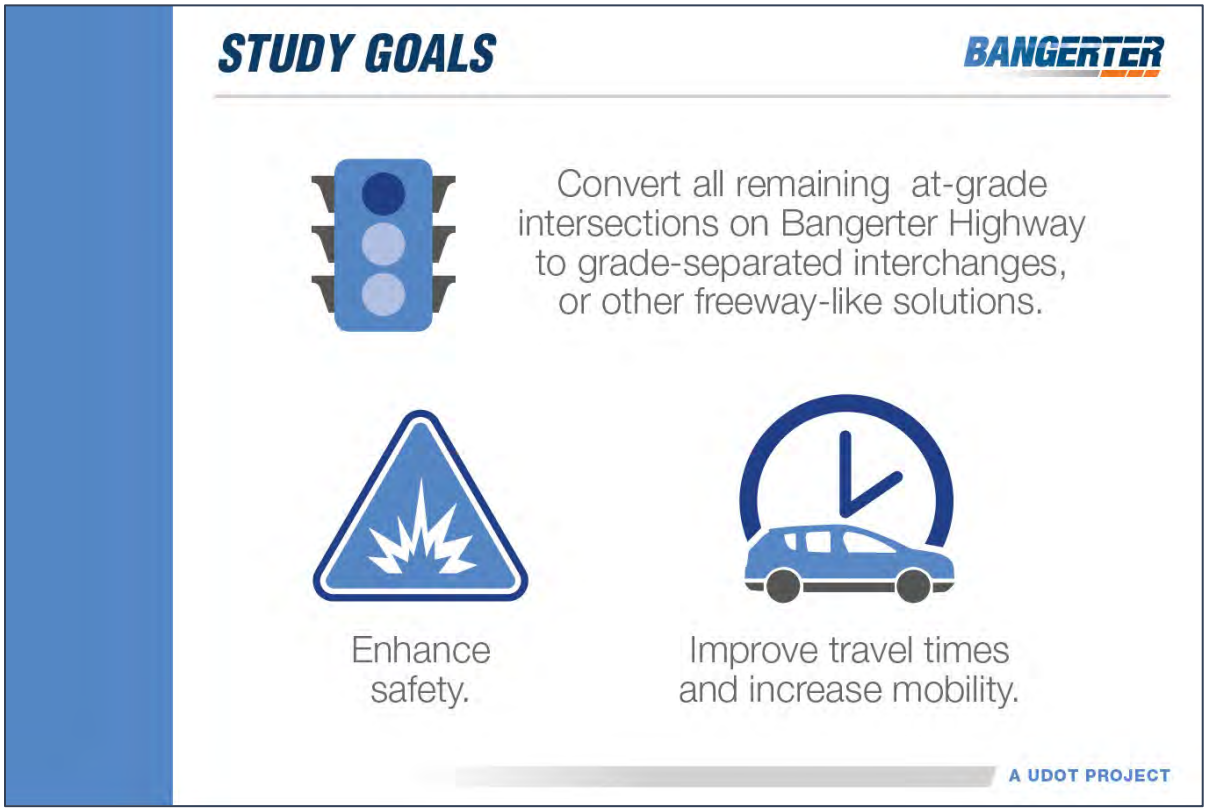
BANGERTER

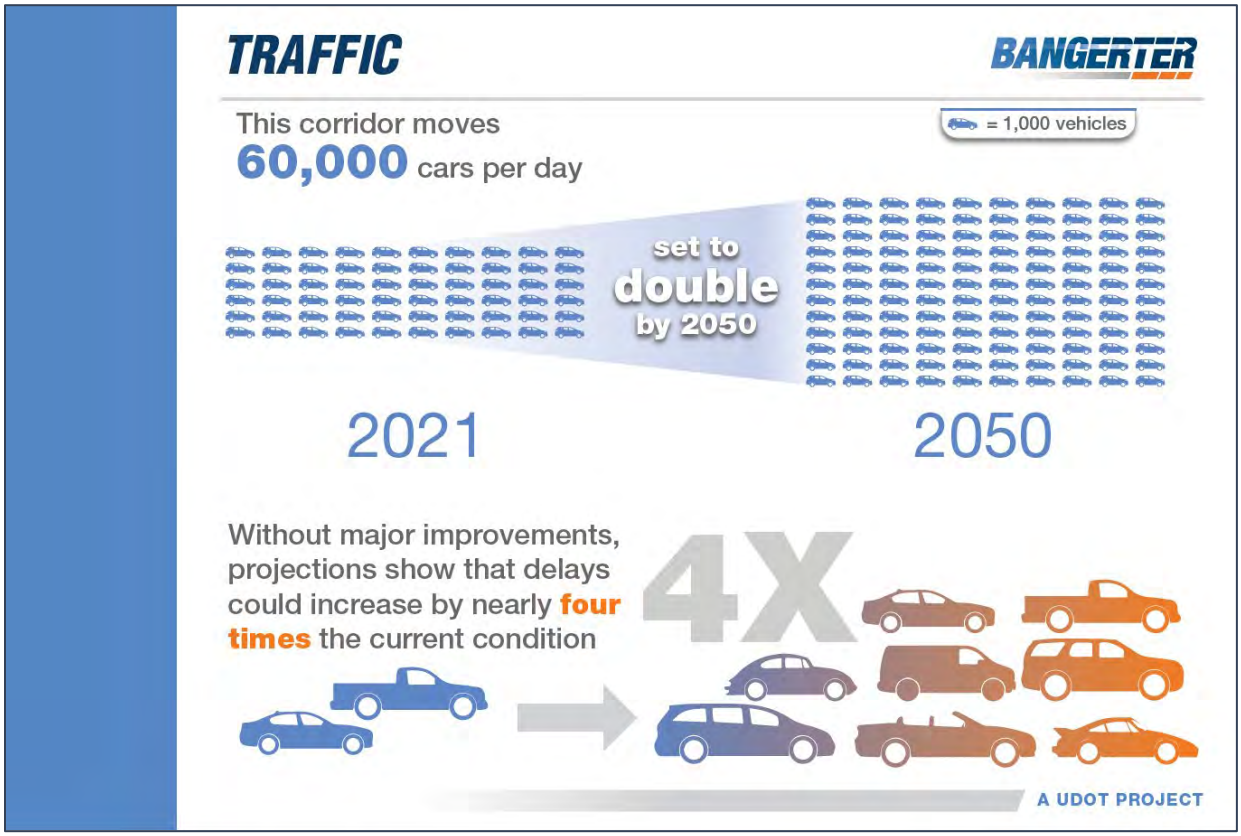
The study team is hosting two initial public meetings to gather feedback about overall transportation needs and environmental issues that should be considered during the study.

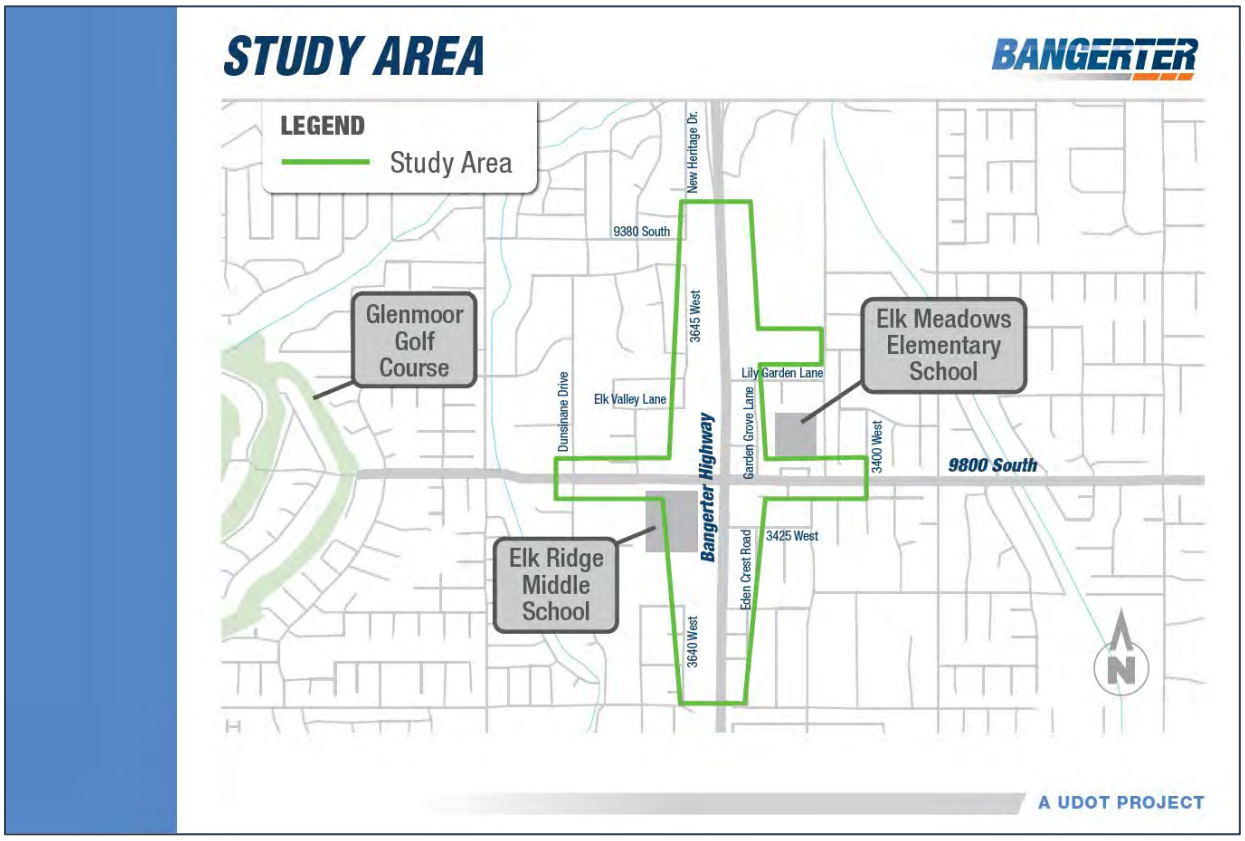
Input received during these meetings will help the team develop and refine the preferred design concept that will be available for comment later in the SES process.

A UDOT PROJECT


STATE ENVIRONMENTAL STUDY (SES)
BANGERTER
Public Meeting
30-Day Comment Period
SCOPING / STUDY GOALS
CONCEPT DEVELOPMENT & SCREENING
DRAFT SES
FINALIZE SES
A UDOT PROJECT


STUDY GOALS
BANGERTER
Convert all remaining at-grade intersections on Bangerter Highway to grade-separated interchanges, or other freeway-like solutions.
Enhance safety.
Improve travel times and increase mobility.
A UDOT PROJECT


TRAFFIC
BANGERTER
This corridor moves
60,000 cars per day
= 1,000 vehicles
set to
double
by 2050
2021
2050
Without major improvements, projections show that delays could increase by nearly four times the current condition
4X
A UDOT PROJECT


STUDY AREA
BANGERTER
LEGEND
Study Area
New Heritage Dr.
9380 South
Glenmoor Golf Course
3645 West
Elk Meadows Elementary School
Lily Garden Lane
Elk Valley Lane
Dunsinane Drive
Garden Grove Lane
3400 West
9800 South
Bangerter Highway
3425 West
Eden Crest Road
Elk Ridge Middle School
3640 West
N
A UDOT PROJECT

SCHEDULE

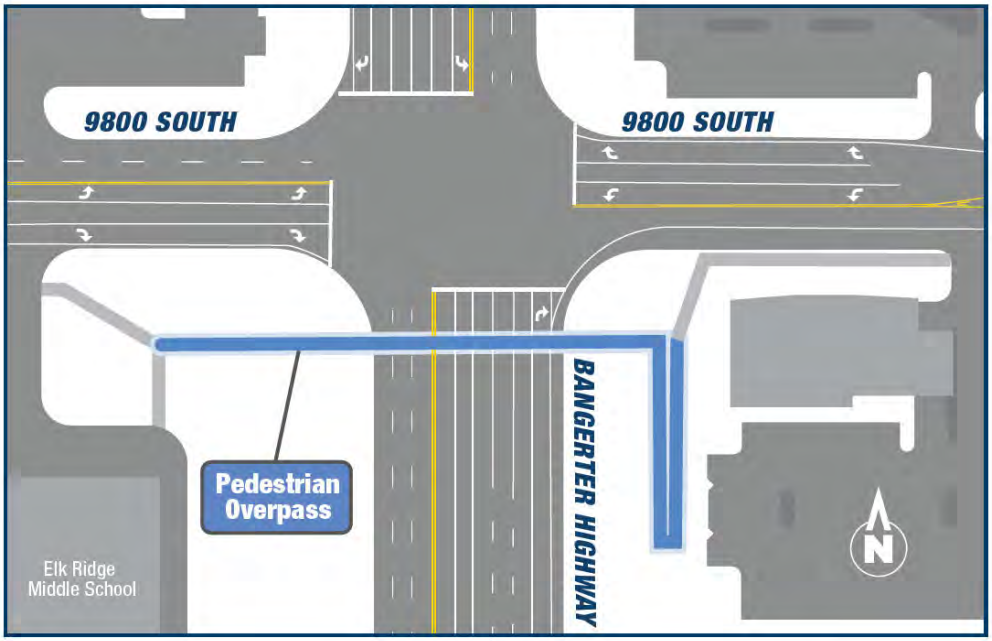
BANGERTER

Schedule is process-driven and subject to change.

A UDOT PROJECT

PEDESTRIAN OVERPASS

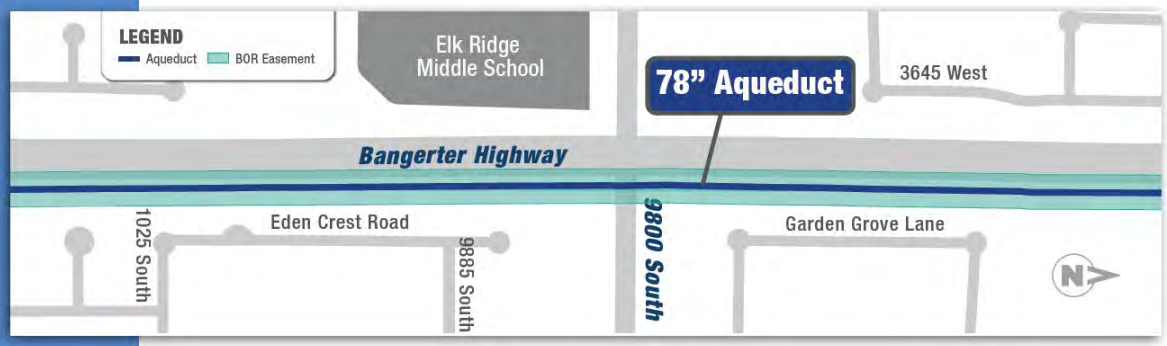
BANGERTER



A UDOT PROJECT

JORDAN VALLEY AQUEDUCT

BANGERTER



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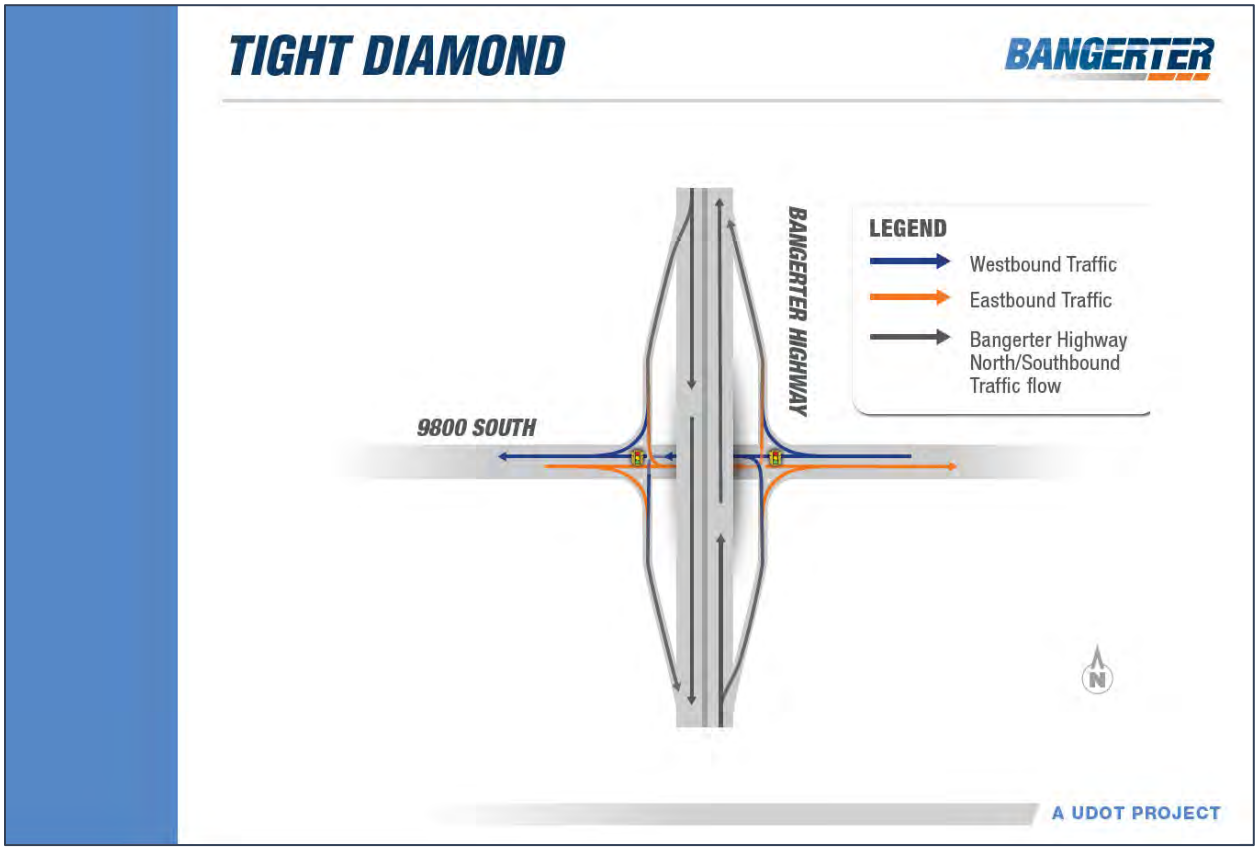
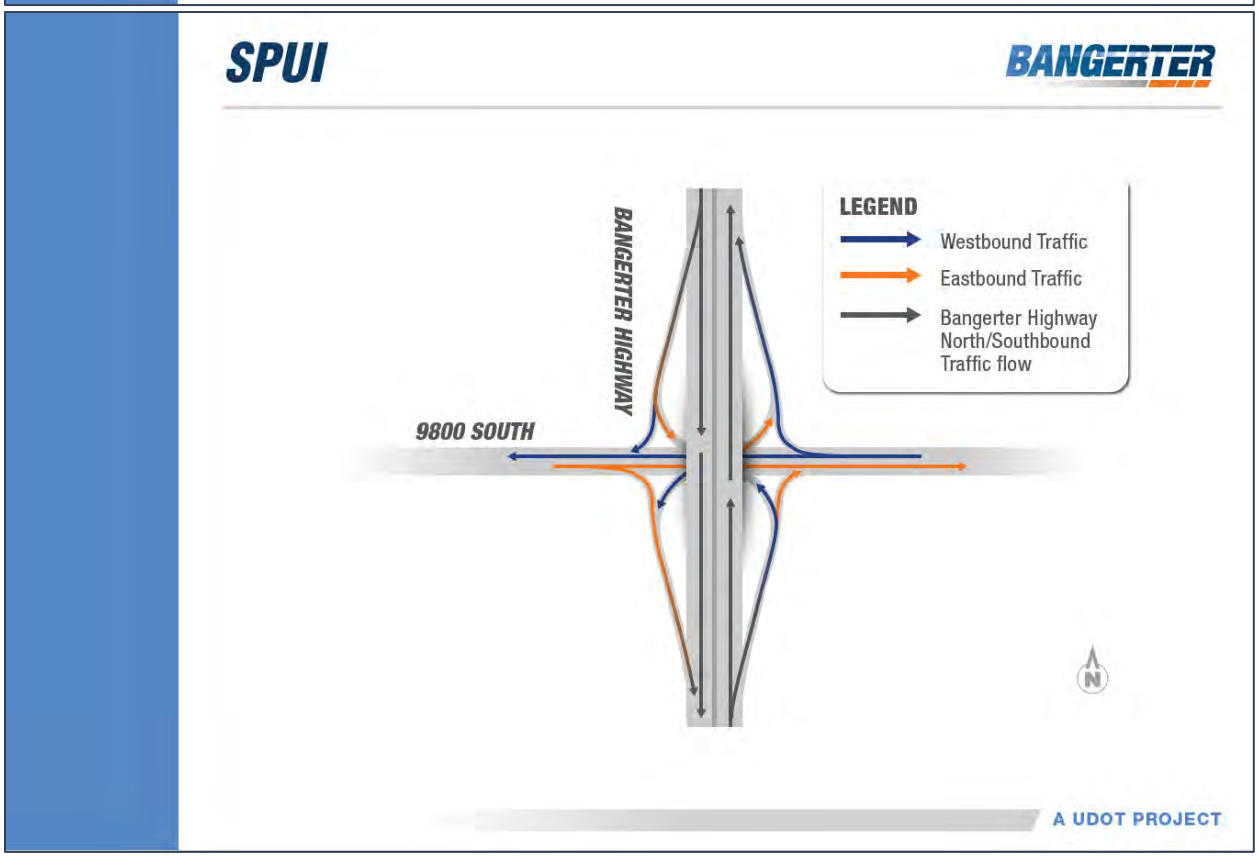
POSSIBLE SOLUTIONS

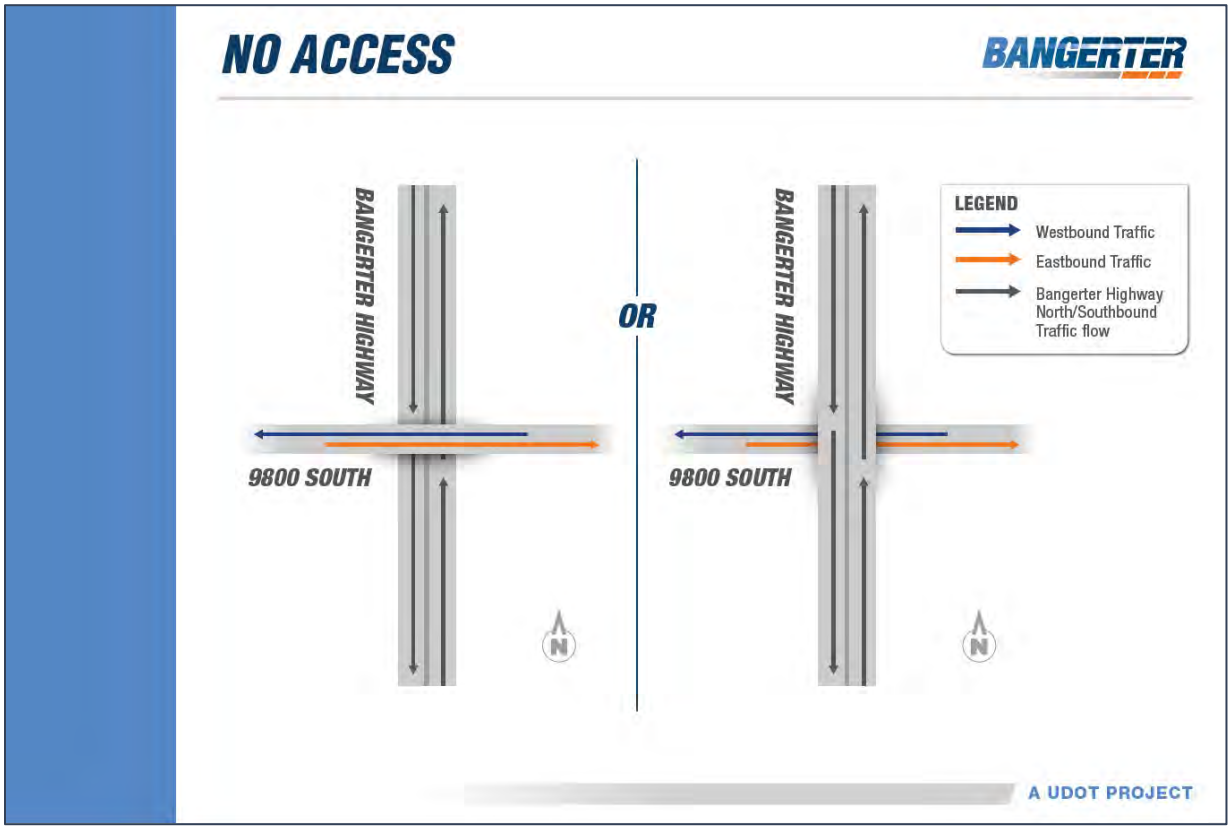
BANGERTER

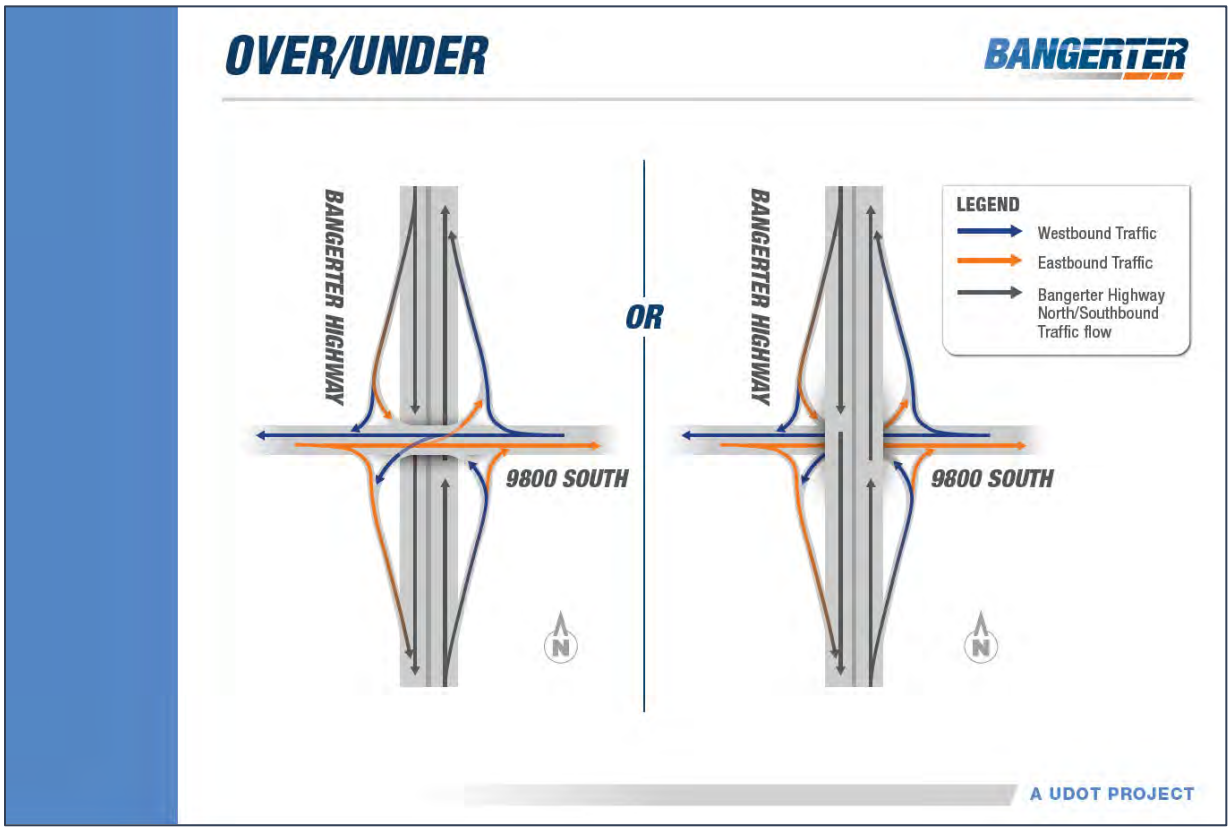
- Tight Diamond Interchange
- Single-Point Urban Interchange (SPUI)
- No Access
- Over/Under
- No Action

A UDOT PROJECT


TIGHT DIAMOND
BANGERTER
BANGERTER HIGHWAY
9800 SOUTH
LEGEND
Westbound Traffic
Eastbound Traffic
Bangerter Highway North/Southbound Traffic flow
N
A UDOT PROJECT

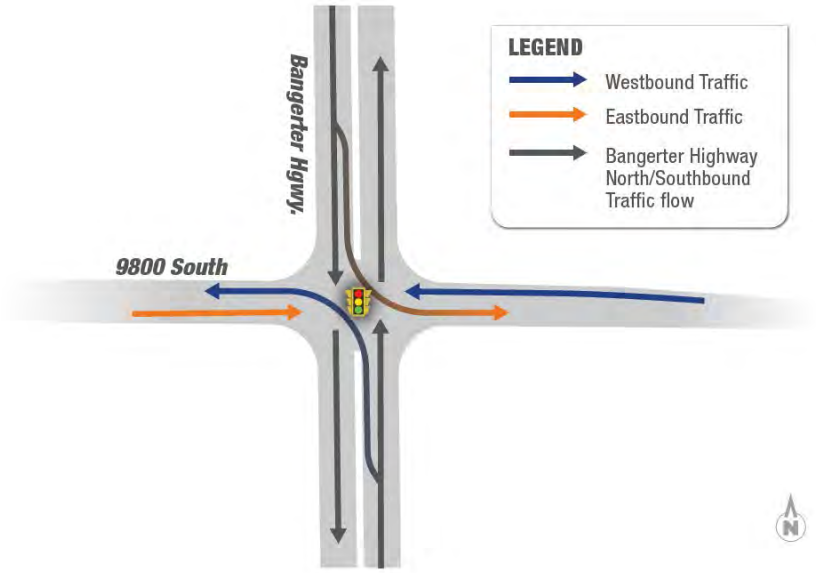

SPUI
BANGERTER
BANGERTER HIGHWAY
9800 SOUTH
LEGEND
Westbound Traffic
Eastbound Traffic
Bangerter Highway North/Southbound Traffic flow
N
A UDOT PROJECT


NO ACCESS
BANGERTER
BANGERTER HIGHWAY
9800 SOUTH
OR
BANGERTER HIGHWAY
9800 SOUTH
LEGEND
Westbound Traffic
Eastbound Traffic
Bangerter Highway North/Southbound Traffic flow
N
N
A UDOT PROJECT


OVER/UNDER
BANGERTER
BANGERTER HIGHWAY
9800 SOUTH
OR
BANGERTER HIGHWAY
9800 SOUTH
LEGEND
Westbound Traffic
Eastbound Traffic
Bangerter Highway North/Southbound Traffic flow
N
N
A UDOT PROJECT

NO ACTION

BANGERTER



A UDOT PROJECT

PUBLIC COMMUNICATION AND COMMENT CHANNELS

BANGERTER

30-day Comment Period ends Aug. 13, 2021

Hotline: 888-766-ROAD (7623)

Email: bangerter@utah.gov

Website: udot.utah.gov/bangerter9800south

Mail: Bangerter Environmental c/o Horrocks
2162 W. Grove Parkway, Suite 400
Pleasant Grove, UT 84062

A UDOT PROJECT

Q&A

BANGERTER

Panelists

Brian Allen, P.E. | UDOT Project Manager (PM)

Tyler Allen | UDOT Environmental

Brian Atkinson, P.E. | Consultant PM

Samantha Patterson | Consultant Environmental

Justin Beddoes, P.E. | Consultant Design Lead

Ivan Hooper, P.E. | Consultant Traffic Lead

Moderators

Katie Kourianos | Public Involvement Manager

Duke Richardson | Public Involvement

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PUBLIC COMMUNICATION AND COMMENT CHANNELS

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Mail: Bangerter Environmental c/o Horrocks
2162 W. Grove Parkway, Suite 400
Pleasant Grove, UT 84062

A UDOT PROJECT

IN-PERSON PUBLIC OPEN HOUSE

BANGERTER

The study team will also be hosting an in-person Public Open House.

When: Thursday, July 29, 2021
6 - 7:30 p.m.

Where: Elk Ridge Middle School
3659 West 9800 South
South Jordan, UT 84009

The same information and materials will be available at both meetings. Input received during these meetings will help the team develop and refine the preferred design concept that will be available for comment later in the environmental process.

A UDOT PROJECT

f

Comment Form

COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: _____ Organization: _____

Address: _____ City: _____

Phone Number: _____ State: _____ ZIP: _____

Email: _____

COMMENTS

Please provide input or concerns regarding the proposed interchange.

_____

_____

_____

_____

_____

_____

_____

_____

Please provide any other information or comments you feel would be helpful to the study team.

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

Comments provided to the study team will be reviewed and considered by UDOT. All comments received will be documented in the study record. The study team will contact you if they need additional information or clarification.

Comments provided during the National Environmental Policy Act (NEPA) process to UDOT are a matter of public record and subject to public release, if requested. For more information, see Terms of Use at the bottom of the Utah.gov website.

Comment Form (Back)

Place Postage Stamp Here

Bangerter Environmental c/o Horrocks
2162 W. Grove Parkway, Suite 400
Pleasant Grove, UT 84062

Fold Here

D. Appendix D: Agency Comments

Agency Contacts Scoping Letter Mailing List

Name	Organization	Title
Scott Baird	Salt Lake County	Public Works
Dawn Ramsey	South Jordan City	Mayor
Brad Klavano	South Jordan	City Engineer / Development Services Director
Paul Berger	Jordan School District	Transportation Director
Lance Everill	Jordan School District	Safety and Risk Management
Jenny Wilson	Salt Lake County	Mayor
Michele Guy	Jordan Valley Water Conservancy District (JVWCD)	
Sindy Smith	Resource Development Coordinating Committee (RDCC)	Coordinator
Wayne Bennion	Wasatch Front Regional Council (WFRC)	Director of Short-Range Planning and Programming
Nikki Navio	Wasatch Front Regional Council (WFRC)	Transportation Planner
Christopher Hansen	State Historic Preservation Office	Deputy SHPO
Buffie Chournos	Utah Transit Authority	Environmental Compliance Administrator

Sample Agency Scoping Letter

State of Utah

SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

CARLOS M. BRACERAS, P.E.
Executive Director

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

LISA J. WILSON, P.E.
Deputy Director of Engineering and Operations

10 June 2021

Mr. Scott Baird
Public Works
Salt Lake County

Subject:
Bangerter Highway Environmental Study
Intersection at 9800 South
UDOT Project No. S-0154(92)0; PIN No. 18808
Salt Lake County, Utah
Initiation of Scoping

Mr. Baird,

The Utah Department of Transportation (UDOT) will be initiating State Environmental Studies (SESs) for the following intersections along Bangerter Highway:

- 2700 West
- 13400 South
- 9800 South
- 4700 South
- 4100 South
- 3500 South to S.R. 201
- California Avenue

Bangerter Highway is a major north-south corridor in the state of Utah, and with continued growth in the area, the amount of traffic on Bangerter Highway is expected to increase. This projected increase in traffic will also increase delays on Bangerter Highway by up to four times longer than the current conditions. UDOT is proposing to replace at-grade, signalized intersections along the corridor with grade-separated interchanges, which will allow one street to pass over the other. This separation will move Bangerter Highway and cross-street traffic more efficiently and will eliminate points of conflict along this busy highway.

Environmental Services • Telephone (801) 965-4129 • Facsimile (801) 965-4551 • www.udot.utah.gov
Calvin Rampton Complex • 4501 South 2700 West • Mailing Address: P.O. Box 148450 • Salt Lake City, Utah 84114-8450

Sample Agency Scoping Letter (continued)

The type of intersection improvements at Bangerter Highway and 9800 South could include (but are not limited to):

- Single-Point Urban Interchange (SPUI)
- Diamond interchange
- Grade-separated crossing

The purpose of this study is to identify the best solution to address the needs along Bangerter Highway, evaluate the impacts of the proposed improvements to the natural and built environments, and provide opportunities for public input.
At this time, we request your assistance in identifying concerns your organization may have related to resources within its jurisdiction. A Public Open House is anticipated summer 2021 to gather input, but the study team is available to meet upon request prior to that time. If you would like to schedule a meeting to discuss the proposed project(s), please contact Katie Kourianos at KatieK@horrocks.com.

We appreciate your participation and interest in this study.

Sincerely,

Tyler Allen
UDOT Environmental Manager

Enclosure: Study area map
CC: Brian Allen, UDOT
Naomi Kisen, UDOT
Ryan Pitts, Horrocks

Environmental Services • Telephone (801) 965-4129 • Facsimile (801) 965-4551 • www.udot.utah.gov
Calvin Rampton Complex • 4501 South 2700 West • Mailing Address: P.O. Box 148450 • Salt Lake City, Utah 84114-8450

Sample Agency Scoping Letter (continued)

Comment from Utah Transit Authority (UTA)

From: Hu, Autumn (NEPA Project Administrator) <AHu@rideuta.com>
Sent: Thursday, June 24, 2021 2:20 PM
To: Katie Kourianos <katiek@horrocks.com>
Cc: 'bangerter@utah.gov' <bangerter@utah.gov>; Brian Allen <brianja@utah.gov>; Brian Atkinson <BrianA@horrocks.com>; Ryan Pitts <RyanP@horrocks.com>
Subject: RE: Bangerter Highway Environmental Studies

Hi Katie,

UTA would like to request a meeting to better understand this project and impacts to our bus service. Below are preliminary comments. Please follow-up with me and I can help coordinate a meeting.

We currently use just a short stretch of Bangerter Highway on route 509, from 1820 S to 2400 S, which includes the S.R. 201 interchange. In the 5-Year Service Plan route 236 is proposed to use Bangerter Highway between 2100 S and the Airport, but there is no set implementation time for this route. It's likely that we would need to do some long-term detours for these routes when construction occurs.

In addition, we do have bus stops near Bangerter Highway on 4700 S, 4100 S, and 3500 S., which might need to be closed or relocated depending on the right-of-way situation. The center lane on 3500 South also ends just east of Bangerter Highway, and would need to be updated if the lane configuration, etc. changes on 3500 South due to the Bangerter construction.

Regards,
Autumn

UTA

Autumn Hu, P.E.
NEPA Project Administrator
Utah Transit Authority
801.741.8858 (Office)
385.419.9189 (Mobile)
ahu@rideuta.com

E. Appendix E: Public Comments

Formal Comments Summary

Method	Date	Comment
Email	7/22/2021	Hi, Thank you for accomplishing all you have with all of the Bangerter interchanges so far ! They are wonderful ! ! ! ! With respect to the 9800 S project . . . . My suggestion is to "yes" do the interchange, but on a smaller scale. #1 Other than the small commercial strip mall corner on the northwest of the intersection, there is no space for further commercial development. With the commercial properties at 10400 S and all of the other interchanges, there is no developer who will attempt to "level to the ground" full neighborhoods, just to put in strip malls. Any neighbors who would not be gone, would be so upset with that action, that none of such strip malls will be supported. The existing interchanges from 13400 S and northward to 10400, is sufficient for commercial expansion. Neighbors north of 9000 S will still travel to 7800 S / 7000 S as they have done for years. #2 9800 south does not have an interchange with the I-15, and unless it suddenly appears, there is no likelihood there ever will be such an interchange. 9800 S is a neighborhood road and will always be. #3 When the 10400 S interchange is completed, the traffic will greatly reduce, back to the normal flow on 9800 S. There is more traffic with the elementary school and junior high school student drop-offs than there has ever been, until 10400 was closed. #4 I was born (1958) and raised near the old Villa Theater on Highland Dr and 3100 S. The east/west road of 3300 S is very narrow, but it works for the area. The problem with the Salt Lake Valley is there are minimal roads to travel East and West. Some of these east/west roads have been widened to three lanes for each direction, but only go to Redwood Road (1700 W), and some not even that far. After a number of years of "cussing the drive" on Redwood Road, with only two lanes, someone in the road department, at some government level, finally woke up and figured out that the road could be "re-stripped" into three lanes. What a relief ! ! ! ! ! ! ! ! Why hasn't 9000 S been stripped similarly ? Why has 10400 S been stripped similarly ?
	7/22/2021	(Cont'd) Both of these roads desperately need to be re-stripped as far westward as physically possible. I realize the "best practices" are to have the lanes standard width, but sometimes, that is just

		stupid. Please take a personal drive at the intersection of 3400 W and 9800 S. We love what was finally done to it ! Just as a sidenote, whoever planned and/or made the initial decisions to install "round-abouts" on 11400 S, just east of Bangerter, made the most STUPID mistake I have lived close to in my 47 years of driving. Please, as the planners for the future, don't allow stupid mistakes to keep happening. As you most probably have heard over the years, government employees are never "fired", but are only transferred to some other department, to continue causing trouble. An old phrase comes to my mind that is referred to as the "Peter Principle", which is . . . , folks are promoted to their level of incompetence! When this becomes apparent, they need to be moved back to their previous assignment(s) and then continue being very successful. Please don't continue to keep under performing folks where they continue to "screw things up" like our streets and highways. I would love to sit down with someone sometime, if you want to hear a few more thoughts of how to improve our road and highway systems here in the Salt Lake area. My suggestion is to move Bangerter Highway down under 9800 S and leave 9800 S level. This would greatly reduce the future probabilities of "winter accidents and slippage trying to drive over Bangerter. With respect to the on-off ramps, there is no need to do more than a single lane for each on and off ramp. These are exiting directly into neighborhood streets. There just won't be the huge amount of traffic as 10400 S, etc. where all of the commercial development is located. I would also propose that stop signs be placed on the two off ramps, and also on 9800 S going both directions. There is just not that much traffic which will be utilizing this downsized interchange. The only drivers who will use these on/off ramps, will only be those folks who pertain to these neighborhoods. Thank you for your time spent in reading the above and considering my thoughts ! Gary Wall CPA [redacted]
Email	7/22/2021	To Whom It May Concern, I wanted to share some thoughts about the Bangerter highway at 9800 S. interchange. The simplest and most cost effective solution is to close 9800 S to East/West traffic. Allowing a right turn onto Bangerter and right sided off ramps could help with some traffic getting on and off which wouldn't require expensive intersection renovations. The 9000 S and 10400 S interchanges are close enough and large enough to handle the extra East/West traffic that would result from the 9800 closure.

		The issue of access to the middle school can be solved by creating a drop off area on the West side of Bangerter at 9800 S and children can cross to the school using the existing pedestrian crossing. Thanks for your time. Gregory Wallin [redacted]
Email	7/16/2021	I would like to provide my feedback regarding 9800 S and Bangerter. I think it would serve the community best if there is simply an overpass installed here instead of an on and off ramp. 9800 S is a residential street with a speed limit of 30 MPH, which was not designed for the amount of traffic this will bring. Also, there are two elementary schools and one junior high within a mile of this intersection. For the safety of our children, having less traffic on this street is best. This will also save UDOT money by not needing to purchase property to level several homes and possibly a strip mall. Thank you for considering my concerns. Douglas Moore [redacted]
Email	7/27/2021	Is it possible to not have an exit or entrance on 9800 South, similar to 118th South? With it being a residential street with 2 schools in very close proximity, I think a great solution is to just make Bangerter Highway at that particular intersection a bypass. Please consider this option in your decision making! Thank you Laura Hodges
Email	7/28/2021	Hi UDOT- I am a south jordan home owner who would appreciate the interchange to be updated to include the no access option. This is because: At least 2 schools are nearby and need to accommodate walkers safely. The neighborhoods here are largely residential. There are two intersections within relative proximity to exit bangerter. As a citizen that crosses bangerter often, I would like an alternative route to cross, that is easy and doesn't involve signals and exits to cross bangerter. Please consider this my formal input during the period of time open to the public. Thank you,

		Ann ingleby
Email	7/28/2021	Thank you for everyone's time tonight. I prefer the no access option, over or under. I rarely access Bangerter from 9800 South. Currenly with the construction on South Jordan Parkway, if we need to go East, we go down 9800 to 32nd West or farther East. If you did not have any access I would think you would not have to move the aqueduct and save a lot of money. I know if you have the money you need to spend it because of the allocation, but that is no excuse to do something that is not necessary. Thank you, Bruce
Email	7/28/2021	Hey guys Thanks for the presentation tonight, it was very helpful. I do think you should make sure to consider the right-on, right-off option (like 10600 S is currently) I live off 9800 S so this would definitely affect me, but I see it as a very viable solution. Getting to Costco currently for me is a little more of a hassle to go to 11400 and do a U-turn or go through 9800 and turn right on 3200 W, but we're talking just a couple of minutes here and to have 9800 not be a traffic light would be worth it. I would just need to plan early if I'm traveling South to get off at 10400 S I'm not saying to do it, but you neglected to include it in your slide options and I do think it is a valid option and would be in agreement with it. (I even go East to Copperview Medical across Bangerter and recognize I'd need to go to 9000 S or 10400 S.) Cheers, Rich Agren
Email	7/28/2021	Thank you for the work you are doing to improve our roads, plan for the future, and keep the community informed. I would prefer the option of no access to Bangerter at 9800 South. I don't mind going to 10400 to get on and off Bangerter and it would make taking my kids to school safer and faster. If taking that exchange away reduces the traffic on 9800 too that would be an added bonus. I love the residential feel of this area and doing away with that exchange would make it that much more residential. Best, Julia Jones
Email	7/29/2021	My concerns for this area is pedestrian safety, especially school children walking to the middle and elementary schools nearby. While 10400 South has been closed, there is a large volume of traffic from Bangerter on 9800 South. This street is a residential area not designed for the higher speed commuter traffic. Vehicles drive very fast and aggressive and I am concerned that kids crossing 9800 South will be endangered. Most of the traffic on 9800 South is over the posted 30 mph speed limit, unless they are behind someone going 30 mph. A speed study on the street would not be accurate as it would show most

		vehicles going 30, but only those stuck behind a lawful driver. I hope this becomes a no access interchange. There is not much commercial business counting on Bangerter traffic that would be impacted. The no access would likely reduce traffic and be safer for kids crossing 9800 as well as crossing Bangerter. It would also appear to be the lowest cost to build. A "NO LEFT TURN OPTION" creates issues in the neighborhoods adjacent to the area. I live on the first street east of Bangerter, and since 10400 has been closed, we continually have cars turning around in our streets and driveways. It creates a lot of congestion and there are a lot of kids always playing in the area. Thank you, Jon Fassett
Email	7/29/2021	As a resident living at 9800 South and Bangerter, I am sending my opinion about the upcoming Bangerter project. If you look at my address on maps, you will see that this project will potentially have a great impact on my home life and the home lives of my dear neighbors. My opinion is that NO INTERCHANGE is created at 9800 South and Bangerter. I would like to see just an overpass going over 9800 South. Here are my points: 1. I am not an engineer by any means but I think that just building an overpass may avoid the expense of moving the aqueduct and other infrastructure, as well not moving businesses or homes. 2. I believe that it would increase the safety of the students who have to travel from one side of Bangerter to another. A walkway underneath the overpass, on either or both sides of the overpass can allow the students to walk safely on 9800, under Bangerter. Since there is no interchange or intersection, the children will not have to avoid traffic. They can safely just walk back and forth to school under Bangerter. 3. As far as public safety goes, there is a pretty direct route from Elk Meadows M.S. to Jordan Valley Hospital using 9800 S. to 3200 W. 4. 9800 South is only a 2 lane, basically residential street. Other areas with interchanges have multiple lanes to handle the traffic flow. 9800 South is not wide enough to handle that kind of traffic. 5. Other area with interchanges have reasons to have interchanges. They have multiple businesses that heavy traffic is flowing on multiple lanes to get to. 9800 S. has very few business in the area. It is mainly residential. There is no need for most motorists to get off on 9800 S. to conduct any business. As a resident, I know that it will be an inconvenience for us not to be able to just jump on Bangerter, but we can access it from 9000 S. or 10400 S. and that is fine with us. I would rather have school children be safe than have the convenience of an interchange on Bangerter. 5. There is an example of an overpass at Meyer's lane (11800 South and Bangerter.) It works just fine as an overpass only. Drivers can access Bangerter from another interchange either north or south. Why spend so much money on moving an aqueduct, other infrastructure, moving a pedestrian

		bridge, potentially moving businesses and/or homes, increasing the traffic on 9800 S. and decreasing the safety of children walking to school - WHEN - You could simply build an overpass and save money, time and lives. Thank you for considering my ideas. Sincerely, Kimberly Burgon
Email	7/29/2021	I attended the open house at elk ridge. I am also a former elk ridge student and even back in the 90s when traffic was lower than now we could hear it on the rooms on the left side of the building during test even with the sound walls you could hear it outside during soccer forget yelling out plays we could not hear it over the road in art class we had to leave the windows closed to hear the teacher even in summer.. you move the road closer to the school building it will get louder you will take the school grounds land that kids need we used to run around the building for the mile run and cause more safety issue you do it on the other side you take houses there is 2 schools at this intersection the only one i see that will be of any safety and noise issues will be what you call the "no access plan". over pass bangerter and cut off access to bangater from skye dr road or do nothing and leave it as is. oh and the buildings of stores now across the street kids sluffing class or during lunch would run across that road to go into the then empty grass field and hide (we did it a few times.) now there is building and a pizza place over there for kids to play at there going to be running across i know it happens we did it if you go on the crossing bridge you can be seen by the teachers so kids are just going to sneak across the road.. middle school teens like to do stupid things around these roads i was there. half way unrelated old my elk ridge gym teacher mr.treglown was hit and killed at the skye 4000w intersection in 2012 (on the way to school to work no less) i can only imagine what this is going to do i saw tons of traffic on both roads now it was not like that when i was in the school in the 90s there is tons of cars there now going to the buinses on that street and crossing into bangater., stupid idea to build a shoping center in there. there is more traffic on sky drive 4000w because of bangerter and the new shopping center it used to just be house traffic for the residents every minute or so you saw a car pass on that road now there is tons of them not good ideas by a school and what was once a quiet part of the neighborhood. people in my family also live near the jordan valley/holy cross hospital intersection you just converted and their friend neighbors had to move because you took their houses with these new intersections so i am glad you are not taking elk ridge down i want more people in my family to go there when they are old enough. I am against it if people don't like traffic then they have the option not to move here or they can put up with the traffic or and city leaders can slow down the growth they are chasing it way to fast.

Email	7/30/2021	I attended the in-person meeting last night at Elk Ridge Middle school with the Environmental Study Group and was astonished that the only option being presented was a "freeway style interchange" at 9800 South and Bangerter. As the number of attendees showed I wasn't the only one concerned. In fact, when I asked some of the Engineers there that were involved in the project they were astonished by how many people were there. They mentioned that they haven't seen that many people at a meeting like this in a long time. As a resident of the area I feel that the reason that there was such a large turnout was because most, if not all of us, have been under the understanding that the intersection was going to be designed like that at 11800 South and Bangerter - rather than a full-on intersection. As with all of the individuals that I interacted with last night we all prefer a "no access" over/under bridge style access point. It makes no sense to have a freeway-style interchange there for multiple reasons - - There are schools (Elk Meadows Elementary and Elk Ridge Middle) on both sides of Bangerter. - You have traffic at freeway speeds exiting on to a 30-35 mph street. A street that is primarily residential. - Other than a handful of businesses this is a residential area. This is not an area that draws enough traffic to justify an intersection. The traffic projections even show that the current East-West traffic on 9800 South doesn't even justify widening 9800 South. For the handful of businesses that complain that they will lose business if there isn't an intersection I disagree. If they provide an exceptional product a little inconvenience (2 extra minutes) to get there from 10400 South or 9000 South will not cause someone to go elsewhere. The access to their businesses (East side businesses especially) will actually be safer with no access to/from Bangerter. - Another pedestrian bridge will need to be built for safe crossing. With a no-access over/under style thoroughfare the pedestrian bridge could be integrated into both sides of the design. - The area that primarily uses this road is mostly developed. There is very little land this side of Mountain View Corridor, of which is not accessible directly from 9800 South left for development. As the traffic projections also showed the traffic not increasing much on 9800 South in the future. - Just from an aspect of safety and for getting on/off between 10400 South and 9000 South. This places intersections closer together than any other intersections on any of our freeways. In addition to people trying to get on/off safely it will also cause traffic to slow down in this area. Seems that the point of all of the changes to Bangerter are to reduce congestion. - This will most likely promote more traffic to the area. Something not wanted with schools on both sides. - A freeway style interchange is the least cost effective option. With real estate prices where they are at the cost to buy the additional property as well as move the culvert doesn't make financial sense. It will also require another pedestrian bridge be built. I hope that these concerns will help you to understand that a freeway style interchange is not what is in the best interest of all involved. Thank you for your time, Shay Frank

Email	7/30/2021	Hello Udot Team, Thank you for hosting an informative, successful event last night at Elk Ridge Middle School. It was a pleasure to speak with many of your staff. I was asked to put my concerns in writing so the team has a written copy of the issues we face as the project takes shape. We own the Pharmacy (Sojo Family Pharmacy) in suite 101 in the building directly east of Elk Ridge Middle School on the North West corner of Bangerter Highway. The proposals, as you can imagine, create a great deal of angst for us and the future of our business that we have dedicated nearly 3 years to get to the point where we are at. In order for us to make it as a business, if action is taken, we need access to our business. Creating and over/under and removing access will basically end our viability as a business. It is difficult enough to get people to us now, imagine if they had to "go out of their way" to get here? Tragic. Also , we are requesting a West shift unless an East shift takes down our building and we are compensated to relocate. We simply cannot be left standing without access East West up and down 9800 South. Thank you, Spencer Snyder Pharmacist
Email	7/30/2021	My understanding is that my second lot along Bangerter, parcel 27-08-251-040-0000 https://slco.org/assessor/new/valuationInfoExpanded.cfm?parcel_id=27082510400000&link_id=0 Has an irrigation right of way easement. I have not heard this discussed in the online or in-person meetings. This irrigation ditch runs along the east side of Bangerter, right along the acoustic retaining wall. On some properties it has been buried, and on some it is on the surface. The retirement community has recently buried a new pipe to handle this irrigation supply, so I assume the easement is still there. This is in addition to the aqueduct easement which is already on the map.
Email	7/30/2021	Hi, I understand you intend to put a freeway-style ramp on Bangerter/9800. I think this would be detrimental to the safety of the area and would not be cost-effective. An overpass/underpass like on 11800 south makes more sense for this intersection. Sincerely, Kelli Frank
Email	7/30/2021	Hello UDOT,

		First, thank you for meeting with the public to discuss potential plans for the 9800 S and Bangerter intersection. Since you are soliciting feedback, I figured I'd chime in with my three requests once the roadwork is completed: 1. I'd like to hear Bangerter as little as possible. 2. I'd like to see Bangerter as little as possible. 3. I'd like my kids to have a safe way to go to middle school. If that means they have to go to one east of Bangerter, so be it. But if they are required to go to Elk Ridge, then I would kindly request a pedestrian path over or under Bangerter. I trust you to make the best decision based on your analysis; my hunch is that one of the three options is best: 1. No access 2. Right in, right out 3. Dead end 9800 S, like 10200 S
Email	8/2/2021	I attended the open house discussing this project and of the various options offered for the intersection on 9800 south, I think the one that does NOT allow any access to Bangerter on 9800 S, is the best one. It will offer less cost and time for construction, less interference to the properties surrounding the area and with access to Bangerter provided on 90th south and 104th south, access on 9800 south is not needed. It is only 1 mile each way for already provided access and to allow it would make this intersection the shortest off ramp on Bangerter. Too expensive and not necessary. Thanks for your open house and offering this opportunity for idea and comment presentation. Robert Sall
Email	8/3/2021	I have concerns about the safety of a freeway style interchange at this intersection. This neighborhood was not designed to handle heavy traffic. There are two schools in the area as well. The fact is that Bangerter was originally pushed into completion without proper funding and designed interchanges were eliminated because of lack of funding. This was done just to get it open and put the Governor's name on it. Now we as citizens are paying the price for a poorly mismanaged project by UDOT. Why not just put a bridge over 9800 and put the road underneath like 11800 South and the "No Access" concept? An interchange there will make it virtually impossible to get out of a number of subdivisions. There is plenty of access to Bangerter with 10400 South and 9000 South. Bob Stilson
Comment Form	7/29/2021	Thanks for considering a no access option at 9800 South. I have heard SoJo City's option is to have an interchange to minimize traffic on their streets (3200 West and 4000 West). Please make sure to not let the city's opinion sway the final alternative. I am concerned about the close proximity between 10400 South and 98th such that if an interchange is considered as a final alternative the weaving distance will be too short. The businesses at this intersection are mostly small local business., Keep in mind the impact in relocating a small business may be greater than larger national chains. Overall I would prefer to see a no access option similar to 11800 South as it has been said there would be minimal growth of traffic on 9800 South in 2050 and it is not arterial.

Comment Form	7/29/2021	Recommend the no access with 9800 South going over Bangerter. Lowest cost and least impact option.
Comment Form	7/29/2021	I propose an non-access overpass at 9800 South for the following reasons: -Already have interchange at 9000 South and 10400 South -An interchange (freeway) into a 25 mph single lane neighborhood makes no sense -With Real Estate costs soaring, the cost would be double to remove homes, businesses, etc. The non-access overpass could be built in two parts. Move two lanes each way to northbound while you build half. This is what has been done at 10400 South and traffic flows fine. Then swap to southbound and finish. This is the safest, most economical option for the neighborhoods, schools, and businesses.
Comment Form	8/10/2021	I think there would be a less environmental impact to have 9800 South go over and Bangerter Highway stay street level. There would be less homes and businesses impacted. We must have access to Bangerter from 9800 South. Housing costs are too high to tear down a lot of homes by making 9800 South go over there will be less of an impact.
Comment Form	7/29/2021	Because 9800 South is only a two lane road and we have big new intersections at 9000 South and 10400 South. I would opt for no access - keep Bangerter at it's present level and put 9800 South over Bangerter with no access to Bangerter. Least expensive option. Keeps east/west traffic flowing.
Comment Form	7/29/2021	Impact on 40W & 90th South. Traffic increase due to 98 no access. Impact on 40W & 9800 South. Impact on 32W and 9800 South. Impact on 40W & 10400 South. Impact on 40W and 102 South. Impact on 32W & 9800 South. Impact on Traffic Increase due to new regional park routing and access. Why are buildings allowed to be built in known impact areas? Why not state obvious in proposed plans - - It makes for misunderstandings -water duct, schools,, houses
Comment Form	8/10/2021	I live around 11400 South. I use 9800 South as an east west bike route to my office near the Jordan River. My preference is to try and preserve this east west corridor for bicycling traffic. You can use it to connect Jordan River trail to the new Regional Park on 10200 South Daybreak and fairly close to the Mountain View Corridor Trail. Of the common options I would prefer no interchange.
Comment Form	7/29/2021	I would love the No Access option as it will not impact the surrounding businesses/homes in the area. There is plenty of access at 10400 South and 9000 South streets to Bangerter.
Comment Form	7/29/2021	I think that a interchange with no access like the one at 118th would be best because it would make it easier for school kids to get to school. It would also minimize the impact on schools and businesses. I would also recommend expanding west, because it would buy out less homes.
Comment Form	7/29/2021	I vote for no access (either one) because, I feel that this design will offer the most safety to our children and the lowest impact on homeowners and businesses. The Bangerter over 9800 will serve the best in my opinion. Thank you for confirming this.
Comment Form	7/29/2021	I have looked over the options. I prefer the no access option. It is the option that does not involve destroying or taking over residential property. Don't use imminent domain.
Comment Form	7/29/2021	I am a business owner at this intersection. I need on and off ramps off Bangerter in order for my business to survive. Please keep it simple! These on and off ramps don't need to be big. Also, I hope local businesses will take precedence over a cell tower. Please do a west shift and be considerate of homes to the south of Elk Ridge Middle School. Thanks.
Comment Form	7/29/2021	My number one concern is the sky walk. We use it quite often to get to and from school. The tight diamond exchange looks the most beneficial. It still gives us access to Bangerter, allows business access and the least change to neighborhoods. KEEP THE SKY WALK!
Comment Form	7/29/2021	The "no access" proposal would be a disaster for the residential areas surrounding Elk Ridge Middle School. Instead of having access to the school to drop off and pick up children, all the buses and cars would have to go through the neighborhoods twice a day, everyday. The increase

		in traffic would be terrible. Those side streets could not handle it, Many families with small children live in those neighborhoods. You have to have access to the school.
Comment Form	7/29/2021	Out preference is not to change the intersection at 9800 South and Bangerter Highway. Our second preference is a no-access plan with Bangerter Highway under 9800 South for less noise in our neighborhood. Our biggest concern is losing Elk Ridge Middle School - This would be a terrible effect on the community.
Comment Form	7/29/2021	I would like to see the light removed at 9800 South and converted to a no-access intersection. I believe access at 9000 South and 10400 South is sufficient
Comment Form	7/29/2021	How far from Bangerter will 98th get widened? Both Ways? Access for pedestrians to get across highway Pushing West seems to be best solution, SPUI or Tight Diamond School and Commercial Property
Comment Form	7/30/2021	My understanding is that my second lot along Bangerter, parcel 27-08-251-040-0000 https://slco.org/assessor/new/valuationInfoExpanded.cfm?parcel_id=27082510400000&link_id=0 Has an irrigation right of way easement. I have not heard this discussed in the online or in-person meetings. This irrigation ditch runs along the east side of Bangerter, right along the acoustic retaining wall. On some properties it has been buried, and on some it is on the surface. The retirement community has recently buried a new pipe to handle this irrigation supply, so I assume the easement is still there. This is in addition to the aqueduct easement which is already on the map.
Comment Form	7/29/2021	Preferences in order: 1-No Access 2-9800 crosses over the Bangerter 3-tight diamond or over under Pedestrian traffic safety matters Please don't do no action. The traffic at this intersection is a pain.
Comment Form	7/29/2021	My number one concern is safety! The middle school and the elementary! I do not think on and off ramps need to be humongous! Consider the traffic flow on 9800 South! School drop off and pick ups! Wait until school starts and check out 9800 South in the morning and afternoon! Go over Bangerter!
Comment Form	7/29/2021	Please consider the no access to Bangerter Plan. 9800 South is a small residential road. 90th and 104th can handle the extra traffic. 9800 South is so busy as it is. Limiting access to east-west only would certainly help with traffic on 9800 South. 3200 West might have to be widened, but that might be less of an impact than an interchange. Moving the aqueduct also seems to be an unnecessary expense you already took a bunch of houses on the west side. Why not just take all of them on that side to the north and the businesses can move into the Walmart building or something. Do the south side up next to the school. The school has plenty of field to the back.
Comment Form	7/29/2021	I would like to see no access to the Bangerter have 98th either go under or over Bangerter. As the Bangerter intersections are completed at 104th speeds are increasing - the light at 98th is a hazard - more warning lights are needed.
Comment Form	7/29/2021	Putting big flasher lights on Bangerter at 98th before the other three intersections open up in a few months. -I prefer no access with Bangerter going over 98th. I am concerned with the safety of the school children and the impact of homes and businesses. being effected with other designs.
Comment Form	7/29/2021	Do a no-access on 9800 South. Take from the West Side. (less houses and impact) Safer for kids at both schools. 10400 South and 90th are perfect for on/off ramps. 9800 South cannot become an on/off - it's way too dangerous for kids at both schools. Aquaduct is too expensive to move.
Comment Form	7/29/2021	Please make 9800 South no access! We need less traffic in front of the schools. The road is only two lanes, smaller than any other standard Bangerter Interchange. We are losing and spending extra time waiting to cross at Bangerter than if we had a smooth flow over/under. Considering the planned expansion at 90th and 10400 South to 7 lanes. There is no sense to increase traffic by adding an interchange.

Comment Form	7/29/2021	Please make 9800 South a no access intersection. Safer for kids walking to school. my yard backs Bangerter and I would hate for my yard or house to be effected only being two years old. 9800 South east and west only. Bangerter up and over. Leave 9800 South residential. No Access!
Comment Form	7/29/2021	Consider minimizing traffic and or eliminating traffic detours down 3200 West. Thanks for removing the UDOT detour down 3200 West related to the 10400 South closing. The detour traffic down our residential street was dangerous, speeding, and incompatible with the residential nature - 32+ driveways entering on 3200 West.
Comment Form	7/29/2021	Suggest tight diamond intersection. Also what is the proposed solution for the sky bridge. I have two elementary students attending elk meadows. Possibility of batch plant relocation. The vibrations and shakes when it is operating at night resonate at my home causing many restless nights. Already have cracking brick on my exterior and nails popping through sheet rock. Also I have had hard enough shocks items get knocked over on shelves.
Comment Form	7/29/2021	Based on the information presented, we feel that the best option is to do the overpass. It is more economical to do this (100m vs 150 m) We are concerned about the noise that will be present when this construction is done. It would be nice to have a greenspace where the houses are now located and then removed. As soon as you decide which option is selected, it would be best to notify the residents and schools/businesses as soon as possible. This will enable them to make decisions regarding their property. Thank you for providing this information.
Comment Form	7/29/2021	Why is there a need for on/off ramps at 9800 South? East and West is not a big destination as you find on 90th/106th/114th. Could close road or install overpass over Bangerter. Road was closed at 102 (by water tank) when Bangerter was built originally.
Comment Form	7/29/2021	My home and the homes proposed to "take out" are worth anywhere from 750,000 to 1,000,000. I am a realtor. I cannot replace my home. This is very concerning. Why not leave 9800 South as a 2 lane street. 10200 South make the on/off ramp going West. This makes sense due to 10200 South going west all the way to Daybreak the large South Jordan Park.
Comment Form – Mailed In	8/4/2021	To begin, I would like to add two more options for consideration. I don't know why you have included a "NO Action" as a solution since we know that will never happen based on stated goals of the project. 1. DEAD END or BLOCK 9800 South from Bangerter 2. Provide a limited access interchange with right hand turns only for on/off Bangerter Comment Concerning Traffic on 9800 S and South Jordan Police Department: If SAFETY is a goal and concern for this project then the current (even before the 104th detour) traffic situation should be addressed. South Jordan and the Police department have shown no (or very little) effort to limit the speeding vehicles on 9800 S between 40th west and Bangerter. Even before the detour was in place in April I called the police department about the speeding issue. About two weeks later a flashing speed indicator trailer was located at 2200 west on 9800 south (why there??). It was there about two weeks. Later it was moved to a location on Dunsinane street (why there??). It was there for a while. Finally I called South Jordan Police again about the speed issue and the trailer was relocated to 9800 S just east of Dunsinane (finally the right spot). It was there only about a week. You see them all over on 40th west or elsewhere. I have only seen a patrol car stopped to monitor the traffic two times since the call in April and never during the time since the detour. Oh, by the way, just today (August 2nd) I saw a South Jordan Police car drive past my house between 40th and Dunsinsane going 40mph with the rest of the traffic flow. What's up South Jordan Police?? This is serious due to the 25 mph limit posted because of frontward facing residential homes and middle school located in this area. There are bike lanes on both sides of the road also that add the need for additional caution for drivers. Nevertheless, speed is excessive on this stretch being in range of 35 mph to 45 mph if not more. In the 28 years I have lived on this street, I have had a curbside tree taken out by a vehicle, two neighbors have had a mailbox demolished (twice for one of them) and

		Century Link has a demolished telephone line communication box that is yet to be repaired. School kids ride their bikes on the sidewalks and in the bike lane, they walk on the sidewalk and at times in the road. They also ride their skate boards on the sidewalk, in the bike lane, and even in the middle of the road. Residents can't get out of the driveway unless someone nice lets them in during the school start hour.
Comment Form – Mailed In	8/13/2021	As a citizen in this community I am acutely aware of the needs and cost concerns of my neighbors. I have lived at my current address for 13 years. I travel this road multiple times a day. I see the morning, afternoon, and evening traffic flow and would like to comment on the proposed intersection changes., Cost and construction delay incurred with moving the aqueduct and the pedestrian overpass are unnecessary. Any option considered should leave both of these intact. No access is a no option with two schools so close to the intersection, parents drop kids off then parents go to work. Being able to get on bangerter is critical for the traffic flow. Trying to reroute all those vehicles thru neighborhoods 3200 WT or 4000 W which are both single lane roads is absurd. No action would have the benefit of controlling speed and providing flow breaks. If the notion of "no traffic lights - the decrease congestion etc" really worked there would be no delays daily on I-15, it has no lights. Bangerter is going thru neighborhoods/communities so it doesn't need to be open road 80 mph. Tight diamond, single pointe, or over /under seem reasonable if they aqueduct and overpass can remain
Comment Form – Mailed In	8/13/2021	My biggest concern centers around an overpass on Bangerter Highway at 9800 South. I built my house just west of Bangerter is 1996. At that time I paid a $5000 lot premium for a vista view of the Wasatch Mountain Range. An overpass at 9800 South would destroy the view I paid extra for. Concerns regarding increased highway noise is also a concern with the higher elevation of passing traffic. Create an underpass on 9800 South (9800 South passing under Bangerter Highway). That will keep everything below grade and minimize construction costs for just a two lane road. An overpass on 9800 South would be preferred to the overpass being over it (an overpass going east and west would have less traffic on it and would not interfere with the view/landscape.
Comment Form	7/29/2021	My evaluation with limited cost info would be the least expensive and least impact on surrounding area would be the overpass with no access. The cost for a small two lane road would be extremely above the cost benefit other roads have experienced. Eight blocks to 90th and six blocks to 10400 South do not merit another full interchange.
Comment Form	7/29/2021	I would like to see the pedestrian overpass either stay in place or move it/construct another at 10200 South. Do not have any input on the interchanges. I think an improvement is needed on Bangerter, so I would think that doing nothing should not be on the table.
Comment Form - Mailed In	8/13/2021	I think Bangerter should fly over 9800. The intersection is small and little used. It provides a hazard as well; the short distance between the 1045th and 98th intersections clearly does not provide sufficient length for users on the new system to merge in and out of traffic safely should they both have on/off ramps.
Comment Form - Mailed In	8/13/2021	I think Bangerter should fly over 9800. There are major interchanges already at 9000 S. and 10400 S., and 9800 is mostly residential. Also, with the two schools on either side of Bangerter, int would be the height of irresponsibility to put in an interchange of entrances and exits that school children of all ages would have to cross. I am very against an interchange at 9800 South.
Comment Form - Mailed In	8/13/2021	Bangerter should fly over 9800 S. We have major interchanges, and do not need the added taxpayer burden of an additional interchange. Unlike other interchanges 9800 S. is mostly residential with single lane traffic in both directions. This seems to be the best option for residents, users, and taxpayers.
Comment Form - Mailed In	8/13/2021	I don't feel that it is appropriate to put an interchange on 9800 S. 9800 S. is a neighborhood and not a busy business area. There is an elementary and middle school on 9800 S. and this just seems unsafe for children to have an interchange at this location.

Scanned Public Comment Forms

COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Ryan Catmull Organization: None

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I think that a interchange with no access like the one at ~~[illegible]~~ 118th would be best because it would make ~~it~~ it easier for schoolkids to get to school. It would also minimize the impact on schools and businesses. I would also recommend ~~[illegible]~~ expanding west, because it would buy out less houses. :)

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: John Collins Organization: Home Owner

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I vote for no access (either me) because, I feel that this design will offer the most safety to our children and the lowest impact on home owners and business, the Bangerter over 9800 will serve the best in my opinion. Thank you for considering this.

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Kristin Jack Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I have looked over the options. I prefer the no access option. Keka not. It is the option that does not involve destroying or taking over residential property. Don't use imminent domain.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Rachel [redacted] Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Please do not allow the batch processing plant to Remain where it is. the disturbance and vibrations are unbareable!

Please provide any other information or comments you feel would be helpful to the study team.

move the batch processing plant away from 90th south!

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Linda Pratt Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

The "no access" proposal ~~is~~ would be a disaster for the residential areas surrounding Elk Ridge Middle School. Instead of having access to the school to drop off and pick up children, all the buses and cars would have to go through the neighborhoods twice a day, everyday. The increase in traffic would be terrible. Those side streets could not handle it. Many families with small children live in those neighborhoods. You have to have access to the school!

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Todd & Angela Anderson Organization: Homeowners

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Our preference is not to change the intersection at 9800 S. & Bangerter Hwy.

Our second preference is a no-access plan with Bangerter Hwy under 9800 S. for less noise in our neighborhood.

Our biggest concern is losing Elk Ridge Middle School – this would be a terrible effect on the community.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Dean Pettit Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I would like to see no access to the Bangerter have 98th either go under or over Bangerter -

As the Bangerter intersections are completed at 104th speeds are increasing - the light at 98th is a hazard - More warning lights are need - -

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Teagan Pettit Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

☐ Putting big flasher lights on Bangerter at 98th. Before the other 3 intersecton open up in a few months

☐ I prefer No Acess with Bangerter going over 98th I am concerned with the safety of the school children!
☐ And the inpact of homes and bussiness

Please provide any other information or comments you feel would be helpful to the study team.

being effected with other designs.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Carl Latimer Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Suggest tight diamond intersection. Also what is the proposed solution for the sky Bridge? I have 2 elementary students Attending e/m meadows.

Please provide any other information or comments you feel would be helpful to the study team.

possibility of Batch plant Relocation. The vibrations and shakes when it's operating at night Resonate at my home causing many restless nights. Already have cracking Brick on my exterior and nails popping then sheet rock. Also have had hard enough shocks items get knocked over on shelves

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Lacey Holley Organization: Realtor

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

my home & the homes proposed to "take out" are Worth any where from $750,000 to $1,000,000. I am a realtor. I Cannot replace my home. This is very Concerning.

Please provide any other information or comments you feel would be helpful to the study team.

Why not leave 9800 South as a 2 lane Street.
102 South make the on/off ramp going west. this makes Sense due to ~~the~~ 102 South going west — all the way to Day Break & the large South Jordan Park.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021.**

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Brandee Johnsen Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I think there would be a less environmental impact to have 9800 So go over ~~of~~ Bangerter Hwy Stay Street West there would be less homes & businesses Impacted.

Please provide any other information or comments you feel would be helpful to the study team.

We must have access to bangerter from 9800 So. Housing cost are too high to tear down a lot of homes by making 9800 So. go over there will be less of an Impact.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Shane Carlson Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

My solution with limited Cost w/o would be the least expensive and least impact on surrounding area would be to overpass with no access. The Cost for a small 2 lane Road would be extremely above the Cost benefit of the other roads how expressed. 8 blocks to 90th and 6 blocks to 104 do not merit another full interchange

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Liz Taylor Organization: homeowner

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Because 9800 S. is only a two lane road and we have Big new intersections at 9000 S. and 10400 S I would opt for no access - keep Bangerter at it's present level and put 9800 S. over Bangerter with no access to Bangerter.
least expensive option
Keeps east/west traffic flowing

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Tim Riker Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

There is an irrigation easment on the east side of Bangerter. Is that being addressed?

This is in addition to the aqueduct.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Cliff Strachan Organization: resident

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

preferences = ① no access - school traffic impeded by commuters.
order ② 9500 crosses over the Bangerter → no walking past vagrants panhandling.
③ tight diamond or over under.

- pedestrian traffic safety matters -
- please ~~yes~~ dont do no action. The traffic at this intersection is a pain.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Kay Addison Organization: [redacted]

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

MY NUMBER 1 CONCERN IS SAFETY!
THE MIDDLE SCHOOL + THE ELEMENTARY!
I DONT THINK THE ON + OFF RAMPS
NEED TO BE HUMONGOUS! CONSIDER
THE TRAFFIC FLOW ON 9800 So.
SCHOOL DROP OFFS + PICKUPS!
WAIT UNTIL SCHOOL STARTS
+ CHECK OUT 9800So. MORNING + AFTERNOON
(GO OVER BANGERTER)

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: David Baker Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange

I would Like to See the Pedestrian over pass either Stay in place or move it/construct another @ 10200s

Dont have any input on the interchanges I think an improvent is needed on Bangerter, so I would think that Doing Nothing Should Not be on the table

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Corey Collins Organization: Home owner

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange:

I propose an non-access overpass at 9800 South for the following reasons:

* Already have interchange at 9000 South and 10400 South
* An interchange (Freeway) into a 25 mph single lane neighborhood makes no sense
* With Real Estate costs soaring, the cost would be double to remove homes, businesses, etc

Please provide any other information or comments you feel would be helpful to the study team.

The non-access overpass could be built in 2 parts. Move 2 lanes each way to Northbound while you build half. This is what has been done at 10400 and traffic flows fine. Then swap to Southbound and finish.

This is the safest, most economical option for the neighborhoods, schools + businesses.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: D C TAYLOR Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

IMPACT ON 40W & 90 S. TRAFFIC INCREASE DUE TO 98 NO ACCESS.

IMPACT ON 40W & 98 S IMPACT ON 32W & 98 S

IMPACT ON 40W & 104 S IMPACT ON 40W & 102 S

IMPACT ON 32W & 98 S IMPACT ON

Please provide any other information or comments you feel would be helpful to the study team.

TRAFFIC INCREASE DUE TO NEW REGIONAL PARK ROUTING & ACCESS.

WHY ARE BUILDINGS ALLOWED TO BE BUILT IN KNOWN IMPACT AREAS?

⇒ WHY NOT STATE OBVIOUS IN PROPOSED PLANS — IT MAKES FOR MISUNDERSTANDINGS.

— WATER DUCT, SCHOOLS, #HOUSES,

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Steve Catmull Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I live around 1400 S. I use 9800 S as an east-west bike route to my office near The Jordan River & My preference is to try and preserve this east west corridor ~~as~~ for bicycling traffic. You can use it to connect Jordan River trail to the ~~Regional~~ new Regional Park on 10200 S Daybreak and fairly close to the Mountain View corridor trail.

Please provide any other information or comments you feel would be helpful to the study team.

Of the ~~MAIN~~ common options I would prefer NO interchange.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Tim Elgon Organization: Elgon [illegible]

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I am a business owner at this intersection. I need an and off ramps off Bangerter in order for my business to survive. Please keep it simple! These on and off ramps don't need to be big. Also, I hope local businesses will take precedence over a case tower. Please do a west shift and be considerate of homes to the south of Elk Ridge middle school. Thanks.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Rachel Latimer Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

My number one concern is the Sky Walk. We use it quite often to get to and from school.

The tight diamond exchange locks the most benficiah. It still gives us access to bangater. allows business access and the least change to neighborhoods.

Please provide any other information or comments you feel would be helpful to the study team.

Keep the Sky Walk!!

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: RICHARD JOOS Organization: RESIDENT

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I WOULD LIKE TO SEE THE LIGHT REMOVED AT 9600 SOUTH AND CONVERTED TO A NO-ACCESS INTERSECTION. I BELIEVE ACCESS AT 9000 SO AND 10400 SO IS SUFFICIENT.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: BRANDON PHELPS Organization: HOMEOWNER

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

- How far ~~ooo~~ from Bangeter will 98th get widened? Both ways?
- Access for pedestrians across ~~from~~ highway
-

Please provide any other information or comments you feel would be helpful to the study team.

Pushing West seems Best Solution. SPUI or Tight Diamond

School and commercial property

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Wendy Parikh Organization: Resident

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Please consider the no access to Bangerter/ Plan. 9800 S. is a small, residential road. 90th + 104 can handle the extra traffic 9800 is so busy as it is. ~~Blocking~~ Limiting access to east-west only would certainly help with traffic on 9800. 3200 West might have to be widened but that might be less of an impact than an interchange

Please provide any other information or comments you feel would be helpful to the study team.

~~Concerns~~ Moving the aqueduct also seems to be an unnecessary expense You already took a bunch of houses on the west side. Why not just take all of them on that side to the north and the businesses can move into the Walmart building or something. Do the South side up next to the school. The school has plenty of field to the back.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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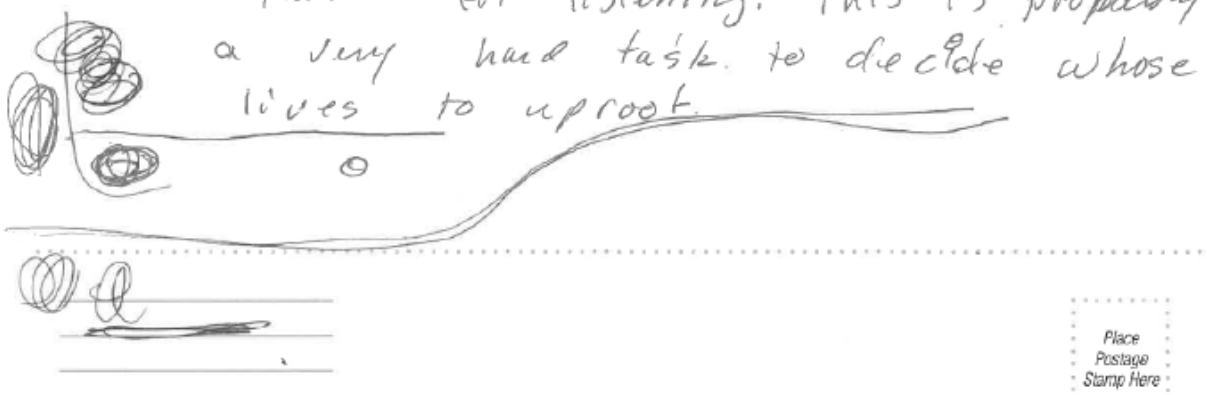
Also, if you are doing a no access, couldn't you impact things again on the west side? Impact the school temporarily?

Thanks for listening. This is probably a very hard task to decide whose lives to uproot.



Place Postage Stamp Here

Bangerter Environmental c/o Horrocks
2162 W. Grove Parkway, Suite 400
Pleasant Grove, UT 84062

Fold Here

COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Marvin and Jan La Bard Organization: Resident

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Based on the information presented, we feel that the best option is to do the overpass. It is more economical to do this. (100m is $150m).

We are concerned about the 'noise' that will be present when this construction is done.

* It would be nice to have a green space where the houses are now located and then removed.

Please provide any other information or comments you feel would be helpful to the study team.

As soon as you decide which option is selected, it would be best to notify the residents and schools/businesses as soon as possible. This will enable them to make decisions regarding their property.

Thank you for providing this information.

Jan Smith La Bard / Marvin John La Bard

[redacted]

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Bryant Norman Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Why is there a need for on/off ~~ramps~~ ramps at 9800S? East and west is not a big destination as you find on 90th/106th/114th. Could close road or install overpass over Bangerter. Road was closed at 102 (by water tank) when Bangerter was built originally.

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Chelsea Franklin Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I dont feel that it is appropriate to put an interchange on 9800 S. 9800 S is a neighborhood and not a busy business area. There is an elementary and middle school on 9800 S. and this just seems unsafe for children to have a interchange at this location.

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM August 4, 2021 BANGERTER/9800 SOUTH

CONTACT INFORMATION
Don Arnold - South Jordan Resident
[redacted]

To begin, I would like to add two more options for consideration. I don't know why you have included a "NO Action" as a solution since we know that will never happen based on stated goals of the project.

1. DEAD END or BLOCK 9800 South from Bangerter

2. Provide a limited access interchange with right hand turns only for on/off Bangerter

Comment Concerning Traffic on 9800 S and South Jordan Police Department:

If SAFETY is a goal and concern for this project then the current (even before the 104th detour) traffic situation should be addressed. South Jordan and the Police department have shown no (or very little) effort to limit the speeding vehicles on 9800 S between 40th west and Bangerter. Even before the detour was in place in April I called the police department about the speeding issue. About two weeks later a flashing speed indicator trailer was located at 2200 west on 9800 south (why there??). It was there about two weeks. Later it was moved to a location on Dunsinane street (why there??). It was there for a while. Finally I called South Jordan Police again about the speed issue and the trailer was relocated to 9800 S just east of Dunsinane (finally the right spot). It was there only about a week. You see them all over on 40th west or elsewhere. I have only seen a patrol car stopped to monitor the traffic two times since the call in April and never during the time since the detour. Oh, by the way, just today (August 2nd) I saw a South Jordan Police car drive past my house between 40th and Dunsinsane going 40mph with the rest of the traffic flow. What's up South Jordan Police?? This is serious due to the 25 mph limit posted because of frontward facing residential homes and middle school located in this area. There are bike lanes on both sides of the road also that add the need for additional caution for drivers. Nevertheless, speed is excessive on this stretch being in range of 35 mph to 45 mph if not more. In the 28 years I have lived on this street, I have had a curbside tree taken out by a vehicle, two neighbors have had a mailbox demolished (twice for one of them) and Century Link has a demolished telephone line communication box that is yet to be repaired. School kids ride their bikes on the sidewalks and in the bike lane, they walk on the sidewalk and at times in the road. They also ride their skate boards on the sidewalk, in the bike lane, and even in the middle of the road. Residents can't get out of the driveway unless

someone nice lets them in during the school start hour. As stated above, numerous accidents have occurred at the middle school parking exit and the shopping area exit trying to get onto 9800 S. This section of 9800 S shouldn't be considered for a thoroughfare to access the Bangerter Highway. If 9800 S isn't projected to increase in traffic much over the years (we were told 20%), then a full blown interchange certainly is not necessary. No interchange may actually reduce traffic. Maybe the NO ACCESS option is a good compromise . Greater safety could be achieved for all the students attending the three schools located on 9800 S as well as the residents.

As indicated above, we currently have diversion traffic from 104th south coming down 9800 S in both directions. Traffic has doubled if not tripled for the last 3 months and we have 3 more months to go. Where has South Jordan Police been to help "slow the flow"? Several requests have been made. What about SAFETY for the residents in this area? The City of South Jordan is pushing for a full access interchange just like 10400 and 114000 without giving any consideration to the safety of students and residents that live here. Is SAFETY going to be considered? Maybe BLOCK OFF and DEAD END 9800 is the best solution for safety, environmental, and cost.

History of South Jordan City and 9800 south between 40th west and Bangerter:

I have lived at my residence on Skye Dr. Since 1993. I've seen the residents on this street being "bullied over" the entire time by South Jordan City. First, **9800 was dead ended just a little past Dunsinane Dr.** It was when I bought my home and a Bangerter intersection was not in the city plan. 10200 South was in the plan for intersection to Bangerter. There are homes on that street that were built with curved in/out driveways in anticipation of was was coming. When it was certain that Bangerter was coming, and any intersection that was paved would then be included in the Bangerter plan, South Jordan paved the section of dirt where 9800 and Bangerter would intersect, thus ensuring an intersection there. This happened overnight.
Concerning the High Voltage overhead power lines running down the north side of 9800 south: The original plan called for all electrical services to be underground. There was never a plan to have the high voltage line where it is now. It happened overnight on a Saturday and Sunday. A last minute city council meeting must have been held and Rocky Mountain Power was given approval for the installation. It literally happened overnight with no notification to the residences involved.
Concerning the Shopping Plaza at corner of Bangerter and 9800: Residents in this area were originally told by South Jordan City that this area would be a park. Later, plans changed and a sleazy developer was given the approval to develop a "beautiful" neighborhood shopping area with small shops, sidewalks, and green area. Look at what we got: totally asphalt with a car wash and an abandoned Walmart building.

South Jordan City is bullying us again wanting a full blown interchange just like 10400 S and 11400 S. at this location. 9800 South doesn't compare in traffic rates, business conditions, residential conditions, school conditions or any thing else as related to the other two interchanges or any other Bangerter interchange for that matter. Please listen

to those of us who live directly on this street and make the SAFETY of us citizens a priority. The accounts mentioned above are real and true. I've lived it.

9800 South is the only east west street that intersects Bangerter that has residential homes actually facing the street within a block or two of the intersection. No other street intersecting Bangerter is like 9800 South. 11800 South would be similar to it. The situation and conditions here are very different than at other intersections and the solution should be different and take those conditions into account. 9800 South is in very close proximity to 10400 South and reasonably close to 9000 South. Again, the same type of interchange is just not needed here.

Consideration of SAFETY when two interchanges are in close proximity: Is consideration being given to the possibility of increased accidents when two interchanges are in very close proximity? Those cars trying to merge onto Bangerter could be in the way of those cars trying to merge right to exit Bangerter on the next exit. There's only so much space and time to make the merge safely.

Now is the time for South Jordan City to rectify the SAFETY issue this intersection has brought to our once nice neighborhood street. For the safety of all drivers on both Bangerter and 9800 and the students and residents on 9800, give us a NO ACCESS crossing.

Don Arnold
South Jordan Resident
August 4, 2021

COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Gaye Mason Organization: private citizen

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

As a citizen in this community I am acutely aware of the needs and cost concerns of my neighbors. I have lived at my current address for 13 years. I travel this road multiple times a day, I see the morning, afternoon, and evening traffic flow and would like to comment on the proposed intersection changes. Cost and construction delay incured with moving the aqueduct and the pedestrian overpass are unnecessary. Any option considered should leave both of these intact!!! No access is a "no option" with two schools so close to the intersection, parents drop kids off then parents go to work. Being able to get on bangerter is critical for traffic flow. Trying to reroute all those vehicles thru neighborhoods - 3200 WT or 4700 which are both single lane roads is absurd. No action would have the benefit of controlling speed and providing flow breaks. If the notion of "no traffic lights - the decrease congestion etc" really worked there would be NO delays daily on I-15 -, it has no lights. Bangerter is going thru neighborhoods/communities so it doesn't need to be open road 80mp Tight diamond, single point, or over/under seem reasonable If the aqueduct and overpass can remain. Gaye Mason

Please provide any other information you would like us to consider.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Jacob Frandsen Organization: Bangerter User

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I think Bangerter should fly over 9800. The intersection is small and little used. It provides a hazard as well; the short distance between the 10th and 9th intersections clearly does not provide sufficient length for users on the new system to merge in and out of traffic safely should they both have on/off ramps.

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Janet Frandsen Organization: resident

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I think Bangerter should fly over 9800. There are major interchanges already at 9000 S. and 10400 S. and 9800 is mostly residential. Also, with the two schools on either side of Bangerter, it would be the height of irresponsibility to put in an interchange of entrances and exits that schoolchildren of all ages would have to cross. I am very against an interchange at 9800 South.

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Amy Jensen Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Do a No-Access on 9800th So.
Take from the West side (less houses & impact)
Safer for kids at both schools.
104th → 90th are perfect for on/offramps.
9800th cannot become an on/off - it's way too dangerous for kids at both schools
Aqueduct is too expensive to move.

Please provide any other information or comments you feel would be helpful to the study team.

less residential impact on West Side

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Rex Hor[redacted] Organization: [redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

My biggest concern centers around an overpass on Bangerter Highway @ 9800 S. I built my house just West of Bangerter in 1996. At that time, I paid a $5000 lot premium for a vista view of the Wasatch Mountain Range. An overpass over 9800 S. would destroy the view I paid extra for. Concerns regarding increased highway noise is also a concern with the higher elevation of passing traffic.

Please provide any other information or comments you feel would be helpful to the study team.

Create an underpass on 9800 S. (9800 S. passing under Bangerter highway). That will keep everything below grade and minimize construction cost for just a two lane road. An overpass on 9800 S. would be preffered to the overpass being over it (an overpass going East & West would have less traffic on it and would not interfere with the view/landscape.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Rick Frandsen Organization: Resident

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Bangerter should fly over 9800 S. We have major interchanges, and do not need the added taxpayer burden of an additional interchange. Unlike other interchanges @ 9800 S is mostly residential with single lane traffic in both directions. This seems to be the best option for residents, users, and taxpayers

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Carolina Famann Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Please make 9000S no access!
We need less traffic in front of the schools.
The road is only 2 lanes, smaller than any other standard Bangerter interchange. We are losing & spending extra time waiting to cross at Bangerter than if we had a smooth flow over/under.
Considering the planned lane expansion at 90th & 104th to 7 lanes there is no sense to increase traffic by adding an interchange.

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Kyli Coles Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Please make 9800 S. a no access intersection. Safer for kids walking to school. My yard backs Bangerter & I would hate for my yard or house to be effected only being 2 years old. 9800 S. east & west only - Bangerter up & over.

Please provide any other information or comments you feel would be helpful to the study team.

LEAVE 9800 S. [redacted] residential. NO access!

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Scott Jenkins Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

- Consider minimizing traffic and eliminating traffic detours down 3200 West. Thanks for removing the UDOT detour down 3200 West related to the 104TH So. closing. The detour traffic down our residential street was dangerous, speeding and incompatible with the residential nature - 32+ driveways entering on 3200 West.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Andrew Broschinsky Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Thanks for considering a no access option at 9800 south. I have heard S. Jordan City's ~~option~~ is to have an interchange to minimize traffic on their streets (3200 W & 4000 W). Please make sure to not let the city's opinion sway the final alternative.

I am concerned about the close proximity between 104th and 98th such that if an interchange is considered as a final alternative the weaving distance will be too short.

Please provide any other information or comments you feel would be helpful to the study team.

The business' at this intersection are mostly small local business. Keep in mind the ~~impacts~~ impact in relocating a small business may be greater than larger national chains.

Overall I would prefer to see a no access option similar to 11800 South ~~and~~ as it has been said there would be minimal growth of traffic on 9800 S. in 2050 and it is not an asterisk.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: JOSH JONES Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

RECOMEND THE NO ACCESS WITH 9800 SOUTH GOING OVER BANGERTER. LOWEST COST & LEAST IMPACT OPTION

Please provide any other information or comments you feel would be helpful to the study team.

THANK YOU FOR ALLOWING INPUT.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Aug. 11, 2021**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Shirley Joos Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I would love the No Access option as it will not impact the surrounding businesses/homes in the area. There is plenty of access at 10400 & 9000 South streets to Bangerter.

Please provide any other information or comments you feel would be helpful to the study team.

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Online Public Meeting Q&A Comments

Method	Date	Comment
Online Meeting Comment	7/28/2021	Thank you for hosting this event. I'm curious if making an over/underpass without on/off ramps is being considered?
Online Meeting Comment	7/28/2021	Has the option of having 9800 South be an east/west overpass to go over Bangerter and NOT have Bangerter access at 9800 South been considered? 9800 South is smaller residential area not a busy wider business area.
Online Meeting Comment	7/28/2021	Can Bangerter be lowered like at 11400 and 10400 South instead of being raised?
Online Meeting Comment	7/28/2021	What is the definition of highway like interchange? Does it always include exits, or can it mean something else?
Online Meeting Comment	7/28/2021	What are you going to do with 3 schools on 9800 south?
Online Meeting Comment	7/28/2021	Has eliminating an intersection at 9800 S completely been considered? 9000 s and 104th s are very close and it seems like this would be the quickest and most economical solution.
Online Meeting Comment	7/28/2021	So if I understood you right,it will be 2050 for the completion date?
Online Meeting Comment	7/28/2021	Have you considered a skybridge over bangerter at 10200 s. to connect the east and west neighborhoods for pedestrians.
Online Meeting Comment	7/28/2021	Why is Elk Meadows Elementary excluded while being just as close as Elk Ridge Middle? If safety is a primary consideration as stated, this seems like a critical omission.
Online Meeting Comment	7/28/2021	Can the expansion of the road be on the west side of Bangerter much like what is being done on 10400 South
Online Meeting Comment	7/28/2021	What are you doing with 102? It goes all the way up to daybreak. It seems like that would make more sense, since this is where your traffic is going to come from
Online Meeting Comment	7/28/2021	What is the timeframe, nature, and scope of the traffic data? With the ongoing 10600 S project and accompanying detour traffic, the 9800 S traffic is significantly inflated.
Online Meeting Comment	7/28/2021	98th has a great bike connection. How will it be maintained or enhanced?
Online Meeting Comment	7/28/2021	Is tomorrow's meeting going to be the same as tonight's? Just in person? Or will there be other information given there?
Online Meeting Comment	7/28/2021	So how many houses are you going to take to do this?
Online Meeting Comment	7/28/2021	Are you exploring the widening of 9800s to Redwood Road? Seems like that would be considered if the amount of traffic will continue to increase over the next 30 years
Online Meeting Comment	7/28/2021	How is bangerter hwy sound transmission affected based on an over vs under 98th option?
Online Meeting Comment	7/28/2021	Can we see the slide again that was at the beginning that showed the area being studied outlined in green?
Online Meeting Comment	7/28/2021	You all have done a great job with the other intersections.

Online Meeting Comment	7/28/2021	Will 9800 South be widened? If so, will you take a bunch of my backyard, and/or will a sound wall be built along the back fences of those properties along 9800?
Online Meeting Comment	7/28/2021	Why is there a traffic study going on right now when all the traffic is being diverted from 106th?
Online Meeting Comment	7/28/2021	Udot has moved Aquaducts at 6200 South. Which way would you move the Aquaduct if it is proposed to move it?
Online Meeting Comment	7/28/2021	For locations that had an overpass installed over east/west streets, is there a report that shows increased noise in neighborhoods?
Online Meeting Comment	7/28/2021	Any talk about widening 9800 S. all the way east to Redwood? To I-15? Further west?
Online Meeting Comment	7/28/2021	I really think you should consider 3 schools on 9800. Do you want a large amount of traffic with small children on this street? It is concerning.
Online Meeting Comment	7/28/2021	Can you share what growth you expect by 2050 for 9800 So? It seems there is not much more development that can happen in this area.
Online Meeting Comment	7/28/2021	how do you decide between no access and access?
Online Meeting Comment	7/28/2021	Has it been considered to move Bangerter more West away from the aquaduct so it can go under 9800 S. Having the school loose a wing and have to rebuild on the west side of the school
Online Meeting Comment	7/28/2021	On the over/under option wouldn't you have to move the aqueduct?
Online Meeting Comment	7/28/2021	My concerns are more about the safety of the school zones. By increasing the volume of traffic on a street that has 3 schools is very concerning. It is more of a community street (not right now with all the other construction). Is the safety of the residents and our children being considered?
Online Meeting Comment	7/28/2021	Is the City of South Jordan contributing to the construction costs? If so, has the city given any preference for under/overpass or other options for the interchange?
Online Meeting Comment	7/28/2021	when will a decision be made on which option will be used and how many houses would be affected by the chosen option?
Online Meeting Comment	7/28/2021	Could another option be to allow exits and onramps to 9800 south without allowing "left turns" i.e. going north you can go east on 9800 south but not west, or going east on 9800 south you can go south on bangerter but not north? Left turns would have to happen at 9000 south, 14000 south.
Online Meeting Comment	7/28/2021	The East West Road at this intersection are already overloaded unless you confiscate peoples back yards along 9800 South. There are 2 schools that are affected by an access. How many millions of dollars would it save if there was no access? Also with a Bangerter overpass the childreen wopuld NOT need a pedestrtian bridge.
Online Meeting Comment	7/28/2021	The original South Jordan master plan did not have 9800 S crossing Bangeter. But Merit Medical insisted for access to the golf course. Can we just cap the intersection per the original plan?
Online Meeting Comment	7/28/2021	Driving North on Bangerter, turning west onto 9800; why the 2 turn lanes???
Online Meeting Comment	7/28/2021	What are the worst case/best case scenarios for widening 9800 S. east of Bangerter? My backyard backs up to at 9800 S. at 3400 West. Hence my invested interest.

Online Meeting Comment	7/28/2021	9800s limit is 30mph where as 10400 and 9000 s are 45mph east west. if we're going to allow this intersection would South Jordan city or udot expand east west roads and increase speed limit?
Online Meeting Comment	7/28/2021	Will any residential property be needed for any of the options? If so which ones?
Online Meeting Comment	7/28/2021	You say that "the public does not have a vote" Exactly how do you figure that?? This intersection was never planned for access to Bangerter. By making a Bangerter overpass with no access it will cost millions of dollars les as well as childrens safety!
Online Meeting Comment	7/28/2021	There are several critical health care, dental and
Online Meeting Comment	7/28/2021	veteriary facilities at this intersection.
Online Meeting Comment	7/28/2021	Garden Glen Road is labeled "Garden Grove Lane" in the green area. Garden Grove Lane is omitted from the roads on that map.
Online Meeting Comment	7/28/2021	How can we get construction to start faster?
Online Meeting Comment	7/28/2021	There are several critical health care, dental and veteriary facilities at this intersection. Some of these severecies are already sevrely limited in this area and the Salt Lake area. Is the necessity of these services for our communitybeing taken into account in this study?
Online Meeting Comment	7/28/2021	Are these slides available online for after this meeting?
Online Meeting Comment	7/28/2021	Is projected financial impact on businessed considered in making the final decision ?
Online Meeting Comment	7/28/2021	You sais that the public does not get a vote. How much weight will public opinion carry? 20% 50% 2%?
Online Meeting Comment	7/28/2021	So you only pick comments to read that don't ask hard questions?????
Online Meeting Comment	7/28/2021	Thank you!
Online Meeting Comment	7/28/2021	I missed the begining. Can we get access to the recording of the meeting?
Online Meeting Comment	7/28/2021	have you been on 9800 S. in the morning, during school? It gets backed up past 4000 w?
Online Meeting Comment	7/28/2021	If there in no access the choldren with move freely underneath the overpass.
Online Meeting Comment	7/28/2021	When deciding what land is needed is the type of business considered? On the NE corner of Bangerter and 9800 is a Medical Clinic that is a very busy business 7 days a week
Online Meeting Comment	7/28/2021	Excuse some of my mistyped words I am hurrying-hope fully you get the drift anyway
Online Meeting Comment	7/28/2021	Do home developers have to pay for some of this cost?
Online Meeting Comment	7/28/2021	I would happily drive to either 104 or 90th to access Bangerter to keep 9800 as a small road.

Online Meeting Comment	7/28/2021	Traffic has to be dealt with wherever you do construction. Whether it is an access or not the traffick must be dealt with-that is not a valid problem
Online Meeting Comment	7/28/2021	So with a no access overpass of Bangeter all of the issues of childrens safety, traffic jams (which are alread horrible) are solved and even save tons of money
Online Meeting Comment	7/28/2021	9800 s is a major route for cyclists. What will happen to the bike lanes on 9800 south?
Online Meeting Comment	7/28/2021	If 9800 S goes under, does it bring possible crime/people hanging out under bangerter verses the other way?
Online Meeting Comment	7/28/2021	Is a consideration being taken that there are homes on the west side of 9800 South and that the current situation with speed is a a hazard and that an exit onto 9800 South would make this condition even more hazardous that it currently is. (Children on this road going to and from school do not seem to have any consideration even though the limit is currently 25 MPH in the area.)
Online Meeting Comment	7/28/2021	And what is the estimated cost of a no access intersection? you just gave numbers for under and over
Online Meeting Comment	7/28/2021	As a long time resident off of 9800 South and to the East of Bangerter I feel the best option would be to keep traffic moving on 9800 South from West to East and East to West with a no access option and allow 9800 S to go over or under Bangerter. This is a very residential intersection and does not need a major exit off of Bangerter. This would address school safety, traffic flow on 9800 South and eliminating the need to take houses or businesses.
Online Meeting Comment	7/28/2021	Has it been made clear that much of the current traffic is a direct result of other closed intersections?
Online Meeting Comment	7/28/2021	What is one thing you would like most from residents/businesses that will be impacted by this project?
Online Meeting Comment	7/28/2021	If it comes to taking homes, when would the residents find out that they are losing their house?
Online Meeting Comment	7/28/2021	Does UDOT intend to budget for hazard bussing for impacted students during the duration of the constuction?
Online Meeting Comment	7/28/2021	Well done with tonight's meeting. Jesus loves you! intermountainbaptist.org
Online Meeting Comment	7/28/2021	Are all of these changes to the Bangerter just considered one at a time rather than an overall plan from the beginning? If yes…Why?
Online Meeting Comment	7/28/2021	How about we try to keep this residential part of the area RESIDENTIAL
Online Meeting Comment	7/28/2021	How will compensation be made for the homes that you end up taking for the intersection to be built?
Online Meeting Comment	7/28/2021	For 98th to go over or under Bangerter it poses significant restrictions to business and residential access off 98th. What is being considered to allow for access off 98th (i.e. Elk Ridge Middle School, Medical building, etc) ?
Online Meeting Comment	7/28/2021	Is there a map of the current aquaduct available?
Online Meeting Comment	7/28/2021	Before closing please post the contact information so that we can write it down. Thank you!
Online Meeting Comment	7/28/2021	If you have to take homes, how do you determine the value for the home?

Online Meeting Comment	7/28/2021	Are impacts to commerical properties given more importance than impacts to residential properties, or are they given equal consideration.
Online Meeting Comment	7/28/2021	If there is no access to 9800 South ie no on an off ramps, would the school traffic be routed through residential areas?
Online Meeting Comment	7/28/2021	Does the no access option impact include additional stress to 104th and 90th?
Online Meeting Comment	7/28/2021	Wasn't much of this area designed around the now-gone Walmart?
Online Meeting Comment	7/28/2021	from a noise prospective, does free flowing traffic increase the volume or decrease the volume
Online Meeting Comment	7/28/2021	So is the goal to turn 9800 South-a residential street design- and build a major traffic road??
Online Meeting Comment	7/28/2021	YOU HAVE TO MAINTAIN TRAFFIC AT EVERY ONE OF THESE PROJECT-OFF RAMPS OR NOT-THAT IS A LAME EXCUSE
Online Meeting Comment	7/28/2021	Where will the recording of this meeting be posted?
Online Meeting Comment	7/28/2021	https://udot.utah.gov/Bangerter9800south gives an error page.
Online Meeting Comment	7/28/2021	https://www.udot.utah.gov/bangerter9800south/ is the correct URL. Notice the lack of a capitol B
Online Meeting Comment	7/28/2021	9800 South is already limited to what size a vehicle is allowed. Would this restrition remain in place if this becomes a "Freeway Interchange"?
Online Meeting Comment	7/28/2021	Because of the aquaduct does it become a more viable option to shift bangerter to the West vs relocating the aquaduct further East?
Online Meeting Comment	7/28/2021	Please show the slide with the study team's contact info again. Thanks
Online Meeting Comment	7/28/2021	Meeting slides are here: (again, notice the lower case b in the url) https://www.udot.utah.gov/bangerter9800south/#/publicmeeting
Online Meeting Comment	7/28/2021	Thank you for the presentation and for addressing the questions.

Appendix C: Public Involvement

Correspondence and Coordination

From: Ryan Pitts
To: Samantha Patterson
Subject: Fwd: Bangerter / BOR/JVWCD Coordination
Date: Tuesday, December 7, 2021 5:13:51 PM
Attachments: image002.png

Begin forwarded message:

From: Brian Allen <brianja@utah.gov>
Date: December 7, 2021 at 3:55:49 PM MST
To: Ryan Pitts <RyanP@horrocks.com>
Subject: Fwd: Bangerter / BOR/JVWCD Coordination

---------- Forwarded message ---------
From: **Michele Guy** <micheleg@jvwcd.org>
Date: Tue, Jul 6, 2021 at 10:06 AM
Subject: RE: Bangerter / BOR/JVWCD Coordination
To: Justin Beddoes <JustinB@horrocks.com>, Westover, Bryan <Bryan.Westover@hdrinc.com>, wpope@hdrinc.com <wpope@hdrinc.com>, kkilpatrick@hdrinc.com <kkilpatrick@hdrinc.com>, barnold@hdrinc.com <barnold@hdrinc.com>, Cristina Nelson <cnelson@bowencollins.com>, Jason Luettinger <jluettinger@bowencollins.com>, briana@horrocks.com <briana@horrocks.com>, Scott Bishop <SBishop@horrocks.com>
Cc: Brian Allen <brianja@utah.gov>, JT Cracroft <jtc@jvwcd.org>, Shane Swensen <ShaneS@jvwcd.org>, Travis Christensen <travisc@jvwcd.org>, Winkelkotter, Matthew P <mwinkelkotter@usbr.gov>, McCain, Timothy C <tmccain@usbr.gov>, Ryan Egbert <regbert@bowencollins.com>, jbaxter@usbr.gov <jbaxter@usbr.gov>, RyanP@horrocks.com <RyanP@horrocks.com>, DustinR@horrocks.com <DustinR@horrocks.com>

Justin,

District Staff have reviewed the 9800 South Bangerter Highway bridge crossing that was emailed on June 29, 2021. Two concerns regarding the design were identified, the largest of which was overhead clearance. The overhead clearance requirement for overhead utilities crossing above the Jordan Aqueduct is 35'. The 35' is necessary to accommodate large earth moving equipment which would be needed for any future work done on the Jordan Aqueduct during a repair or replacement project. Providing less than half of

that overhead clearance would greatly hinder the District's ability to maintain the Jordan Aqueduct. A bridge deck 16' away from the final grade would create difficult conditions for construction crews and increases the potential for damage to the Jordan Aqueduct and/or UDOT's bridge. Another concern is the location of the South Jordan meter vault which is located east of the Jordan Aqueduct, which may need to be relocated. If it remains in place, the height of the vault surface to the bottom of the roof deck would need to be evaluated to determine if there would be enough room to get equipment under the bridge to perform maintenance and rehabilitation.

The District's preference would be for UDOT to continue to explore alternative methods for the redesign of the 9800 South Bangerter Highway interchange. The proposed bridge crossing does not meet the USBR's Aqueduct Protection Criteria, and it would make future operations and maintenance more difficult.

Please let us know if you would like to discuss this any further.

Respectfully,

Michele

Michele Guy

Right-of-Way & Property Manager

8215 South 1300 West | West Jordan, UT 84088

P - 801.565.4331 | C - 618.412.1083 | jvwcd.org

From: Justin Beddoes <JustinB@horrocks.com>
Sent: Tuesday, June 29, 2021 8:48 AM
To: Westover, Bryan <bwestove@hdrinc.com>; Pope, William M.

<wpope@hdrinc.com>; Kilpatrick, Kevin <kkilpatr@hdrinc.com>; Arnold, Brent <barnold@hdrinc.com>; Cristina Nelson <cnelson@bowencollins.com>; Jason Luettinger <jluettinger@bowencollins.com>; Brian Atkinson <BrianA@horrocks.com>; Scott Bishop <SBishop@horrocks.com>
Cc: Brian Allen <brianja@utah.gov>; Michele Guy <micheleg@jvwcd.org>; JT Cracroft <jtc@jvwcd.org>; Winkelkotter, Matthew P <mwinkelkotter@usbr.gov>; McCain, Timothy C <tmccain@usbr.gov>; Ryan Egbert <regbert@bowencollins.com>; Baxter, Jared J <jbaxter@usbr.gov>; Ryan Pitts <RyanP@horrocks.com>; Dustin Richins <DustinR@horrocks.com>
Subject: RE: Bangerter / BOR/JVWCD Coordination

Hello All,

Here is a figure that shows 9800 South going over Bangerter and the BOR easement. It shows a profile that would meet the minimum vertical clearance over Bangerter, which is 16.5'. This is what we would try and get close to in our design. The clearance over the BOR easement would be in that range. Please review and provide comments by COB Friday, regarding this option, if 9800 South was to go over would this clearance be acceptable.

Thanks,

Justin

Justin Beddoes

(801) 473-1300

-----Original Appointment-----
From: Westover, Bryan <Bryan.Westover@hdrinc.com>
Sent: Tuesday, June 1, 2021 7:56 AM
To: Westover, Bryan; Pope, William M.; Kilpatrick, Kevin; Brent Arnold; Cristina Nelson; Jason Luettinger; Justin Beddoes; Brian Atkinson; Scott Bishop
Cc: Brian Allen; Michele Guy; 'JT Cracroft'; Winkelkotter, Matthew P; McCain, Timothy C; Ryan Egbert; Baxter, Jared J; Ryan Pitts (ryanp@horrocks.com)
Subject: Bangerter / BOR/JVWCD Coordination
When: Thursday, June 24, 2021 9:00 AM-10:00 AM (UTC-07:00) Mountain Time (US & Canada).
Where: WebEx

JORDAN SCHOOL DISTRICT

Auxiliary Services
7905 S. Redwood Road
West Jordan, Utah 84088-4601
www.jordandistrict.org

Lance Everill
Manager
Emergency Operations
Office 801-567-8623
lance.everill@jordandistrict.org

September 10, 2021

TO: Brian Allen, P.E.
Project Manager
UDOT Region Two
State of Utah
Department of Transportation

RE: Bangerter Project / 9800 South – Considerations

Student safety is my primary area of concern for the Jordan School District, so I am reaching out to provide input for consideration regarding the Bangerter 9800 S interchange and pedestrian bridge. I think it will be important for the future project to maintain full-interchange capabilities and a pedestrian bridge.

I am certain eliminating full-interchange capabilities will increase vehicle traffic on 9800 S immediately in front of Elk Meadows Elementary and Elk Ridge Middle School. Traffic in the area is already challenging even with the current options of four directions of travel at the intersection. Eliminating directions of travel will ironically worsen this problem, considering the Bangerter Project is intended to improve overall conditions. I think added congestion may also complicate/delay emergency vehicle response, and limit efficient busing services. The existing pedestrian bridge is highly utilized by the children from both schools going to and from school each day, and it effectively keeps them safely up and out of the busy vehicle traffic. Therefore, I advocate for keeping this type of structure in support of safe walk routes.

The more vehicle traffic in any area that students utilize as their safe routes to school can diminish overall pedestrian safety and increase the likelihood of accidents. 9800 S is only a two-lane road with one lane in each direction. There is no space for street width expansion. Additional vehicle traffic on this two-lane road will most likely result in decreased driver visibility of pedestrians. Drivers may also become impatient with the added congestion, potentially resulting in erratic or hurried driving behavior further diminishing safety for students/pedestrians.

I have spent a considerable amount of time observing traffic at both the elementary and middle school related to safety. A lot of the traffic from both schools utilizes Bangerter. An example of this is when parents drop off children in the morning then use Bangerter to go to work, or the reverse at the end of the day. The general business traffic in the area seems to primarily use Bangerter as well.

JORDAN SCHOOL DISTRICT

Auxiliary Services
7905 S. Redwood Road
West Jordan, Utah 84088-4601
www.jordandistrict.org

Lance Everill
Manager
Emergency Operations
Office 801-567-8623
lance.everill@jordandistrict.org

Based on current needs for both pedestrians and vehicles in this already busy location, I advocate for full-interchange capabilities for the project, and for a pedestrian bridge to remain over Bangerter. I believe potentially keeping a pedestrian bridge in its same location is the best option for continued use by children. With this in mind, I think locating the bridge to south of the middle school would result in the least amount of use, due to extended, meandering walking routes through the neighborhoods. Moving the bridge to the north is a better option for travel paths, but the increased walking distance and needed height of the bridge ramps may result in underutilization.

My recommendation is that a full-interchange under pass at Bangerter and 9800 S be considered. Not only would this best serve the community's vehicle travel needs, but may also allow for a pedestrian bridge to remain in or near its current location. By serving the pedestrian and vehicle traffic in this way, they may both benefit from the services they are already accustomed to, where they are accustomed to using them, all with the improved enhancements the project will provide.

Sincerely,

Lance Everill
Emergency Operations Manager
Jordan School District

Dawn R. Ramsey, *Mayor*
Patrick Harris, *Council Member*
Bradley G. Marlor, *Council Member*
Donald J. Shelton, *Council Member*
Tamara Zander, *Council Member*
Jason T. McGuire, *Council Member*

SOUTH JORDAN
UTAH

PH: 801.446-HELP @SouthJordanUT

August 24, 2021

Brian Jordan Allen, P.E.
Region 2 Project Manger
Utah Department of Transportation

RE: Bangerter Highway/9800 South Interchange

Brian:

As discussed, the City of South Jordan feels it is critical for the existing signalized intersection at Bangerter Highway and 9800 South become a freeway style interchange with continued connection to 9800 South.

It is well documented and understood that good Traffic Engineering/Traffic Management desires to spread traffic to various roadways and connections instead of limiting connections and concentrating traffic. The connection of 9800 South to Bangerter Highway has existed since the original construction of Bangerter Highway. As can be seen with the current construction of the 10400 South Interchange it is critical that there is a connection at 9800 South and in the future if there are any issues at the interchanges to have as many connection as possible to relieve traffic congestion. It is not in the best interest of the City of South Jordan and the State of Utah Department of Transportation and the management of traffic to eliminate this connection.

In April of 2021, the City hired WCG Engineering to conduct a traffic analysis in regards to City roadways in the area and the impact on traffic if Bangerter Highway and 9800 South was not continued as an interchange. The following are the expected results:

1. **Without the interchange, daily traffic volumes on nearby north-south routes (4000 West, 3200 West, and 2700 West) are projected to be as high as 20% more traffic.**

    a. 3200 West could go from an Average Daily Traffic (ADT) of 4,000 vehicles to 4,800 Vehicles on a street that has a number of house fronting onto 3200 West.

    b. 2700 West could go from an ADT of 7,272 Vehicles per day to 8,736 Vehicles per day.

    c. 4000 West could go from an ADT of 9,777 Vehicle per day to 11,732 Vehicles per day.

2. **Without the interchange**, daily traffic volumes on 9800 South are projected to be 10% to 20% lower immediately east of Bangerter Highway. **Elsewhere along the 9800 South Corridor, volumes are expected to be similar with or without the interchange.**

3. Current daily traffic volumes along 9800 South immediately adjacent to Bangerter Highway are in the range of 8,000 to 10,000 vehicles per day.

4. By 2050, with the full interchange in place, daily traffic volumes are expected to increase by 10% to 20%, or between 9,000 to 12,000 vehicles per day.

In addition, to the traffic volumes listed above there would be a detrimental effect to the businesses located on the Northeast, Southeast and Northwest corners of the intersection. Also, the amount of vehicles that leave the Elk Ridge Middle school at both drop-off and pick-up times will be affected as a significant number of those vehicles currently go onto Bangerter Highway.

With the increase of vehicles per day on the South Jordan local collectors there would also be a detrimental affect at all of the intersections along these roadway. With the study results showing just a minor reduction on 9800 South just east of Bangerter and no reduction of traffic along the rest of the 9800 South Corridor, it is imperative that the interchange be installed at Bangerter Highway and 9800 South.

The Mayor and City Council of South Jordan City are all very supportive of this intersection continuing as a full interchange for all of the reasons listed above.

Sincerely,

Brad Klavano

Brad Klavano, P.E., P.L.S.
Director of Engineering/City Engineer
South Jordan City

Appendix C: Public Involvement

Bangerter Highway at 9800 South Public Meeting Report

BANGERTER HIGHWAY AT 9800 SOUTH

PUBLIC MEETING REPORT

Project Number: S-0154(92)0

PIN: 18808

Prepared For: Utah Department of Transportation

Prepared By: Horrocks Engineers

Date: February 21, 2022

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Study Overview

The Utah Department of Transportation (UDOT) has initiated State Environmental Studies (SESs) for the following intersections along Bangerter Highway:

- 2700 West
- 13400 South
- 9800 South
- 4700 South
- 4100 South
- 3500 South to S.R. 201
- California Avenue

Bangerter Highway is a major north-south corridor in the state of Utah, and with continued growth in the area, the amount of traffic on Bangerter Highway is expected to increase. This projected increase in traffic will also increase delays on Bangerter Highway by up to four times longer than the current conditions. UDOT is proposing to replace at-grade, signalized intersections along the corridor with grade-separated interchanges, which will allow one street to pass over the other. This separation will move Bangerter Highway and cross-street traffic more efficiently and will eliminate points of conflict along this busy highway.

The purpose of this study is to identify the best solution to address the needs along Bangerter Highway, evaluate the impacts of the proposed improvements to the natural and built environments, and provide opportunities for public input. The following is a summary of the preparation and execution of Business and Neighborhood Meetings (in-person only) and the Public Hearing (both in-person and online options) regarding the Bangerter Highway and 9800 South intersection.

Meeting Summaries

BUSINESS AND NEIGHBORHOOD MEETINGS

MEETING OVERVIEW

In-person Business and Neighborhood Meetings were held to review the proposed improvements, communicate potential property impacts with property owners and businesses, and provide property owners and businesses with information related to the right-of-way process and anticipated schedule.

When/Where

Business Meeting
In-Person Open House

When: Monday, Jan. 10, 2022
5 to 6:30 p.m.

Where: Elk Ridge Middle School
3659 West 9800 South
South Jordan, UT 84009

Neighborhood Meeting
In-Person Open House

When: Wednesday, Jan. 12, 2022
5 to 8 p.m.

Where: Elk Ridge Middle School
3659 West 9800 South
South Jordan, UT 84009

ADVERTISEMENTS

The invitations for the Business and Neighborhood Meetings were limited to those property owners with direct impacts and those who would become the "new front row," the homes closest to Bangerter Highway, when future construction is complete. Outreach efforts to these properties included:

- **Dec. 20, 2021** – A phone call to each business to compile business owner contact information was made.
- **Jan. 3, 2022** – An invitation was hand-delivered to each property and business.
- **Jan. 5, 2022** – An email invitation to property owners was sent.
- **Jan. 8, 2022** – An email invitation to each business was sent.
- **Jan. 8, 2022** – A reminder email/COVID-19 Protocol Overview to each business was sent.
- **Jan. 10, 2022** – A reminder invitation/COVID-19 Protocol Overview was hand-delivered to each property.

- **Jan. 10, 2022** – A reminder email/COVID-19 Protocol Overview to property owners was sent.
- The study website was updated with information about the Business and Neighborhood Meetings, but details were not provided for the general public.

*Copies of the Business and Neighborhood Meeting advertisements are available in **Appendix A**.*

ATTENDANCE

- 15 stakeholders signed in for and attended the Business Meeting on Monday, Jan. 10.
- 81 stakeholders signed in for and attended the Neighborhood Meeting on Wednesday, Jan. 12.

*A list of Neighborhood Meeting attendees is available in **Appendix B**.*

INFORMATION PRESENTED

The study team began the Business and Neighborhood Meetings with a presentation by Brian Allen, the UDOT Project Manager. This presentation highlighted information including the study goals, alternative selection process, and more. The slides were printed into boards, which were positioned around the room for accessibility.

Additionally, three scroll plots were laid out in three different locations at the meeting. These scroll plots included preliminary design and impact information showing the west shift alternative for both the over and the under options.

*A copy of the information presented at the Neighborhood and Business Meeting is available in **Appendix C**.*

PUBLIC HEARING

MEETING OVERVIEW

A Public Hearing was held, with both an in-person and online engagement opportunity, to review the proposed improvements and gather feedback.

When/Where

In-Person Open House

When: Wednesday, Jan. 26, 2022
6 to 7:30 p.m.

Where: Elk Ridge Middle School
3659 West 9800 South
South Jordan, UT 84009

Online Presentation and Q&A

When: Thursday, Jan. 27, 2022
6 to 7 p.m.

Where: Zoom webinar – A link to join the online meeting and registration instructions were available on the study website: udot.utah.gov/bangerter9800south

ADVERTISEMENTS

The study team (consisting of UDOT staff and consultant firms) developed and executed a comprehensive outreach plan to invite adjacent property owners, residents, and the general public to attend the Public Hearing. The plan included:

- **Jan. 10, 2022** – 5,131 postcards were mailed to properties surrounding the study area.
- **Jan. 17, 2022** – The Draft SES was released and posted to the study website at the start of the public comment period. Following the Public Hearing, copies of the presentation, scroll plots, and a recording of the online meeting were made available on the website.
- **Jan. 19, 2022** – An advertisement was posted on South Jordan City's existing social media channels.
- **Jan. 19, 2022** – An email update to the 9800 South stakeholder list was sent.
- **Jan. 19, 2022** – A press release was sent out with information about the three proposed Bangerter Highway interchanges.
- A legal notice was published in major newspapers according to the UDOT Environmental Manual of Instruction (MOI) and Utah Administrative Code R930-2. The legal notice was published on Jan. 9, 2022, Jan. 14, 2022, and Jan. 16, 2022, in the Salt Lake Tribune and on Jan. 7, 2022, and Jan. 14, 2022, in the Deseret News.

*Copies of the Public Hearing advertisements are available in **Appendix A**.*

ATTENDANCE

- 147 stakeholders signed in for and attended the in-person Public Hearing on Wednesday, Jan. 26.
- 46 stakeholders attended the online opportunity on Thursday, Jan. 27.

*A list of attendees for the online meeting and scanned copies of the sign-in sheets from the in-person meeting are available in **Appendix B**.*

INFORMATION PRESENTED

The study team began the Public Hearing with a presentation by Brian Allen, the UDOT Project Manager. This presentation highlighted information including the study goals, alternative selection process, and more. For the in-person meeting, the slides were printed into boards and were positioned around the room for accessibility. The same information was presented at both Public Hearing opportunities.

After the presentation, in-person attendees had the opportunity to look at scroll plot maps showing the Proposed Action and associated impacts, view all presentation materials as physical boards, and ask questions to members of the project team. A physical copy of the Draft SES was available for attendees to review. Online attendees had the opportunity to participate in a live Q&A session with members of the project team and UDOT's Right of Way team.

*Materials presented at these meetings are available in **Appendix C**.*

INFORMATION AVAILABLE ON THE STUDY WEBSITE

The study team utilized a study website throughout the environmental process to provide a centralized place for the public to access study information. In preparation for the Public Hearing, the website was updated with meeting details and registration links for the online option.

Additionally, a copy of the Draft SES was published on the website at the start of the formal comment period. Copies of the impact (scroll plot) maps, for both under and over options, were featured as well, along with copies of the presentation itself. After the online Public Hearing, a recording of the meeting was published to allow anyone who could not attend the opportunity to hear the information presented.

PUBLIC COMMENTS

A formal comment period was held from Jan. 17, 2022, through Feb. 15, 2022. Members of the public were encouraged to submit comments on the Draft SES via email, study website, or mail. A comment form was available at the in-person Public Hearing and on the study website for the general public's use. A court reporter was also available at the in-person Public Hearing to record verbal comments during the open mic portion of the meeting.

A total of 98 comments were received (17 email comments, 57 website comments, and 8 verbal comments at the Public Hearing and 16 written comments from the Public Hearing).

Common themes from the public comments included:

- Support for the Bangerter Highway under 9800 South option (46).
- Preference for 9800 South to go over or under Bangerter Highway with no access (overpass only) (29).
- Safety of school children (17).
- Support to keep the pedestrian bridge in the current location (17).
- Concerns about noise increases or noise mitigation (17).
- Concerns about visual changes, specifically related to the Bangerter Highway over 9800 South option (12).
- Concerns about the proposed location of the pedestrian bridge in the Bangerter Highway over 9800 South option, requiring kids to cross 9800 South at-grade multiple times and travel out-of-direction (10).
- Support for the interchange because it provides continued access to Bangerter Highway from 9800 South (9).
- Preference to remove east/west connectivity on 9800 South (dead-end at Bangerter Highway) (7).

- Questions and information related to relocation impacts (6).
- Concerns about traffic increases on 9800 South due to the interchange (6).
- Concerns about speed on local neighborhood streets, including 9800 South (6).

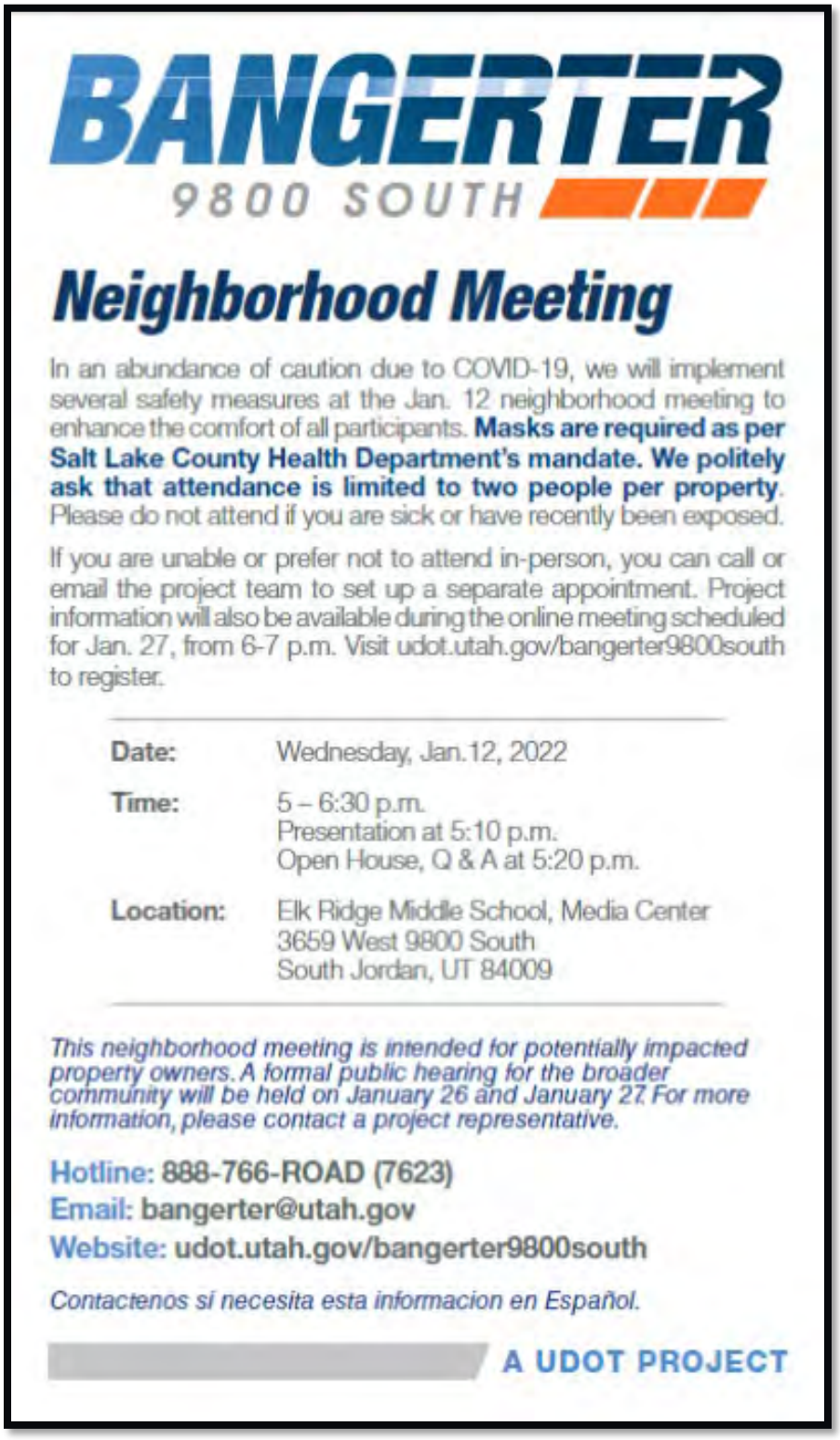
*The verbatim public comments and associated responses are provided in **Appendix D**.*

Appendix A Advertisements

Business Meeting Outreach

Business	Contact Name	Title	Phone Number	Email Address	Hours of Operation	Type of Business
Daybreak Auto Spa	Jorge Oroscco	Manager	[redacted]	[redacted]	24-Hours	Car Wash
Awash & Groom Pet Services	[redacted]		[redacted]	[redacted]	Monday - Saturday 8 AM - 5 PM	Pet Care
Fast Times Barber Company	Joseph Orizaba	Owner	[redacted]	[redacted]	Sunday - Saturday 9 AM - 6 PM	Hair Care Services
Big Daddy's Pizza	Jason Nguyen	Owner	[redacted]	[redacted]	Monday - Thursday 11 AM - 9:30 PM Friday & Saturday 11 AM - 1 AM Sunday 11 AM - 8 PM	Restaurant
Rice King Express	Jingyong Liang	Owner	[redacted]	[redacted]	Monday - Thursday 11 AM - 9:30 PM Friday & Saturday 11 AM - 10 PM Sunday - Closed	Restaurant
Local Motion Dance Studio	Katie Lombardi	Owner	[redacted]	[redacted]	Monday - Friday 3:30 PM - 9:30 PM Saturday - Closed Sunday - Closed	Dance Studio
Premier Diagnostics - Daybreak	[redacted]		[redacted]	[redacted]	Monday - Friday 9 AM - 5 PM	Medical Testing
Dollar Tree	Angela Jorgensen	Manager	[redacted]	[redacted]	Monday - Saturday 9 AM - 9 PM Sunday 10 AM - 8 PM	Retail
Elison Orthodontics	Keara Chapman	Office Manager	[redacted]	[redacted]	Monday - Friday 8 AM - 5 PM	Orthodontist
Elison Orthodontics	Timothy Elison	Owner	[redacted]	[redacted]	Monday - Friday 8 AM - 5 PM	Orthodontist
Chartway Federal Credit Union	Brandt Holbrook	Market Directo	[redacted]	[redacted]	Monday - Thursday 9 AM - 5:30 PM Saturday 9AM - 6 PM	Credit Union
Copper View Medical Center	Nate Shipp	Owner	[redacted]	[redacted]	Monday - Friday - 8AM - 10 PM Saturday 10 AM - 8 PM Sunday 10 AM - 8 PM	Medical
Bright Beginnings Child Care	Astrid Arias	Owner	[redacted]	[redacted]	Monday - Thursday 8 AM - 5:30 PM	Child Care
Private Fairway South Jordan	Craig Sorensen	Owner	[redacted]	[redacted]	24-Hours	Indoor Golf
Sassy Nails	Nga Ferg	Owner	[redacted]	[redacted]	Monday - Saturday 9:30 AM - 8 PM Sunday 11 AM - 5 PM	Nail Salon
A Gentle Vet	Eric Olson	Owner	[redacted]	[redacted]	Monday - Friday 8 AM-5 PM	Veterinarian
Bonneville Tattoo	Jerry Roberts	Owner	[redacted]	[redacted]	Tuesdsay - Saturday 11 AM - 7 PM	Tattoo
TruMotion Martial Arts	Mark Diaz	Owner	[redacted]	[redacted]	Monday - Thursday 12 PM - 9 PM Friday 1 PM - 6PM Saturday 9 AM - 4 PM	Martial Arts
Progressive Eye Care	Jeffrey Broadhead	Owner	[redacted]	[redacted]	Monday - Thursday 8 AM - 6:30 PM Friday - 8 AM - 5 PM Saturday - 8 AM - 2 PM Sunday - Closed	Medical
Beyond Limits Physical Therapy	Jason Hall or Gina	Clinical Directo	[redacted]	[redacted]	Monday - Friday - 7 AM - 7 PM	Medical
Beyond Limits Physical Therapy	Shaun Schulz	Owner	[redacted]	[redacted]	Monday - Friday - 7 AM - 7 PM	Medical
Autumn Ridge Dental	Matthew McInnes/Shea Bass	Owner	[redacted]	[redacted]	Monday - 7 AM - 7 PM Tuesday - 6 AM - 6 PM Wednesday - 7 AM - 6:30 PM Thursday - 7 AM - 5 PM Friday - 7 AM - 2 PM	Dentist
SoJo Family Pharmacy	Jeff Johnson	Owner	[redacted]	[redacted]	Monday - Friday - 9 AM - 6 PM	Pharmacy
Elk Ridge Middle School	Curtis Jenson	Principal	[redacted]	[redacted]	Monday - Friday - 9 AM - 3:35 PM	Middle School
Elk Meadows Elementary School	Tiffany Smith	Principal	[redacted]	[redacted]	Monday - Friday - 7:50 AM - 2:50 PM	Elementary School
Jordan School District	Lance Everill	Safety & Risk M	[redacted]	[redacted]		School District

Impacted Property Owner Invitation Door Hanger



BANGERTER
9800 SOUTH

Neighborhood Meeting

In an abundance of caution due to COVID-19, we will implement several safety measures at the Jan. 12 neighborhood meeting to enhance the comfort of all participants. **Masks are required as per Salt Lake County Health Department's mandate. We politely ask that attendance is limited to two people per property.** Please do not attend if you are sick or have recently been exposed.

If you are unable or prefer not to attend in-person, you can call or email the project team to set up a separate appointment. Project information will also be available during the online meeting scheduled for Jan. 27, from 6-7 p.m. Visit udot.utah.gov/bangerter9800south to register.

Date:	Wednesday, Jan.12, 2022
Time:	5 – 6:30 p.m. Presentation at 5:10 p.m. Open House, Q & A at 5:20 p.m.
Location:	Elk Ridge Middle School, Media Center 3659 West 9800 South South Jordan, UT 84009

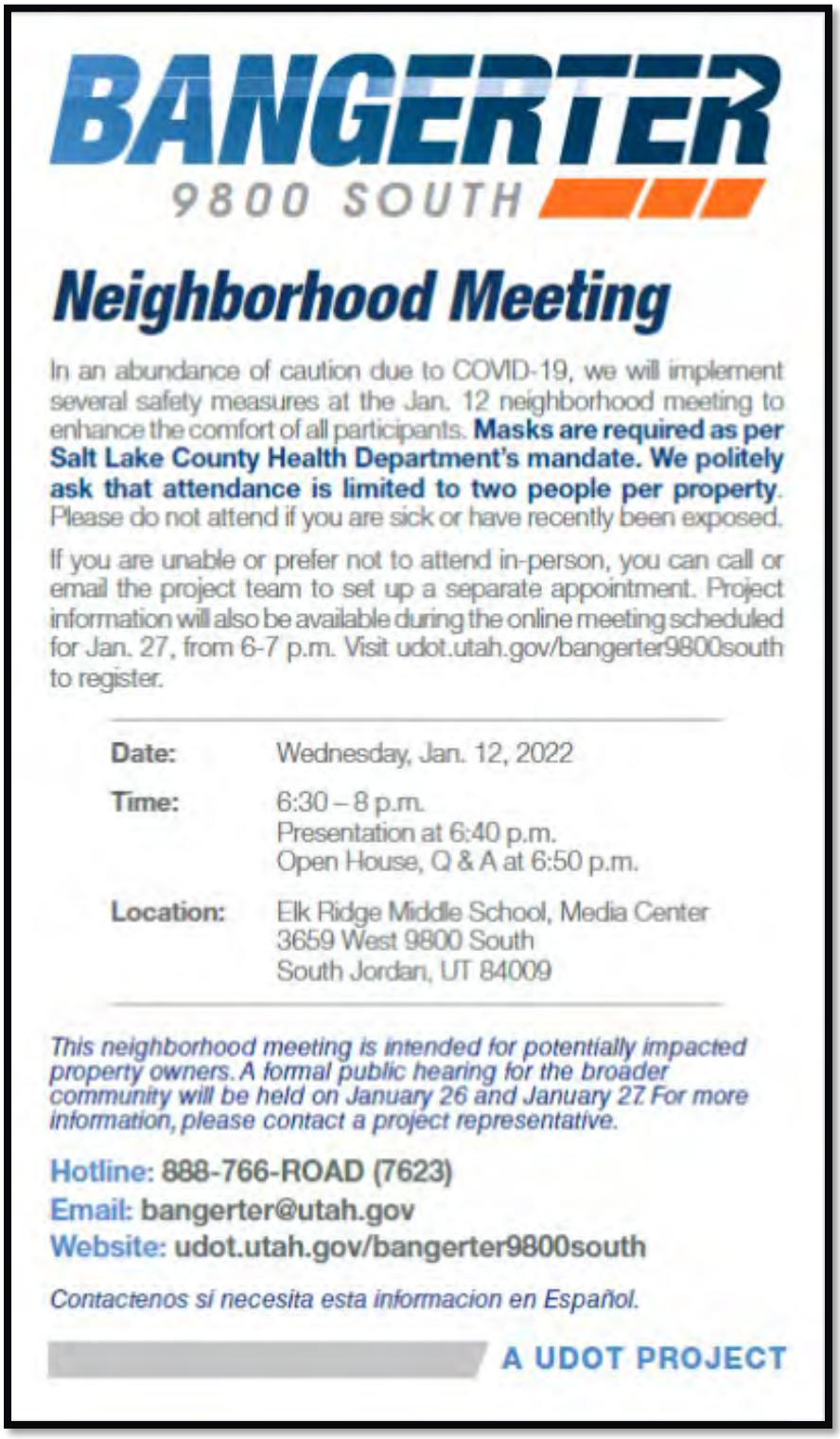
This neighborhood meeting is intended for potentially impacted property owners. A formal public hearing for the broader community will be held on January 26 and January 27. For more information, please contact a project representative.

Hotline: 888-766-ROAD (7623)
Email: bangerter@utah.gov
Website: udot.utah.gov/bangerter9800south

Contactenos si necesita esta informacion en Español.

A UDOT PROJECT

Impacted Property Owner Invitation Door Hanger



BANGERTER
9800 SOUTH

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Date:	Wednesday, Jan. 12, 2022
Time:	6:30 – 8 p.m. Presentation at 6:40 p.m. Open House, Q & A at 6:50 p.m.
Location:	Elk Ridge Middle School, Media Center 3659 West 9800 South South Jordan, UT 84009

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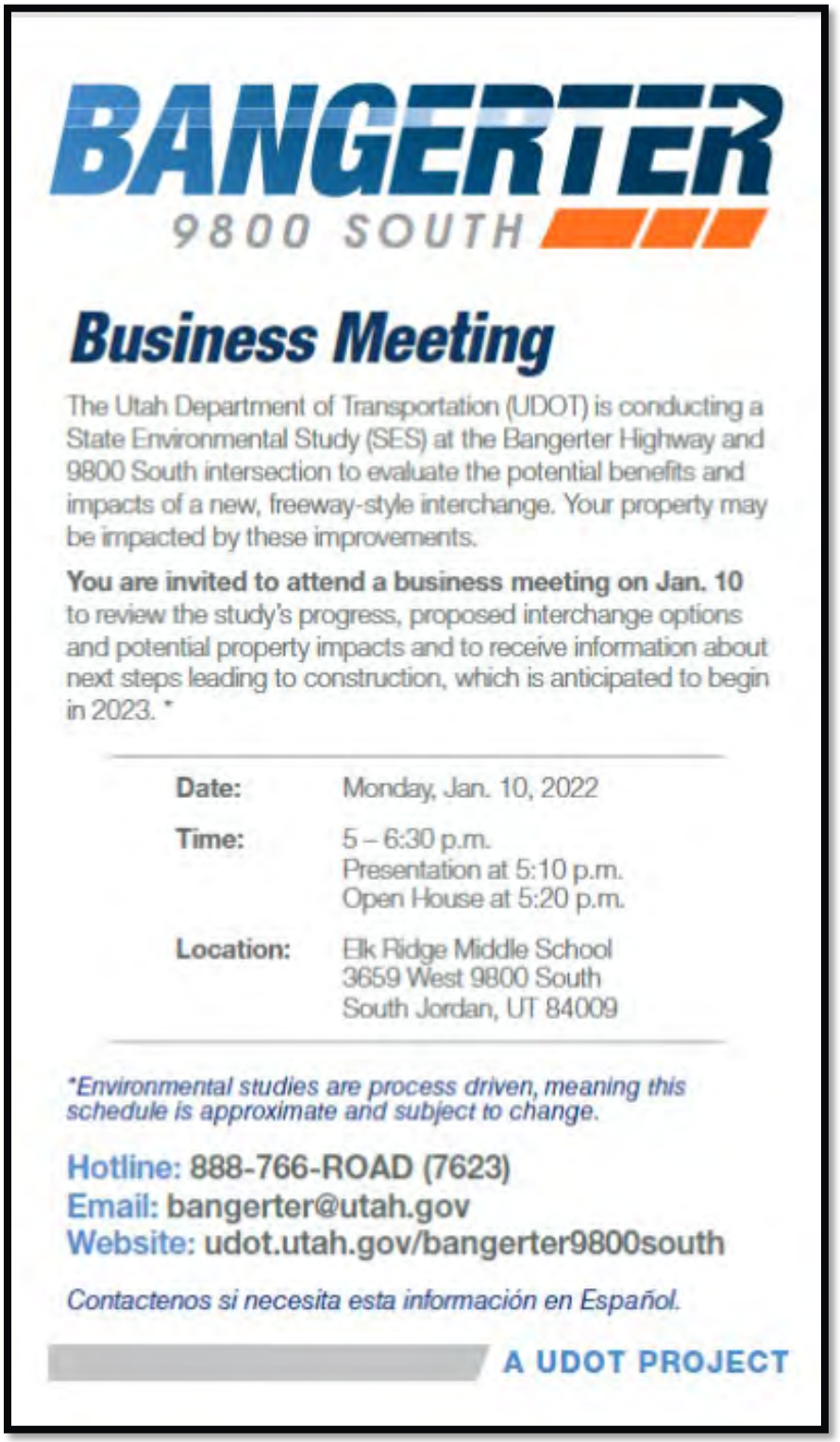
A UDOT PROJECT

Impacted Business Owner Invitation Door Hanger



BANGERTER
9800 SOUTH

Business Meeting

The Utah Department of Transportation (UDOT) is conducting a State Environmental Study (SES) at the Bangerter Highway and 9800 South intersection to evaluate the potential benefits and impacts of a new, freeway-style interchange. Your property may be impacted by these improvements.

You are invited to attend a business meeting on Jan. 10 to review the study's progress, proposed interchange options and potential property impacts and to receive information about next steps leading to construction, which is anticipated to begin in 2023. *

Date:	Monday, Jan. 10, 2022
Time:	5 – 6:30 p.m. Presentation at 5:10 p.m. Open House at 5:20 p.m.
Location:	Elk Ridge Middle School 3659 West 9800 South South Jordan, UT 84009

**Environmental studies are process driven, meaning this schedule is approximate and subject to change.*

Hotline: 888-766-ROAD (7623)
Email: bangerter@utah.gov
Website: udot.utah.gov/bangerter9800south

Contactenos si necesita esta información en Español.

A UDOT PROJECT

Stakeholder Email Update

Business Meeting

View this email in your browser

BANGERTER 9800 SOUTH

Bangerter Highway and 9800 South State Environmental Study

Business Meeting

The Utah Department of Transportation (UDOT) is conducting a State Environmental Study (SES) at the Bangerter Highway and 9800 South intersection to evaluate the potential benefits and impacts of a new, freeway-style interchange.

You are invited to attend a business meeting on Jan. 10, to review the study's progress, proposed design and potential property impacts and to receive information about the next steps leading to construction, which is anticipated to begin in 2023.

If you are unable to attend this business meeting, please consider participating in the neighborhood meeting on Jan. 12 or in the public hearing on Jan. 26 (in-person) and Jan. 27 (online). Please visit the project website for more information.

Date: Monday, January 10, 2022

Time: 5 p.m. - 6:30 p.m.
Presentation at 5:10 p.m.
Open House at 5:20 p.m.

Location: Elk Ridge Middle School, Media Center
3659 West 9800 South
South Jordan, UT 84009

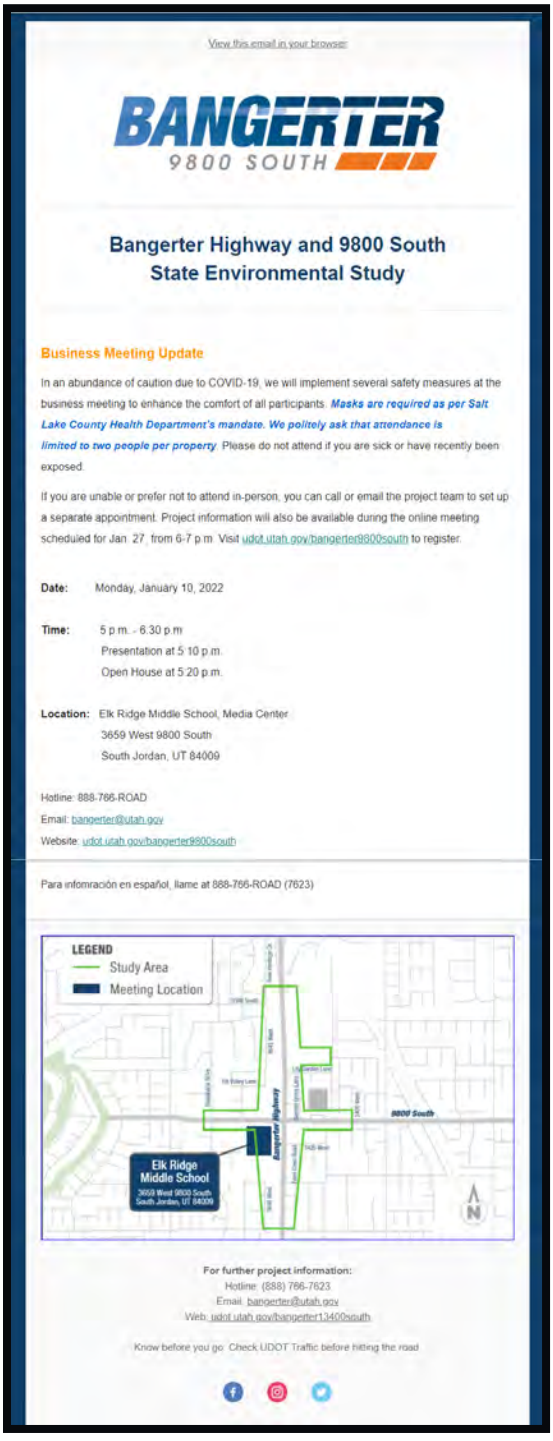
If you need special accommodations for this meeting, please contact the project team in advance.

Hotline: 888-766-ROAD
Email: bangerter@utah.gov
Website: udot.utah.gov/bangerter9800south

Para infomración en español, llame at 888-766-ROAD (7623)

For further project information:
Hotline: (888) 766-7623
Email: bangerter@utah.gov
Web: udot.utah.gov/bangerter13400south

Know before you go. Check UDOT Traffic before hitting the road.



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BANGERTER 9800 SOUTH

Bangerter Highway and 9800 South State Environmental Study

Business Meeting Update

In an abundance of caution due to COVID-19, we will implement several safety measures at the business meeting to enhance the comfort of all participants. ***Masks are required as per Salt Lake County Health Department's mandate. We politely ask that attendance is limited to two people per property.*** Please do not attend if you are sick or have recently been exposed.

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Open House at 5:20 p.m.

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3659 West 9800 South
South Jordan, UT 84009

Hotline: 888-766-ROAD
Email: bangerter@utah.gov
Website: udot.utah.gov/bangerter9800south

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For further project information:
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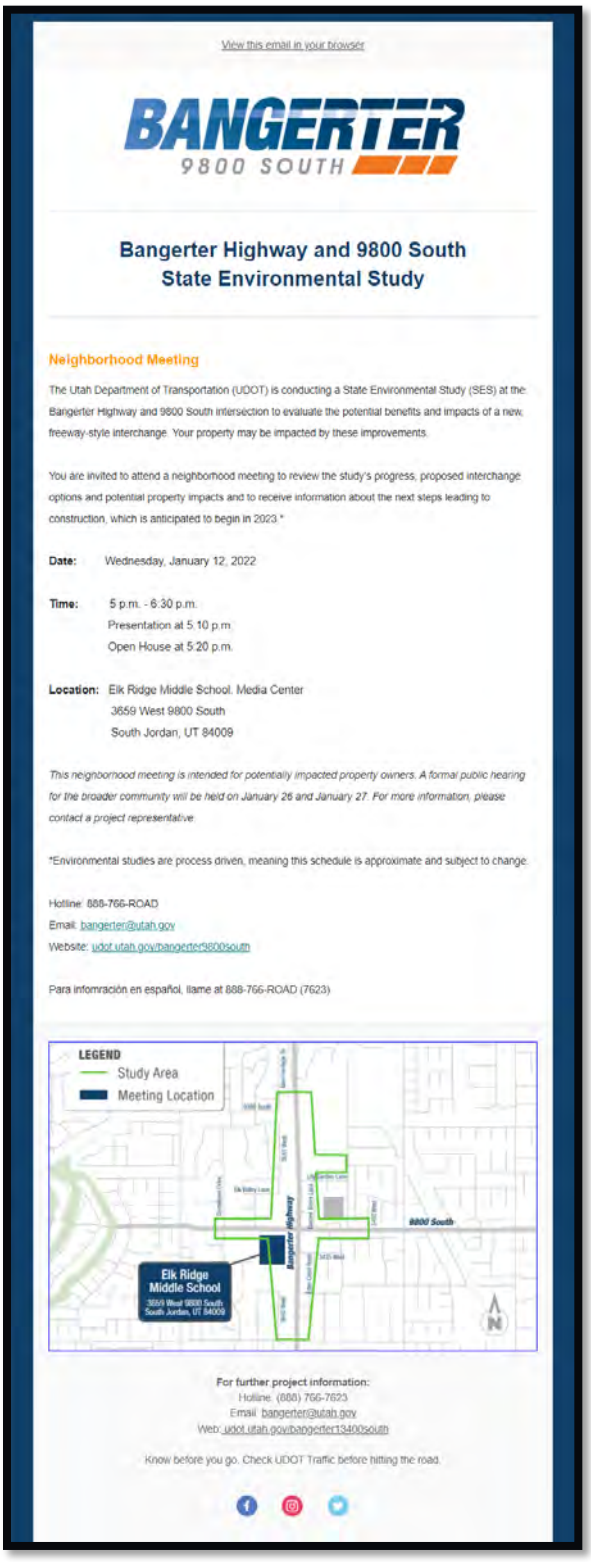
Neighborhood Meeting



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BANGERTER 9800 SOUTH

Bangerter Highway and 9800 South State Environmental Study

Neighborhood Meeting

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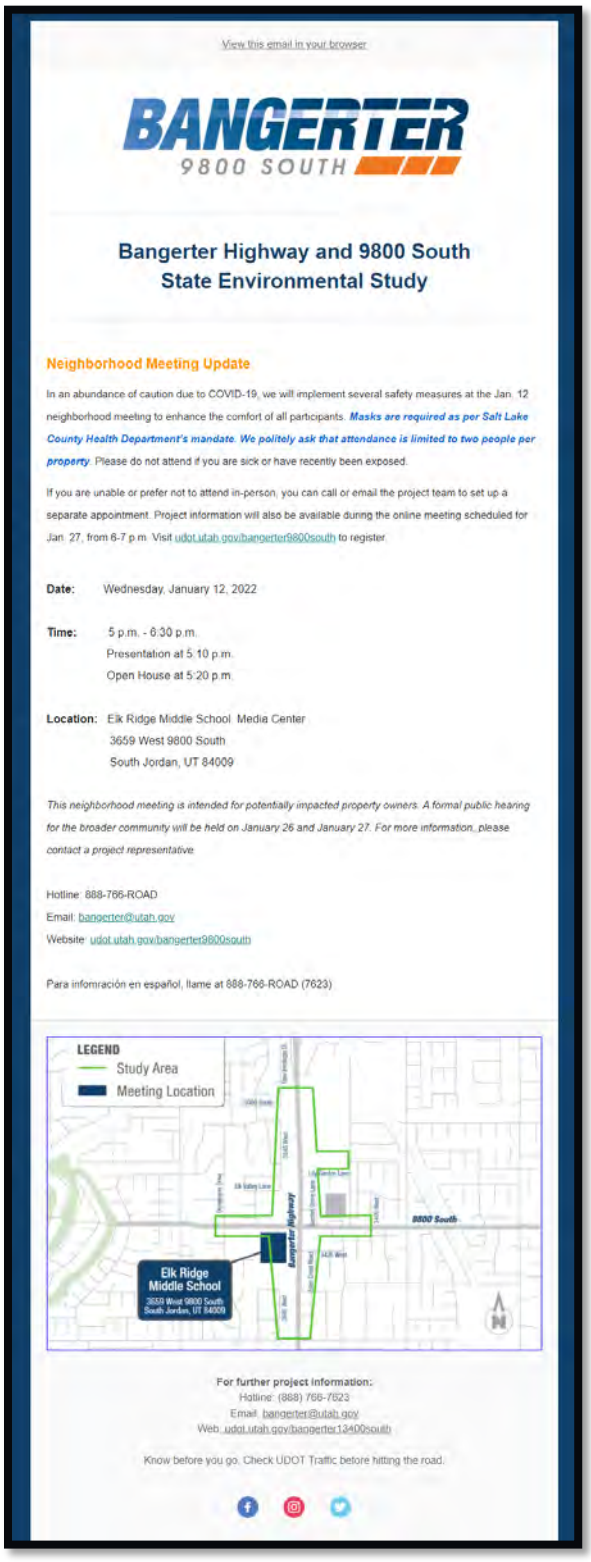

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BANGERTER 9800 SOUTH

Bangerter Highway and 9800 South State Environmental Study

Neighborhood Meeting Update

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Time: 5 p.m. - 6:30 p.m.
Presentation at 5:10 p.m.
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Location: Elk Ridge Middle School, Media Center
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Email: bangerter@utah.gov
Web: udot.utah.gov/bangerter13400south

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Public Hearing Advertisements

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The Salt Lake Tribune

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PLEASANT GROVE, UT 84062

ACCOUNT NUMBER
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ACCOUNT NAME
[redacted]

TELEPHONE
[redacted]

ORDER #
SLT0015256

CUSTOMER REFERENCE NUMBER

CAPTION
NOTICE OF PUBLIC HEARING On Proposed Improvements for the Bangerter Highway (S.R. 154) and 9800 South Intersection in Salt Lake County, UT; UDOT Project No.

TOTAL COST
[redacted]

NOTICE OF PUBLIC HEARING
On Proposed Improvements for the
Bangerter Highway (S.R. 154) and 9800 South Intersection
in Salt Lake County, UT;
UDOT Project No. S-0154(92)0

As part of the State Environmental Study process, the Utah Department of Transportation (UDOT) advises all interested persons or groups that a Public Hearing will be held to present the proposed improvements at the Bangerter Highway and 9800 South intersection in Salt Lake County, UT. The proposed project includes constructing a grade-separated Tight-Diamond Interchange at the intersection of Bangerter Highway and 9800 South. Both an in-person and online engagement opportunity will be provided as part of the Public Hearing.

In-person
When: Wednesday, Jan. 26, 2022, from 6 - 7:30 p.m.
Where: Elk Ridge Middle School, 3659 West 9800 South, South Jordan, UT 84009

Online
When: Thursday, Jan. 27, 2022, from 6 - 7 p.m.
Where: Visit udot.utah.gov/bangerter9800south for instructions on how to join the online meeting.

Masks are required at the in-person meeting as per Salt Lake County Health Department's mandate (in effect Jan. 8 – Feb. 7). To encourage social distancing, please limit attendance to two people per household.

Members of the public are invited to attend the Public Hearing and are encouraged to provide comments and feedback for consideration. Information to be presented at the meetings will include the draft State Environmental Study which identifies a Proposed Action, the process used to identify the Proposed Action, environmental resources considered and appropriate mitigation. The team will also present the project schedule and will be available to answer questions.

The draft State Environmental Study will be available at udot.utah.gov/bangerter9800south beginning Jan. 17, 2022. Other meeting materials will be available on the study website starting on Jan. 27, 2022, at udot.utah.gov/bangerter9800south. Written comments should be sent to:

Bangerter Environmental c/o Horrocks Engineers
2162 West Grove Parkway, Suite 400
Pleasant Grove, UT 84062

Comments may also be submitted at the in-person public meeting, via email at bangerter@utah.gov, or by calling the project hotline. Comments need to be submitted by Feb. 15, 2022, to be included in the official transcripts of the Public Hearing. Comments provided to the study team will be reviewed and considered by UDOT. All comments received will be documented in the project record. The study team will contact you if they need additional information or clarification.

If you have questions about the Public Hearings, please contact a study representative at 888-766-ROAD (7623) or bangerter@utah.gov, or visit udot.utah.gov/bangerter9800south.

In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) or language translation services during this meeting should notify the study team five days in advance at 888-766-ROAD (7623) or bangerter@utah.gov.

Para información en español, llame al 888-766-ROAD (7623).

SLT0015256

AFFIDAVIT OF PUBLICATION

AS THE SALT LAKE TRIBUNE, INC. LEGAL BOOKER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF NOTICE OF PUBLIC HEARING On Proposed Improvements for the Bangerter Highway (S.R. 154) and 9800 South Intersection in Salt Lake County, UT; UDOT Project No. FOR HORROCKS ENGINEERS, INC. WAS PUBLISHED BY THE SALT LAKE TRIBUNE, INC., WEEKLY NEWSPAPER PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH. NOTICE IS ALSO POSTED ON UTAHLEGALS.COM ON THE SAME DAY AS THE FIRST NEWSPAPER PUBLICATION DATE AND REMAINS ON UTAHLEGALS.COM INDEFINITELY. COMPLIES WITH UTAH DIGITAL SIGNATURE ACT UTAH CODE 46-2-101; 46-3-104.

PUBLISHED ON 01/09/2022, 01/16/2022

DATE 01/18/2022

SIGNATURE Jordyn gallegos

STATE OF UTAH
COUNTY OF SALT LAKE

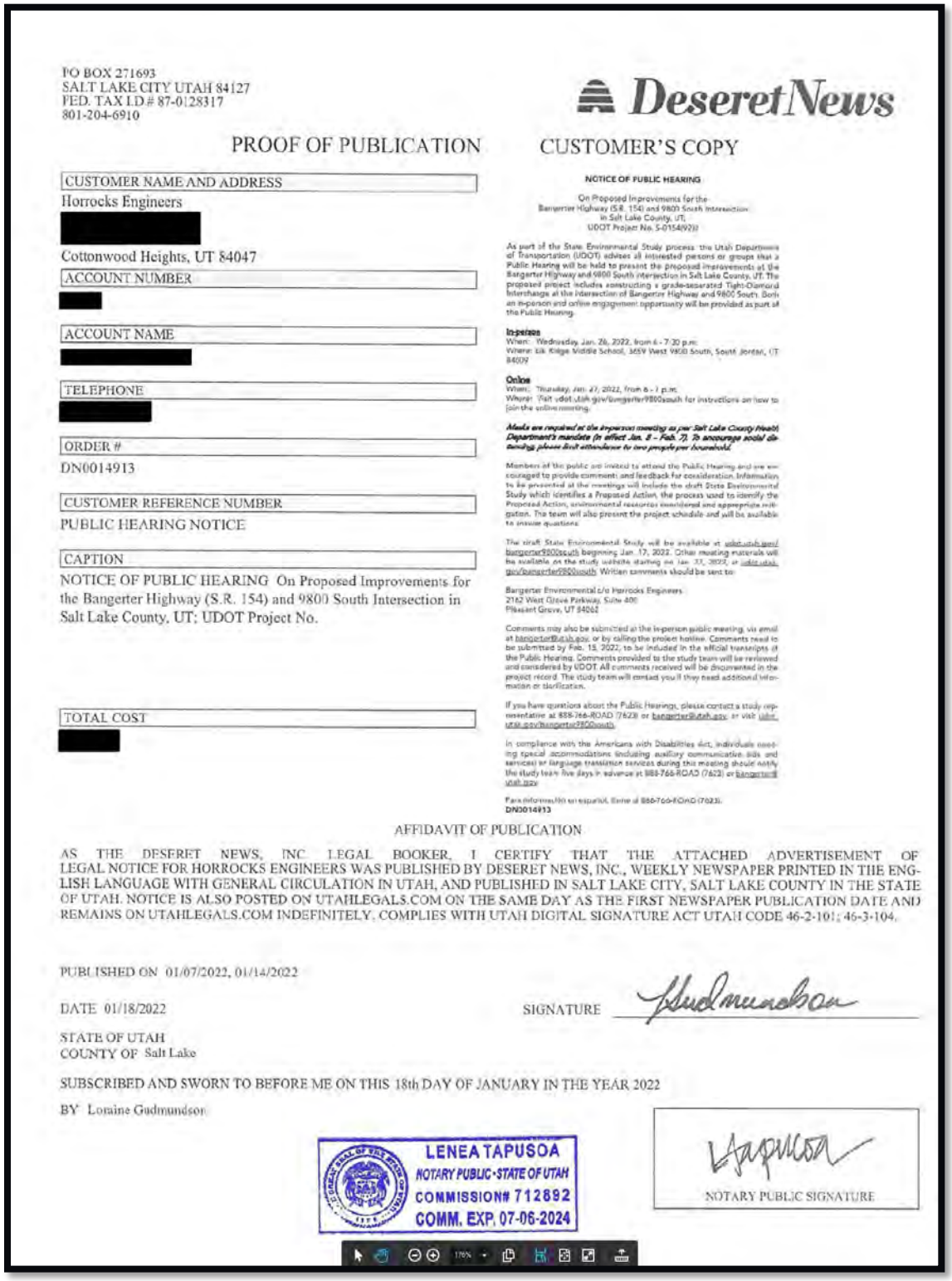
SUBSCRIBED AND SWORN TO BEFORE ME ON THIS 18th DAY OF JANUARY IN THE YEAR 2022

BY Jordyn Gallegos

MAKAYLA THEE
Notary Public, State of Utah
Commission # 718815
My Commission Expires
June 15, 2025

NOTARY PUBLIC SIGNATURE

Legal Notice – Deseret News



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TELEPHONE
[redacted]

ORDER #
DN0014913

CUSTOMER REFERENCE NUMBER
PUBLIC HEARING NOTICE

CAPTION
NOTICE OF PUBLIC HEARING On Proposed Improvements for the Bangerter Highway (S.R. 154) and 9800 South Intersection in Salt Lake County, UT; UDOT Project No.

TOTAL COST
[redacted]

NOTICE OF PUBLIC HEARING

On Proposed Improvements for the
Bangerter Highway (S.R. 154) and 9800 South Intersection
in Salt Lake County, UT;
UDOT Project No. S-0154(92)0

As part of the State Environmental Study process the Utah Department of Transportation (UDOT) advises all interested persons or groups that a Public Hearing will be held to present the proposed improvements at the Bangerter Highway and 9800 South intersection in Salt Lake County, UT. The proposed project includes constructing a grade-separated Tight-Diamond Interchange at the intersection of Bangerter Highway and 9800 South. Both an in-person and online engagement opportunity will be provided as part of the Public Hearing.

In-person
When: Wednesday, Jan. 26, 2022, from 6 - 7:30 p.m.
Where: Lik Ridge Middle School, 3659 West 9800 South, South Jordan, UT 84009

Online
When: Thursday, Jan. 27, 2022, from 6 - 7 p.m.
Where: Visit udot.utah.gov/bangerter9800south for instructions on how to join the online meeting.

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2162 West Grove Parkway, Suite 400
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Para información en español, llame al 888-766-ROAD (7623).
DN0014913

AFFIDAVIT OF PUBLICATION

AS THE DESERET NEWS, INC. LEGAL BOOKER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF LEGAL NOTICE FOR HORROCKS ENGINEERS WAS PUBLISHED BY DESERET NEWS, INC., WEEKLY NEWSPAPER PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH. NOTICE IS ALSO POSTED ON UTAHLEGALS.COM ON THE SAME DAY AS THE FIRST NEWSPAPER PUBLICATION DATE AND REMAINS ON UTAHLEGALS.COM INDEFINITELY. COMPLIES WITH UTAH DIGITAL SIGNATURE ACT UTAH CODE 46-2-101; 46-3-104.

PUBLISHED ON 01/07/2022, 01/14/2022

DATE 01/18/2022

SIGNATURE [signature]

STATE OF UTAH
COUNTY OF Salt Lake

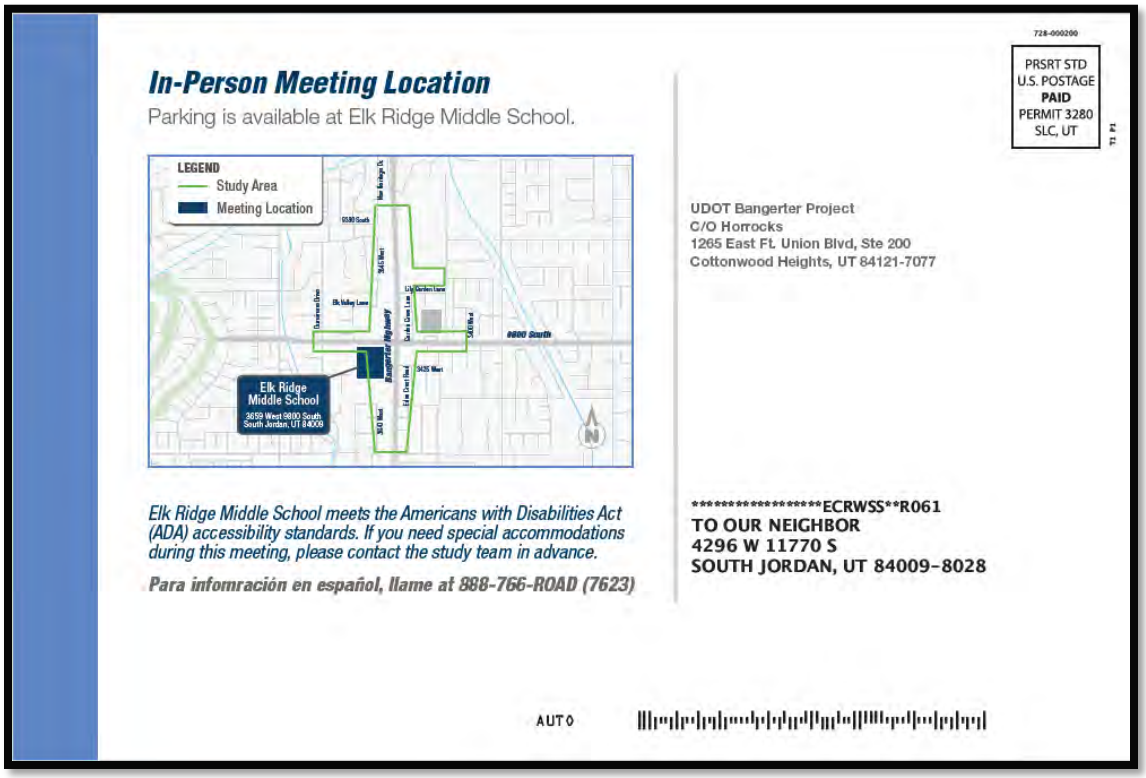
SUBSCRIBED AND SWORN TO BEFORE ME ON THIS 18th DAY OF JANUARY IN THE YEAR 2022

BY Loraine Gudmundson

LENEA TAPUSOA
NOTARY PUBLIC-STATE OF UTAH
COMMISSION# 712692
COMM. EXP. 07-06-2024

[signature]
NOTARY PUBLIC SIGNATURE

Public Hearing Postcard Invitation



In-Person Meeting Location

Parking is available at Elk Ridge Middle School.

Elk Ridge Middle School meets the Americans with Disabilities Act (ADA) accessibility standards. If you need special accommodations during this meeting, please contact the study team in advance.

Para información en español, llame at 888-766-ROAD (7623)

728-000200

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TO OUR NEIGHBOR
4296 W 11770 S
SOUTH JORDAN, UT 84009-8028

AUTO

BANGERTER 9800 SOUTH

YOU'RE INVITED! STATE ENVIRONMENTAL STUDY PUBLIC HEARING

The Utah Department of Transportation (UDOT) is preparing a State Environmental Study (SES) to evaluate a potential freeway-style interchange at Bangerter Highway and 9800 South in order to reduce congestion and improve safety. The SES is scheduled for completion in early 2022, and construction is anticipated to start as early as 2023.*

Members of the public are invited to attend a Public Hearing to review the proposed improvements and are encouraged to provide comments and feedback for consideration. Both an in-person and online engagement opportunity will be provided as part of the Public Hearing.

Written comments may be submitted at the in-person Public Hearing or by mail or email. **The public comment period will be open from Jan. 17, 2022, through Feb. 15, 2022.**

IN-PERSON MEETING

When: **Wednesday, Jan. 26, 2022, 6 – 7:30 p.m.**
Presentation at 6:10 p.m.
Open House at 6:20 p.m.

Where: Elk Ridge Middle School, Gymnasium
3659 West 9800 South
South Jordan, UT 84009
(See map on reverse side)

IN-PERSON OPEN HOUSE

When: **Thursday, Jan. 27, 2022, 6 – 7 p.m.**

Where: **Zoom Webinar**
Visit the study website for information on how to join the online meeting at
udot.utah.gov/bangerter9800south

The same information and materials will be available at both meetings. If you cannot participate in either opportunity, materials can be reviewed on the project website and feedback can be sent via email or postage. The Draft SES will be available on the project website on Jan. 17, 2022.

**Environmental studies are process-driven, meaning this schedule is approximate and subject to change.*

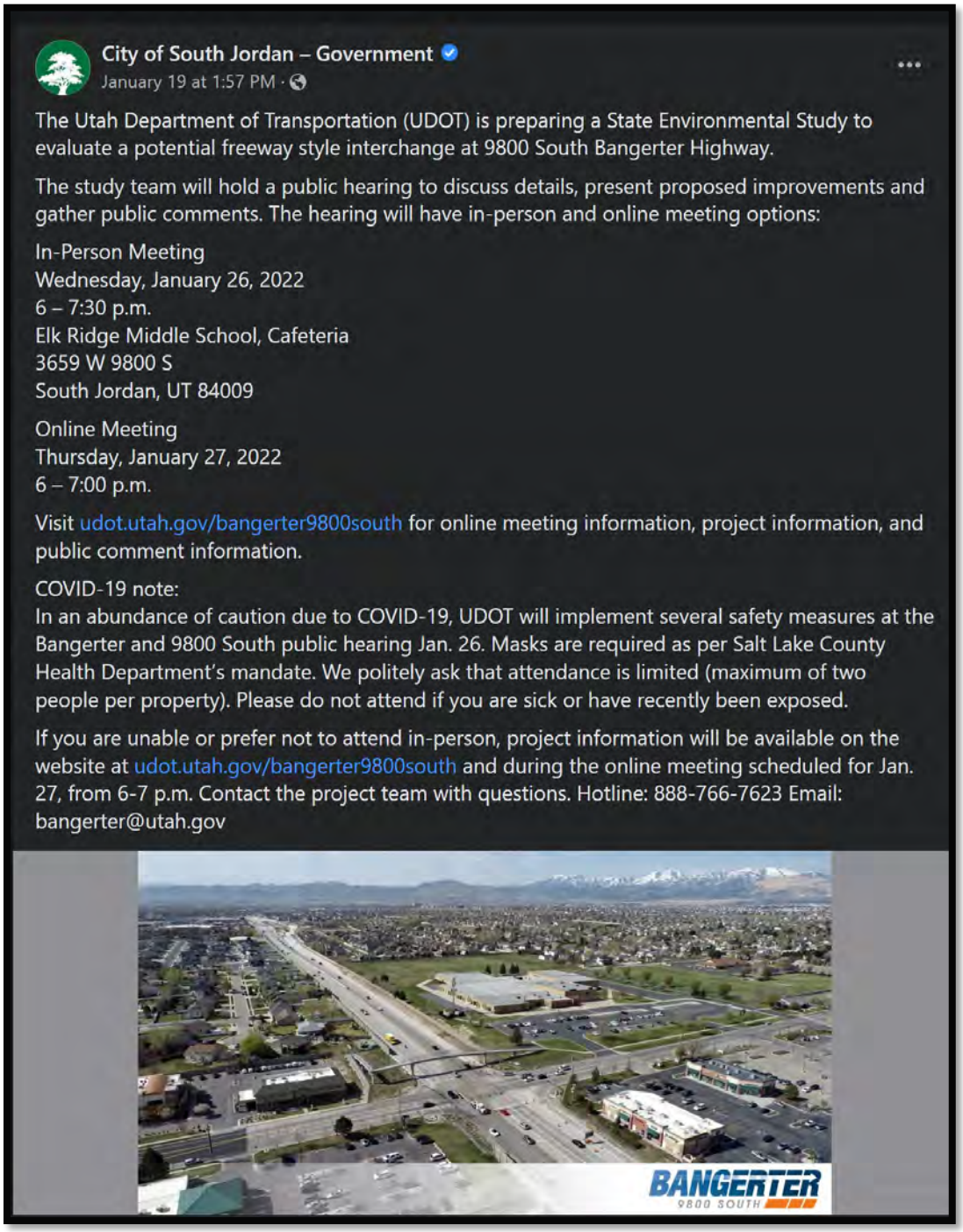
Hotline: 888-766-ROAD (7623) | **Email:** bangerter@utah.gov | **Website:** udot.utah.gov/Bangerter9800South

A UDOT PROJECT

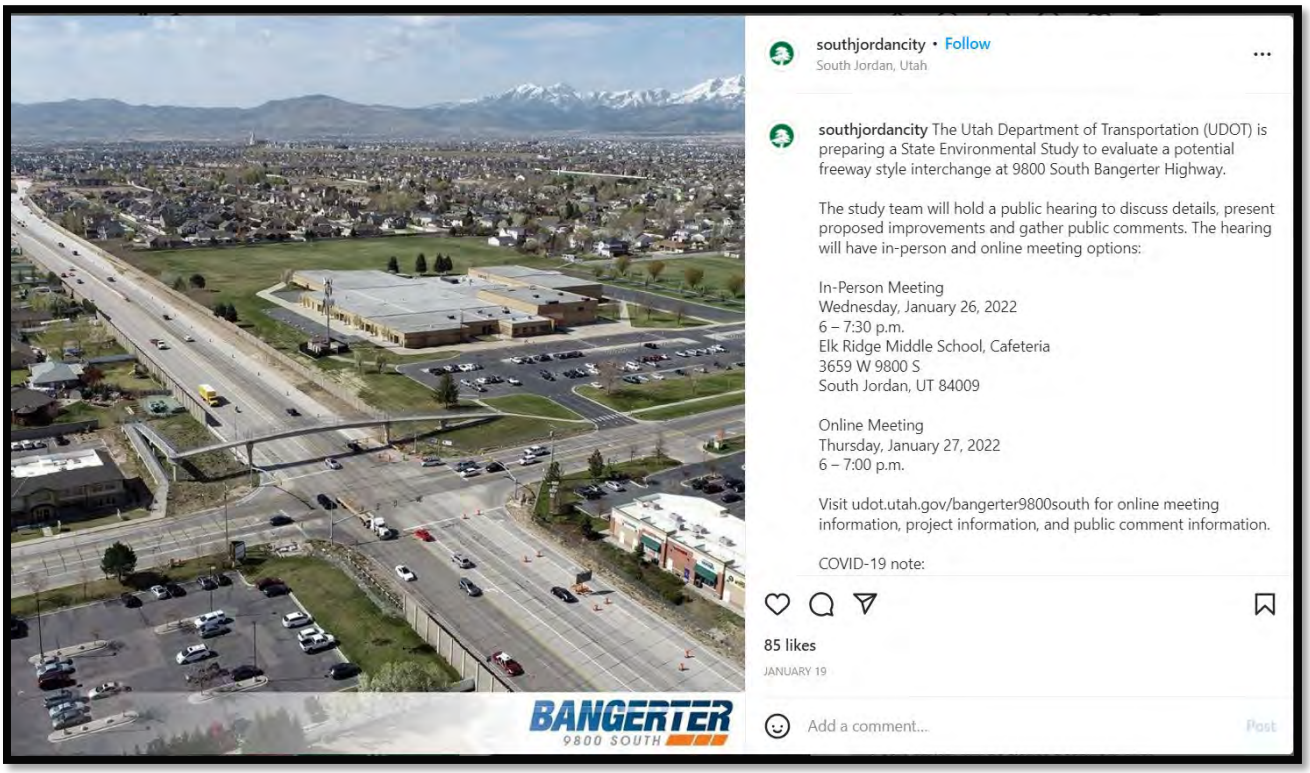
000200

South Jordan City Social Media Channels

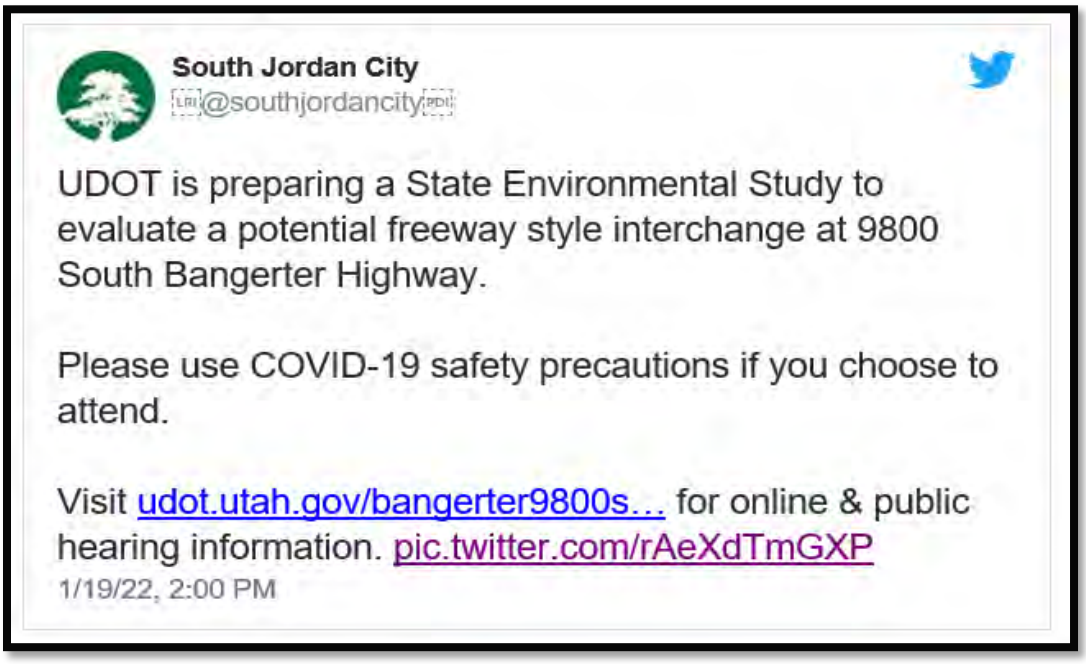
Facebook



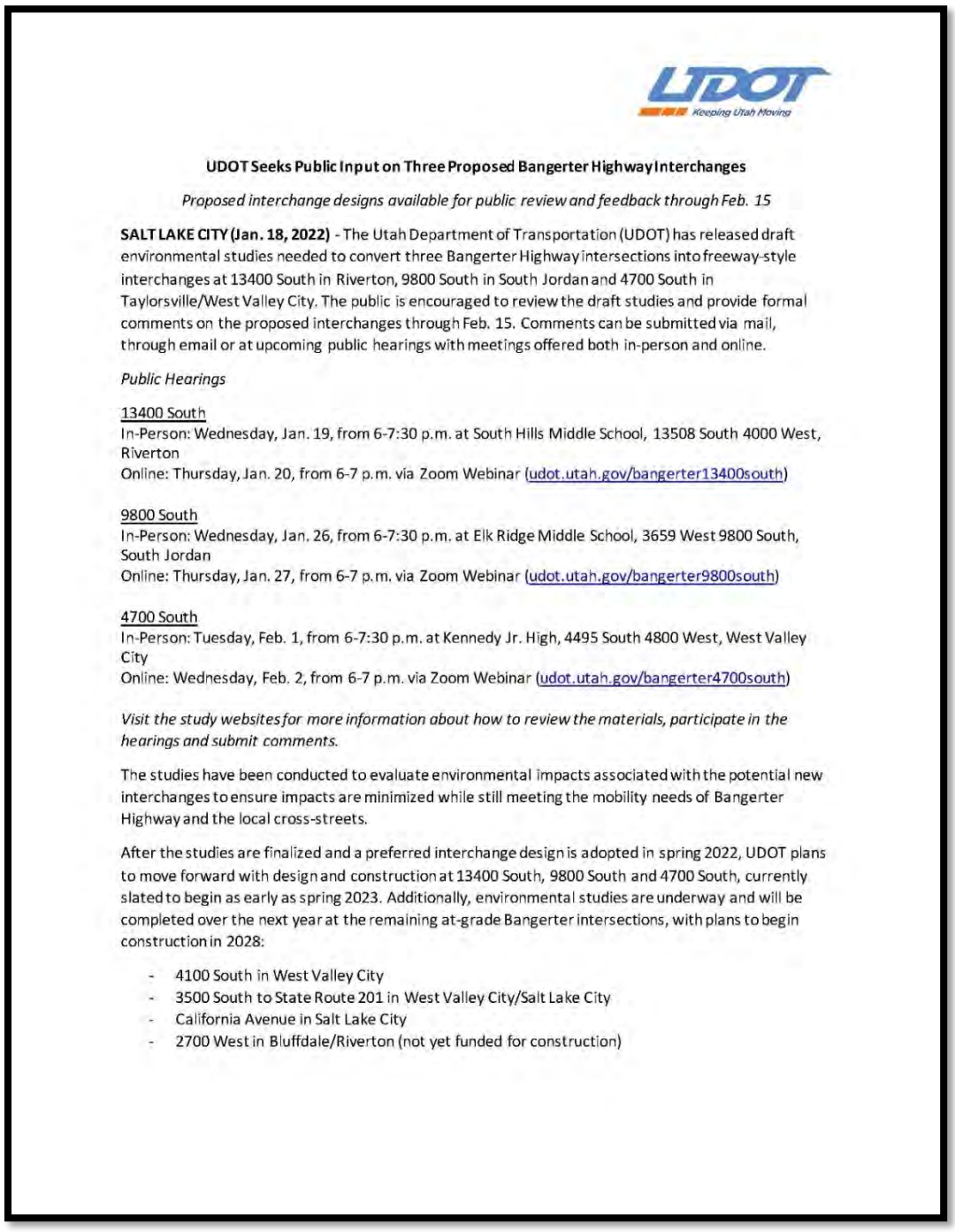
Instagram



Twitter



Media Release



UDOT Seeks Public Input on Three Proposed Bangerter Highway Interchanges

Proposed interchange designs available for public review and feedback through Feb. 15

SALT LAKE CITY (Jan. 18, 2022) - The Utah Department of Transportation (UDOT) has released draft environmental studies needed to convert three Bangerter Highway intersections into freeway-style interchanges at 13400 South in Riverton, 9800 South in South Jordan and 4700 South in Taylorsville/West Valley City. The public is encouraged to review the draft studies and provide formal comments on the proposed interchanges through Feb. 15. Comments can be submitted via mail, through email or at upcoming public hearings with meetings offered both in-person and online.

Public Hearings

13400 South
In-Person: Wednesday, Jan. 19, from 6-7:30 p.m. at South Hills Middle School, 13508 South 4000 West, Riverton
Online: Thursday, Jan. 20, from 6-7 p.m. via Zoom Webinar (udot.utah.gov/bangerter13400south)

9800 South
In-Person: Wednesday, Jan. 26, from 6-7:30 p.m. at Elk Ridge Middle School, 3659 West 9800 South, South Jordan
Online: Thursday, Jan. 27, from 6-7 p.m. via Zoom Webinar (udot.utah.gov/bangerter9800south)

4700 South
In-Person: Tuesday, Feb. 1, from 6-7:30 p.m. at Kennedy Jr. High, 4495 South 4800 West, West Valley City
Online: Wednesday, Feb. 2, from 6-7 p.m. via Zoom Webinar (udot.utah.gov/bangerter4700south)

Visit the study websites for more information about how to review the materials, participate in the hearings and submit comments.

The studies have been conducted to evaluate environmental impacts associated with the potential new interchanges to ensure impacts are minimized while still meeting the mobility needs of Bangerter Highway and the local cross-streets.

After the studies are finalized and a preferred interchange design is adopted in spring 2022, UDOT plans to move forward with design and construction at 13400 South, 9800 South and 4700 South, currently slated to begin as early as spring 2023. Additionally, environmental studies are underway and will be completed over the next year at the remaining at-grade Bangerter intersections, with plans to begin construction in 2028:

- 4100 South in West Valley City
- 3500 South to State Route 201 in West Valley City/Salt Lake City
- California Avenue in Salt Lake City
- 2700 West in Bluffdale/Riverton (not yet funded for construction)

"UDOT is prioritizing the completion of Bangerter Highway to improve safety and mobility along this critical corridor," said Brian Allen, UDOT Project Manager. "When the conversion to a freeway is complete and traffic can flow freely without stoplights, we expect to see a significant reduction in crashes and in time driving both north and south on Bangerter Highway and east and west on cross-streets. In fact, traffic projections show that when all is said and done, the time it takes to drive from I-15 in Draper to the Salt Lake International Airport via Bangerter will be reduced by up to 20 minutes," Allen said.

Visit udot.utah.gov/bangerter for more information and to sign up for updates.

-UDOT-

Media Contact:
John Gleason
UDOT Public Information Officer
jgleason@utah.gov
801-560-7740

Stakeholder Email Update

Public Hearing

View the email here.

BANGERTER
9800 SOUTH

You're invited!
State Environmental Study Public Hearing

The Utah Department of Transportation (UDOT) is preparing a State Environmental Study (SES) to evaluate a potential freeway-style interchange at Bangerter Highway and 9800 South in order to reduce congestion and improve safety. The SES is scheduled for completion in early 2022, with construction slated for 2023*.

Members of the public are invited to attend a Public Hearing to review the proposed improvements and are encouraged to provide comments and feedback for consideration. Both an in-person and online engagement opportunity will be provided as part of the Public Hearing. Written comments may be submitted at the in-person hearing or by mail or email. **The public comment period will be open from Jan. 17, 2022 through Feb. 15, 2022.**

IN-PERSON MEETING

When: Wednesday, Jan. 26, 2021
6 - 7:30 p.m.
Presentation at 6:10 p.m.
Open House at 6:20 p.m.

Where: **Elk Ridge Middle School Cafeteria**
3659 W 9800 S
South Jordan, UT 84009

ONLINE MEETING

When: Thursday, Jan.27, 2021
6 - 7 p.m.

Where: **Zoom Webinar**
Visit the study website for information on how to join the online meeting,
udot.utah.gov/bangerter9800south

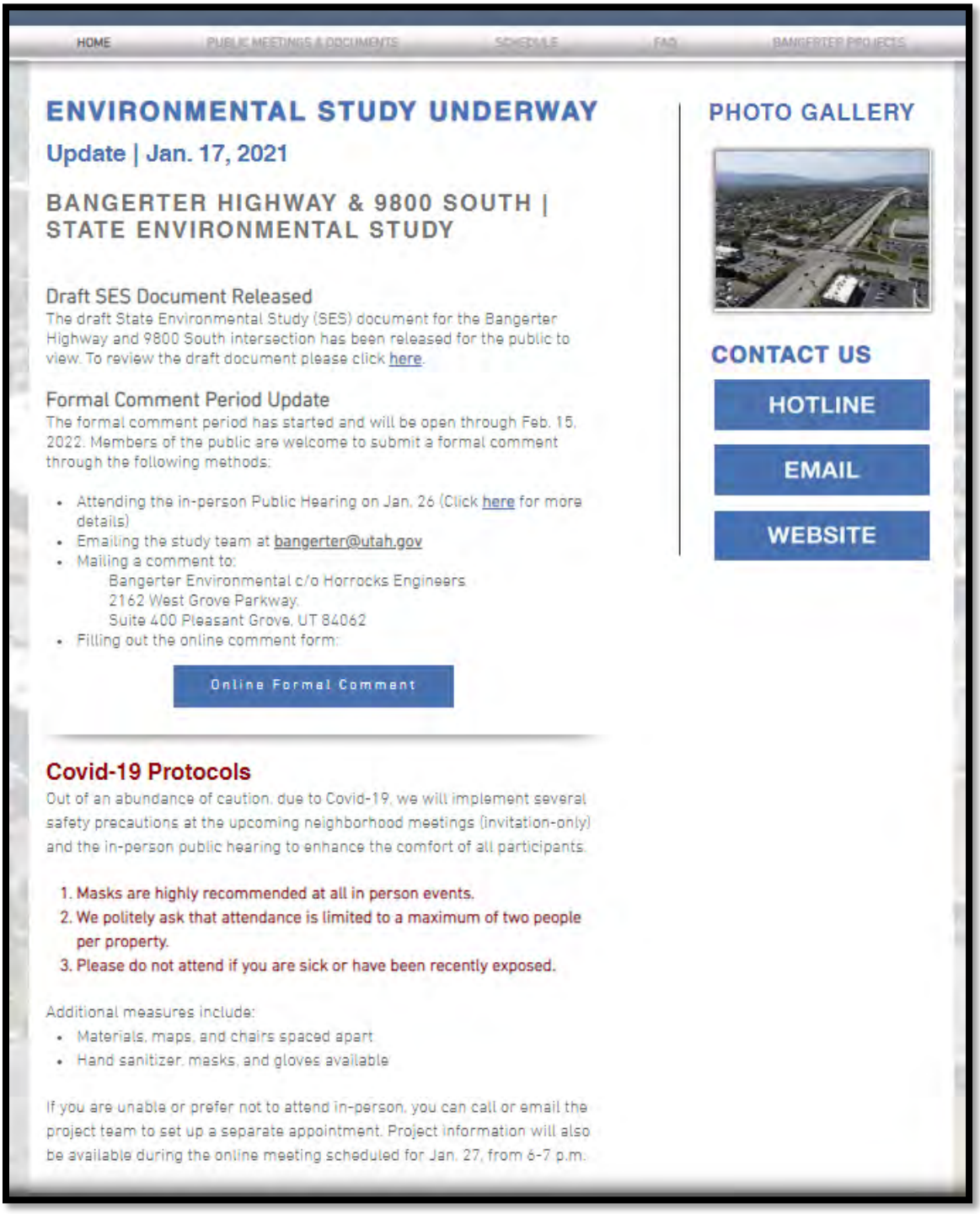
In an abundance of caution due to COVID-19, we will implement several safety measures at the Jan. 19 in-person meeting to enhance the health and safety of all participants. ***Masks are required as per Salt Lake County Health Department's mandate. We politely ask that attendance is limited to two people per property.*** Please do not attend if you are sick or have recently been exposed.

If you are unable or prefer not to attend in-person, you can call or email the project team to set up a separate appointment. Project information will also be available during the online meeting scheduled for Jan. 27, from 6-7 p.m. Visit udot.utah.gov/bangerter9800south to register.

The same information and materials will be available at both meetings. If you cannot participate in either opportunity, materials can be reviewed on the project website and feedback can be sent via email or postage. The draft SES will be available on the project website on Jan. 17, 2022.

**Environmental studies are process-driven, meaning this schedule is approximate and subject to change.*

Study Website Information



HOME PUBLIC MEETINGS & DOCUMENTS SCHEDULE FAQ BANGERTER PROJECTS

ENVIRONMENTAL STUDY UNDERWAY

Update | Jan. 17, 2021

BANGERTER HIGHWAY & 9800 SOUTH | STATE ENVIRONMENTAL STUDY

Draft SES Document Released

The draft State Environmental Study (SES) document for the Bangerter Highway and 9800 South intersection has been released for the public to view. To review the draft document please click here.

Formal Comment Period Update

The formal comment period has started and will be open through Feb. 15, 2022. Members of the public are welcome to submit a formal comment through the following methods:

- Attending the in-person Public Hearing on Jan. 26 (Click here for more details)
- Emailing the study team at bangerter@utah.gov
- Mailing a comment to:
  Bangerter Environmental c/o Horrocks Engineers
  2162 West Grove Parkway,
  Suite 400 Pleasant Grove, UT 84062
- Filling out the online comment form:

Online Formal Comment

Covid-19 Protocols

Out of an abundance of caution, due to Covid-19, we will implement several safety precautions at the upcoming neighborhood meetings (invitation-only) and the in-person public hearing to enhance the comfort of all participants.

1. Masks are highly recommended at all in person events.
2. We politely ask that attendance is limited to a maximum of two people per property.
3. Please do not attend if you are sick or have been recently exposed.

Additional measures include:

- Materials, maps, and chairs spaced apart
- Hand sanitizer, masks, and gloves available

If you are unable or prefer not to attend in-person, you can call or email the project team to set up a separate appointment. Project information will also be available during the online meeting scheduled for Jan. 27, from 6-7 p.m.

PHOTO GALLERY

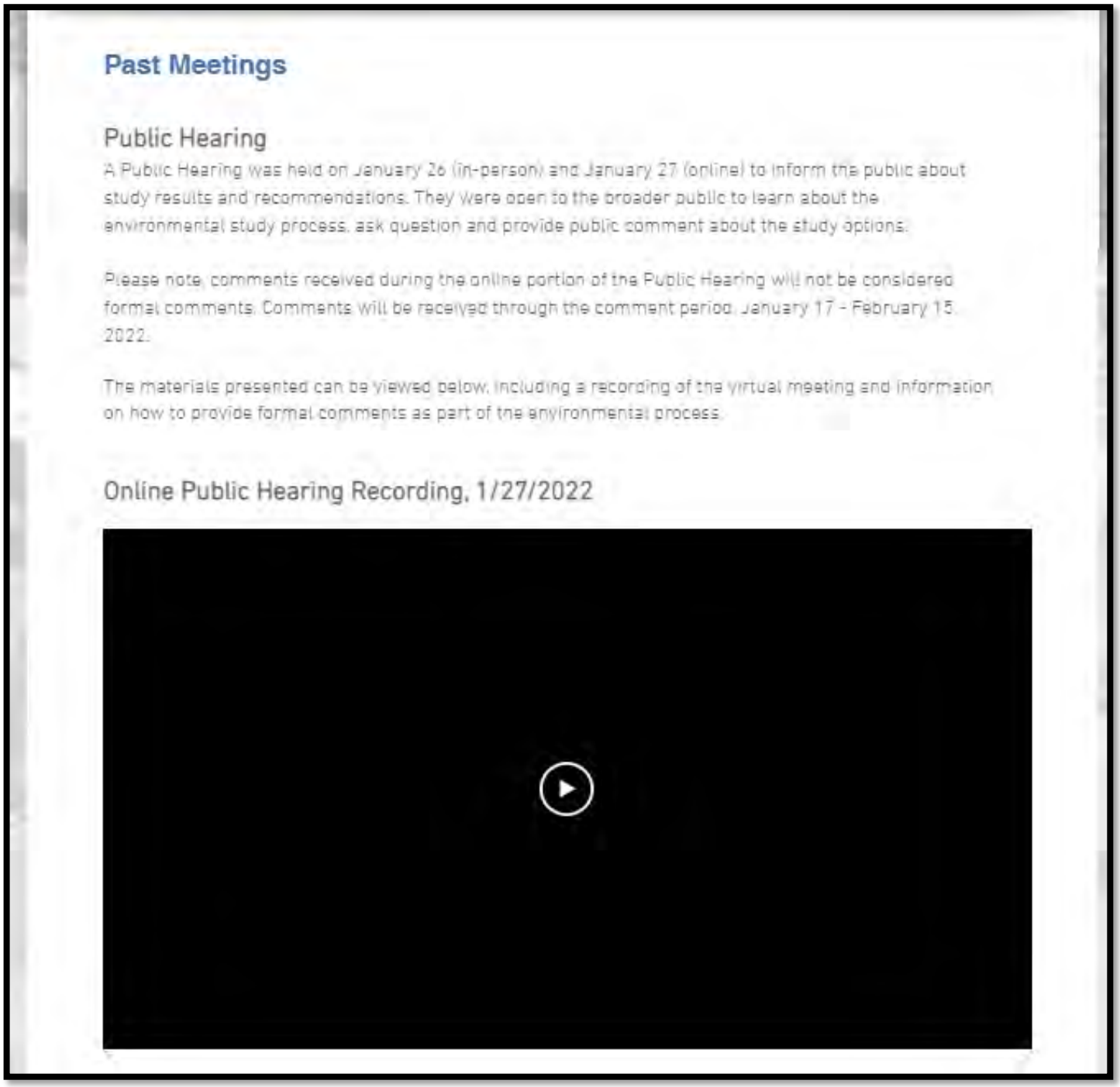
CONTACT US

HOTLINE

EMAIL

WEBSITE

PUBLIC MEETINGS & DOCUMENTS
SUBMIT FORMAL COMMENTS HERE:
Online Formal Comment
Draft SES Document
Click on the below images to review the draft SES document.
BANGERTER
9800 SOUTH
STATE ENVIRONMENTAL STUDY
BANGERTER
9800 SOUTH
EXECUTIVE SUMMARY
BANGERTER
9800 SOUTH
APPENDIX
Property Impact Maps
Click on the below images to review the draft SES property impact maps.
Bangerter Over Option
Bangerter Under Option


Past Meetings
Public Hearing
A Public Hearing was held on January 26 (in-person) and January 27 (online) to inform the public about study results and recommendations. They were open to the broader public to learn about the environmental study process, ask question and provide public comment about the study options.
Please note, comments received during the online portion of the Public Hearing will not be considered formal comments. Comments will be received through the comment period, January 17 - February 15, 2022.
The materials presented can be viewed below, including a recording of the virtual meeting and information on how to provide formal comments as part of the environmental process.
Online Public Hearing Recording, 1/27/2022

Neighborhood Meetings

Neighborhood meetings were held in **mid-January 2022** to disclose impacts to the affected property owners adjacent to Bangerter and provide them an opportunity to review and discuss the next steps with the study team in a smaller setting. **Potentially impacted property owners and tenants received an invitation via email and a hand-delivered flyer.**

Public Scoping Meeting - July 2021

The public was invited to participate in two public open houses on July 28 (online) and July 29 (in-person) to learn about the environmental study process, ask questions, and learn how to provide feedback about overall transportation needs and environmental issues that should be considered during the study. Input received during these meetings will help the team develop and refine the preferred design concept that will be available for comment later in the environmental process.

The materials presented can be viewed below, including a recording of the virtual meeting and information on how to provide formal comments as part of the environmental process.

Meeting Recording

View a recording of the 9800 South Online Public Meeting.

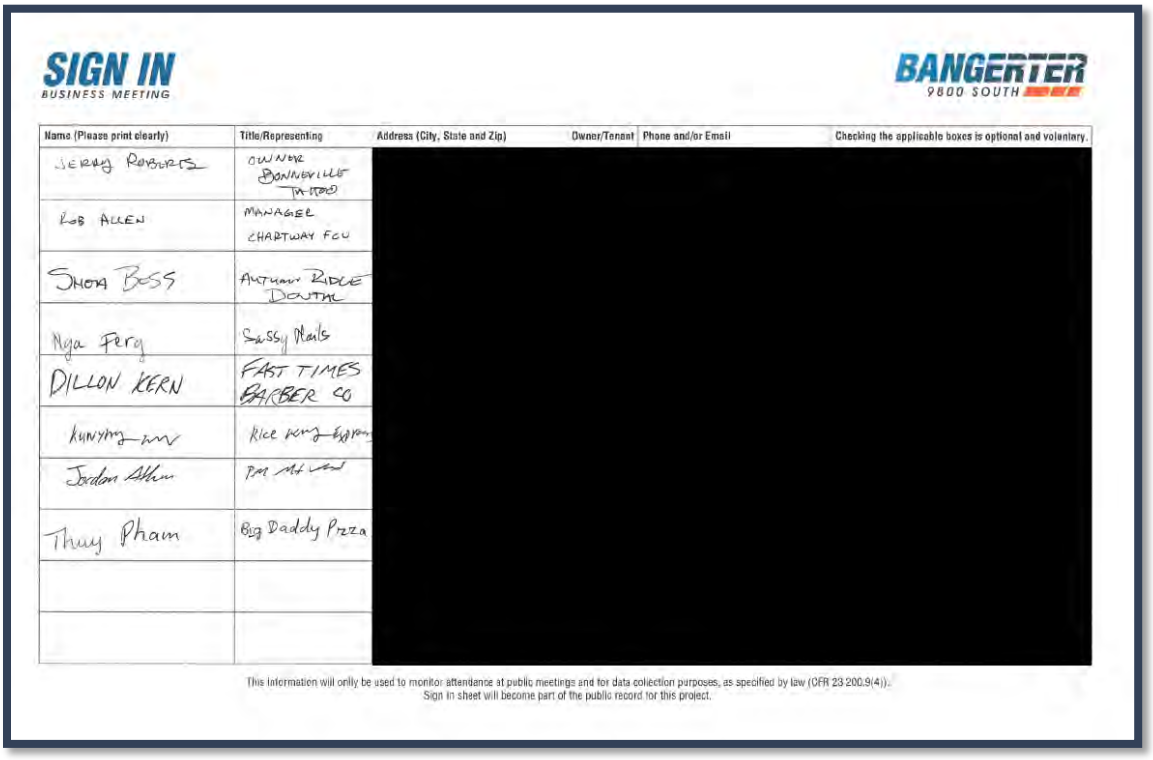
Online Public Meeting Materials

Public Meeting Presentation

UDOT Noise Analysis Information

Appendix B Attendance

Business Meeting Sign-In Sheets

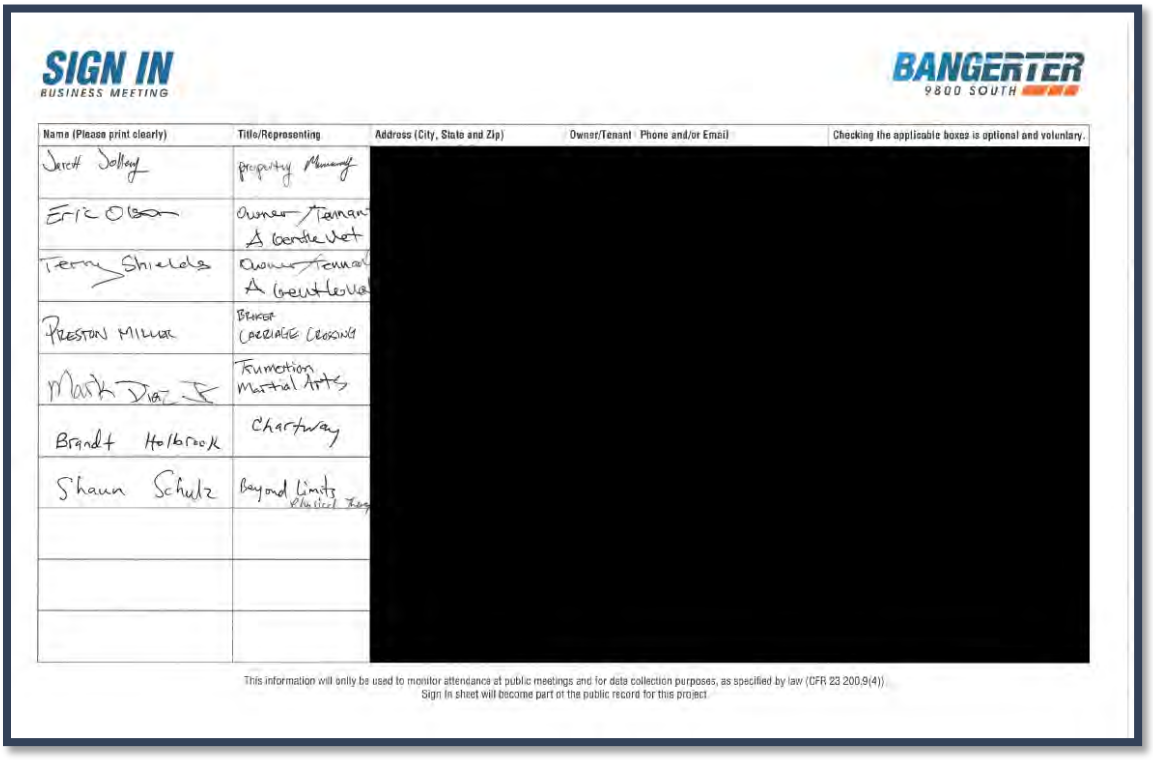


SIGN IN
BUSINESS MEETING

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Owner/Tenant	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
JERRY ROBERTS	OWNER BONNEVILLE TATTOO	[redacted]			
ROB ALLEN	MANAGER CHARTWAY FCU				
SHOYA BOSS	AUTHOR RIDGE DENTAL				
Nya Ferg	Sassy Nails				
DILLON KERN	FAST TIMES BARBER CO				
[illegible]	Rice King Express				
Jordan [illegible]	[illegible]				
Thuy Pham	Big Daddy Pizza				

This information will only be used to monitor attendance at public meetings and for data collection purposes, as specified by law (CFR 23 200.9(4)).
Sign in sheet will become part of the public record for this project.



SIGN IN
BUSINESS MEETING

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Owner/Tenant	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Jacob Jolley	property manager	[redacted]			
Eric Olsen	Owner/Tenant A Gentle Vet				
Terry Shields	Owner/Tenant A Gentle Vet				
PRESTON MILLER	BENCH CROSSING				
Mark Diaz	Formation Martial Arts				
Brandt Holbrook	Chartway				
Shaun Schulz	Beyond Limits Physical Therapy				

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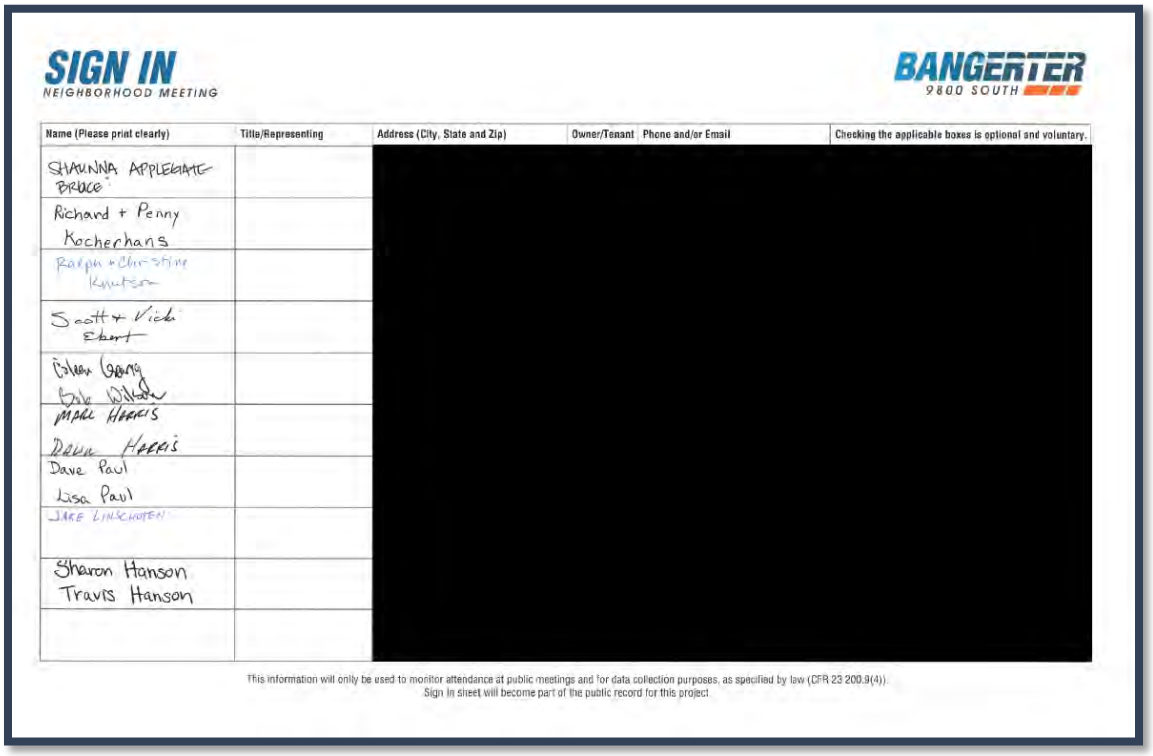
Sign in sheet will become part of the public record for this project.

Neighborhood Meeting Sign-In Sheets



SIGN IN
NEIGHBORHOOD MEETING

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Owner/Tenant	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
SHAUNNA APPLEGATE BRUCE		[redacted]			
Richard + Penny Kocherhans					
Ralph + Christine Knutson					
Scott + Vicki Ebert					
Eileen Gong					
Bob Wilson					
MARC HARRIS					
DAWN HARRIS					
Dave Paul					
Lisa Paul					
JAKE LINSCHOTEN					
Sharon Hanson					
Travis Hanson					

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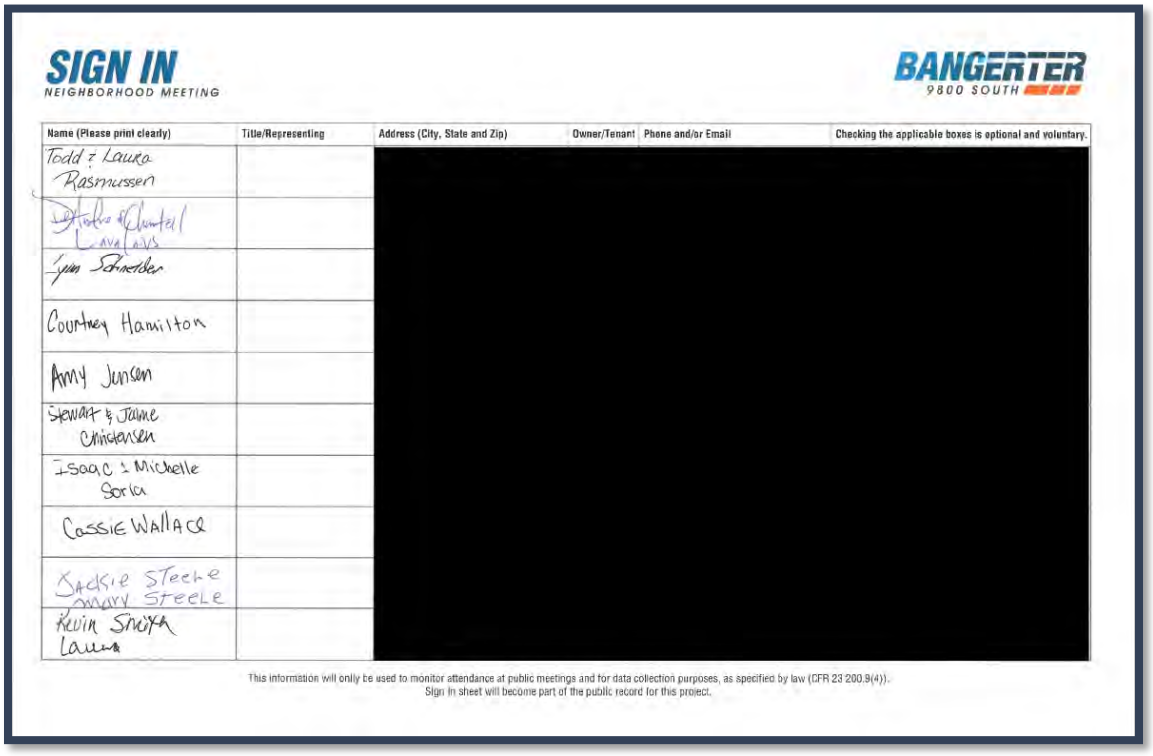

SIGN IN
NEIGHBORHOOD MEETING

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Owner/Tenant	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Todd + Laura Rasmussen		[redacted]			
[illegible] Chantell Lavalois					
Lynn Schneider					
Courtney Hamilton					
Amy Jensen					
Stewart & Jaime Christensen					
Isaac + Michelle Soria					
Cassie Wallace					
Jackie Steele					
Mary Steele					
Kevin Smith					
Laura					

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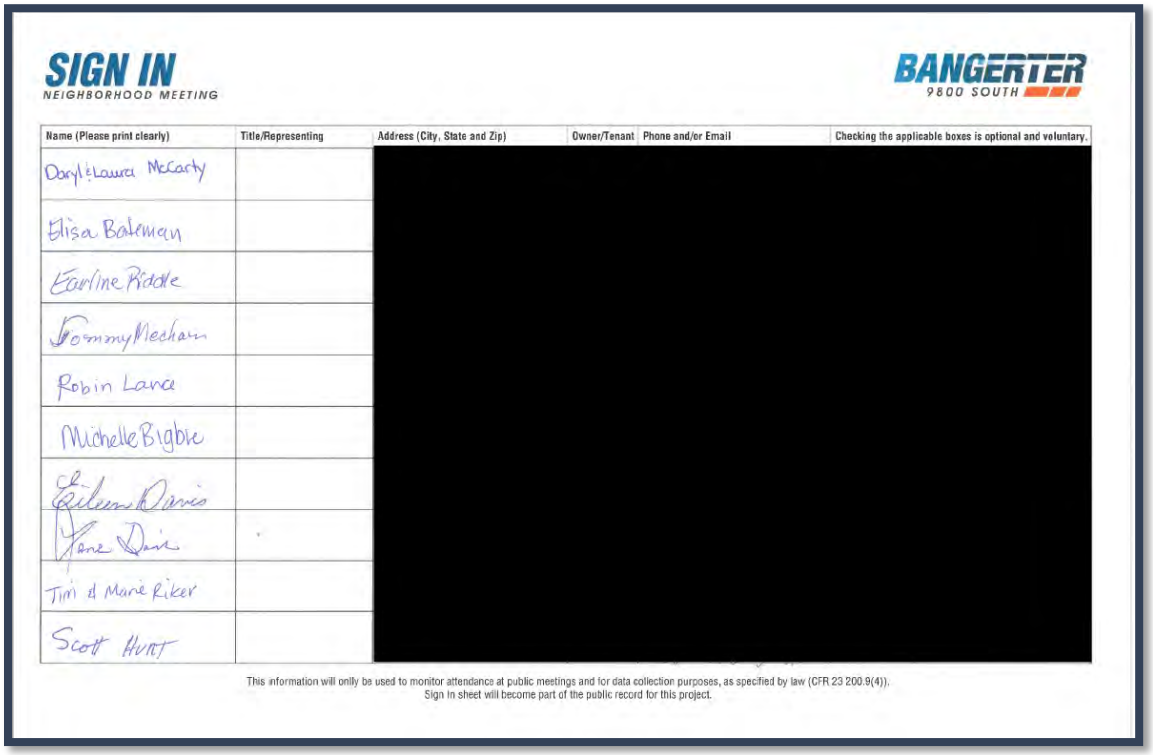

SIGN IN
NEIGHBORHOOD MEETING

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Owner/Tenant	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Daryl & Laura McCarty		[redacted]			
Elisa Bateman					
Earline Riddle					
Tommy Mecham					
Robin Lance					
Michelle Bigbie					
Eileen Davis					
Jane Davis					
Tim & Mare Riker					
Scott Hunt					

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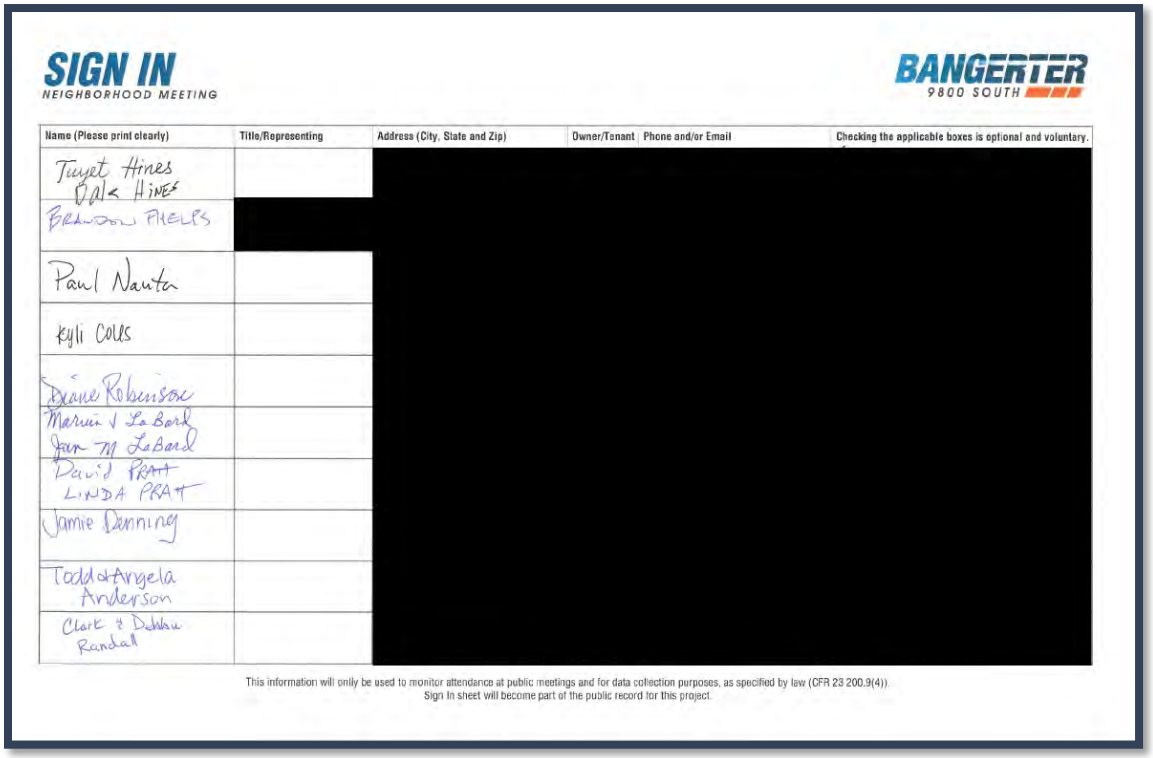

SIGN IN
NEIGHBORHOOD MEETING

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Owner/Tenant	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Tuyet Hines Dale Hines		[redacted]			
Brandon Fields					
Paul Nauta					
Kyli Coles					
Duane Robinson					
Marvin & LaBard Jan M LaBard					
David Pratt Linda Pratt					
Jamie Denning					
Todd & Angela Anderson					
Clark & Debbie Randall					

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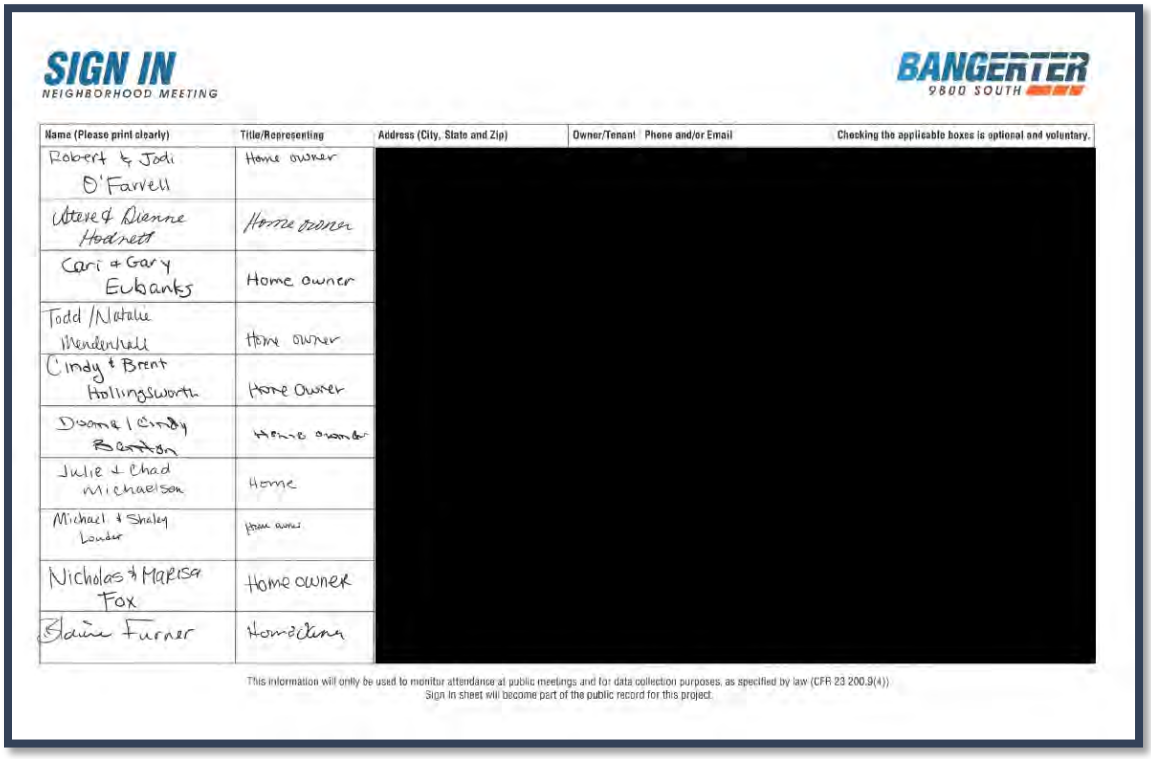

SIGN IN
NEIGHBORHOOD MEETING

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Owner/Tenant	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Robert & Jodi O'Farrell	Home owner	[redacted]			
Steve & Dianne Hodnett	Home owner				
Cari & Gary Eubanks	Home owner				
Todd / Natalie Mendenhall	Home owner				
Cindy & Brent Hollingsworth	Home Owner				
Dianne / Cindy Beaton	Home owner				
Julie & Chad Michaelson	Home				
Michael & Shaley Lowder	Home owner				
Nicholas & Marisa Fox	Home owner				
Blaine Turner	Homeowner				

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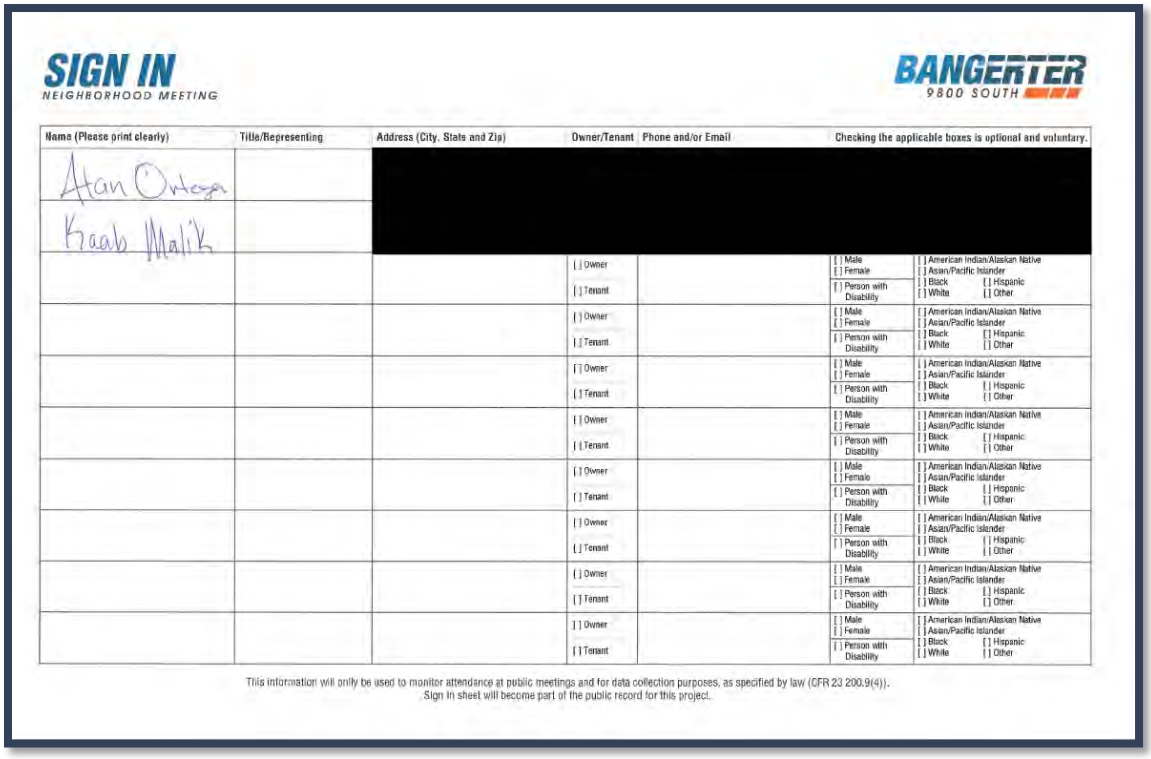

SIGN IN
NEIGHBORHOOD MEETING

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Owner/Tenant	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Alan Ortega		[redacted]			
Kaab Malik					
			[ ] Owner [ ] Tenant		[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
			[ ] Owner [ ] Tenant		[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
			[ ] Owner [ ] Tenant		[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
			[ ] Owner [ ] Tenant		[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
			[ ] Owner [ ] Tenant		[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
			[ ] Owner [ ] Tenant		[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
			[ ] Owner [ ] Tenant		[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
			[ ] Owner [ ] Tenant		[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

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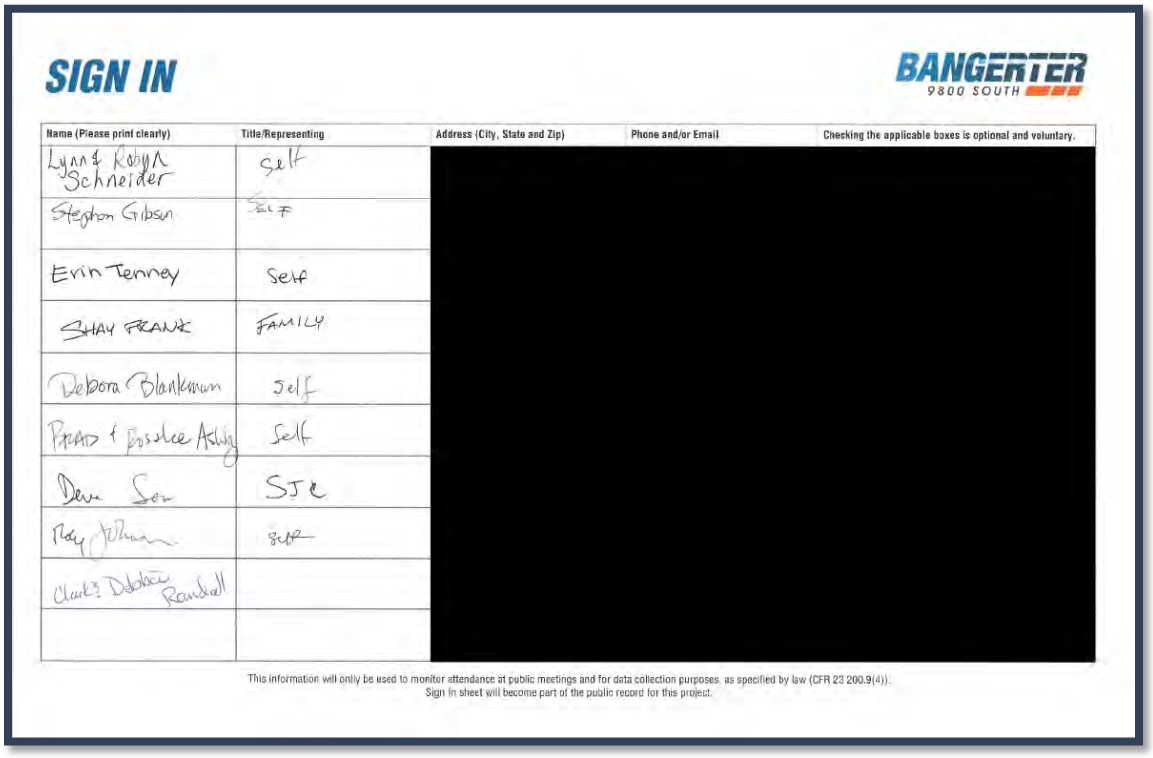
In-Person Public Meeting Sign-In Sheets



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Lynn & Robyn Schneider	Self	[redacted]		
Stephen Gibson	Self			
Erin Tenney	Self			
SHAY FRANK	FAMILY			
Debora Blankenau	Self			
Brad & Bobbie Ashby	Self			
Dave Sor	SJC			
Ray [illegible]	Self			
Clark & Debbie Randall				

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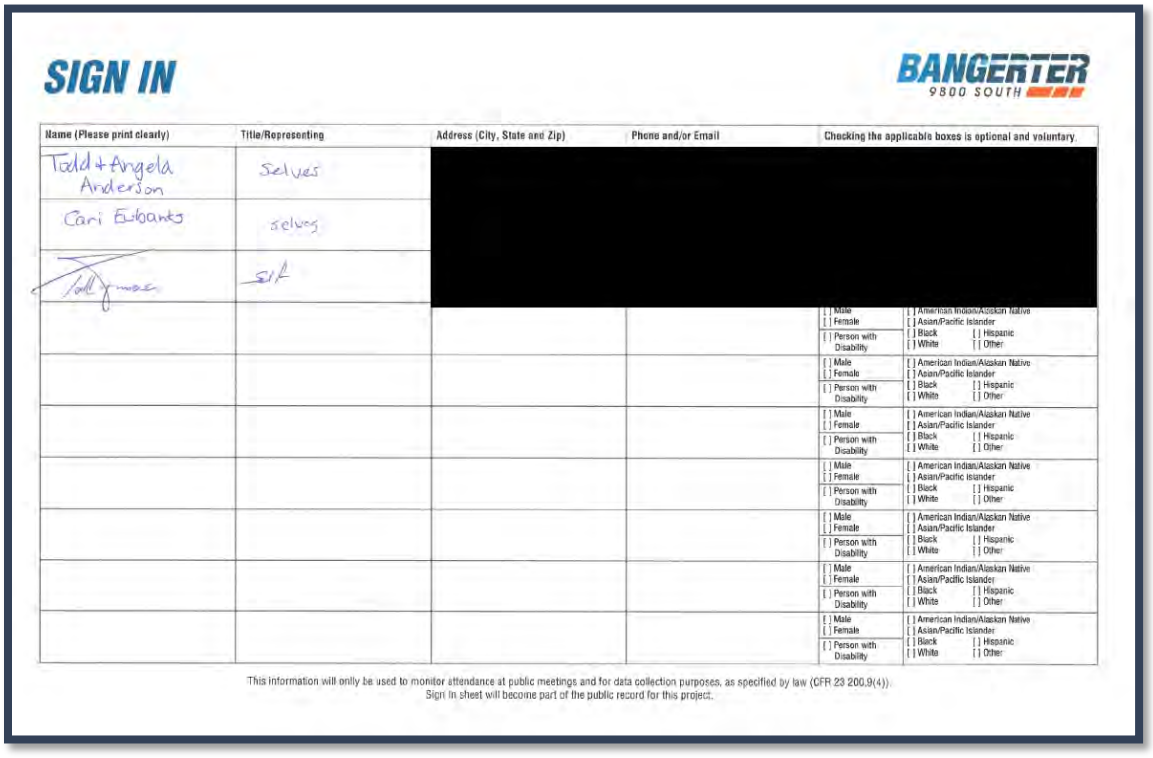
Sign in sheet will become part of the public record for this project.



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Todd + Angela Anderson	Selves	[redacted]		
Cari Eubanks	selves			
[illegible]	Self			
				[ ] Male [ ] Female [ ] Person with Disability — [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability — [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability — [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability — [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability — [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
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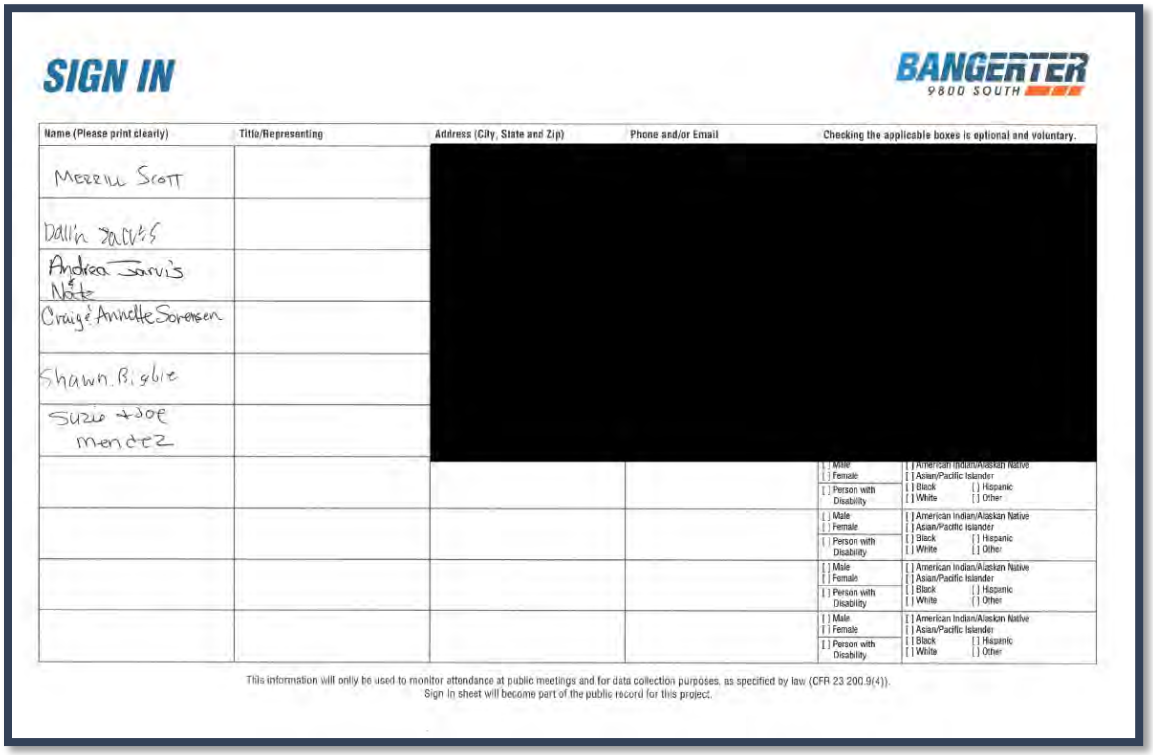

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.	
Merrill Scott		[redacted]		[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
Dallin Jarvis					
Andrea Jarvis & Nate					
Craig & Annette Sorensen					
Shawn Bigbie					
Suzie + Joe Mendez					
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

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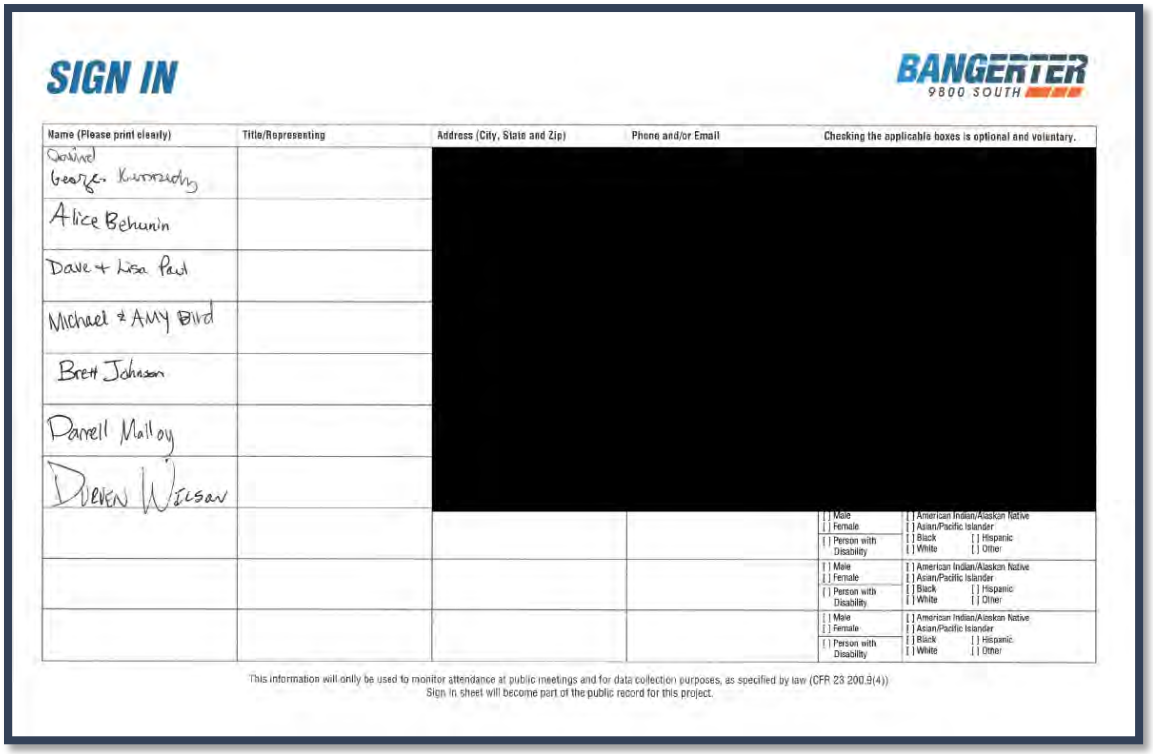

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.	
Daniel George Kuwaziony		[redacted]		[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
Alice Behunin					
Dave + Lisa Paul					
Michael & AMY Bird					
Brett Johnson					
Darrell Malloy					
Dieken Wilson					
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

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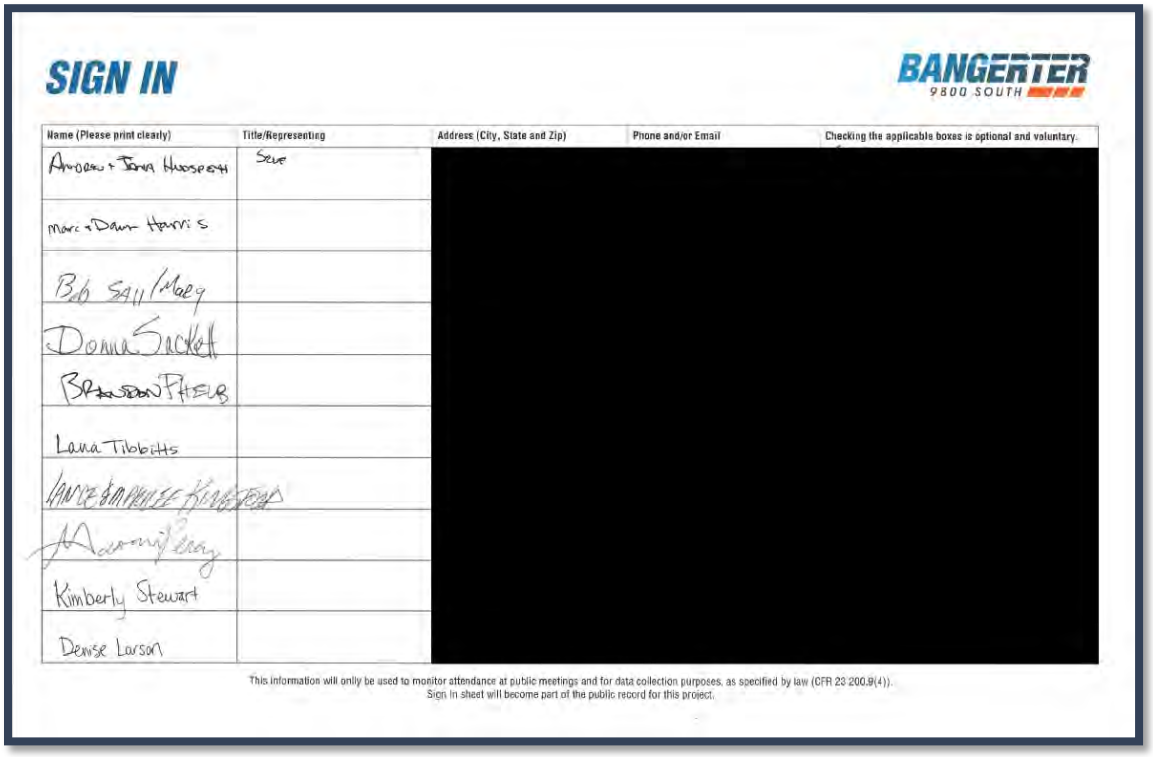
Sign in sheet will become part of the public record for this project.



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Andrew + Jana Hudspeth	Self	[redacted]		
Marc + Dawn Harris				
Bob Sall/Mary				
Donna Sackett				
Brandon Phelps				
Lana Tibbitts				
Lance & Marlene Kingsford				
[illegible]				
Kimberly Stewart				
Denise Larson				

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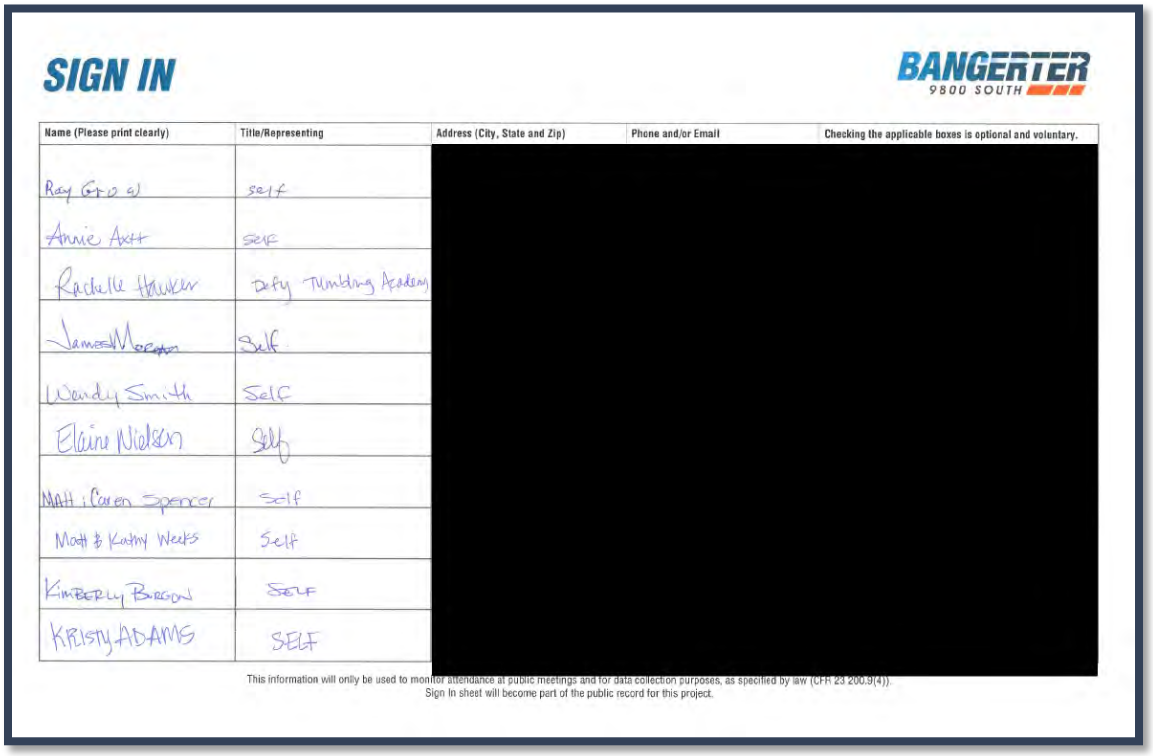
Sign In sheet will become part of the public record for this project.



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Ray Grow	self	[redacted]		
Annie Axtt	self			
Rachelle Hawker	Defy Tumbling Academy			
James Morgan	Self			
Wendy Smith	Self			
Elaine Nielsen	Self			
Matt & Caren Spencer	Self			
Matt & Kathy Weeks	Self			
Kimberly Burgon	Self			
Kristy Adams	SELF			

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Sign In sheet will become part of the public record for this project.

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Rat Addison		[redacted]		
Joanne Smith				
Christine Knudson				
Steve Lundquist				
Julia Eichelberger				
Frank Kraus				
[illegible]				
[illegible]				
Roger & Marie Peterson				
[illegible]				

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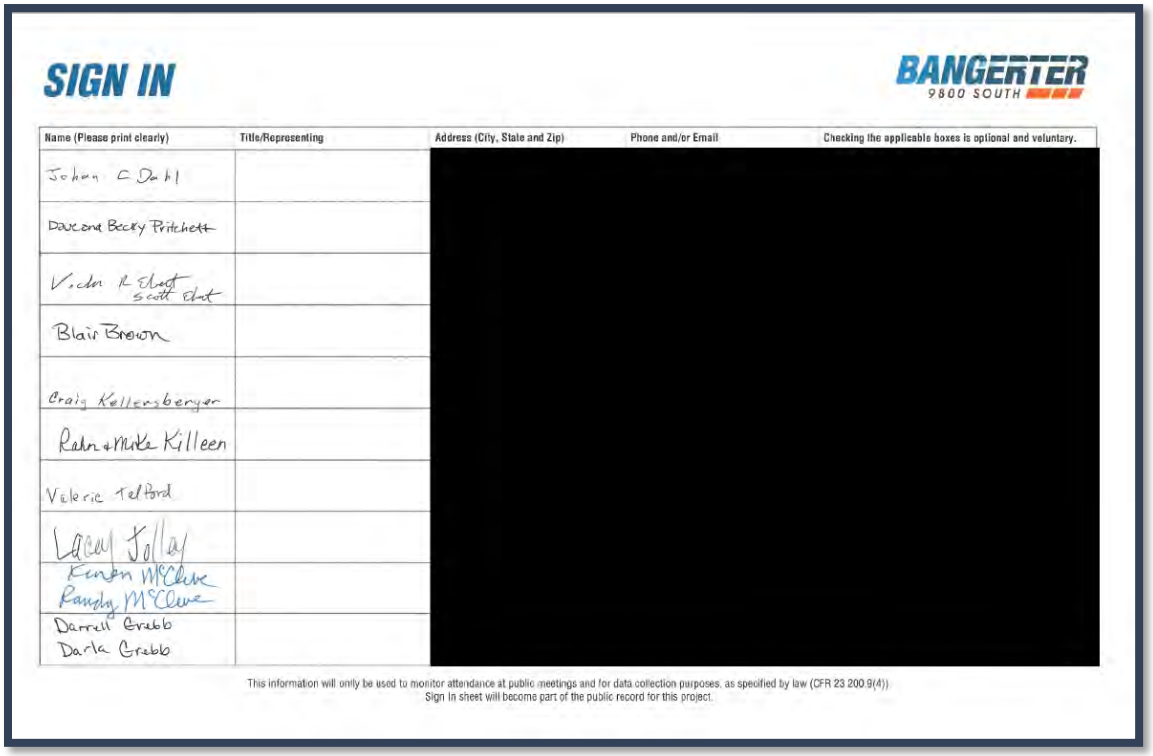

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Johan C Dahl		[redacted]		
Dave and Becky Pritchett				
[illegible]				
Blair Brown				
Craig Kellenberger				
Rahn & Mike Killeen				
Valerie Telford				
[illegible]				
Kenton McClure Randy McClure				
Darrell Grabb Darla Grabb				

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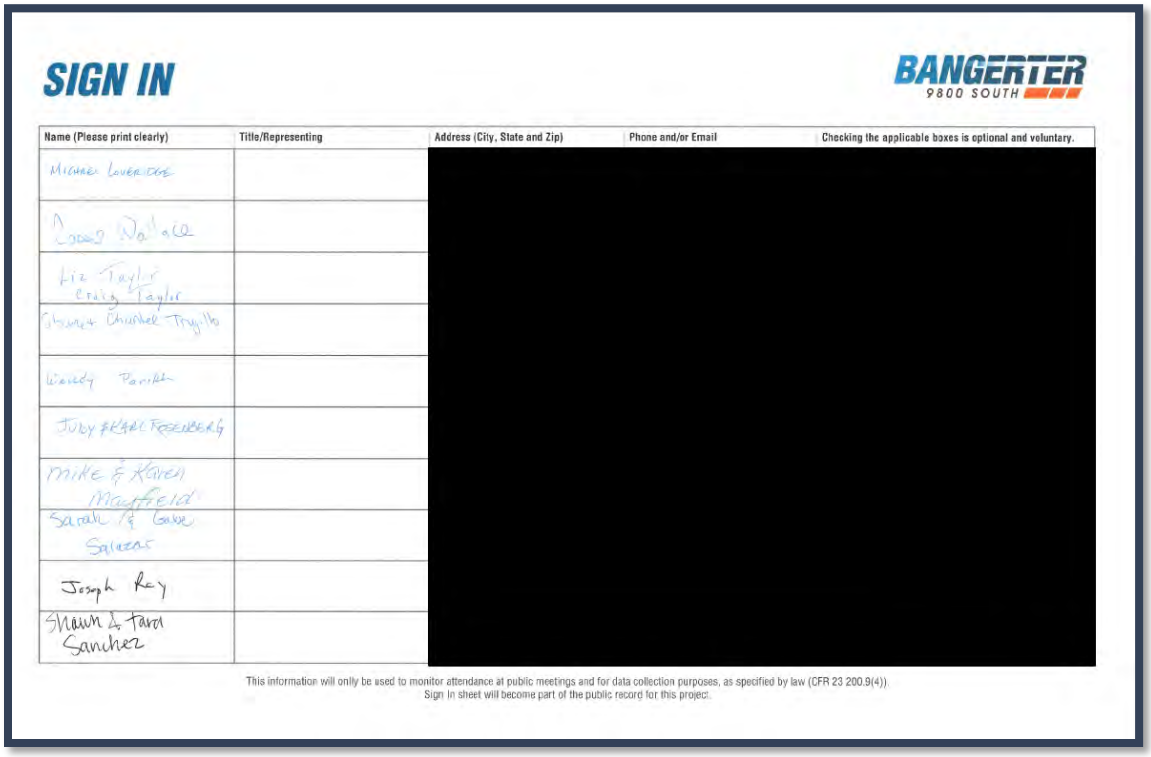
Sign In sheet will become part of the public record for this project.



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Michael Loveridge		[redacted]		
Craig Wallace				
Liz Taylor Craig Taylor				
Shawna Chrishelle Trujillo				
Wendy Parrish				
JUDY & KARL FOSENBERG				
Mike & Karen Mayfield				
Sarah & Gabe Salazar				
Joseph Ray				
Shawn & Tarri Sanchez				

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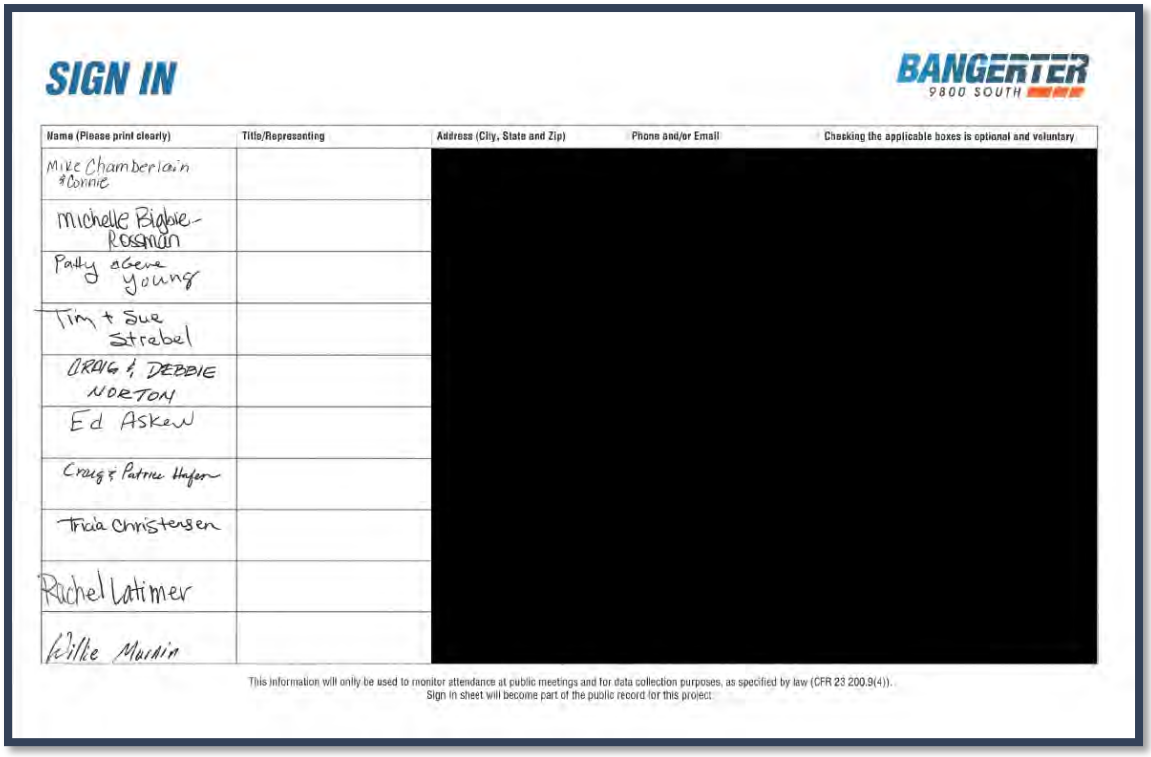
Sign in sheet will become part of the public record for this project.



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Mike Chamberlain & Connie		[redacted]		
Michelle Bigbie-Rossman				
Patty & Gene Young				
Tim + Sue Strebel				
CRAIG & DEBBIE NORTON				
Ed Askew				
Craig & Patrice Hafen				
Tricia Christensen				
Rachel Latimer				
Mike Mardin				

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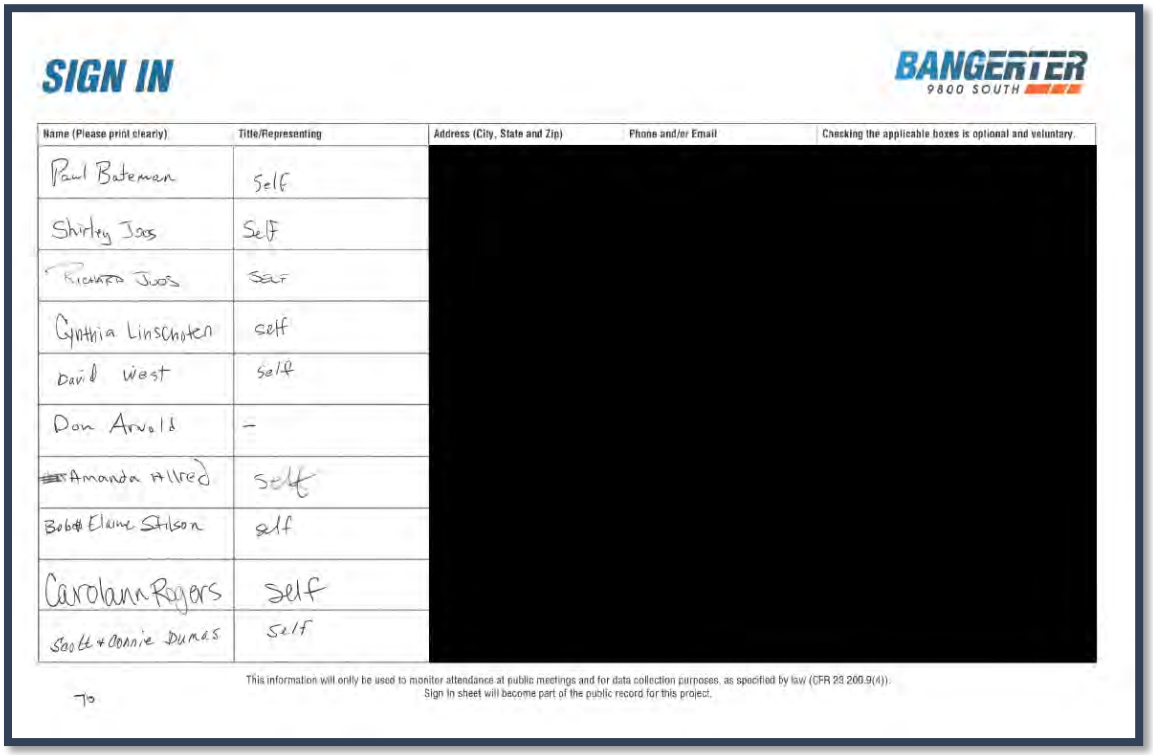
Sign in sheet will become part of the public record for this project.



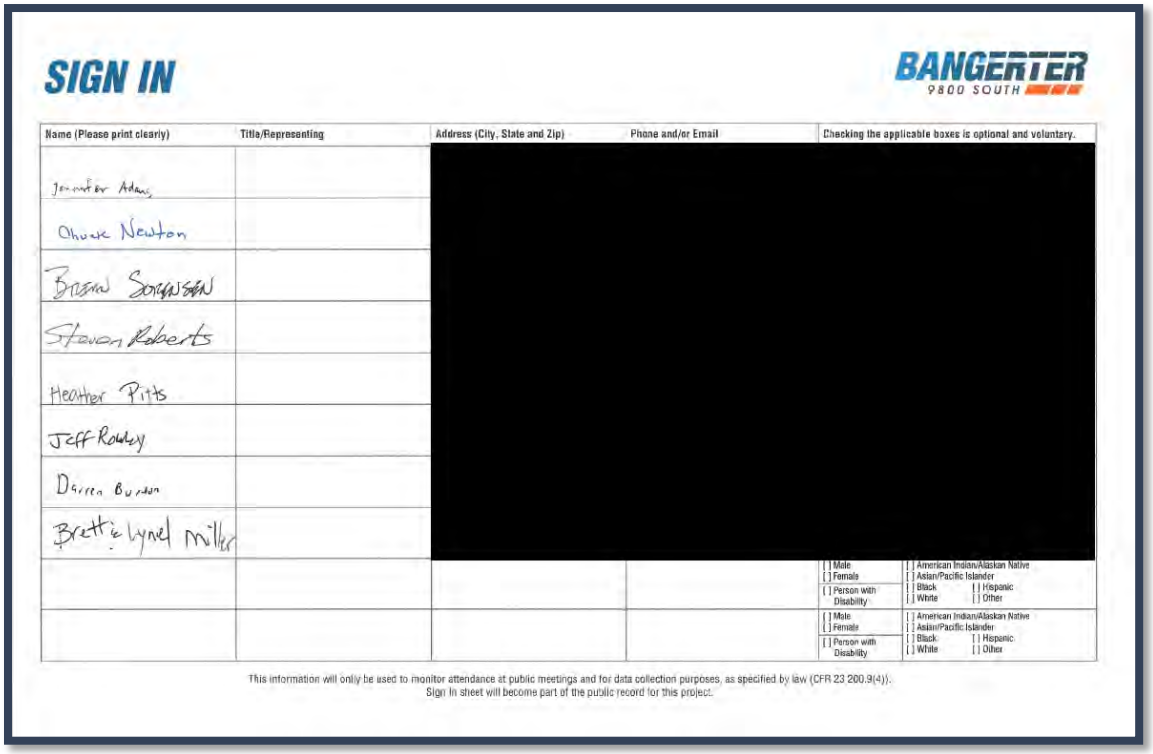
SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Paul Bateman	Self	[redacted]		
Shirley Joos	Self			
Richard Joos	Self			
Cynthia Linschoten	self			
David West	self			
Don Arnold	–			
Amanda Allred	self			
Bobbi Elaine Stilson	self			
Carolann Rogers	self			
Scotty Connie Dumas	self			

This information will only be used to monitor attendance at public meetings and for data collection purposes, as specified by law (CFR 23 200.9(4)).
Sign In sheet will become part of the public record for this project.

To



SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.
Jennifer Adams		[redacted]		
Chuck Newton				
Brian Sorensen				
Steven Roberts				
Heather Pitts				
Jeff Rowley				
Darren Burton				
Brettie Lynel Miller				
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability; [ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

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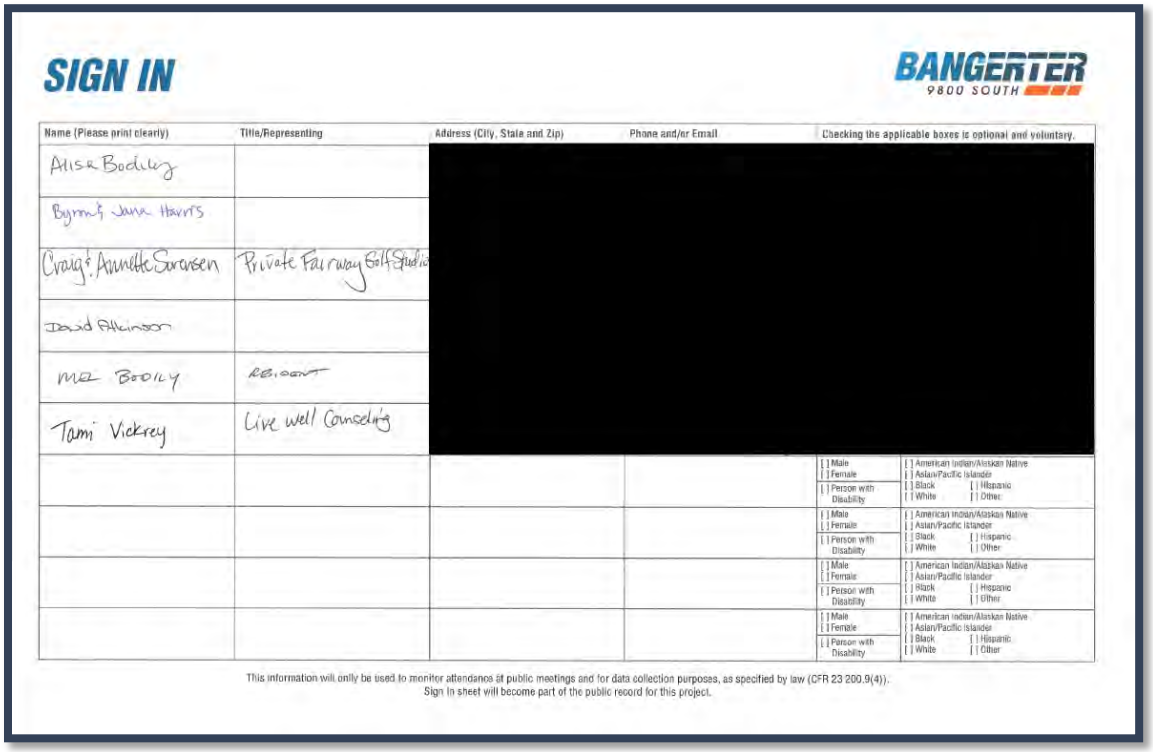

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.	
Alisa Bodily		[redacted]			
Byron & Jana Harris					
Craig & Annette Sorensen	Private Fairway Golf Studio				
David Atkinson					
MEL BODILY	RESIDENT				
Tami Vickrey	Live well Counseling				
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
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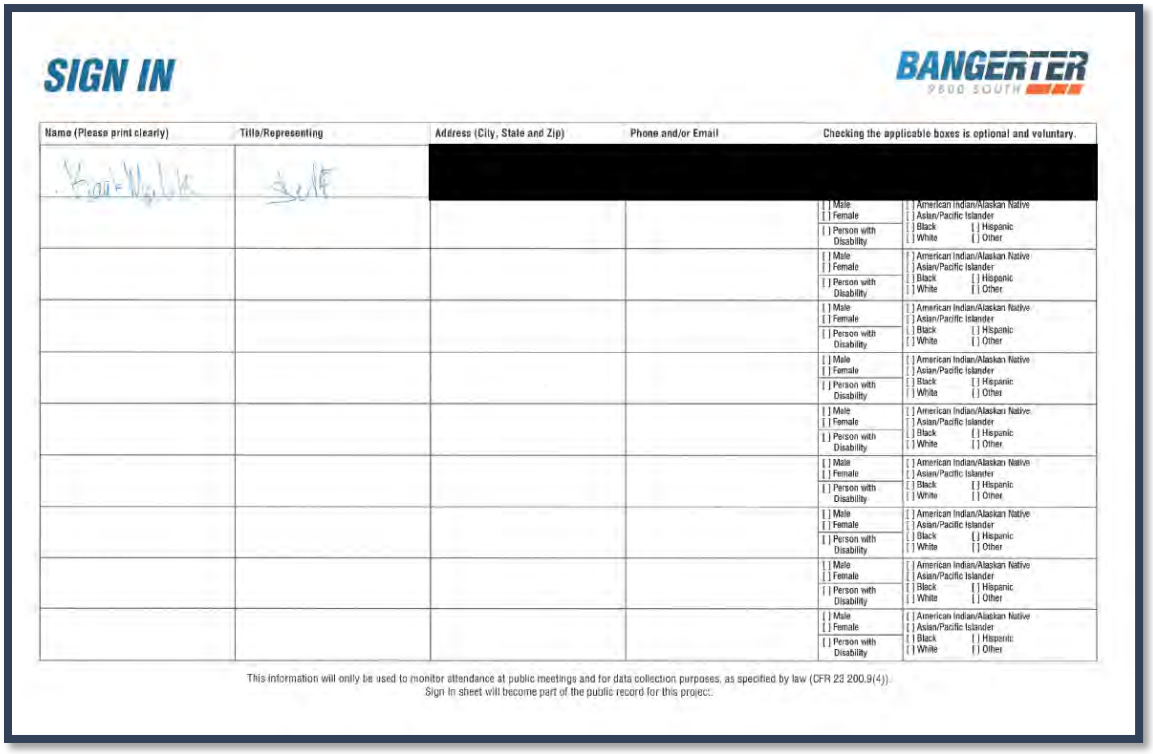

SIGN IN

BANGERTER 9800 SOUTH

Name (Please print clearly)	Title/Representing	Address (City, State and Zip)	Phone and/or Email	Checking the applicable boxes is optional and voluntary.	
[redacted]		[redacted]			
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other
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				[ ] Male [ ] Female [ ] Person with Disability	[ ] American Indian/Alaskan Native [ ] Asian/Pacific Islander [ ] Black [ ] Hispanic [ ] White [ ] Other

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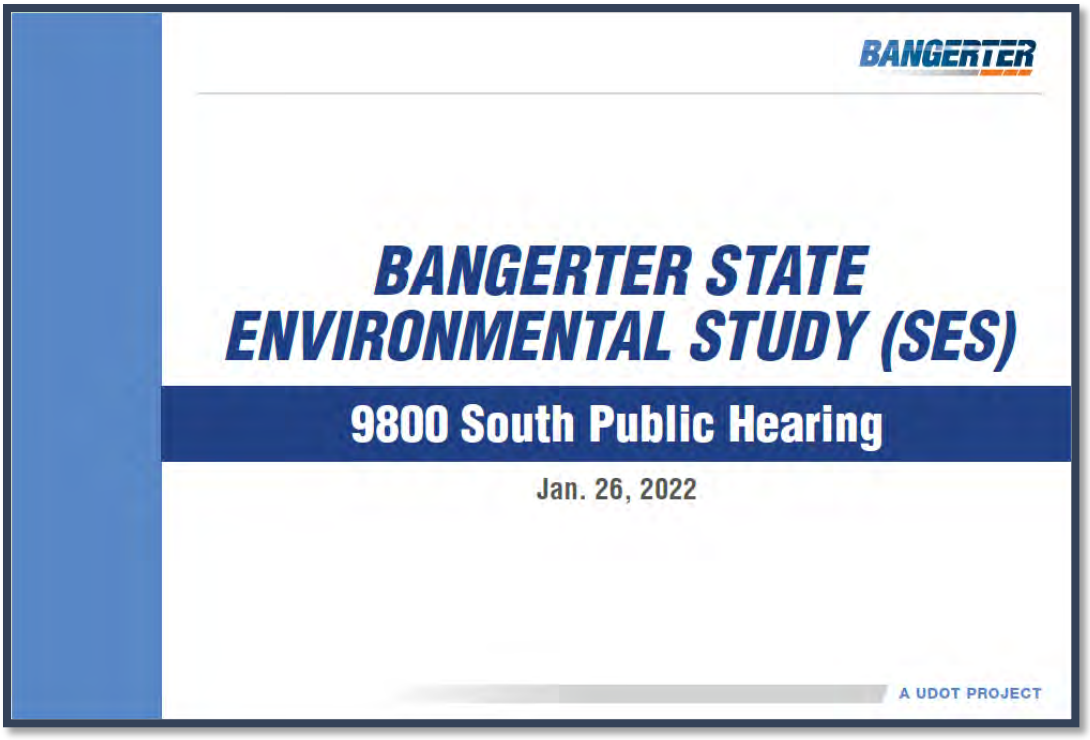
Sign In sheet will become part of the public record for this project.

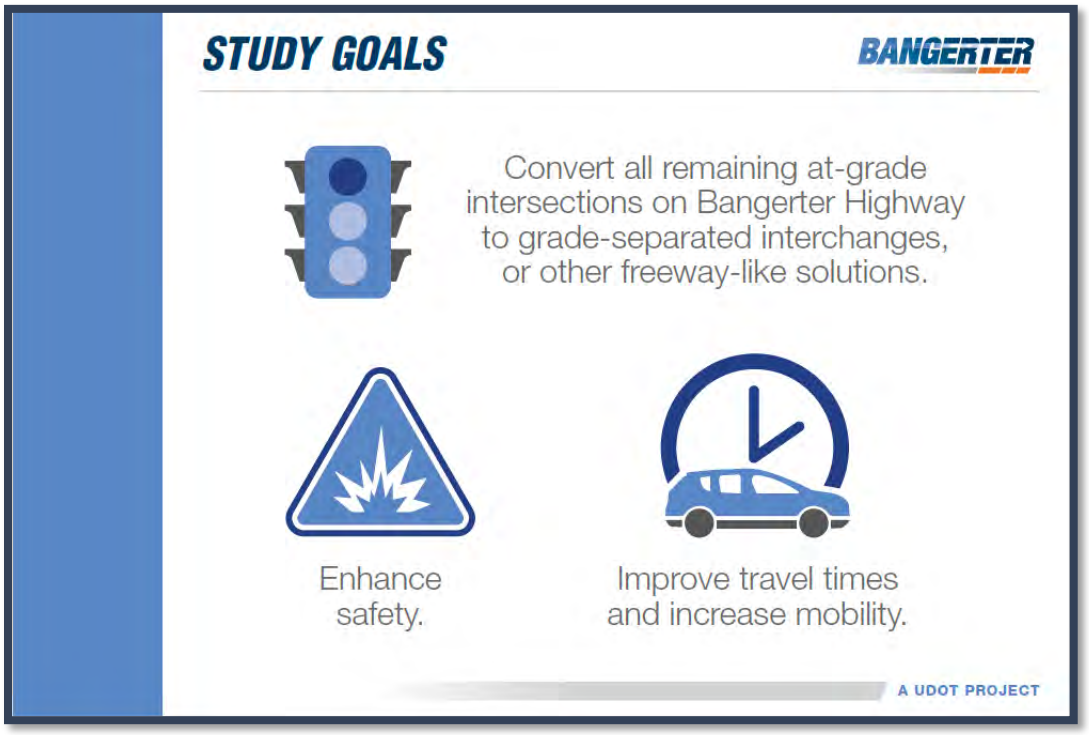
Online Public Meeting Sign-In Information

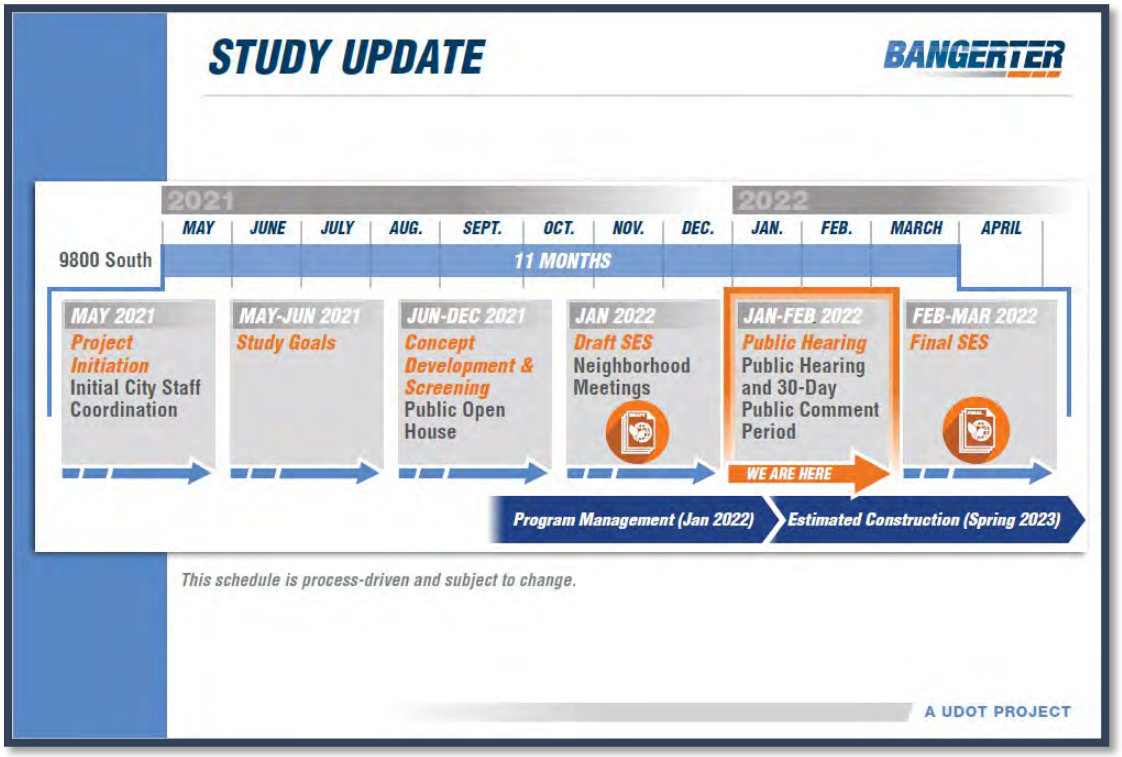
User Name (Original Name)	First Name	Last Name	Time in Session (minutes)
Bryce Osborne	Bryce	Osborne	60
Henry Kemp	Henry	Kemp	58
Debbie Wright	Debbie	Wright	59
Scott Lucido	Scott	Lucido	45
Emily Kartchner	Emily	Kartchner	50
Donald Sutton	Donald	Sutton	29
Tim and Vonda Elsner	Tim and Vonda	Elsner	60
Brian Prince	Brian	Prince	54
pat gadd	pat	gadd	59
Bob Stilson	Bob	Stilson	18
Merrill Scott	Merrill	Scott	29
PAM GODFREY	PAM	GODFREY	59
Steve Hansen	Steve	Hansen	56
Bob Herlin	Bob	Herlin	21
Beckie Hales	Beckie	Hales	49
Brenda Everett	Brenda	Everett	58
Steve Sara	Steve	Sara	61
Rob	Rob		58
Lisa Meadows	Lisa	Meadows	56
Madeline Rolfes	Madeline	Rolfes	60
Emily McCleve	Emily	McCleve	24
Bill Biesinger	Bill	Biesinger	61
Devi Sangoju	Devi	Sangoju	36
Julee Attig	Julee	Attig	60
curt jemison	curt	jemison	39
Paulette Hedrick	Paulette	Hedrick	37
Katie Allred	Katie	Allred	59
Monique Shawver	Monique	Shawver	39
Bibi	Bibi		57
Christopher Rogers	Christopher	Rogers	39
Ponch Thompson	Ponch	Thompson	60
pat lenhart	pat	lenhart	58
Chris Gaeta	Chris	Gaeta	61
low	low		41
Norm Badger	Norm	Badger	61
Barbara Lenhart	Barbara	Lenhart	61
JAMES E DRAPER	JAMES	E DRAPER	61
Dan Whalen	Dan	Whalen	61
Lynn Chapple	Lynn	Chapple	61
Rob Tudor	Rob	Tudor	61
Jessica	Jessica		27
Alice Behunin	Alice	Behunin	44
Daniel Valdez	Daniel	Valdez	48
Janet Zimmerman	Janet	Zimmerman	54
Rich Agren	Rich	Agren	38
Sue Sherman	Sue	Sherman	24

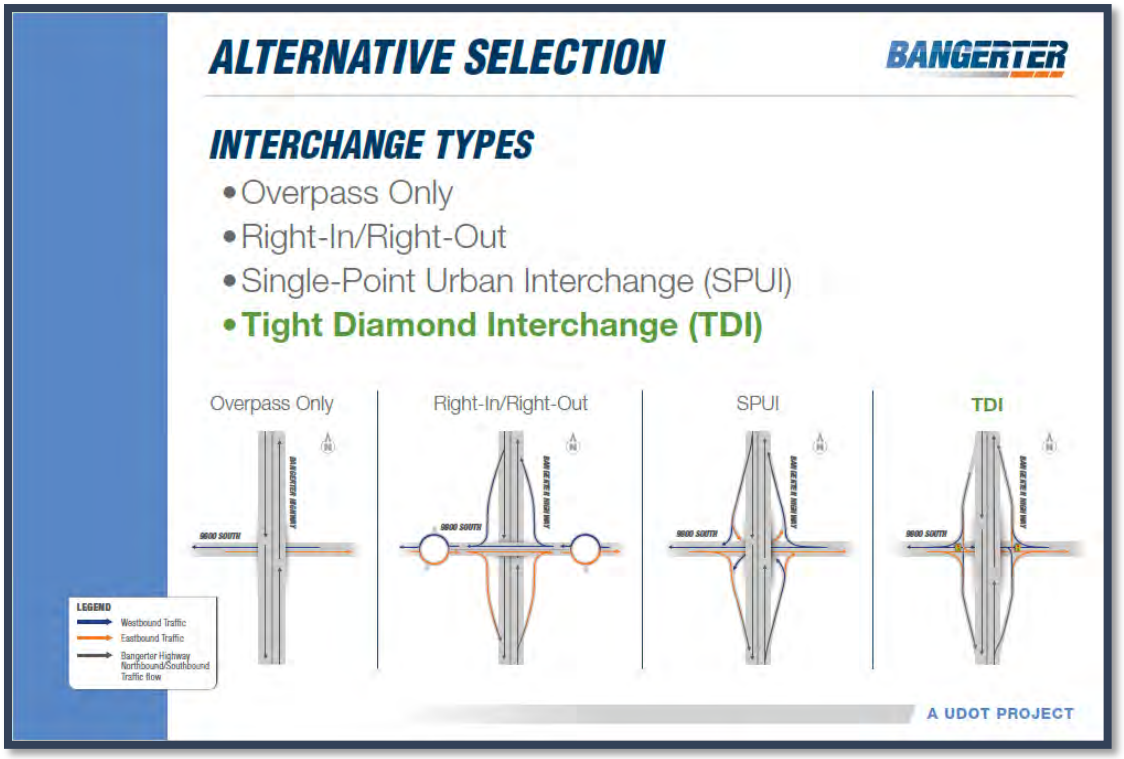
Appendix C Meeting Materials

Public Meeting Presentation Slides






STUDY UPDATE
BANGERTER
2021
2022
MAY
JUNE
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.
JAN.
FEB.
MARCH
APRIL
9800 South
11 MONTHS
MAY 2021
Project Initiation
Initial City Staff Coordination
MAY-JUN 2021
Study Goals
JUN-DEC 2021
Concept Development & Screening
Public Open House
JAN 2022
Draft SES
Neighborhood Meetings
JAN-FEB 2022
Public Hearing
Public Hearing and 30-Day Public Comment Period
WE ARE HERE
FEB-MAR 2022
Final SES
Program Management (Jan 2022)
Estimated Construction (Spring 2023)
This schedule is process-driven and subject to change.
A UDOT PROJECT


ALTERNATIVE SELECTION
BANGERTER
INTERCHANGE TYPES
• Overpass Only
• Right-In/Right-Out
• Single-Point Urban Interchange (SPUI)
• Tight Diamond Interchange (TDI)
Overpass Only
Right-In/Right-Out
SPUI
TDI
LEGEND
Westbound Traffic
Eastbound Traffic
Bangerter Highway Northbound/Southbound Traffic flow
A UDOT PROJECT

OVERPASS ONLY ANALYSIS

BANGERTER

Analysis Area

The Bangerter Highway team studied an overpass only alternative at 9800 South. Overall, the findings show traffic volumes and delay would increase in the area surrounding 9800 South.

Traffic Volumes

- 2050 traffic volumes at the 9000 South and 10400 South and Bangerter Highway interchanges increase by 8 - 10 percent.

Additional Delay

- Travel delay in the analysis area would increase by 12 percent in the morning peak hour and 35 percent in the afternoon peak hour.
- Three intersections would be pushed over the level of service (LOS) E threshold.

User Costs

- Delay would result in an additional $2.4 million in 2050 and $50 million from 2025 - 2050.

A UDOT PROJECT

ALTERNATIVE SELECTION

BANGERTER

HORIZONTAL ALIGNMENTS

- East Shift
- Center Widening
- **West Shift**

A UDOT PROJECT

VERTICAL ALIGNMENTS

BANGERTER

Bangerter Over

~$115 Million

Bangerter Under

~$139 Million

All options will require the removal and replacement of the current pedestrian crossing over Bangerter Highway.

A UDOT PROJECT

BANGERTER OVER

BANGERTER

Example: 7800 South in West Jordan

- Lowest cost
- No South Jordan City contribution
- Minor utility impacts
- 42 impacted properties

A UDOT PROJECT

BANGERTER UNDER

BANGERTER

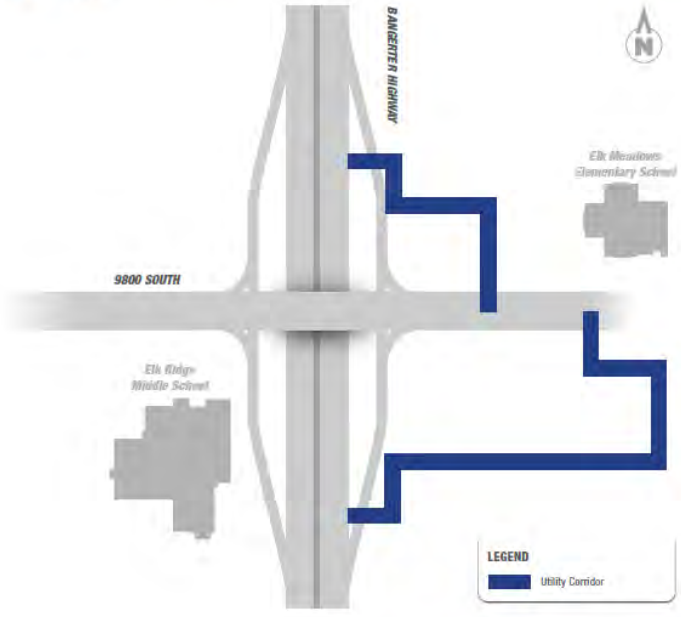
Example: 11400 South in South Jordan

- Highest cost
- Additional cost to go under: $24 million (split 50/50 by South Jordan City and UDOT)
- Significant utility impacts and relocations
- 44 impacted properties

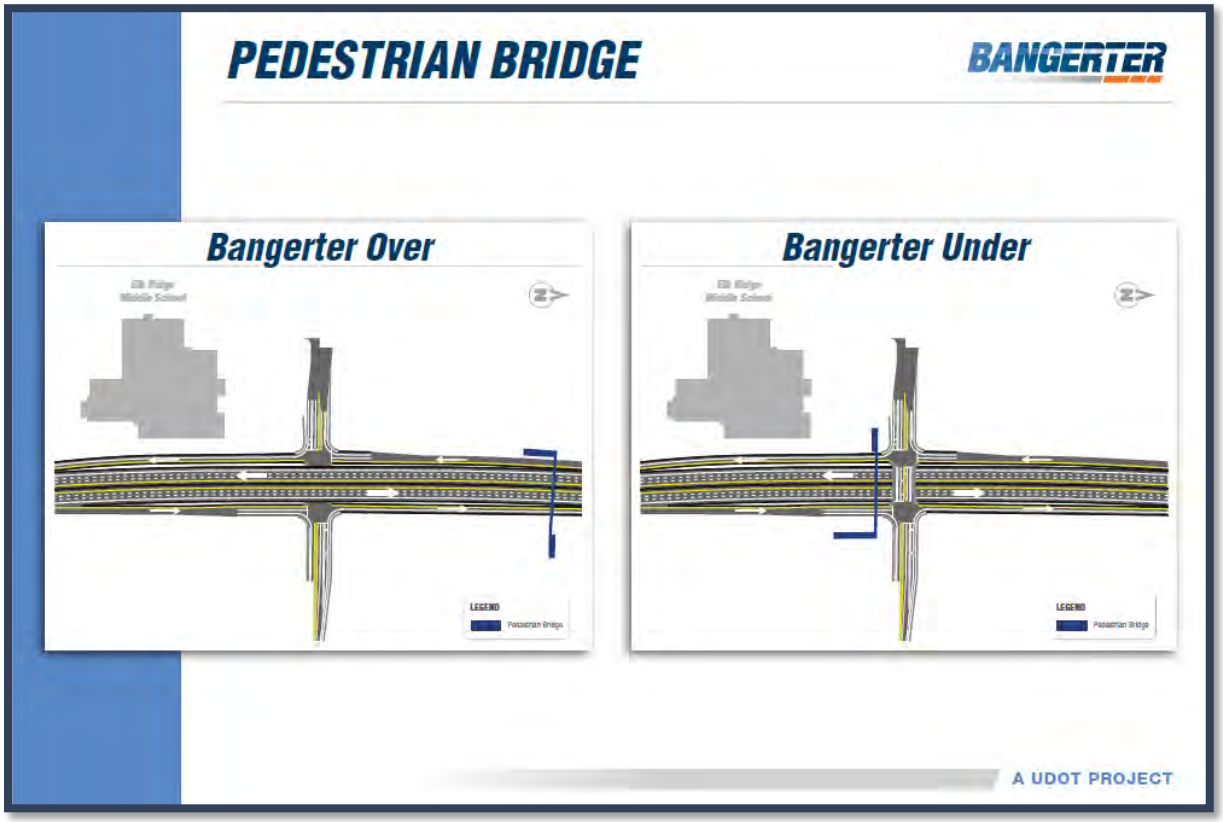
A UDOT PROJECT

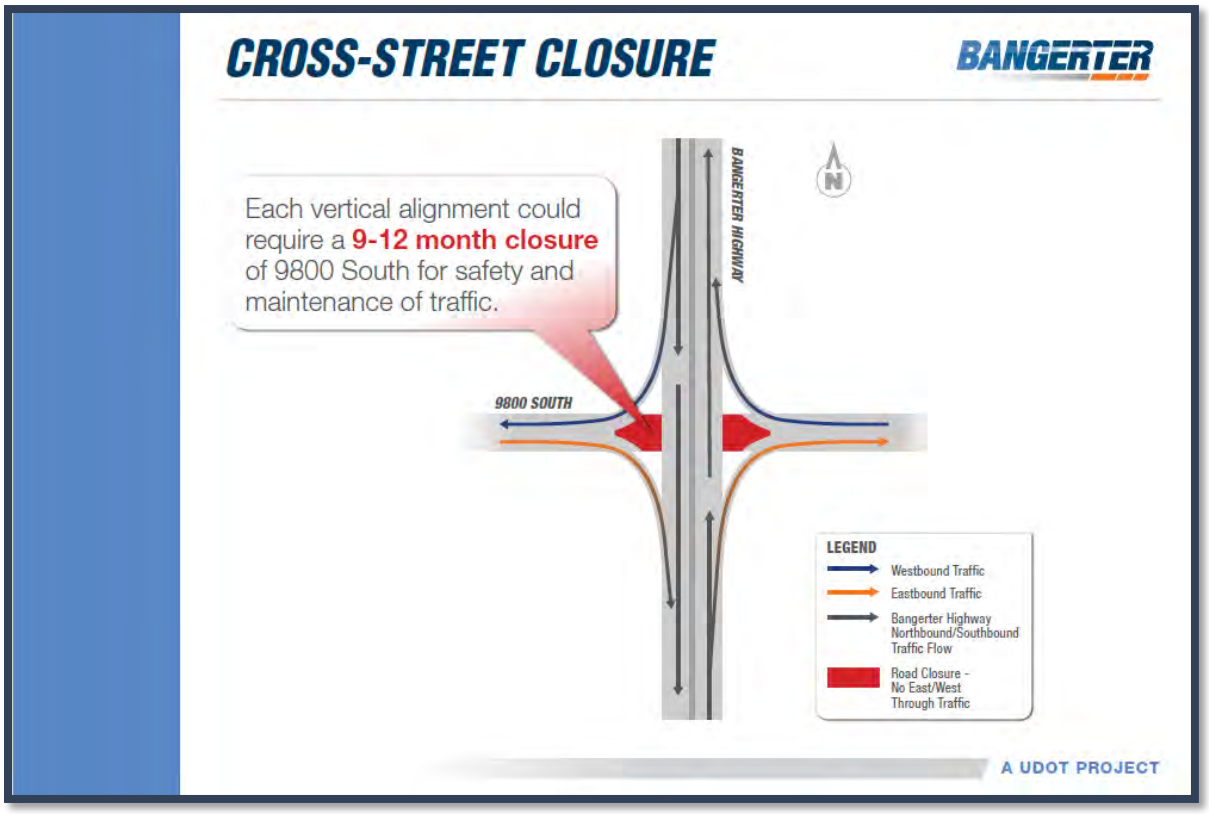
BANGERTER UNDER
UTILITY RELOCATION

BANGERTER



A UDOT PROJECT


PEDESTRIAN BRIDGE
BANGERTER
Bangerter Over
Bangerter Under
LEGEND
A UDOT PROJECT


CROSS-STREET CLOSURE
BANGERTER
Each vertical alignment could require a 9-12 month closure of 9800 South for safety and maintenance of traffic.
BANGERTER HIGHWAY
9800 SOUTH
N
LEGEND
Westbound Traffic
Eastbound Traffic
Bangerter Highway Northbound/Southbound Traffic Flow
Road Closure - No East/West Through Traffic
A UDOT PROJECT

AFFECTED ENVIRONMENT AND MITIGATION COMMITMENTS

BANGERTER

Proposed Action Impacts	Mitigation
Right of Way	
Over Option • ROW acquisition from **42 parcels** • Approximately **11.54 acres** of total property acquisition • Temporary construction easements and perpetual easements required ***Under Option*** • ROW acquisition from **44 parcels** • Approximately **11.95 acres** of total property acquisition • Temporary construction easements and perpetual easements required	Property owners will be compensated according to the requirements of the Utah Relocation Assistance Act.
Noise	
Over Option • Average **8 dBA** noise level increase • **118 receptors** impacted by project noise levels • **95 receptors** exhibit noise levels greater than 10 dBA above existing noise levels ***Under Option*** • Average **6 dBA** noise level increase • **72 receptors** impacted by project noise levels • **64 receptors** exhibit noise levels greater than 10 dBA above existing noise levels	For both options, three noise walls are recommended to be replaced "in-kind". • **Wall 1:** 15 feet tall located on the west side of Bangerter Highway north of 9800 South to tie into the existing 15-foot noise wall • **Wall 2:** 13 feet tall located on the west side of Bangerter Highway south of 9800 South to tie into the existing 13-foot noise wall • **Wall 3:** 14 feet tall located on the east side of Bangerter Highway south of 9800 South to tie into the existing 14-foot noise wall

A UDOT PROJECT

AFFECTED ENVIRONMENT AND MITIGATION COMMITMENTS

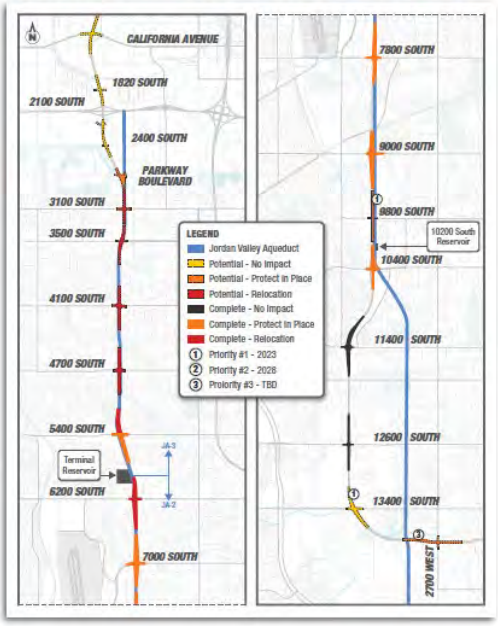
BANGERTER

Proposed Action Impacts	Mitigation
Relocations	
Over Option • **10 residential** relocations • **11 business** relocations • **9 potential residential** relocations • **3 potential business** relocations • **19 parcels** require partial acquisition ***Under Option*** • **10 residential** relocations • **11 business** relocations • **11 potential residential** relocations • **3 potential business** relocations • **19 parcels** require partial acquisition	Property owners will be compensated according to the requirements of the Utah Relocation Assistance Act.
Construction	
• Delays and temporary east/west closures of 9800 South are anticipated to last up to 9 to 12 months during the construction of the project	UDOT 2022 Standard Specifications Compliance. Coordination with city and GPS services for alternate and detour routes.

A UDOT PROJECT

BUREAU OF RECLAMATION PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

BANGERTER



Jordan Valley Aqueduct

- Review the PEA on the Reclamation **website**
- Send comments to Jared Baxter, NEPA Specialist at **jbaxter@usbr.gov**
- Comment period: **Jan. 30 - Feb. 28, 2022**

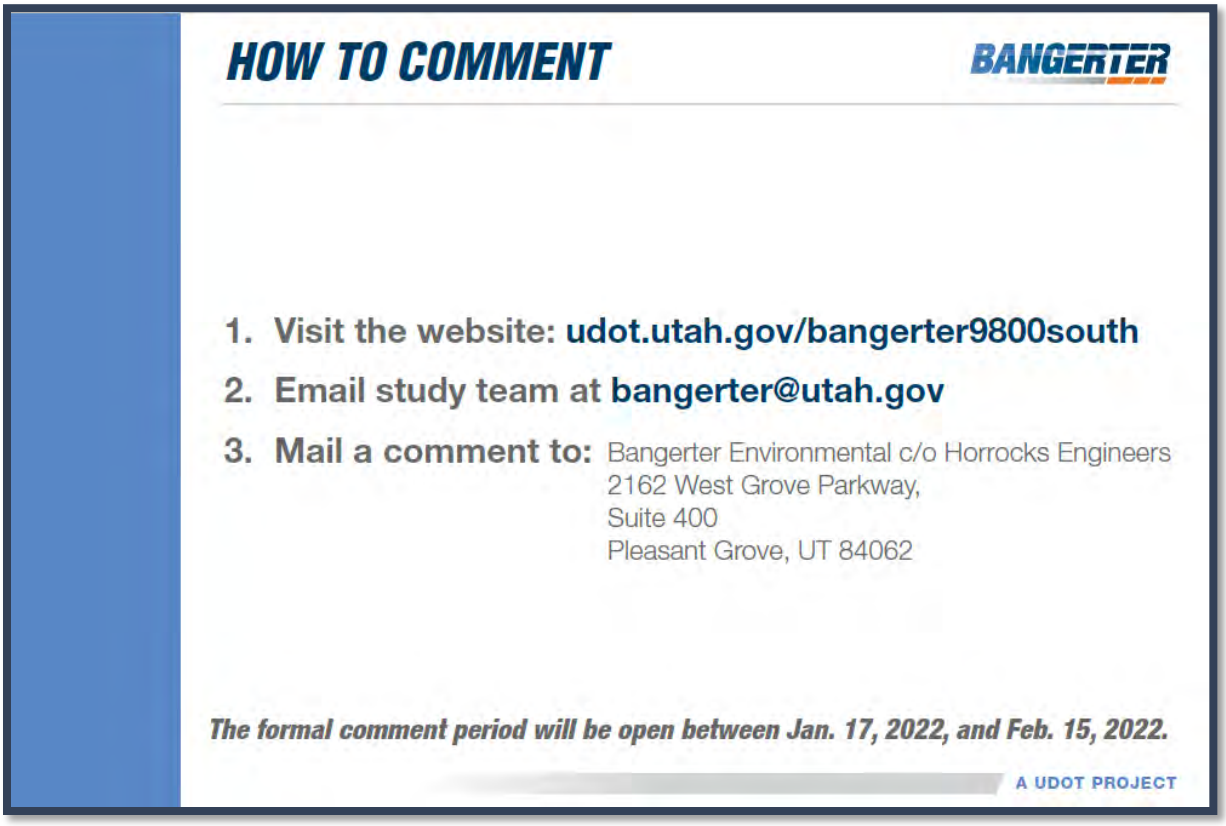
A UDOT PROJECT

RIGHT-OF-WAY ACQUISITION PROCESS

BANGERTER

1. **Identification** — The study team identifies what properties will be needed to construct the selected alternative.
2. **Contact** — Property owners will be contacted directly if their property is identified as a full or partial acquisition.
3. **Valuation** — Right-of-way (ROW) professionals will estimate the value of property.
4. **Acquisition** — ROW professionals will work closely with the property owner to acquire needed property at fair market value.

A UDOT PROJECT


HOW TO COMMENT
BANGERTER
1. Visit the website: udot.utah.gov/bangerter9800south
2. Email study team at bangerter@utah.gov
3. Mail a comment to: Bangerter Environmental c/o Horrocks Engineers
2162 West Grove Parkway,
Suite 400
Pleasant Grove, UT 84062
The formal comment period will be open between Jan. 17, 2022, and Feb. 15, 2022.
A UDOT PROJECT

NEXT STEPS
BANGERTER
2022
2023
JAN-FEB 2022
FEB-MAR 2022
MAR 2022-SPRING 2023
Release Draft SES
Neighborhood Meeting
Public Comment Period
In-Person Public Hearing
Online Public Hearing
Release Final SES
Contractor Procurement
Public Notification of Design Selection
Construction Scheduled to Begin
ROW Process
This schedule is process-driven and subject to change.
A UDOT PROJECT

CONTACT US

BANGERTER

Hotline: 888-766-ROAD (7623)

Email: bangerter@utah.gov

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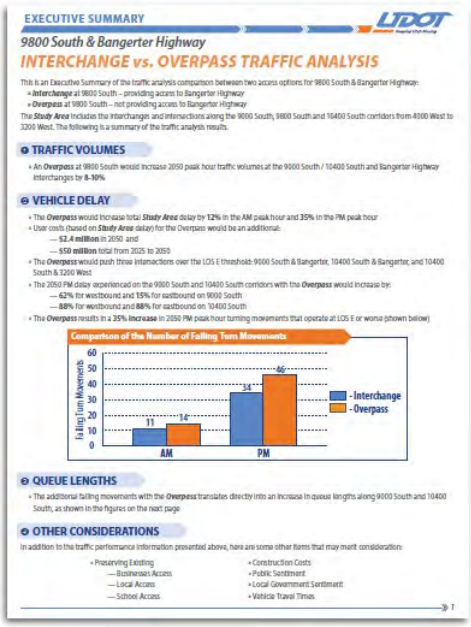
A UDOT PROJECT

EXECUTIVE SUMMARY

BANGERTER


EXECUTIVE SUMMARY

9800 South & Bangerter Highway

INTERCHANGE vs. OVERPASS TRAFFIC ANALYSIS

This is an Executive Summary of the traffic analysis comparison between two access options for 9800 South & Bangerter Highway:
- **Interchange** at 9800 South – providing access to Bangerter Highway
- **Overpass** at 9800 South – not providing access to Bangerter Highway

The **Study Area** includes the interchanges and intersections along the 9000 South, 9800 South and 10400 South corridors from 4000 West to 3200 West. The following is a summary of the traffic analysis results.

TRAFFIC VOLUMES
- An **Overpass** at 9800 South would increase 2050 peak hour traffic volumes at the 9000 South / 10400 South and Bangerter Highway interchanges by **8-10%**

VEHICLE DELAY
- The **Overpass** would increase total **Study Area** delay by **12%** in the AM peak hour and **35%** in the PM peak hour
- User costs (based on **Study Area** delay) for the Overpass would be an additional:
  - **$2.4 million** in 2050 and
  - **$50 million** total from 2025 to 2050
- The **Overpass** would push three intersections over the LOS E threshold: 9000 South & Bangerter, 10400 South & Bangerter, and 10400 South & 3200 West
- The 2050 PM delay experienced on the 9000 South and 10400 South corridors with the **Overpass** would increase by:
  - **62%** for westbound and **15%** for eastbound on 9000 South
  - **88%** for westbound and **88%** for eastbound on 10400 South
- The **Overpass** results in a **35% increase** in 2050 PM peak hour turning movements that operate at LOS E or worse (shown below)

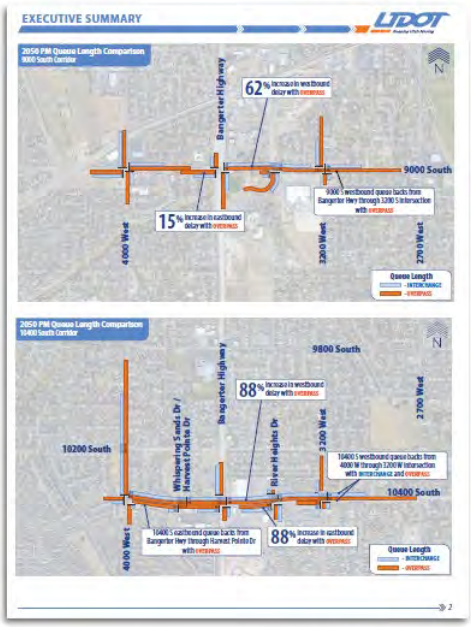
Comparison of the Number of Failing Turn Movements

QUEUE LENGTHS
- The additional failing movements with the **Overpass** translates directly into an increase in queue lengths along 9000 South and 10400 South, as shown in the figures on the next page

OTHER CONSIDERATIONS

In addition to the traffic performance information presented above, here are some other items that may merit consideration:
- Preserving Existing
  - Businesses Access
  - Local Access
  - School Access
- Construction Costs
- Public Sentiment
- Local Government Sentiment
- Vehicle Travel Times

1



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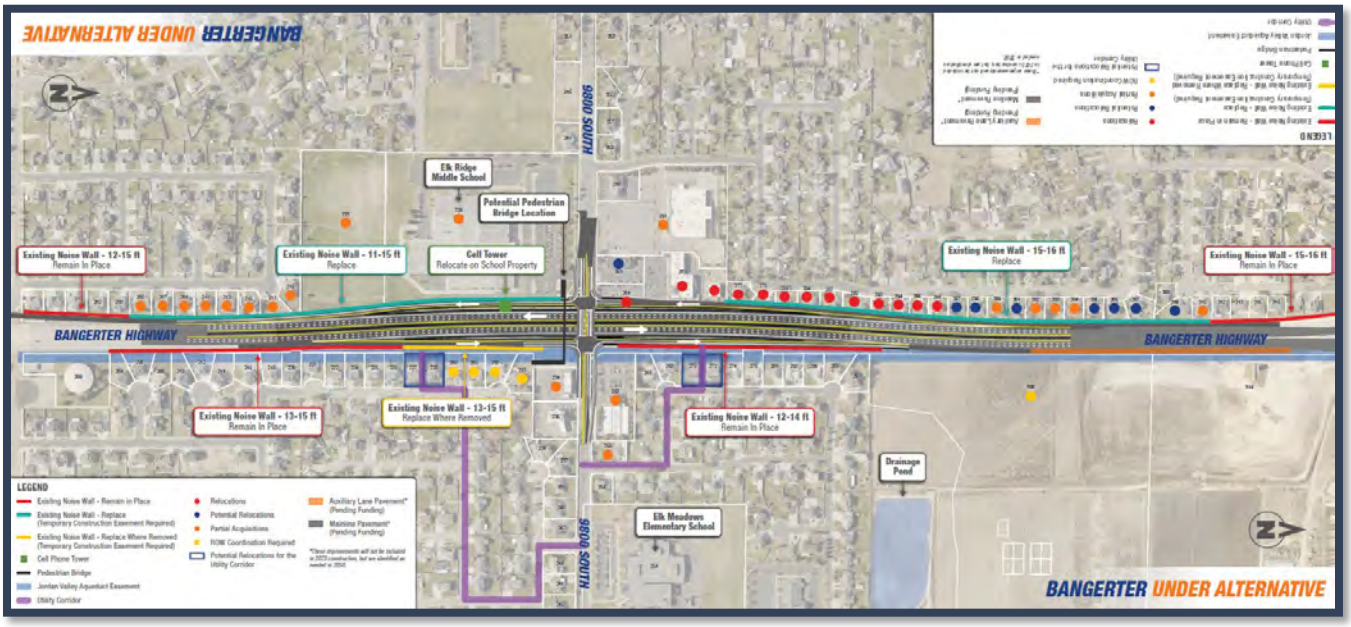
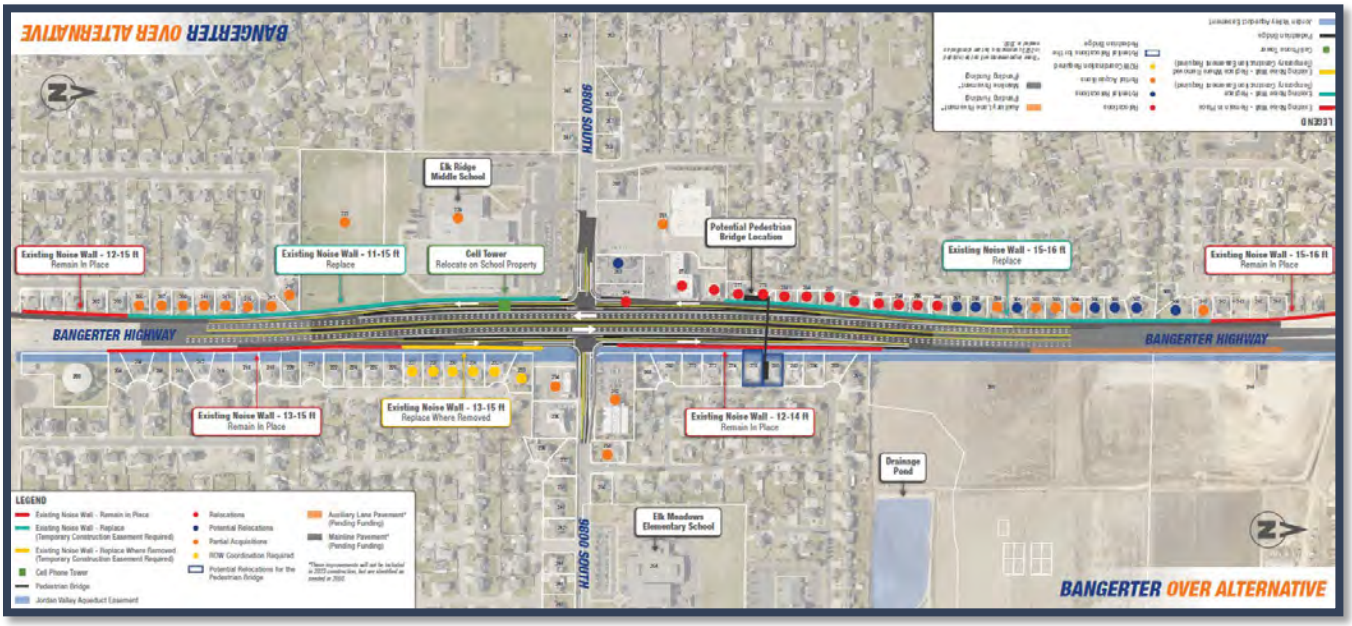
A UDOT PROJECT

Under Alternative Scroll Plot



Over Alternative Scroll Plot



Appendix D Public Comments

A formal comment period was held from Jan. 17, 2022, through Feb. 15, 2022. Members of the public were encouraged to submit comments on the Draft SES via email, study website, or mail. A comment form was available at the in-person Public Hearing and on the study website for the general public's use. A court reporter was also available at the in-person Public Hearing to record verbal comments during the open mic portion of the meeting.

A total of 98 comments were received (17 email comments, 57 website comments, and 8 verbal comments at the Public Hearing and 16 written comments from the Public Hearing).

Common themes from the public comments included:

- Support for the Bangerter Highway under 9800 South option (46).
- Preference for 9800 South to go over or under Bangerter Highway with no access (overpass only) (29).
- Safety of school children (17).
- Support to keep the pedestrian bridge in the current location (17).
- Concerns about noise increases or noise mitigation (17).
- Concerns about visual changes, specifically related to the Bangerter Highway over 9800 South option (12).
- Concerns about the proposed location of the pedestrian bridge in the Bangerter Highway over 9800 South option, requiring kids to cross 9800 South at-grade multiple times and travel out-of-direction (10).
- Support for the interchange because it provides continued access to Bangerter Highway from 9800 South (9).
- Preference to remove east/west connectivity on 9800 South (dead-end at Bangerter Highway) (7).
- Questions and information related to relocation impacts (6).
- Concerns about traffic increases on 9800 South due to the interchange (6).
- Concerns about speed on local neighborhood streets, including 9800 South (6).

No.	Name (Comment Method)	Comment	Response
1.	Brian Slade (Email)	To Whom It May Concern: As a property owner whose property is adjacent to Bangerter Hwy. on the East side I'm in favor of keeping the intersection at 9800 S. for the greater good of the population of South Jordan and the surrounding communities. Even if this means some property owners are negatively impacted as a result of the widening of the interchange to accommodate exit and on ramps. I know there are disagreements with those who would be most affected by this but for some of us we see that there comes a time where sacrifices as a community are necessary for the greater good of the overall population. The East West traffic in this end of the valley is difficult enough for those living here and to have just one additional outlet to go North or South is a game changer for the traffic patterns being that it will allow for greater access to potential commercial property at 9800 S. and also for greater efficiencies to travel either North or South via a 9800 S. interchange. Please know that there are some of us who are definitely in favor of keeping 9800 S. as an access point to travel North and South. Thank you for your consideration in our behalf. Sincerely, Brian & Pam Slade	UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
2.	Kristin Cantrell (Email)	The biggest problem at Bangerter and 9800 is school traffic, specifically parents trying to turn left out of the school during times with heavy traffic. I've seen many close calls. So that would be my biggest concern, fixing that traffic flow.	9800 South is a city-owned street. Any resolution regarding heavy school-related traffic on 9800 South will need to be coordinated with South Jordan City and the schools. Currently, the Proposed Action does account for closing the existing exit out of the Elk Ridge Middle School parking lot on the east side (the exit closest to Bangerter Highway). The existing entrance (middle of the parking

No.	Name (Comment Method)	Comment	Response
			lot) will become the exit and a new entrance will be constructed to the west, just to the east of the bus entrance/exit. This moves the parking lot exit further west away from the 9800 South Interchange.
3.	Jill Tinkham (Email)	I would like to submit my feedback on the 9800 South interchange. I live in the area and am in favor of the least amount of disruption of businesses and homes in the area. I think it would be best to have no access to Bangerter at 9800 South. I am in favor of 9800 South going over Bangerter, a single lane in both directions with a walking bridge. That way it won't be necessary to move the aqueduct. We moved to this area for the quiet one-lane streets. It would be nice to keep it that way. Thank you for your consideration - Jill Tinkham	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As part of the overpass only option, 9800 South over Bangerter Highway was evaluated early in the process. The Jordan Valley Water Conservancy District who manages the Jordan Valley Aqueduct (JVA) requires 35-feet of clearance between the ground and any type of structure over the JVA and its associated easement in order to maintain and replace the aqueduct. Elevating 9800 South that high would eliminate the access to all of the adjacent parcels for several hundred feet to the east and west and would complicate use for pedestrians and bicyclists. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise

No.	Name (Comment Method)	Comment	Response
			wall replacement, and a new pedestrian structure over Bangerter Highway.
4.	Dan Hansen (Email)	I've heard there's a major water pipeline that runs next to Bangerter at the 9800 S intersection; therefore running 9800 S under Bangerter will become expensive and take a very long time. Going over doesn't work either because of the noise created of elevated car noise traveling further and the homes in the area. I propose a very very easy solution. Remove the stop lights. Shut down all east-west traffic. Make Bangerter accessible with right hand turns only and exits to 9800 S right hand turn only. Anyone wishing to get across Bangerter on 9800 can simply go to the next light and reverse back with a simple U-Turn. There's no real reason that this proposal will take more than a few weeks to implement and at a minimal expense. Vehicles exiting Bangerter heading west will need to be aware of cars exiting Elk Ridge middle school parking lot. Improved lane merging will inevitably need to be addressed.	Part of the Jordan Valley Aqueduct (JVA) runs under the 9800 South and Bangerter Highway intersection and is within the Bureau of Reclamation (BOR) easement, which means we are limited by what we can do regarding any design option that may potentially impact it. The Proposed Action (both over and under options) at 9800 South protect the aqueduct in place. Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter or limiting access to and from Bangerter at this location. Completely removing east/west connectivity at 9800 South (dead end 9800 South at Bangerter Highway) was eliminated as a concept early in the process. It did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. Two alternatives with limited or no Bangerter Highway access were studied in more detail: an overpass only option and a Right-In/Right-Out interchange option. Both alternatives were eliminated because they did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing or limiting access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area.

No.	Name (Comment Method)	Comment	Response
			As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
5.	Michelle Bigbie (Website)	My lot [redacted] is proposed as a ""possible relocation."" Please highly consider taking the whole lot (our whole street) instead of cutting more into my backyard. The wall is already very close to my home. I have been in this home for 25 years and raised both of my children there, but I would rather move on than to be even closer to Bangerter than I already am. The traffic already makes a LOT of noise and the house shakes from the construction over at SLCC and 90th and 106th the past two years. I would really like to just get away from it all and have a fresh start somewhere quieter. I will see you all on the 26th and Thank you."	Property impacts are being coordinated closely with the UDOT Right-of-Way Division. Your comment has been shared with them. If you have additional questions or concerns regarding property acquisition, please reach out to the project team and we will connect you directly with a UDOT Right-of-Way agent.
6.	Brad Porter (Website)	I would love this to be an underpass with NO exit off bangerter. This exit currently dumps into neighborhoods. And an elementary and middle school. The amount of traffic that came through here while 104 was closed was INSANE. The little streets this dumps on werent made to handle that amount of traffic. 90th and 104 are close enough and built to handle the traffic. 98 is a small neighborhood street. Please keep the traffic under control in our neighborhood. Please do not put an exit on 9800	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. Access to Bangerter Highway at 9800 South is expected to serve existing users with minimal traffic increases (less than five percent) through the year 2050.

No.	Name (Comment Method)	Comment	Response
			As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
7.	Jared Williams (Website)	Bangerter under please, no overpass Overpasses are an eyesore. Drive down to the baseball field at SLCC and look to the West to see how correct this statement is.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
8.	Jason Blake (Website)	The underpass option is the clear winner of the two choices being considered here. The overpasses look terrible, throw road noise out way too far, and having to move the pedestrian bridge north behind the dollar tree parking lot is going to force people to have to walk through neighborhoods and also forces students to then have to cross the busy 9800 road just to get to school which causes its own problems. Please choose the underpass option for this.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we

No.	Name (Comment Method)	Comment	Response
			expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
9.	Larry Richards (Website)	The Bangerter under option would get my vote. We already live with the increased noise levels from the roadway, it seems elevating it would make it that much worse. I built my home here 32 years ago when it was a quiet peaceful neighborhood with an occasional plane landing at the airport in West Jordan. Now we have the National Guard detachment helicopters rattling our windows at all times of the day and night. The added noise from an elevated overpass would simply make the noise level unacceptable.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
10.	Michell Bigbie (Website)	Lot [redacted]. Please take my whole lot instead of cutting more into my yard. There isn't much space between the wall and my home as it and the shaking and sound from Bangerter all of these years has been horrible.	Property impacts are being coordinated closely with the UDOT Right-of-Way Division. Your comment has been shared with them. If you have additional questions or concerns regarding property acquisition, please reach out to the project team and we will connect you directly with a UDOT Right-of-Way agent.

No.	Name (Comment Method)	Comment	Response
11.	Rebecca Bearden (Website)	I feel there is no need for an exit on 9800 so. I do not see businesses being impacted by that. People are creatures of habit and will continue to go to those places even if they have an extra minute or 2 to get there. I also feel this would be the safest option for the kids who walk to and from school on both sides of the highway. Why does there need to be an exit at 9800 so. Wouldn't having the highway go over 9800 be the least destructive to everything around and not really hinder anything. Just like at 11800 so. I feel it would be the safest option for the kids how attend the schools so close by. I vote for an overpass no exit.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Not providing access at 9800 South would increase traffic at 9000 and 10400 South by 8-10 percent, which would cause travel delays in the area to increase by 12 percent in the morning and 35 percent in the evening in 2050. That delay is quantified into user costs, which total about $50 million from 2025 to 2050 which is a significant cost to taxpayers. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. If UDOT were to construct an overpass only, in order to maintain Bangerter Highway traffic flow during construction, property impacts to both businesses and residences would be required resulting in similar impacts as the Proposed Action. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
12.	Steve Sara (Website)	Many residents in this area would like to have the 9800 S - Bangerter interchange be constructed using a similar approach as the 104th S/Bangerter interchange. Specifically taking the Bangerter Highway under grade level and not over grade level. This will keep the aesthetic view in place looking both east the	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to

No.	Name (Comment Method)	Comment	Response
		west for local residential residents as well as provide a better vehicle sound issue for residents from Bangerter highway. It will have the least impact on aesthetics & sound for the next 50 plus years! Also, would like to see the 9800 S interchange allow on/off access to both north/south Bangerter and east/west 9800 south. This plan will relieve future congestion at 104th S/ Bangerter and allow local residents critical access to two local schools (middle school and elementary school on 9800), medical facilities on 9800, and light shopping facilities on 9800. It also would provide critical north/south access on Bangerter for work and SLC Airport travel.	the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
13.	Kalvan Hone (Website)	I cross Bangerter often as a pedestrian at 9000 South, 9800 South, 10400 South & 11400 South and I always prefer the safety of the pedestrian bridge at 9800 South. I am happy to see the project plan includes keeping the pedestrian bridge as it does absolutely "improve safety" as the public notice states. I would also prefer to see the Bangerter Under Option selected to keep the pedestrian bridge in its current location. Even if the Under option may cost slightly more, it would be preferred to not relocate the pedestrian bridge and to maximize the pedestrian bridge use. Looking forward to having Bangerter closer to freeway status. Thank you and good luck.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.

No.	Name (Comment Method)	Comment	Response
14.	Norm Badger (Website)	I definitely like the under option and would have preferred the SPUI under option as in 104th or 114th South rather than the narrower TDI. Please provide more details about the utility corridor relocation required with the under option. Both South Jordan and Riverton have passed resolutions to allow Google Fiber build out to start this Spring 2022. Please take that into consideration when planning for relocating utilities.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. A SPUI was considered, however, it was eliminated due to additional costs compared to a Tight Diamond Interchange. The proposed utility corridors will be used to maintain utility connection/service along 9800 South and across Bangerter Highway in the Under Option. During the design phase, all utility companies and facilities will be taken into account and necessary relocations performed. UDOT will work with South Jordan City regarding utility installation permits along 9800 South (and within the project limits) during the design and construction phases.
15.	Dawn Harris (Website)	Our house is [redacted] on the map. If Bangerter goes with the Under option, our house is one of the choices to be relocated for utilities. Our neighbor in [redacted] just put his house up for sale. He was using the house as an AirBNB. I don't think he is aware of the situation. If there is a choice of	Property impacts are being coordinated closely with the UDOT Right-of-Way team. Your comment has been shared with them.

No.	Name (Comment Method)	Comment	Response
		which house to take, I'm hoping you consider taking [redacted]. Just last year we remodeled our house. We spent around $50,000 and did all the floors, paint, and the entire kitchen - new cabinets, granite countertops, etc. We put a jetted tub in one of the bathrooms. We have a detached garage that is 1600 sqft. It has heating, a/c and water. It's brick, and has 8 inch concrete floors, vaulted ceiling and skylights. It is used for hobbies and is not used for commercial purposes. It will be extremely difficult to replace this.	If you have additional questions or concerns, please reach out to the project team and we will connect you directly with a UDOT Right-of-Way agent.
16.	David Vollmer (Website)	I think a overpass like 118/Bangerter would be appropriate for this. Fewer relocations with interchanges	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
17.	Heber DeLand (Website)	Install an 2 lane east/west overpass with no Bangerter interchange.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area.

No.	Name (Comment Method)	Comment	Response
			As part of the overpass only option, 9800 South over Bangerter Highway was evaluated early in the process. The Jordan Valley Water Conservancy District who manages the Jordan Valley Aqueduct (JVA) requires 35-feet of clearance between the ground and any type of structure over the JVA and its associated easement in order to maintain and replace the aqueduct. Elevating 9800 South that high would eliminate the access to all of the adjacent parcels for several hundred feet to the east and west and would complicate use for pedestrians and bicyclists. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
18.	Kristi Jensen (Website)	Bangerter Highway under 98th South. Interchanges such as this (104th and 114th) make the community much nicer and have less impact on residents. Thank you!	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the

No.	Name (Comment Method)	Comment	Response
			legislative session. The final decision will be made based on available funding.
19.	Samuel Rogers (Email)	To whom it may concern, I would like to have my voice heard that I think it's imperative for our children's safety to keep the crosswalk over Bangerter highway for the kids to be able to get to school. If you move the crosswalk it would make it so many more children would have to cross busy streets to get to the crosswalk and then cross over 9800 south again to get to Elk Ridge Middle school. The way it is now makes it so the kids are in the parking lot as soon as they get off the crosswalk. I have 1 child going there now and two more in the next few years that will utilize this access. Please make it so Bangerter goes under the intersection of 9800 South. Thank you, Your neighbor and concerned citizen,	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
20.	Thomas Wayne (Website)	What is the merge distance between the the SB on ramp at 9800 south and the SB off ramp to 104 South? Will this be similar to the I-215 and SR-201 interchange where there is only around 500' and high probability of crashes? Is this a safety issue? Same question for the on ramp at 104th and off ramp at 98th going NB.	The merge distance between the SB entrance ramp at 9800 South and the SB exit ramp to 10400 South is approximately 1000 feet. The merge distance between the NB entrance ramp at 10400 South and the NB exit ramp at 9800 South is approximately 1150 feet. These distances, along with the associated auxiliary lanes, meet UDOT's design standards and traffic performance expectations.

No.	Name (Comment Method)	Comment	Response
21.	Tom Rowley (Website)	I am in favor of this project and prefer the "Under" option. I am concerned that the entrances/exits to the middle school on 9800 South, so close to Bangerter Highway, would continue to be a bottleneck despite this project. I recommend closing those access points and routing all traffic in and out of the middle school to the west, with the addition of a roundabout or traffic signal at the intersection of 9800 South and Elk View Drive.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. Currently, the Proposed Action does account for closing the existing exit out of the Elk Ridge Middle School parking lot on the east side (the exit closest to Bangerter Highway). The existing entrance (middle of the parking lot) will become the exit and a new entrance will be constructed to the west, just to the east of the bus entrance/exit. This moves the parking lot exit further west away from the 9800 South Interchange. The intersection of Elk View Drive and 9800 South is city-owned. Intersection improvements would be up to South Jordan City to evaluate.
22.	Bob Herlin (Email)	As a citizen that lives less than a mile away from this intersection, I would like to state my desires of what I would like to see at the 9800 South and Bangerter intersection.	UDOT is planning to keep access at Bangerter Highway and 9800 South. Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under

No.	Name (Comment Method)	Comment	Response
		Would be to have Bangerter go under 9800 south and have access on and off. This would allow citizens to be able to continue the view that we have of our city and county as it is now. Would be to have Bangerter go over 9800 south and have access on and off. The least desirable is to have the overpass with no access. In my opinion to do nothing is just not an option with all other intersection on Bangerter either completed, in process or planned to have the lights removed and have Bangerter a free flowing road. Thank you Bob Herlin	9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
23.	Emily Simpson (Email)	Hello! I have appreciated the community involvement in looking at this interchange and the options you have provided. As someone who uses this intersection at least 6-8 times a day, PLEASE, PLEASE, PLEASE, have Bangerter go UNDER 9800 S. It is WORTH the extra money. "Zero fatalities" is the only goal we can live with and I feel as if the visibility of the intersection from above is SO MUCH SAFER for everyone. It's safter for the drivers, pedestrians, etc. I have 2 teenagers that attend Elk Ridge Middle school on the other side of Bangerter from our neighborhood, and even though I consider them to be smart, in general, teenagers are dumb! The proposed "over" version, has the tentative walkover even farther from the school and then coming back to cross over busy 9800. Some teenagers will have to cross 9800 S. twice! It is hard for them to get over the "shortest distance between two points" is a line thing when	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.

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		their brains aren't fully functional. The UNDER version is SOOO much better for the kids and their safety. That is worth every penny!! I love Bangerter. We are always using it, and we are loving all of the exits. The ones that you have done in South Jordan, 106th and 114th, are AMAZING. We want that too! Other (not as important reasons) as a driver & mom, why UNDER is better (that I have noticed): Much cleaner looking, looks like a town still and not like a giant divider going through the middle, less pigeons :), easier to slow up than down when exiting, can still view the sunsets, did I mention way better visibility and safety for our children? Luckily, I am not losing my house in all of this and I feel for those families, but homes can be replaced. Children can not. Thank you for your time and consideration! Emily Simpson	The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
24.	Rosa Hardcastle (Email)	Hello! We live near this intersection. The speed limit on 9800 South is 25 mph or 30 mph, depending where on that street you are driving. Bangerter Highway is considerably higher speeds. It is challenging to slow down to the lower speeds on 9800 South upon exiting. It makes sense to us to simply send Bangerter Highway over or under 9800 South at Bangerter and not allow entrance nor exit traffic. Make 9800 South a through street with no access to Bangerter. Businesses can be preserved. The middle school can have its grassy area. Problem solved. The distance from entrance and exit between 9000 South and 10400 South is minimal. People adapt.	The posted speed limits on 9800 South will remain the same as they are today. Each exit ramp will be stop controlled where it intersects 9800 South (at the end of the ramp). This will force cars to slow down on the exit ramp and come to a stop at 9800 South. Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and

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		Thank you for considering our suggestion. The Hardcastle family	existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
25.	Chris Benson (Website)	Bangerter under. Definitely. Local resident. Bangerter over would be ugly and more disruptive long term.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
26.	Corey Topham (Website)	I prefer the under option for visual, noise and safety reasons. 11400 S looks much better than 9000 S.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50.

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			While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
27.	Dan Skoubye (Email)	We live on [redacted]. We have lived here for over 23 years. We know this area well. Please do not put an off/on ramps on 9800 South Bangerter. There is a middle school on the west and an elementary school on the east side of Bangerter. There is plenty of egress at 10600 South and 9000 South. 9800 South an Bangerter is just a residential area. Best just to put an overpass or an underpass or leave the stoplight. But please, no freeway type onramps or offramps at 9800 south and Bangerter. Thank you for considering our input,	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
28.	Julia Skoubye (Email)	I would like to submit my thoughts about an interchange at 9800 South. This intersection has an elementary school on the east and a middle school on the west. This intersection is located in a very residential neighborhood. There are a few businesses located on the east and west of the highway that I believe are primarily used by just local residents. To have an interchange at this intersection would bring more traffic near the two schools which would create an unsafe environment for	UDOT is committed to safety and will continue to coordinate closely with the Jordan School District, parents, local residents, and businesses throughout the project, including the construction process. Based on feedback during the scoping process, we spent significant time studying the effects of removing access to

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		children. In addition, the construction itself would endanger the lives of the children and crowd the needed access to the schools. As residents located at [redacted], we have great access to the Bangerter Highway from either 9000 South or 10400 South. These exits provide all of the access for business that is needed. I think if you would like to either have 9800 South go up over the Bangerter for school access or under Bangerter for school access, that would provide a safe crossing of the Bangerter, or if there was no action taken due to the close proximity of schools and the traffic patterns required by parents for safety in accessing the school and providing safe pick-up and drop-off zones. The noise and added traffic would be undesirable for our community. Thank you for your consideration on this critical matter.	and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As part of the overpass only option, 9800 South over Bangerter Highway was evaluated early in the process. The Jordan Valley Water Conservancy District who manages the Jordan Valley Aqueduct (JVA) requires 35-feet of clearance between the ground and any type of structure over the JVA and its associated easement in order to maintain and replace the aqueduct. Elevating 9800 South that high would eliminate the access to all of the adjacent parcels for several hundred feet to the east and west and would complicate use for pedestrians and bicyclists. Because of the JVA, 9800 South cannot go under Bangerter. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
29.	Sam Eggers (Website)	I feel going under this the best for the future of 9800 S.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is

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			approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
30.	Ileen Kennedy (Website)	I would like for Bangerter to go under (underpass) like it does on 10400 and 11400 S for many reasons. 1. Relocating the skywalk further north would not work, my children would cross at the intersection without a cross walk, they would never walk adding close to a mile to their walk to school. 2. It needs to keep the same appearance as the other two South Jordan intersections. It looks better, the sound is better for the residence living near the intersection. It's safer for children and people, especially for those entering and exiting the two schools located at the or near the intersection. 3. The overpass at 9000 South is HORRIBLE, it is terrible to drive, it is unsafe in winter conditions, it looks terrible, it's ridiculous they went so high when the highway goes under the train track right before the intersection, there is absolutely nothing good about it and 9800 South would be the same, with the underpass at 10400 so close you would have to climb so high to get over and overpass at 9800 South it would be ridiculous. It's ridiculous that it is even under consideration to do an overpass at 9800 S. 4. Doing an underpass you won't have to move the skywalk, it would be safer and be better to drive on Bangerter. When you do an underpass the utilities could be brought through the open area / deadend street at the watertowers making it so you wouldn't	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.

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		have to remove any houses along that entire side saving tons of money from purchasing someones home and relocating them. It would be a huge costs savings to drag the utilities instead of uprooting a family. South Jordan City wants an underpass also so please do an underpass for Bangerter to go under 9800 S the same as 10400 and 11400 South. It is only right to do the entire city the same.	Relocation of utilities takes into account numerous factors including the Bureau of Reclamation Jordan Valley Aqueduct (JVA), utility company capacities/masterplans downstream (east) of 9800 South, maintaining levels of service in the area of the interchange, location of other utility facilities along the relocation route, and existing elevations on gravity type (sewer, irrigation, storm drain, etc.) utility facilities. UDOT is working closely with each utility company/entity regarding relocation of their facilities if they are impacted by the project.
31.	Lindsy Chatterton (Website)	This is absolutely ridiculous. This should not have access as there are two school here that this will cause issues to all the students and family. It is a small two lane road, and there are two major intersections close by that can be used instead. There is no excuse to say it's for further traffic, t will not change the fact that this is a two lane road! How about those who are trying to put this in. Hi get it, all you people see is money. Why don't you hold to what was promised from the very beginning this was NEVER to be an access road once the freeway went in. Let's for once thing about something other then money and think about everyone this will hurt.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. Access to Bangerter Highway at 9800 South is expected to serve existing users with minimal traffic increases (less than five percent) through the year 2050. UDOT decisions regarding transportation improvements are made using factors like local and regional transportation plans, traffic volumes, population growth projections, engineering feasibility, environmental impacts, and costs.

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32.	Chuck Newton (Public Hearing Written Comment)	Support strongly for Bangerter to go under 9800 South and for 9800 South to remain at grade.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
33.	David West (Public Hearing Written Comment)	I know the cost is greater but the appearance of an underpass in much better than an overpass. I agree of the left and right turn is needed in the plan. The school walkway is better where it is. Will there be an increase of property tax for the interchange? How will it affect property tax? How will the school children travel to school crossing streets etc.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The project is funded using allocated state transportation funds. These funds are separate from property taxes.

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			The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
34.	Carolann Rogers (Public Hearing Written Comment)	Please do the under option. The sky bridge needs to stay exactly where it is. It is dangerous for children to be crossing 9800 South to get to another neighborhood to walk to school. The sky bridge is going to attract crime and lower home values if it is moved to a neighborhood. Keep South Jordan beautiful. Nobody wants the over option. It creates more noise and is an eyesore for the surrounding homes. The under option is the only way to go.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
35.	Heather Pitts (Public Hearing Written Comment)	I am concerned about the traffic between Elk Ridge Junior High and Elk View Drive across 9800 South. It is already dangerous and congested. WIth the freeway style entrance to Bangerter that will get worse. We need to close access to the neighborhood at Elk View Drive or put in a light or something. Using Dunsinane would be best.	The intersection of Elk View Drive and 9800 South is city-owned. Intersection improvements would be up to South Jordan City to evaluate.
36.	[redacted]	Unfortunate display - screen was useless couldn't see anything. Fortunately - maps were good. Audio was also useless - oh well	Your comment has been recognized.

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	(Public Hearing Written Comment)		
37.	[redacted] (Public Hearing Written Comment)	The under pass is important for the safety of school kids. The increased amount of kids forced to cross 98th to the sky walk would put kids safety at risk of being hit by cars. Cars do not stop for crossing kids as it is!	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
38.	Denise Larson (Public Hearing Written Comment)	My preference would be an overpass only option primarily for the safety of the school children in the area. I understand the impact for the higher traffic down the road, and would suggest the city considered also adding an overpass at 10200 South as a possible way to relieve west-east traffic. 10200 South could even include off ramps only in either direction. I am concerned about the businesses that have to be relocated in either option and the impact on the neighborhood. Losing those stores will also increase traffic to 10400 South and 9000 South. If a vertical option must be chosen with full Bangerter access, I would prefer the under option but only because of where the	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. As part of the overpass only option, 9800 South over Bangerter Highway was evaluated early in the process. The Jordan Valley Water Conservancy District who

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		pedestrian bridge would be replaced. Jordan School District is not likely to provide grossing guards for under an overpass, and children are not likely to walk a significant distance out of the way to use the moved bridge.	manages the Jordan Valley Aqueduct (JVA) requires 35-feet of clearance between the ground and any type of structure over the JVA and its associated easement in order to maintain and replace the aqueduct. Elevating 9800 South that high would eliminate the access to all of the adjacent parcels for several hundred feet to the east and west and would complicate use for pedestrians and bicyclists. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. 10200 South is a South Jordan City street. Any consideration for an overpass would be up to them to consider and evaluate. However, due to the close proximity of 10200 South to both 10400 South and 9800 South, UDOT would not support adding access to Bangerter Highway at this location. Impacts to businesses and property owners have been and will continue to be coordinated directly with the impacted owner. Additionally, in order to maintain Bangerter Highway traffic flow during construction of an overpass, property impacts to both businesses and residences would be required with similar impacts as the Proposed Action. Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is

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			approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
39.	Michael Loveridge (Public Hearing Written Comment)	As an area neighbor whose children currently attend school at Elk Ridge (and will through the duration of the construction) I am in favor of the "under option". My biggest concerns are related to the pedestrian bridge and peripheral traffic on adjacent roads during the proposed closures of 9800 South. The pedestrian bridge is a critical component in the infrastructure for foot traffic, especially for the middle-school children who attended elk ridge. I believe its current location is best, so the under option comes closest to preserving that the "over" option introduces 2 extra crossings of 9800 South (before and after crossing) which dramatically decreases safety for those students who must use the bridge. In regards to 9800 South being closed at Bangerter Highway during construction has consideration been given to the potential impacts on neighboring roads and nearby neighborhoods. 9000 South, 4000 West, and 10400 South will all carry a huge burden during this time while impatient drivers speed through neighborhoods looking for shortcuts. One such "shortcut" will be Winthrope Drive to Naylor Farm Drive as drivers attempt to avoid the 4000 West/9000 South intersection. Please help by adjusting lights to ease congestion here. Thank you!	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.

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			Specific construction related detours are unknown at this time. UDOT will work closely with their chosen contractor in future phases to create and follow Maintenance of Traffic (MOT) guidelines that will identify detours during construction.
40.	Carl Latimer (Public Hearing Written Comment)	Move the batch processing plant. It's a nightmare!	The current batch processing plant is expected to remain in place until the construction is complete for Bangerter Highway interchanges at 6200 South, 10400 South, and 12600 South. UDOT is not certain where the batch plant will be located for the construction of Bangerter Highway interchanges at 4700 South, 9800 South, and 13400 South. UDOT allows this decision to be made by the selected contractor who receives approval from the city and private landowner that leases the location.
41.	Sarah Salazar (Public Hearing Written Comment)	I have kids that go to Elk Meadows and Elkridge. My concern is the skywalk being on the north side of the road. It means more traffic to the neighborhood that I live in and lots more foot traffic and maybe crime, I am concerned about kids needing to walk so far through the neighborhood then having to cross the street just to get to school I think it could be more dangerous. I'd like to see the skywalk stay south of 9800 South. Think about the speed limit on 9800 South and how an exit off the freeway will greatly be more than the speed limit.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.

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			The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible. The posted speed limits on 9800 South will remain the same as they are today. Each exit ramp will be stop controlled where it intersects 9800 South (at the end of the ramp). This will force cars to slow down on the exit ramp and come to a stop at 9800 South.
42.	Brad Ashby (Public Hearing Written Comment)	The Bangerter underpass option is totally the way to go. Much better for the kids walking to school. Well worth the money!	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
43.	Rachel Latimer	The under pass is important for the remaining homes near the interchange. The noise and cars as a constant view is discouraging and sickening.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is

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	(Public Hearing Written Comment)		approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
44.	Mel Bodolu (Public Hearing Written Comment)	Great Job! I really like the tight diamond option with Bangerter underneath. I hope the city can get the additional funding for this option. It will provide great convenient access to Bangerter for local residents and improved safety for bikes, peds, and school kids.	Your comment has been recognized.
45.	Patricia Edwards (Public Hearing Written Comment)	In strong favor of an underpass.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
46.	Larry Edwards	I would like an underpass.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under

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	(Public Hearing Written Comment)		9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
47.	Wendy Parikh (Public Hearing Written Comment)	If they move the pedestrian bridge is there a plan to put some sort of pedestrian bridge across 9800 South for the kids to cross. 9800 is so dangerous to cross now, and it will just get more dangerous in the future. I think UDOT has done really well with keep us informed. Thank you.	The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible. Currently there is no plan to construct a separate pedestrian bridge across 9800 South since there will be two stop-controlled intersections at the on- and off-ramp locations along 9800 South.
48.	Chris Rogers (Email)	To SJC City Council & Mayor -- I hope you are all doing well. As you know, UDOT is working on updating the intersection of 9800 S and Bangerter. I live in the area and I have some interest in the project. UDOT has requested feedback on the two options (see attached) and I am forwarding that to you and sending this cc to UDOT. After review, I would encourage the council and UDOT to support the Bangerter UNDER 9800 S option for two major	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional

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		reasons : 1) it has less impact on views and property values for the residents in the area and 2) it keeps the middle school pedestrian bridge in the approximate same location (the Bangerter OVER 9800 S option would relocate the bridge approximately 700 feet in the north requiring kids that use the bridge to cross 9800S.). The cost difference is minimal in comparison to the economic benefit of having the road going under. This was similar to our thoughts on Bangerter at 10400S and 11400S. These are fantastic examples that demonstrate how the road can enhance the aesthetics, safety, and economic opportunities in South Jordan in those areas. I appreciate your work and thank you for the opportunity to provide feedback.	funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
49.	Jessica Benson (Website)	Put Bangerter under please!	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
50.	Brad Jackson	I would like an underpass at 9800 S, similar to the underpasses at 10400 S and 11400 S.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under

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	(Website)	Underpass at 9800 S.	9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
51.	Glen Thorne (Website)	Can the bangerter simply go under 9800 and get rid of the exit and enter ramps?	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.

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52.	Becky Hogan (Website)	Please just wall off Bangerter and don't do an over OR underpass. Just eliminate it all together. 9000 S. and 10600 S. are so close. 9800 South can't possibly be busy enough to justify spending the umpteen millions of dollars it will cost to rework that intersection. I use this on and off ramp anytime I am heading north or coming from the north. I'm not a person who would be unaffected by my suggestion. It would have a literal impact. So please consider that as you receive comments.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access to Bnagerter Highway at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
53.	Tressa Spigarelli (Email)	So I've heard the no access interchange is off the table (which is unfortunate) but as a parent who has to drive her son to the school for the ALPs program I want to know why school districts, cities, and UDOT don't work more closely together before schools get built. Your roads directly impact schools and school traffic. It's crazy enough without putting on ramps and off ramps and then you talk about moving the pedestrian bridge farther away from the majority of users? That's insane. You have two schools with tons of students and so many of them use that overpass. Don't move it as middle schoolers will just do the straightest point which means no pedestrian bridge for them. It will take too long to cut through parking lots which isn't safe as so many kids don't pay attention already and now you want them navigate across 9800 South which will back up traffic already by itself and then cross through a parking lot and then	UDOT has been coordinating with the Jordan School District and South Jordan City throughout the study process. The location of the pedestrian bridge in the over option was informed by the school district and leadership from both the middle school and elementary school. Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50.

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		cross Bangerter and then work their way out of a neighborhood only to have to cross back over 9800 South again so then you have that entire mess. If parents are picking up kids then you've increased the traffic in the neighborhood right by the pedestrian bridge. The underpass is the way to go as you'll have more kids using what is familiar to them already. The overpass shouldn't be an option in this scenario. 9800 South is full of houses and neighborhoods on both sides of Bangerter. If you must do any interchange why not rip out more houses on the east side and keep the road farther from the middle school. I think you need to keep the highway as far from schools as possible to help with congestion and noise. It's going to be a nightmare when you start.	While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. UDOT evaluated three different horizontal alignment alternatives for Bangerter Highway: shift east, shift west, or a hybrid shift that widened the highway to both sides. The east shift and the hybrid shift were eliminated due to the location of the Jordan Valley Aqueduct (JVA). The JVA runs along the east side of Bangerter Highway in this location, and it provides water to over a million people in Salt Lake County. Impacts to the JVA would add additional costs and an additional year to the construction schedule for the project.
54.	Verneita Hunt (Website)	It is imperative we have a freeway type intersection at Bangerter and 9800 South. I am an educator and see the safety issues involved with the middle school. Emergency vehicles would have limited access to the school; parents who live on the East side of Bangerter would have issues driving to the school. This valley desperately needs east-west roads, accessing both sides of Bangerter. There are loud voices that are not thinking or not caring for the well-being of the whole community. The safety for the middle school is a huge issue. If there were an emergency at the school, police could only get to the school in a roundabout way, losing precious minutes to help - regardless of the emergency. And the ability to travel across Bangerter is a huge issue. The plan to change Bangerter intersections was there from the beginning. I moved to South Jordan and took in consideration those original plans - however	UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.

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		they were to be carried out. Regardless of what needs to be "removed" for the intersection to be constructed, I would move again if I lived in one of those homes needing to be replaced with freeway. I know my voice is small, and I hope you don't listen to the very loud voices decrying the 20+ yr old plans to make Bangerter a safer freeway for all of us. Thank you for pressing forward, safely. We need: 1) safety for the school(s) on either side of Bangerter for emergency vehicles; 2) An east/west access for neighborhoods/commuters for work, school access, and travel. Years from now, people will be extremely grateful for the 9800 S. Bangerter interchange. Thank you for future planning. It's tough right now, but you are strong to push on.	
55.	William Lang (Website)	Close off 9800 South at Bangerter Highway, both east and west. There will be more places for traffic to go (10400 South or 9000 South}. Why does there need to be an intersection at 9800 South with one at 10400 South, 9000 South?	Completely removing east/west connectivity at 9800 South (dead end 9800 South at Bangerter Highway) was eliminated as a concept early in the process. It did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
56.	Kathy Lang (Website)	I live in the residential neighborhood east and south of the proposed interchange at Bangerter and 9800 South. I firmly	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to

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		believe that a freeway-style interchange at the intersection of Bangerter and 9800 S is not necessary and would be extremely disruptive to the area, not to mention costly. There are already freeway-style interchanges at Bangerter and 9000 S and at Bangerter and 10400 S. Why put another one right between those two when the distance is not very far?! As an alternative, I suggest closing 9800 S both directions at Bangerter. There are plenty of alternative routes to get across Bangerter if 9800 S were closed.	and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Completely removing east/west connectivity at 9800 South (dead end 9800 South at Bangerter Highway) was eliminated as a concept early in the process. It also failed to meet the project's goals pertaining to traffic performance in 2050. Additionally, removing Bangerter Highway access at 9800 South or east/west connectivity at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
57.	Jacquelyn Pace (Website)	I would like to give my input on the intersection at 9800 S on Bangerter. I absolutely do not think it would be a good idea to close the intersection at 9800 S. It would cause huge traffic problems on 90th south and 102 south and the trad Elk ridge middle school is right there and already there is huge congestion and people would not be able to get out of the parking lot. That entrance is very important to people who live in my area and others in surrounding areas. Either of the other options would be great.	UDOT is planning to keep access at Bangerter Highway and 9800 South. Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional

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			funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
58.	Jacquelyn Pace (Website)	Intersection at 9800s and Bangerter being closed I do not think that the on ramp there should b closed. Middle School there is highly congested and it would put make even more congestion on 90 and 102 roads that are already a nightmare.	UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
59.	John Kerley-Weeks (Website)	I would be in favor of permanently blocking East-West traffic at 9800 South	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter or limiting access to and from Bangerter at this location. Completely removing east/west connectivity at 9800 South (dead end 9800 South at Bangerter Highway) was eliminated as a concept early in the process. It did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
60.	Don Arnold (Website)	Because two of my original preferences (No access from 9800 and dead end 9800), I believe the best option for the neighborhood and school walk bridge is to have Bangerter go under with 9800 at grade elevation. Noise will be less, it will look better than a huge overpass, school kids will still have the	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to

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		skywalk in about the same location as currently . I believe this is the safer option. I want to give my observation and comment about the continuous speeding between 40th west and Bangerter. The speed is posted at 25 mph and it is not observed. South Jordan police totally ignore the violations at all times of day and night and during the detour of 10400 traffic to 9800 nothing was done then to slow the flow. Shame on South Jordan City, their police department, and the Mayor.	the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. 9800 South between 4000 West and Bangerter Highway is a city-owned road. Your comment has been recognized.
61.	Kent Goates (Website)	I strongly believe that the interchange at 9800 and Bangerter should provide continuing travel east and west on 9800 South. Our grandchildren live with us and attend Elkridge Middle School. Asking their parents to travel to either 9000 or 10400 to then wend their way to the school seems unreasonable. And there are many families in the same situation. Further, removing east/west travel, as some have proposed would unnecessarily separate the community.	UDOT is planning to keep access at Bangerter Highway and 9800 South, including an east/west connection on 9800 South, with the exception of the construction period. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
62.	Michael Evans (Website)	There is no reason for an inter change at 9800 South just like there is not one at 11600 South. There are 14 blocks between 90th and 104th which is only 2 blocks less then 114th and 126th. 9800 south is a road that has no reason to be increased in size. Just make 9800 a over or under pass with on off ramps just like 118th!	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050.

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			Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. Access to Bangerter Highway at 9800 South is expected to serve existing users with minimal traffic increases (less than five percent) through the year 2050.
63.	Trae Stokes (Website)	I support the project. The interchange is needed to improve the operation and safety of the intersection and to keep up with the tremendous growth in the area.	Your comment has been recognized.
64.	Boyd Woolsey (Website)	With the location of Welby elementary and Elkridge middle school it makes no sense to have buses drive around to get off either on 90th or 10 fourth for access.	UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
65.	Diane Bell (Website)	With 10400 So and 9000 So so close; multiple schools and long-standing businesses located in the immediate vicinity, 9800 So should be modified to not have access to Bangerter Highway. The nature of the area and neighborhoods would be destroyed by the proposed development. Having grown up in the area, I was disheartened to hear the proposed plan of the area was to add an interchange instead of no-access overpass to this intersection. Please consider the safety of our children more important than the 5 minutes this interchange would save commuters.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.

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			Safety is a main priority at UDOT. Access to Bangerter Highway at 9800 South is expected to serve existing users with minimal traffic increases (less than five percent) through the year 2050.
66.	Virginia Booth (Website)	I want the interchange to go through. Please don't close this access to Bangerter! I work every day. A lot of these people suggesting you close it are stay at home moms and don't have a commute twice a day. That's not a fair representation for those of us that do work outside the home. Our neighborhoods are just growing. Also this cuts off those dropping their kids off at Elk Ridge middle school and then going to work.	UDOT is planning to keep access at Bangerter Highway and 9800 South. The Proposed Action includes constructing a grade-separated Tight Diamond Interchange with associated exit and entrance ramps, auxiliary lanes, pavement improvements, existing noise wall replacement, and a new pedestrian structure over Bangerter Highway.
67.	Russel Blood (Website)	I don't feel that the cost of an interchange is worth it and suggest, instead, that the intersection be permanently closed to crossing traffic. I'd prefer to see the money used to upgrade the 2700 West intersection.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter or limiting access to and from Bangerter at this location. Completely removing east/west connectivity at 9800 South (dead end 9800 South at Bangerter Highway) was eliminated as a concept early in the process. It did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
68.	Faith Wallin (Website)	9800 S should be just an east west road, over or under Bangerter, just like 11800 S. Other than the retail across from Elk Ridge Middle School it's all residential until you get to the Jordan River. It serves to purpose to spend the huge cost of a	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only

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		full exchange to a smaller east/west road. 9000 S is only 8 blocks away and 10400 S is only 6 blocks away. I live off 9800 S, and I would have to drive to 10400 S or 9000 S to get on Bangerter, I'm good with that, it's just not very far. Please use our tax payer money wisely and be good stewards and make 9800 S just an east/west road with no ramps on or off Bangerter.	option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. As part of the overpass only option, 9800 South over Bangerter Highway was evaluated early in the process. The Jordan Valley Water Conservancy District who manages the Jordan Valley Aqueduct (JVA) requires 35-feet of clearance between the ground and any type of structure over the JVA and its associated easement in order to maintain and replace the aqueduct. Elevating 9800 South that high would eliminate the access to all of the adjacent parcels for several hundred feet to the east and west and would complicate use for pedestrians and bicyclists. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
69.	Debora Blankman (Website)	First concern is the proximity of the freeway to the school, entrance and exit from Elk ridge as it is very difficult already. Second concern is that I feel the no access plan was dropped too quickly. I understand that it would divert more traffic to the other roads. However, from the first meeting we attended it was stated that10600 S was going to be widened in the future and I did not see that taken into account with the Scenarios. Also the amount of traffic on 9800 itself was stated to not change much whether there was access or not. I believe I heard it was 5%? That doesn't make sense if the amount of traffic on other roads increases by more than that. Third concern is the placement of the pedestrian bridge, moving the bridge so that it	Currently, the Proposed Action does account for closing the existing exit out of the Elk Ridge Middle School parking lot on the east side (the exit closest to Bangerter Highway). The existing entrance (middle of the parking lot) will become the exit and a new entrance will be constructed to the west, just to the east of the bus entrance/exit. This moves the parking lot exit further west away from the 9800 South Interchange. Long range transportation plans for the Wasatch Front were reflected in the traffic analysis performed for the

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		is farther north when a lot of the kids are south of the schools will encourage more kids to jaywalk than they already do. I also feel that the placement does not work with the over pass and that bangerter going under 9800 is the best option if we cannot have the no access option. However I am also concerned because of the proximity to the school how will the kids be protected from walking or falling onto the highway. No access to bangerter would make the community not feel bifurcated by the highway, would allow for less traffic in front of the schools which already are difficult to get in and out of as well as giving good faith to the community who feel that the idea was brushed aside. It is also very important to keep the walking routes the same for the kids who walk to school. Thank you for your consideration.	environmental study. This included future widening of 10600 South to three travel lanes in each direction between Bangerter Highway and Redwood Road. Traffic volumes on 9800 South near Bangerter Highway were compared for the 2050 no-build solution (leave the intersection as-is) and the 2050 build solution (construct an interchange). This comparison resulted in less than a five percent increase in daily traffic volumes. If UDOT were to completely close access to Bangerter Highway at 9800 South, it would push all existing traffic that accesses Bangerter Highway at 9800 South to other roads. This would increase peak hour traffic at 9000 South and 10400 South by 8 to 10 percent, causing 2050 travel delays in the area to increase by 12 percent in the morning and 35 percent in the evening. That delay was quantified into user costs, which total about $50 million from 2025 to 2050 which is a significant cost to motorists. UDOT has been coordinating with the Jordan School District and South Jordan City throughout the study process. The location of the pedestrian bridge in the over option was informed by the school district and leadership from both the middle school and elementary school. Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50.

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			While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their needs to ensure they are met as the final design advances. An existing noise wall will be replaced in-kind to physically separate the highway from Elk Ridge Middle School. Additionally, the pedestrian bridge will meet UDOT and AASHTO design standards which includes a type of safety barrier/fence. Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. This segment of Bangerter Highway was built in 1997 with access to 9800 South. Access to Bangerter Highway at 9800 South is expected to serve existing users with minimal traffic increases (less than five percent) through the year 2050.

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70.	Terri Angerbauer (Website)	I have a concern that this comment from the Study Draft was marked "No": "There are significant social, economic, environmental, or other effects. If YES, a Categorical Exclusion is not applicable. Consult with UDOT Central Environmental Services." I know there were some public meetings but I was sick and unable to attend. Socially I will be affected and miss my friends. Mentally I will be affected with the loss of some neighborhood and the freeway being closer to my residence and my children's school. Why not just an overpass with no interchange. Why just an environmental study? You missed some key studies that cover all my concerns? What happens to crime rates in neighborhoods with freeway access? What happens to truancy rates, crime rates, and grade levels in schools next to freeway interchanges? What are the rates of accidents where vehicles exit freeway speeds onto roads with 25 mph speed limits and where kids are crossing to and from school? Idle times of cars are really the least of my worries. Who wants the interchange instead of just an overpass? I have not met a single resident in the area that does? What costs more an interchange or an overpass and who pockets more with which option? Finally do we really need three freeway exits within a 1 mile stretch?	The State Environmental Study follows UDOT's Electronic Project Management (ePM) Environmental Study form to remain consistent with other environmental documents. UDOT Central Environmental Services were involved throughout the duration of the study and provided guidance throughout the process. Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. State-funded projects require different environmental clearances compared to federally funded projects. As such, a State Environmental Study is the required form of documentation for the project. The key concerns you listed are subject to a variety of influencing factors, most of which UDOT cannot predict. The posted speed limits on 9800 South will remain the same as they are today. Each exit ramp will be stop controlled where it intersects 9800 South (at the end of the ramp). This will force cars to slow down on the exit ramp and come to a stop at 9800 South.

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			Based on the traffic analyses completed, the area does need access at Bangerter Highway and 9800 South to meet the project's goals pertaining to traffic performance in 2050. It is not uncommon to have freeway interchanges approximately every mile in urbanized areas, as evidenced by I-15 through much of Salt Lake County.
71.	Rob Marshall (Website)	I feel that a full interchange with on and off ramps is unnecessary at 9800 south. Simply make it an overpass like 11800 south. Off ramps onto residential streets is unnecessary. If I want to get on or off I can go to 9000 or 10400	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
72.	Rob Marshall (Website)	Good evening, Input on 9800 south during the comment period. A full freeway like interchange is unnecessary. Simply make it an overpass without access similar to 11800 south. If I need to get on or off I can go to 9000 or 10400. Offramps onto residential streets are unnecessary. Rob and Tara Marshall	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Not providing access at 9800 South would increase traffic at 9000 and 10400 South by 8-10 percent, which would cause travel delays in the area to increase by 12 percent in the morning and 35 percent in the evening in 2050. That delay is quantified into user costs, which total about

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			$50 million from 2025 to 2050 which is a significant cost to taxpayers. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
73.	Angela Osborne (Website)	I would like to voice my concern for going OVER 9800 south. It would be less impactful to the neighborhoods to the East and to the school children. The proposed crosswalks for going over would be a burden for the kids. Especially for the elementary kids. The proposed sky walks in the going over plan would be quite a long walk not to mention that now they would have to cross 9800 two times. This is a way more dangerous option. If you keep the crossing bridge where it is, kids only have to cross 9800 once and they already know that route. I know it costs more money, but, in the long run it will be better. I believe it will lessen traffic on 9800 South as well. I don't have school age children anymore, but I know if I did, I would not allow them to walk if the bridge was built on the going over proposal. My dad always taught me that doing something right usually costa more money and takes a little more time. He was right. It may cost more now, but it costs less if you don't have to redo it again. Thank you for your willingness to read why I WANT Bangerter to go under on 9800 South. I also feel that South Jordan should have a cohesive Bangerter. All of their interchanges go under and I feel 9800 should as well. Thanks again	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
74.	Stephanie Barlow (Website)	9800 south interchange seems to be used a great deal for schools and neighborhoods. It would make sense to me have a bridge from east to west to allow being able to go back and forth to schools etc. not sure we still need on and off access form bangerter with 90th and 106.	The pedestrian bridge has been studied and there are two options for its location:

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		This will cause a huge disruption for schools. If the interchange goes forward I would vote for the under option. Those are such smoother trnaisitions than the overcharges	1. If the Bangerter Under Option is constructed, then the pedestrian bridge will be removed and replaced at the same location. 2. If the Bangerter Over Option is constructed, then the pedestrian bridge will be removed and relocated to a location to the north of the Bangerter and 9800 South intersection. Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Not providing access at 9800 South would increase traffic at 9000 and 10400 South by 8-10 percent, which would cause travel delays in the area to increase by 12 percent in the morning and 35 percent in the evening in 2050. That delay is quantified into user costs, which total about $50 million from 2025 to 2050 which is a significant cost to taxpayers. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under

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			9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
75.	Craig Norton (Public Hearing Verbal Comment)	My name is Craig Norton. I live on [redacted] My comments are this -- as I've put public comments into the forum and have not heard back from anybody at the state level or the city level regarding this intersection: Years ago when the intersection was proposed to connect to Bangerter Highway, there was a deal made between the City of South Jordan -- i.e., Mr. Theron Hutchings -- and the developers, that if they ran the road to the Bangerter Highway, that they would get preferential zoning treatment or spot zoning treatment for the retail area across the street from the middle school. They ran the road up through so it could be connected to the Bangerter Highway, and did this through a non-disclosed private meeting. I then canvassed the neighborhood and had 1500 signatures of people who did not want to have an intersection here at the Bangerter Highway, and Horrocks Engineers ignored that and did their study do that they could put an intersection here at the Bangerter Highway. The Bangerter Highway provides access, ingress and egress, at this time to and from the city. However, it also provides access and egress up Shields Lane and also Sky	UDOT decisions regarding transportation improvements are made using factors like local and regional transportation plans, traffic volumes, population growth projections, engineering feasibility, environmental impacts, and costs. Sky Drive is a city-owned road. Your comment has been recognized.

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		Drive. At this time Sky Drive -- and this was brought out in a state hearing --is a residential neighborhood, and this funnels high-speed traffic through a residential neighborhood, i.e., the homes on Sky Drive. Because of that, the City has not patrolled Sky Drive. The speed limit is 25, and very few people ever drive the speed limit on Sky Drive. Once again, this is a residential neighborhood. I have also checked with the City prior to building my home on Sky Drive, and I have a part of a master plan that shows that 9800 South or Sky Drive was not to be connected to a major throughfare. However, there are other plans that I have received, 1988 and after, that show it has been or would be connected. This was done through Theron Hutchings and the City Council at the time in concert with the state and other officials and Horrocks Engineers. I do have notes in my possession regarding the first connection of Sky Drive and the environmental impact study, and I was also in touch with a man by the name of Mr. Naegle, at the state level many years ago who opposed the connection of Sky Drive to the Bangerter Highway because it funneled high-speed traffic into a residential neighborhood. But because of the spot zoning that was allowed to give to Melgeship (phoenetic spelling) and Steve Young, who were the developers at the time, they decided to go ahead with the connection of the Sky Drive and Shields Lane to the Bangerter Highway because of the work that they have done. I have more to say but would like to say that after the meeting.	
76.	Steven Lundquist (Public Hearing Verbal Comment)	My name is Steve Linquist. [redacted] My comment is, despite the additional expense, I support the under option interchange. I strongly believe the under option is the most aesthetically-pleasing choice. And since this is a very permanent and multi-generational change to the area, I believe the additional expense required to install the under option is the correct choice for those who live here now and for those who come	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50.

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		after us for an improved aesthetic in the community. I firmly believe that the underpasses at 114th South and 104th South are significantly more beautiful than the overpasses at 5400 South and 9000 South, and I feel the aesthetic is more important for posterity than cost savings.	While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
77.	Cassie Wallace (Public Hearing Verbal Comment)	My name is Cassie Wallace. [redacted] I was going to look and tell you the dot or house number. It's a partial acquisition, and my property seems to be impacted the most, more than most. It's almost going to be damaged -- it appears to be -- going to be damaged so much I'm not going to have a yard left. It also looks like they're going to take my barn, which I built for my business. That's where I keep my storage for my products. I have pets. I have children, I didn't buy a house that wouldn't have a yard. I worry about safety. I worry about the damage that it's going to do to the house, property, everything. I'd like to have them come over and maybe stake it out and take a look at what it's going to look like, and I would like them to consider taking my home instead of leaving me with no yard. I'm not angry about it. I'm not anything about it. I just want to open the line of communication, and, you know, I mean they're going to take my yard. It should be in my benefit to enjoy my property. They're taking away my -- everything. I would literally be able to reach out and touch a wall from my desk, and that to me is unacceptable. So I just want to talk to somebody. That's it. I want them to open the line of communication. If they're going to take so much of my yard, that's unusable. I don't want the house. Thank you.	Property impacts are being coordinated closely with the UDOT Right-of-Way team. Your comment has been shared with them. If you have additional questions or concerns, please reach out to the project team and we will connect you directly with a UDOT Right-of-Way agent.
78.	Paul Bateman (Public Hearing Verbal Comment)	My name is Paul Bateman. [redacted] Here's my	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is

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		comment: I support under option for these reasons: One, this option will match the other two Bangerter interchanges in South Jordan. Two, this option would allow the school-foot-traffic pattern to remain the same. Since the pedestrian sidewalk would remain in the same location where it currently resides, students would be able to follow their same path to school without diverting through neighborhoods, and this would avoid property values being affected by that skywalk being build next to houses. Number three, the traffic noise would be less with Bangerter going under 9800 South, preserving the small neighborhood feel that we currently have. Number four, this option would avoid changing the skyline and again affecting the residential feel of the surrounding neighborhoods. I have to admit that I have a personal bias toward the under option which is that all the houses on my side of Bangerter are safe with either option except mine and one other. The other house that could possibly be taken with the under option is a rental, and there's no guarantee that it would even be taken. There would need to be utility rerouting which could possibly affect it. With the over option, my house is guaranteed to either be taken or have the sky bridge built next to it on the south side, blocking the sun. This means that I would either lose my house or my home value would be severely diminished given the fact that I'd have a massive structure on the south side. Either way I believe the under option is a preferable option, not only to me, due to my personal benefit, keeping my house and its value, but to the entire area.	approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. Property impacts are being coordinated closely with the UDOT Right-of-Way team. If you have additional questions or concerns regarding the ROW process, please reach out to the project team and we will connect you directly with a UDOT Right-of-Way agent.
79.	Anonymous (Public Hearing Verbal Comment)	My greatest concern is for the students who will be walking to Elk Ridge Middle School and Elk Ridge Middle School. We have upwards of 2500 students between those two schools and moving the pedestrian bridge north is going to make it really difficult for those students to access the schools that they're zoned to in a safer manner. So I highly suggest going under	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50.

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		rather than over and keeping the pedestrian bridge on the south side of 9800 South. I am also really concerned about where the crosswalks are going to be located once construction is underway and finished. So I'm hopeful that someone will be taking a look at the crosswalks and making sure that there is appropriate access to both the elementary school and the middle school.	While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
80.	Craig Taylor (Public Hearing Verbal Comment)	Craig Taylo [redacted] My comment is in regards to the environmental study addressing the noise level around the school and the nearby neighborhoods. I challenge the numbers that were presented on the board in the presentation of 8 dB and 6 dB and the mitigation being the retaining walls.	A difference of 2 dBA between the Bangerter Highway Over Option and Bangerter Highway Under Option is an average difference in noise for all 345 receptors evaluated as part of this study. A complete list of existing and Proposed Action noise levels for all receptors in the study area for both options is found in Section 3.5 of the noise study. As stated in the noise study, noise levels for the Bangerter Highway Over Option would range from 34 dBA to 80 dBA, while noise levels for the Bangerter Highway Under Option would range from 42 dBA to 80 dBA. To address traffic noise impacts as a result of the Proposed Action, six noise walls were considered for the Bangerter Highway Over Option and four noise walls were considered for the Bangerter Highway Under Option. To meet the requirements of the UDOT Noise Abatement Policy, a noise wall must provide at least a 5 dBA reduction for 50% of front-row receptors and a 7 dBA reduction for 35% of front-row receptors. Reduction values for each evaluated wall height can be found in Appendix D of the noise study.
81.	Lynel Miller	Lynel Miller [redacted]	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to

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	(Public Hearing Verbal Comment)	[redacted]. My first preference is for no interchange, and I wonder why it can't be like 118th South. My second preference, if there must be an interchange, is for Bangerter Highway to go under. It will have the least impact. It will impact the school children the least, and it will impact the neighborhoods the least. I really fear for the junior high kids having to cross 9800 South twice if Bangerter Highway goes over and the pedestrian bridge is moved to the north side of 9800 South. No junior high kid is going to cross 9800 South, and they will end up using that interchange, and someone will end up getting hit. They're junior high children who don't make the best decisions. Bangerter Highway needs to go under.	and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
82.	Brett Miller (Public Hearing Verbal Comment)	My name is Brett Miller, the rest is the same as above except for the name. Let me do my email, [redacted]. Same preferences, I would prefer to have no interchange. Doesn't look like that's an option. I would prefer then next to go under for two or three reasons. First, I think it's safer for the children and everybody crossing -- not just crossing over Bangerter but crossing 98th. Second, it will disrupt things less. And then, third, if we have to go with over -- you can quote me on this -- it sounds like our City doesn't care about us too much because most people seem to want the under.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under

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			9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
83.	Brian Sorensen (Website)	I want to know a REAL traffic study for the amount of vehicles traveling in front of the schools without the interchange vs with the interchange. I want to know what the speeds of vehicles are when they come off of roads like Bangerter when a driver has been traveling at high rates of speed and do they have a tendency of continuing at a higher rate of speed above posted speed limits of a side road like 9800? Especially when it is bumped down to 20mph!!! Please show us another interchange with schools on each side that are this close to the off ramps! This will be a tragic decision that will cost enormous grief and heartache if the interchange is built at 9800!!! The interchanges at 90th and 104th are close enough and adequate width to handle all the traffic if there is no interchange at 98th.	Existing traffic volumes on 9800 South are 8,600 vehicles per day. Overpass Only daily traffic volumes in 2050 on 9800 South would be 7,500 vehicles per day. An interchange would result in 2050 daily traffic volumes of 10,000 vehicles per day on 9800 South. The posted speed limits on 9800 South will remain the same as they are today. Each exit ramp will be stop controlled where it intersects 9800 South (at the end of the ramp). This will force cars to slow down on the exit ramp and come to a stop at 9800 South. While each area is unique, there are multiple locations that have schools in close proximity to Bangerter Highway. The intersections of Bangerter Highway and 13400 South, 7800 South, 6200 South, and 3500 South each have schools in close proximity to Bangerter Highway intersections or interchanges.

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			Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
84.	Lyle Decker (Email)	About a year ago I moved to a home about a block west of Bangerter on 9000 South. Between about 4:30 and 6:30 pm the west bound traffic on 90th is terrible. The pass-through interchange works very well for southbound Bangerter traffic, but the west bound traffic on 90th is entirely jammed up from the light at 40th West sometimes to the light at 32nd West and past. The interchange for all its effort and cost provides no benefit to westbound traffic during rush hours. The southbound traffic exiting Bangerter at 90th for east and westbound traffic is equally a problem. I have spent as much as 10 minutes getting from Bangerter to the light at the top of the exit, 5 minutes is not uncommon. What is the problem? The light at 40th West. I would hope that something can be done, especially during heavy traffic times, to alleviate that hold-up. I imagine that it is a public safety concern because emergency vehicles could be caught up in that traffic jam, especially with Jordan Valley Medical right next to Bangerter on 90th. I think one of the purposes of the interchange is to enhance east/west traffic. During those hours it is a serious problem.	4000 West and 3200 West are city-owned roads. UDOT has been coordinating closely with South Jordan City and the Jordan School District. Improvements to local intersections and access points (driveways, school entrances, etc.) are being coordinated directly with those with the appropriate jurisdiction.

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		My concern for the proposed interchange at 9800 South is that the same problem will develop there as exists at 90th unless something is done to manage the east/west movement. If that can be corrected to allow better flow of east and westbound traffic the interchange would be very worthwhile. Thank you for allowing me to offer my ideas about the proposed interchange.	
85.	Vicki Bos (Email)	As you are well aware there has been quite a lot of "push back" (words used by one of your reps) about putting an interchange at the intersection of Bangerter and 9800 South. Since things will be moving forward with the tight diamond version, I would like to weigh in on a preference on the over/under question. Our home, fortunately, will not be taken for which we are very grateful, but it is our hope that UDOT will go with the UNDER choice so that in the end the impact to the neighborhood, the school children, and home values in the area will be less negatively affected. I won't go into all the reasons because I'm sure they have been presented ad nauseum by this time. I e-mailed South Jordan City about our preference and in their e-mail response they say "it is up to UDOT". Also, we are located directly north of the nail salon and the dance studio so we will be right next to the open area that will be left to the east. We have a real problem with the area south of our house (back side of the old Walmart) with teenagers, drugs, alcohol, excessive trash, and for a time a mattress was back there until one time when I called the police because it sounded like a young woman was being taken advantage of. Last summer there was a fire that burned two trees directly behind our house. Had not my husband seen it and started	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. Areas that are within the “limits of construction” (to be defined later) will likely be fenced off by the contractor once they begin work in that area. They will not allow access into the construction site. Areas beyond the “limits of construction” will not receive any type of attention or treatment from the project.

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		putting it out before the Fire Dept. arrived I fear both our home and the home to the east would have been lost because it was spreading toward a very large pine tree. I don't know what the answer is, but as you go through construction for the next several years, could steps be taken to ensure that the area to the east of our house is not someplace that would entice people further to be used for illicit activities? (It is also really a concern that if drug deals continue behind our line of homes and the school walkbridge ends up on the north side of Bangerter that elementary school-aged children will fall prey to the teenagers who are regularly there who are involved with drugs, etc.) Could you also arrange for us to speak with a Right-of-Way person when they come out to view/make plans for our neighbors to the east? (The [redacted]) Their property is downhill from ours and they have a raised 4+foot garden that butts up to our fence on the east side of our property. If this is removed I don't believe our fence will stay intact.	Property impacts are being coordinated closely with the UDOT Right-of-Way team. Your comment has been shared with them. If you have additional questions or concerns, please reach out to the project team and we will connect you directly with a UDOT Right-of-Way agent.
86.	Robert Bolduc (Website)	If an intersection similar to Old Bingham Highway and Bangerter Highway were used at 9800 S and Bangerter, where there are no access ramps to Bangerter. Then East/West traffic would still be facilitated while not interrupting the traffic on Bangerter. This would eliminate the need to buy residential or business properties and still meet the actual traffic needs at this intersection. Accessing Bangerter from 9800 South is convenient, but far from necessary. The disruptions caused by removing businesses and families far outweighs the convenience of access ramps.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. As part of the overpass only option, 9800 South over Bangerter Highway was evaluated early in the process. The Jordan Valley Water Conservancy District who manages the Jordan Valley Aqueduct (JVA) requires 35-feet of clearance between the ground and any type of structure over the JVA and its associated easement in

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			order to maintain and replace the aqueduct. Elevating 9800 South that high would eliminate the access to all of the adjacent parcels for several hundred feet to the east and west and would complicate use for pedestrians and bicyclists. Additionally, in order to maintain Bangerter Highway traffic flow during construction of an overpass, property impacts to both businesses and residences would be required with similar impacts as the Proposed Action. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
87.	Shirleen Bolduc (Website)	I feel it is unnecessary to put on/off ramps off of 9800 South. It is convenient for me, but to destroy businesses and residential homes for a few people's convience is unnecessary. A simple ramp to keep east/west traffic is sufficient.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. As part of the overpass only option, 9800 South over Bangerter Highway was evaluated early in the process. The Jordan Valley Water Conservancy District who manages the Jordan Valley Aqueduct (JVA) requires 35-feet of clearance between the ground and any type of structure over the JVA and its associated easement in order to maintain and replace the aqueduct. Elevating 9800 South that high would eliminate the access to all of the adjacent parcels for several hundred feet to the east and west and would complicate use for pedestrians and bicyclists.

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			Additionally, in order to maintain Bangerter Highway traffic flow during construction of an overpass, property impacts to both businesses and residences would be required resulting in similar impacts as the Proposed Action. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
88.	Nathan Barlow (Website)	I feel the under option is the best choice for all involved. Keeping the pedestrian bring mostly in the same location is a safer option for students	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
89.	Dodi Thacker (Website)	Even though it costs more, I prefer the Bangerter UNDER proposal. I believe it will save student lives, as it crosses above the roads in a more central location. Bangerter OVER is ugly when traveling East and West and blocks the view of the mountains. It's worth the extra cost to not have a WALL between the two sides of the highway.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine

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			how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
90.	Craig Taylor (Email/Letter)	12FEB2022 DC Taylor P.E. retired Affected Environment and Mitigation Comments on Bangerter 9800 South Interchange Attention: Brian Allen, UDOT Project Manager Tyler Allen, UDOT Environmental Manager Samantha Patterson, 9800 Environmental Lead Haylie Ferguson, 9800 Environmental Support Katie Kourianos, Public Involvement Manager **Challenge:** I Challenge the conclusion that the Over/Under Option Noise difference is 2 dB, not discernible by human ears. No value is given in the present study addressing the resulting noise reduction that will be necessary in the schools, businesses and homes. No receptors located at the school building. 140 C is not representative. No data given for the elevated or lowered roadway, only existing data used to calibrate the TMN. **Conclusion:** Current data provides 10 dB to above 25 dB difference. Traffic is more noisy than your study is based on. **Data and presentation of view:** REFERENCE: Pencil Handwriting is 40 dB. Speech is 60 dB	A difference of 2 dBA between the Bangerter Highway Over Option and Bangerter Highway Under Option is an average difference in noise for all 345 receptors evaluated as part of this study. A complete list of existing and Proposed Action noise levels for all receptors in the study area for both options is found in Section 3.5 of the noise study. As stated in the noise study, noise levels for the Bangerter Highway Over Option would range from 34 dBA to 80 dBA, while noise levels for the Bangerter Highway Under Option would range from 42 dBA to 80 dBA. To address traffic noise impacts as a result of the Proposed Action, six noise walls were considered for the Bangerter Highway Over Option and four noise walls were considered for the Bangerter Highway Under Option. To meet the requirements of the UDOT Noise Abatement Policy, a noise wall must provide at least a 5 dBA reduction for 50% of front-row receptors and a 7 dBA reduction for 35% of front-row receptors. Reduction values for each evaluated wall height can be found in Appendix D of the noise study. According to the UDOT Noise Abatement Policy, which follows state and federal laws, noise receptor locations are normally restricted to exterior areas of frequent human use. Interior locations are only used when there are no outside activity areas. Receptor 140C was placed

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		Motorcycle is above 85 dB Remembering when Bangerter opened, I could no longer sleep with my window open, the still of the night was gone. I had walked down to the road and watched as the concrete was laid, The workman waved me closer so I could watch how the machine worked. It was very interesting. It seemed that stepping down from four lanes at 9800 south to two because the study showed the traffic was not going to be present, caused one to wonder how long will it last? Attached find data taken in the last few days. This data has two parts, one from a sound meter on a cell phone and the other from personal observations. The sample size may be challenged; however, it is a sample and shows that the existing study of the effect of the sound wall does not address the difference of putting traffic in an elevated position versus below ground. Data from my sound meter at each location: School Data range: 56 - 82 Neighborhood range 55 - 80 10400 NW Range 57 - 85 10400 SW Range 55 - 82 Wal-Mart Range 60 - 72 10400 NE Range 61 - 79 Whispering Sand Range 53 - 82 At the neighborhood meeting concerning this project there was only one poster that addressed the Noise levels tested for this project. As I have reviewed this data from the poster and from your website at: https://www.bangerter9800south.com/_files/ugd/2eab42_1a3dd73f5e0547c2b1e8d61374879608. pdf	on the play fields associated with Elk Ridge Middle School in accordance with the UDOT Noise Abatement Policy. The intent of the validation model is to verify that the noise model geometry is correct. Noise measurements taken in the field are used to validate the noise model which is built to analyze future noise produced by traffic volumes and geometric conditions. This data is input into a validation noise model that is used to compare modeled results with measured results. If the validation noise model is within 3 dBA of the measured results the noise model is considered representative of existing conditions. The results of the validation models can be found in Section 3.3 of the noise study. Once the noise model geometry is verified, updated design geometry and worst-case traffic conditions are put into the model to determine future noise impacts, and analyze potential mitigation. These models account for topography and distance, as well as vehicle types (e.g., cars and trucks), traffic volumes, barriers (e.g., safety barrier, existing noise wall), and the existing and proposed roadway configuration. Noise wall models in this study accounted for topography and distance, as well as vehicle types (e.g., cars and trucks), traffic volumes, barriers (e.g., safety barrier, existing noise wall), and the proposed roadway configuration for both the Bangerter Highway Over and Bangerter Highway Under Options. As identified in the noise study, the noise study area encompassed the land adjacent to Bangerter Highway and 9800 South to a distance of approximately 600 feet.

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		And as I have gone to several of the receptor sites listed on the diagrams and done some of my own measurements. I have come to some conclusions that the noise pollution will significantly affect the eastern classrooms at Elk Ridge Middle School and the surrounding homes and businesses. Some of these are from personally visiting the intersections at Bangerter at 10400 South and at Bangerter and 9800 South and some of these conclusions come from logic and common sense (no receptor shown by the school building, 140C field). I believe your study was flawed, only looking at noise levels that could be mitigated by the use of containment walls. It did not address the noise differences determined by the raising or lowering of the highway. There should be data from 11400 South, 10400 South, 9000 South, 11800 South and 9800 South before and after completion of the projects. There is also the difficulty of isolating the noise of East/West traffic and the North/South Bangerter traffic. I see no mention of this in the study. I found when doing my measurements that the human ear can tell where the noise is coming from. As I stood at these sites at 10400 South I could hear the east/west traffic and while looking at the dB instrument see the changes in dB when a motorcycle or big truck went by. I could see on the instrument when the traffic was moving or stopped at the lights. My ear could also determine that nearly all of that noise was from the at-grade east/west roadway. My ear could also tell you that it detected very little noise from the traffic on Bangerter as it ran under the at-grade roadway. There is a significant reduction in noise level with the highway running under the at-grade street. Lowering Bangerter Highway has excellent noise containment results. Your study calls out the need for 13-15-foot walls along the length of the highway. The traffic on the highway increases noise significantly. Logically when the highway is dropped another 15 or more feet into the ground it will contain even	The southern limit of the study area was determined based on the limits of highway improvements proposed as part of this project, which end at 10200 South (see Figure 1 in the noise study). Planning for the highway began in the 1960s and was designed as a 30-year solution. Construction began in 1988 and was completed in 1998. With growth in the area higher than expected, Bangerter Highway has exceeded operational expectations. Each intersection has unique conditions to consider and has been allocated funding separately. Due to various constraints at each intersection, UDOT has been unable to standardize a vertical alignment that works for each intersection. UDOT has engaged local decision-makers in the conversion of at-grade intersections to grade-separated conditions. Some cities have strong preferences regarding vertical alignment options while others do not. UDOT has tried to accommodate these preferences by working with the cities to find additional funding to cover the cost differences in accommodating local preferences. Reconstructing Bangerter Highway below grade between 9800 South and 10400 South instead of just at the 10400 South and Bangerter Highway Interchange is not feasible from an engineering or cost perspective. The impacts to the Jordan Valley Aqueduct and existing utility lines would lead to unnecessary costs and construction time, as well as additional home relocations.

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		more of this traffic noise. Conversely, if the highway is put over the cross streets it's elevation and lack of containment walls at the highway level will greatly increase the noise pollution in the area for the school, business and homes. Those raised highway overpasses such as Redwood Road, 11800 South and 9000 South only have a bridge side above the highway level. Thus, the containment walls in this case will help significantly with the traffic on the on and off ramps but the raised highway, having elevation and the short sides on the bridges will only increase the noise pollution, and it will be significantly more noise than the Bangerter/under option. The significance of all this talk about noise is particularly important in regards to the realignment of Bangerter to the west, much closer to the eastern classrooms at Elk Ridge Middle School. If your study is saying that noise will only increase by 2 dB it is obviously flawed. There will be a great difference in the noise levels between the options of Bangerter/over compared to Bangerter/under at 9800 South. This difference will impact teaching and learning in those classrooms bordering the highway. It may also be enough to add to teacher burnout. A student may have one class in that wing each day, but the educator may have to be bombarded by the additional noise all day, every day! Add that to a middle school educator's daily drain and it is daunting. The homes in the area will notice the difference. From my back yard, 800 feet west of Bangerter you can easily hear the road noise. (48 dB min, 81 dB high, 53 dB ave.) Elevating the road way will change this and it will be heard (>2 dB difference). An additional item of concern is the planning model for Bangerter Highway. Why in the world was it not made a freeway type highway to begin with? Ok, that is 25 years too late.	UDOT decisions regarding transportation improvements are made using factors like local and regional transportation plans, traffic volumes, population growth projections, engineering feasibility, environmental impacts, and costs. The Bangerter Highway at 10400 South project did not make assumptions regarding the Bangerter Highway at 9800 South project. These projects have been evaluated independently.

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		So, why are each of these intersections being planned independently? This has turned a great flat roadway into a roller coaster. Up and over here, down and under here, etc. By planning them independently you have created a bigger problem. If you had planned 10400 South and 9800 South at the same time you could have had the roadway go down and under 10400 South and then stay down in a noise containing channel, north and under 9800 South until it resurfaced near to 9000 South to go over that roadway. Instead of down, up, down, up and up again. You would go down south of 10400 and stay down all the way to 9000 South. It seems that your planning process has a lack of progressive, proactive planning. The model needs to change. (It appears that when the plans were made for 10400 South interchange that the assumption was made that 9800 South would be a Bangerter over interchange. That assumption determined the slope of the highway from 10400 South to 9800 South. This type of planning based on assumptions shows the weakness or problem caused by planning the intersection independently rather than working on the harmonious plan.) No information/discussion is given regarding the data collected for 10400 prior to the lowering of Bangerter and what the levels are after completion of the intersection with Bangerter lowered. There is a difference at 10400 south of below 50 db to above 80 db. This is more the 10db. The example of 10400 underpass is a very good example of what would be achieved by putting 9800 below grade. It completely misses or does not address putting a noise emitter in the air versus down in the ground. Go listen at 10400. Compared to present 9800. There is a huge difference.	

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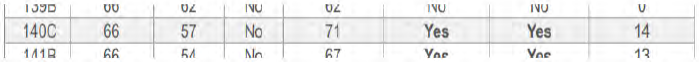
		To reduce the noise in my home I have triple pain windows, take that cost and apply it to the homes and you have a number to start to address the cost difference from impact. School noise reduction cost should also be considered. It will be significant. Having one receptor for the school located out in the field is incorrect. The TNM software does not use over and under data; it is based on exiting condition.  This is not adequate (based on my measurements).	

139B	66	62	No	62	No	No	0
140C	66	57	No	71	Yes	Yes	14
141B	66	54	No	67	Yes	Yes	13

No.	Name (Comment Method)	Comment	Response

Date	Time	Location	Min	MAX	AVE	Observation	UDOT	Leq
8-Feb-22	8:55 AM	9800 South School /corner	63	81	68		23-May-18	58.4
	8:58 AM		56	73	65	on grade light changes noises		
	8:59 AM		66	82	70			
9-Feb-22	7:20 AM		61	82	70	Bangerter only (light change)		
	7:20 AM		58	64	61	9800 only (light change)		
	7:21 AM		67	81	72	Bangerter only (light change)		
	7:23 AM		61	71	64	9800 only (light change)		
	7:25 AM		60	80	71	Bangerter only (light change)		
8-Feb-22	9:05 AM	10200 South 3640 West	55	78	64			
	9:07 AM		60	72	66	On Grade, traffic stopped north bond		
	9:09 AM		71	80	74			
	9:11 AM		62	79	69			
9-Feb-22	7:31 AM		67	75	70			
	7:32 AM		57	73	66	On Grade		
	7:34 AM		70	73	71			
8-Feb-22	9:19 AM	10400 South NW Corner	57	80	65			
	9:20 AM		67	82	73			
	9:21 AM		57	78	67			
9-Feb-22	7:38 AM		68	76	71			
	7:39 AM		65	71	68	All noise from 10400, light change		
	7:40 AM		66	85	69			
	7:41 AM		65	81	69			
	7:42 AM		61	73	67			
	7:43 AM		65	77	69			
	7:48 AM	osbone building			57	Bangerter only coming up		
8-Feb-22	9:27 AM	10400 South SW Corner	64	74	69		23-May-18	65.2
	9:28 AM		68	74	71			
	9:30 AM		61	80	69	All noise from on ramp, could not hear Bangerter		
	9:31 AM		57	82	69			
9-Feb-22	7:51 AM		55	79	70			
	7:54 AM		59	76	67			
	7:55 AM		67	71	68	Bangerter only*, no ramp traffic		
8-Feb-22	9:39 AM	Behind Walmart	61	66	62		23-May-18	61.1
	9:41 AM		60	77	66	All noise from on ramp, minimal noise from Bangerter		
	9:42 AM		61	71	66			
9-Feb-22	8:05 AM		62	72	67	Construction in area, lift running		
	8:06 AM		64	72	67	Construction in area, lift running		
8-Feb-22	9:46 AM	10400 South NE Corner	61	69	65			
	9:47 AM		66	73	68			
	9:48 AM		66	79	69	All noise from on ramp, minimal noise from Bangerter		
	9:49 AM		66	78	68			
9-Feb-22	8:10 AM		65	70	69			
	8:11 AM		66	70	68			
	8:12 AM		64	76	67			
4-Feb-22	12:37 PM	10400 South S Whispering Sands Dr	53	82	68	No noise from Bangerter	23-May-18	66
		Ave	63	76	68	*Noise coming from far south,		63
		Min	53	64	57	lessoned as it went down under		
		MAX	71	85	74			

91	Beau Pettit (Email)	For a point of reference the intersection at 9800 south and Bangerter Hwy is the intersection that I most frequently use on a daily basis. In reviewing the two options I would recommend the under option. One of the biggest reasons is the pedestrian bridge	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50.

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		location. My children use this bridge all the time for school and other access. I worry about the safety and location of the other bridge option presented. I don't want to have my kids take a large detour through an unknown neighborhood and then behind and routed through a commercial area. The Under option for the bridge is basically located where the existing one is. this provides a direct route to the school. Concerns with the over option: Increased noise being elevated, pedestrian bridge access and location. Over option is by far the best option. Less noise, match the other intersections in South Jordan and the location of the pedestrian bridge. a far safer option for my children.	While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible.
92	Matthew Betts (Website)	I prefer the under option for two reasons. Location of the pedestrian bridge stays the same. That is the most important reason. The second is noise and aesthetics, putting Bangerter under 9800 South would be better visually and for noise reduction. Having watched 10400 South and 12600 South, it seems that putting 10400 south under happened faster than putting 12600 south over.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The timing of construction is expected to be similar for either option.

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93.	Greta Betts (Website)	I would like to see the interchange go under for two reasons. First the pedestrian bridge would be located at the same location. Second for less noise and better aesthetics.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.
94.	Tamara Fellows (Website)	I feel like bangerter highway needs to go over 9800 S with no on or off ramps. 90th S and 104th S offer the ability to access bangerter highway. Too many on and off ramps too close. The cost to buy out the homes and businesses is an unnecessary expense and frustration. The extra amount of money can be used for all the schools and growth. The growth is further south where you are already taking the necessary measures for that congestion. This area is established.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. As part of the overpass only option, 9800 South over Bangerter Highway was evaluated early in the process. The Jordan Valley Water Conservancy District who manages the Jordan Valley Aqueduct (JVA) requires 35-feet of clearance between the ground and any type of structure over the JVA and its associated easement in order to maintain and replace the aqueduct. Elevating 9800 South that high would eliminate the access to all of the adjacent parcels for several hundred feet to the east

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			and west and would complicate use for pedestrians and bicyclists. Additionally, in order to maintain Bangerter Highway traffic flow during construction of an overpass, property impacts to both businesses and residences would be required resulting in similar impacts as the Proposed Action. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
95.	Jenny Russel	Why can't 9800 South be like 11800 South? All off this construction has led to people speeding down our streets and almost hitting the children in the neighborhood. Closing the surrounding areas to make the freeway style has made our neighborhood traffic ridiculous. Please consider a no on and off ramp on 9800 South. It is not that much further to get to 9000 or 10400 South. Consider making it like 11800 south PLEASE	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
96.	Deborah Pariseau (Website)	I use this corridor going East & West on a daily basis and this would impact my commute and cause additional mileage in order for me to get back and forth to work.	Based on feedback during the scoping process, we spent significant time studying the effects of removing access to and from Bangerter at this location, meaning how an overpass only option would perform. The overpass only

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		I would like to suggest that there is an overpass built over 9800 South and remove the exits from and entrances to Bangerter. East and West traffic can still travel and people can use 9000 South or 10600 South to access or leave Bangerter.	option was eliminated from the alternatives because it did not meet the project's goals pertaining to traffic performance in 2050. Not providing access at 9800 South would increase traffic at 9000 and 10400 South by 8-10 percent, which would cause travel delays in the area to increase by 12 percent in the morning and 35 percent in the evening in 2050. That delay is quantified into user costs, which total about $50 million from 2025 to 2050 which is a significant cost to taxpayers. Additionally, removing access at 9800 South would have a negative effect on mobility and existing access for businesses, schools, and emergency services in the area. As a result, UDOT is planning to keep access at Bangerter Highway and 9800 South.
97.	Todd Mendenhall (Website)	UDOT 9800 South Bangerter Team, As you finalize plans for the 9800 South Bangerter interchange design, there are two concerns that I wanted to highlight: The option to have Bangerter go under is preferrable because it enables the overpass walkway to be reconstructed in its current location. If Bangerter goes over, the walkway is moved a few blocks North and it will be inconvenient enough that school children will cross the streets and intersections at 9800 South and increase the safety risks at that intersection. The main floor of the homes on the West side of Bangerter between 10400 and 9800 South sit about 10 feet higher than the road elevation on Bangerter. The noise reduction studies propose a sound wall height that reduces noise at the ground level (the backyard) of the homes on the West side of Bangerter; however, the elevation of the homes should be considered as the "reasonable" option for sound wall height is selected. The sound wall constructed on	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding.

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		the East side of Bangerter a few years ago doubled the noise at the main levels of homes on the West side of Bangerter. Traffic will continue to increase that noise level. The sound wall on the East side of Bangerter is 15' tall relative to the elevation of their backyards (based on my measurement). Please plan for similar sound walls on the West side of Bangerter e.g. 15' tall relative to the backyard elevation.	The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible. Noise receptor locations are normally restricted to exterior areas of frequent human use. Interior locations included in Activity Category D are only used when there are no outside activities, such as in churches, hospitals, or libraries. In accordance with state and federal guidelines, residential receptor locations were placed in exterior locations between the residence and Bangerter Highway for this study. According to the Federal Highway Administration (FHWA), construction of a noise barrier on the opposite side of the highway from a receiver will not result in a substantial increase in highway traffic noise levels. Not all of the noise reflects back to the receiver. Some of the noise is diffracted over the barrier, some is reflected to points other than the receiver, some is scattered by ground coverings (e.g., grass and shrubs), and some is blocked by the vehicles on the highway. Attempts to measure this reflective increase have rarely shown an increase greater than 1-2 dBA, which is an increase that is not perceptible to the average human ear. Any existing noise walls impacted by the Proposed Action will be replaced "in-kind", consistent with the UDOT Noise Abatement Policy. An "in-kind" barrier is defined as the height of the existing barrier.

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98.	Natalie Mendenhall (Website)	I am writing with my concerns regarding the Bangerter 9800 south project that is coming in 2023. We as residents of South Jordan, and also parents of students that attend the schools, ask that Bangerter go under 9800 not over. If Bangerter goes over, the skywalk would need to move so far that children would not use it. I think that eventually a child would be hit on Bangerter because the children would cross that busy street instead of walking further to go to the new skywalk. Keeping the skywalk where it is right now is the safest option and will be the best placement for extended use well into the future. I am also writing with my concerns about the sound wall that will eventually be put on the west side of Bangerter following the completion of the project. Our home backs Bangerter and will be affected by this project. There are many options that have been discussed about the final height of the sound wall. I would ask that careful consideration be taken before a final decision is made. The homes on the west side are elevated higher than the east. Our living area has become very loud because of the increase of traffic, and also the speed of the vehicles. We will be losing some of our yard and that will be putting Bangerter even closer to our home. When Bangerter was first built in the 1990's, the fence offered to residents just north of our home was 15 feet. If that was approved by UDOT that long ago, for a road that was not as busy as it is now, we should at least have the same height offered to us. When traveling on Bangerter, it is hard to find any car that does not exceed the speed limit. Most cars tend to go at least 70 mph constantly. It is like a mini version of I-15 right now and will only get worse, especially with the lights being removed. UDOT has made determinations with a plan that goes out to the year 2050. Our sound wall should also take that into account as the traffic will only get worse and the speed will never be decreased. Thank you for your consideration.	Currently both vertical alignment options, Bangerter Highway Over 9800 South and Bangerter Highway Under 9800 South, are under-funded. The Under Option is approximately $23 million in additional cost compared to the Over Option. UDOT and South Jordan City would have to split the additional cost to go under, 50/50. While the exact timing is unknown, UDOT is working closely with state and city representatives to determine how much funding can be allocated to the project and we expect to have a better idea about how much additional funding is available as early as spring 2022, after the legislative session. The final decision will be made based on available funding. The study team is working closely with Jordan School District to understand their bussing and walking route protocols as this decision is made to ensure the needs of the school district are met as much as possible. In accordance with state and federal guidelines, residential receptor locations were placed in exterior locations between the residence and Bangerter Highway for this study. Noise wall models in this study accounted for topography and distance, as well as vehicle types (e.g., cars and trucks), traffic volumes and speed, barriers (e.g., safety barrier, existing noise walls), and the proposed roadway configuration for both the Bangerter Highway Over and Bangerter Highway Under Options. High resolution digital elevation data was used to input topography into the

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			model. Spatial data (including roadway geometry and receptor locations) was determined based on high resolution digital imagery, real-world coordinates, and computer-aided design (CAD) files. Any existing noise walls impacted by the Proposed Action will be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy. An “in-kind” barrier is defined as the height of the existing barrier.

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PUBLIC HEARING COMMENTS

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BANGERTER HIGHWAY|9800 SOUTH

www.udot.utah.gov/bangerter9800south

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January 26, 2022

6:00 p.m. to 7:41 p.m.

Elk Ridge Middle School
3659 West 9800 South
South Jordan, Utah 84009

* * *

Reported by Letitia L. Meredith
Registered Professional Reporter
Certified Shorthand Reporter CA

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P U B L I C C O M M E N T S

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CRAIG NORTON: My name is Craig Norton. I live on [redacted]. My address is [redacted]. My phone number is area code [redacted]. My email is [redacted].

My comments are this -- as I've put public comments into the forum and have not heard back from anybody at the state level or the city level regarding this intersection:

Years ago when the intersection was proposed to connect to Bangerter Highway, there was a deal made between the City of South Jordan -- i.e., Mr. Theron Hutchings -- and the developers, that if they ran the road to the Bangerter Highway, that they would get preferential zoning treatment or spot zoning treatment for the retail area across the street from the middle school.

They ran the road up through so it could be connected to the Bangerter Highway, and did this through a non-disclosed private meeting.

I then canvassed the neighborhood and had 1500 signatures of people who did not want to have an intersection here at the Bangerter Highway, and

Horrocks Engineers ignored that and did their study so that they could put an intersection here at the Bangerter Highway.

The Bangerter Highway provides access, ingress and egress, at this time to and from the city. However, it also provides access and egress up Shields Lane and also Sky Drive.

At this time Sky Drive -- and this was brought out in a state hearing -- is a residential neighborhood, and this funnels high-speed traffic through a residential neighborhood, i.e., the homes on Sky Drive.

Because of that, the City has not patrolled Sky Drive. The speed limit is 25, and very few people ever drive the speed limit on Sky Drive. Once again, this is a residential neighborhood.

I have also checked with the City prior to building my home [redacted] and I have a part of a master plan that shows that 9800 South or Sky Drive was not to be connected to a major thoroughfare.

However, there are other plans that I have received, 1988 and after, that show it has been or would be connected. This was done through Theron Hutchings and the City Council at the time in concert with the state and other officials and

Horrocks Engineers.

I do have notes in my possession regarding the first connection of Sky Drive and the environmental impact study, and I was also in touch with a man by the name of Mr. Naegle, N-a-e-g-l-e, at the state level many years ago who opposed the connection of Sky Drive to the Bangerter Highway because it funneled high-speed traffic into a residential neighborhood.

But because of the spot zoning that was allowed to give to Melgeship (phonetic spelling) and Steve Young, who were the developers at the time, they decided to go ahead with the connection of the Sky Drive and Shields Lane to the Bangerter Highway because of the work that they have done. I have more to say but would like to say that after the meeting.

* * * *

STEVEN LUNDQUIST: My name is Steven Lundquist. My address is [redacted]. Phone number, [redacted]. Email is [redacted].

My comment is, despite the additional expense, I support the under option interchange. I strongly believe the under option is the most aesthetically-pleasing choice.

And since this is a very permanent and multi-generational change to the area, I believe the additional expense required to install the under option is the correct choice for those who live here now and for those who come after us for an improved aesthetic in the community.

I firmly believe that the underpasses at 114th South and 104th South are significantly more beautiful than the overpasses at 5400 and 9000 South, and I feel the aesthetic is more important for posterity than the cost savings.

* * * *

CASSIE WALLACE: My name is Cassie Wallace. My address is [redacted] Phone number, [redacted]

I was going to look and tell you the dot -- or house number. It's a partial acquisition, and my property seems to be impacted the most, more than most. It's almost going to be damaged -- it appears to be -- going to be damaged so much I'm not going to have a yard left.

It also looks like they're going to take my barn, which I built for my business. That's where I keep my storage for my products. I have pets. I have children. I didn't buy a house that wouldn't

have a yard.

I worry about safety. I worry about the damage that it's going to do to the house, property, everything.

I'd like to have them come over and maybe stake it out and take a look at what it's going to look like, and I would like them to consider taking my home instead of leaving me with no yard.

I'm not angry about it. I'm not anything about it. I just want to open the line of communication, and, you know, I mean they're going to take my yard. It should be in my benefit to enjoy my property.

They're taking away my -- everything. I would literally be able to reach out and touch a wall from my deck, and that to me is unacceptable.

So I just want to talk to somebody. That's it. I want them to open the line of communication. If they're going to take so much of my yard, that's unusable. I don't want the house. Thank you.

* * * *

PAUL BATEMAN: My name is Paul Bateman. My address is [redacted], and my phone number is [redacted]. And then email is [redacted].

Here's my comment: I support the under option for Bangerter at 9800 South. I believe it's a superior option for these reasons: One, this option will match the other two Bangerter interchanges in South Jordan.

Two, this option would allow the school-foot-traffic pattern to remain the same.

Since the pedestrian skywalk would remain in the same location where it currently resides, students would be able to follow their same path to school without diverting through neighborhoods, and this would avoid property values being affected by that skywalk being built next to houses.

Number three, the traffic noise would be less with Bangerter going under 9800 South, preserving the small neighborhood feel that we currently have.

Number four, this option would avoid changing the skyline and again affecting the residential feel of the surrounding neighborhoods.

I have to admit that I have a personal bias toward the under option which is that all the houses on my side of Bangerter are safe with either option except mine and one other.

The other house that could possibly be

taken with the under option is a rental, and there's no guarantee that it would even be taken. There would need to be utility rerouting which could possibly affect it.

With the over option, my house is guaranteed to either be taken or have the sky bridge built next to it on the south side, blocking the sun. This means that I would either lose my house or my home value would be severely diminished given the fact that I'd have a massive structure on the south side.

Either way I believe the under option is a preferable option, not only to me, due to my personal benefit, keeping my house and its value, but to the entire area.

* * * *

ANONYMOUS: My greatest concern is for the students who will be walking to Elk Ridge Middle School and Elk Meadows Elementary School. We have upwards of 2500 students between those two schools, and moving the pedestrian bridge north is going to make it really difficult for those students to access the schools that they're zoned to in a safe manner.

So I highly suggest going under rather than over and keeping the pedestrian bridge on the south

side of 9800 South.

I am also really concerned about where the crosswalks are going to be located once construction is underway and finished. So I'm hopeful that someone will be taking a look at the crosswalks and making sure that there is appropriate access to both the elementary school and the middle school.

* * * *

CRAIG TAYLOR: Craig Taylor, [redacted]

My comment is in regards to the environmental study addressing the noise level around the school and the nearby neighborhoods.

I challenge the numbers that were presented on the board in the presentation of 8 dB and 6 dB and the mitigation being the retaining walls. There appears to be no weight allowed in the evaluation for the decrease for the under option versus the over option of Bangerter Highway.

When 104th intersection was completed, there was a marked difference in the neighborhood in noise reduction based on the traffic going under the intersection. It would be my estimate that it was a lot more than the 2 dB reported in the present

environment study.

Therefore, I think that the averaging of the receptors around the 98th intersection needs to be reevaluated in regards to noise for the school and the neighborhood, not just based on whether we should or should not replace the sound retention walls.

So based on living next to 104th and 98th, about halfway between the two, it seems that the evaluation should give more weight to the under option based on environmental study and making the neighborhood quieter, especially for the junior high and elementary schools that are located next to 98th.

South Jordan City apparently has submitted a request for it to go under for their reasons, but it seems to me that the evaluation of environmental impact in this study should address the noise level more as an impact to the neighborhood than rather the cost in weighting the over and under options.

Understanding that there is a budgetary concern between the costs for the two but there ought to be able to be budget allotment in regards to points of environment that can mitigate the cost of going under versus going over.

Thanks for your consideration. Please respond to my email.

* * * *

LYNEL MILLER: Lynel Miller, [redacted]

My first preference is for no interchange, and I wonder why it can't be like 118th South.

My second preference, if there must be an interchange, is for Bangerter Highway to go under. It will have the least impact. It will impact the school children the least, and it will impact the neighborhoods the least.

I really fear for the junior high kids having to cross 9800 South twice if Bangerter Highway goes over and the pedestrian bridge is moved to the north side of 9800 South.

No junior high kid is going to cross 9800 South, and they will end up using that interchange, and someone will end up getting hit. They're junior high children who don't make the best decisions.

Bangerter Highway needs to go under.

* * * *

BRETT MILLER: My name is Brett Miller, B-r-e-t-t. The rest is the same as above except for

the name. [redacted].

Same preferences, I would prefer to have no interchange. Doesn't look like that's an option. I would prefer then next to go under for two or three reasons.

First, I think it's safer for the children and everybody crossing -- not just crossing over Bangerter but crossing 98th.

Second, it will disrupt things less.

And, third, it's consistent with everything else that's happened in South Jordan. We may as well do the same things so that the traffic patterns and everybody is expecting the same thing.

And then, third, if we have to go with over -- you can quote me on this -- it sounds like our City doesn't care about us too much because most people seem to want the under.

(Whereupon the taking of public comments was concluded at 7:41 p.m.)

* * *

C E R T I F I C A T E

STATE OF UTAH)
)
COUNTY OF UTAH)

THIS IS TO CERTIFY that the foregoing public comments were taken before me, Letitia L. Meredith, Registered Professional Reporter and Notary Public in and for the State of Utah and State of California.

That the public comments were reported by me in Stenotype, and thereafter transcribed by computer under my supervision, and that a full, true, and correct transcription is set forth in the foregoing pages.

I further certify that I am not of kin or otherwise associated with any of the parties to said cause of action, and that I am not interested in the event thereof.

WITNESS MY HAND and official seal at Spanish Fork, Utah, this 5th day of February 2022.

Letitia L. Meredith, CSR/RPR

COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Chuck Newton Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Support Strongly for Bangerter to go Under 9800 S, & for 9800 S to remain at grade!

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: David West Organization: Retired

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I know the cost is greater but the appearance of an underpass is much better than an over pass. I agree of the left and right turn is needed in the plan. The schad walkway is better where it is.

Will there be an increase of property tax for the interchange

How will affect property tax.

How ~~the~~ will the Schad children travel to school crossing streets etc

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Carolann Rogers Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Please do the under option. The sky bridge needs to stay exactly where it is. It is dangerous for children to be crossing 9800 S to get to another neighborhood to walk to school. The sky bridge is going to attract crime and lower home values if it is moved to a neighborhood.

Please provide any other information or comments you feel would be helpful to the study team.

Keep South Jordan beautiful! Nobody wants the over option. It creates more noise and is an eyesore for surrounding homes. The under option is the only way to go!

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Heather Pitts Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I am concerned about the traffic between The Elk Ridge Jr. and Elk View Drive across 9800 S. It is already dangerous & conjested with the freeway style entrance to Bangerter that will get worse. We need to close access ~~on~~ to the neighborhood at Elk View Drive or put in a light or something. Using Dunsinane would be best.

Please provide any other information or comments you feel would be helpful to the study team.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: _____ Organization: _____

Address: _____ City: _____

Phone Number: [redacted] State: _____ ZIP: _____

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Unfortunate display - screen was useless - Couldn't see anything

fortunately - maps were good

Audio was also useless — oh well

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Rachel Latimer Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

The under pass is important for the safety of school kids. The increased amount of kids forced to cross 98th to the sky walk would put kids safty at Risk of being hit by cars. Cars do not stop for crossing kids as it is!

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Denise Larson Organization: resident

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

My preference would be an overpass only option primarily for the safety of the school children in the area. I understand the impact for higher traffic down the road, and would suggest the city consider also adding an overpass at 102 S as a possible way to relieve west - east traffic. 102 S could even include off ramps only in either direction. I'm concerned about the businesses that have to be relocated in either option and the impact on the neighborhood. Losing those stores will also increase traffic to 1045 & 9000S.

Please provide any other information or comments you feel would be helpful to the study team.

If a verticle option must be chosen with full Bangerter access, I would prefer the under option but only because of where the pedestrian bridge would be replaced. Jordan school district is not likely to provide crossing guards fo under an overpass, and children are not likely to walk a significant distance out of the way to use the moved bridge.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: MICHAEL LOVERIDGE Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

AS AN AREA NEIGHBOR WHOSE CHILDREN CURRENTLY ATTEND SCHOOL AT ELK RIDGE (AND WILL THROUGH THE DURATION OF CONSTRUCTION) I AM IN FAVOR OF THE 'UNDER' OPTION. MY BIGGEST CONCERNS ARE RELATED TO THE PEDESTRIAN BRIDGE, AND PERIPHERAL TRAFFIC ON ADJACENT ROADS DURING PROPOSED CLOSURES OF 9800 SOUTH. THE PEDESTRIAN BRIDGE IS A CRITICAL COMPONENT IN THE INFRASTRUCTURE FOR FOOT TRAFFIC, ESPECIALLY FOR THE MIDDLE-SCHOOL CHILDREN WHO ATTEND ELK RIDGE. I BELIEVE ITS CURRENT LOCATION IS BEST, SO THE UNDER OPTION COMES CLOSEST TO PRESERVING THAT. THE 'OVER' OPTION INTRODUCES 2

Please provide any other information or comments you feel would be helpful to the study team.

EXTRA CROSSINGS OF 9800 SOUTH (BEFORE AND AFTER CROSSING) WHICH DRAMATICALLY DECREASES SAFETY FOR THOSE STUDENTS WHO MUST USE THE BRIDGE.

IN REGARDS TO 9800 SOUTH BEING CLOSED AT BANGERTER HIGHWAY DURING CONSTRUCTION, HAS ANY CONSIDERATION BEEN GIVEN TO THE POTENTIAL IMPACTS ON NEIGHBORING ROADS AND NEARBY NEIGHBORHOODS? 9000 SOUTH, 4000 WEST, AND 10400 SOUTH WILL ALL CARRY A HUGE BURDEN DURING THIS TIME WHILE IMPATIENT DRIVERS SPEED THROUGH NEIGHBORHOODS LOOKING FOR SHORTCUTS. ONE SUCH "SHORTCUT" WILL BE WINTHROPE DRIVE TO NAYLOR FARM DRIVE AS DRIVERS ATTEMPT TO AVOID THE 4000W/9000S INTERSECTION. PLEASE HELP BY ADJUSTING LIGHTS TO EASE CONGESTION HERE!

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

THANK YOU!

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Carl Latimer Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

Move the batch proessing plant
It's a nightmare.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Sarah Salazar Organization: resident impacted

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I have kids that go to Elk Medows and Elk ridge. my concern is the skywalk being on the north side of the road. It means more traffic to the neighborhood that I live in and lots more foot traffic and maybe crime. Im concerned about kids needing to walk so far through the neighborhood then having to cross the street just to get to school I think it could be more dangerous. Id like to see the Skywalk stay South of 9800 S.

Please provide any other information or comments you feel would be helpful to the study team.

think about the speed limit on 9800 S. and how an exit off the freeway will greatly be more then the speed limit.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: BRAD ASHBY Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

The Bangerter underpass option is totally the way to go. Much better for the kids walking to school Well worth the money!

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Rachel Latimer Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

The under pass is important for the remaining homes near the interchange. The noise and cars as a constant view is discouraging and sickening

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: NOEL BRADLEY Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

GREAT JOB! I REALLY LIKE THE TIGHT DIAMOND OPTION WITH BANGERTER UNDERNEATH. I HOPE THE CITY CAN GET THE ADDITIONAL FUNDING FOR THIS OPTION. IT WILL PROVIDE GREAT CONVENIENT ACCESS TO BANGERTER FOR LOCAL RESIDENTS AND IMPROVED SAFETY FOR BIKES, PEDS, & SCHOOL KIDS.

Please provide any other information or comments you feel would be helpful to the study team.

GREAT CONSULTING TEAM WITH A WELL RUN PUBLIC MEETING. THANKS!

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: PATRICIA EDWARDS Organization:

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

IN STRONG FAVOR OF AN UNDERPASS.

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: LARRY EDWARDS Organization: —

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

I would like a UNDER PASS

Please provide any other information or comments you feel would be helpful to the study team.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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COMMENT FORM

BANGERTER 9800 SOUTH

CONTACT INFORMATION AND DEMOGRAPHICS

Name: Wendy Parikh Organization: —

[redacted]

COMMENTS

Please provide input or concerns regarding the proposed interchange.

If they move the pedestrian bridge, is there a plan to put some sort of pedestrian bridge across 9800 S. for the kids to cross. 9800 is so dangerous to cross now, and it will just get more dangerous in the future.

Please provide any other information or comments you feel would be helpful to the study team.

I think UDOT has done really well with keeping us informed. Thank you.

Thank you for your input. Please email comments to **bangerter@utah.gov** or fold, secure, and stamp this form and mail it to the address on the back. Please postmark the form on or before **Feb. 15, 2022**.

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Appendix D: Environmental Resources

Right-of-Way Property Impacts

Bangerter Highway at 9800 South
Property Impacts

Parcel Number	Bangerter Highway Over Option	Bangerter Highway Under Option
200	N/A	N/A
201	N/A	N/A
202	N/A	N/A
203	N/A	N/A
204	N/A	N/A
205	Partial Acquisition	Partial Acquisition
206	N/A	N/A
207	Partial Acquisition	Partial Acquisition
208	N/A	N/A
209	Partial Acquisition	Partial Acquisition
210	N/A	N/A
211	Partial Acquisition	Partial Acquisition
212	N/A	N/A
213	Partial Acquisition	Partial Acquisition
214	N/A	N/A
215	Partial Acquisition	Partial Acquisition
216	N/A	N/A
217	Partial Acquisition	Partial Acquisition
218	N/A	N/A
219	Partial Acquisition	Partial Acquisition
220	N/A	N/A
221	N/A	N/A
222	N/A	N/A
223	Partial Acquisition	Partial Acquisition
224	N/A	N/A
225	N/A	N/A
226	N/A	N/A
227	ROW Coordination Required	Potential Full Acquisition (Utilities)
228	ROW Coordination Required	Potential Full Acquisition (Utilities)
229	Partial Acquisition	Partial Acquisition
230	ROW Coordination Required	ROW Coordination Required
231	ROW Coordination Required	ROW Coordination Required
232	ROW Coordination Required	ROW Coordination Required
233	ROW Coordination Required	ROW Coordination Required
234	Partial Acquisition	Partial Acquisition
235	N/A	N/A
237	N/A	N/A

258	Partial Acquisition	Partial Acquisition
260	N/A	N/A
261	Partial Acquisition	Partial Acquisition
262	Partial Acquisition	Partial Acquisition
263	Potential Full Acquisition	Potential Full Acquisition
264	Full Acquisition	Full Acquisition
266	N/A	N/A
268	N/A	N/A
270	N/A	Potential Full Acquisition (Utilities)
271a	Full Acquisition	Full Acquisition
271b	Full Acquisition	Full Acquisition
272	N/A	Potential Full Acquisition (Utilities)
274	N/A	N/A
276	Potential Full Acquisition (Ped Bridge)	N/A
277	Full Acquisition	Full Acquisition
278	Full Acquisition	Full Acquisition
280	Potential Full Acquisition (Ped Bridge)	N/A
281	Full Acquisition	Full Acquisition
283	N/A	N/A
284	Full Acquisition	Full Acquisition
286	N/A	N/A
287	Full Acquisition	Full Acquisition
289	N/A	N/A
291	N/A	N/A
292	Full Acquisition	Full Acquisition
293	Full Acquisition	Full Acquisition
294	Full Acquisition	Full Acquisition
295	Full Acquisition	Full Acquisition
296	Full Acquisition	Full Acquisition
297	Potential Full Acquisition	Potential Full Acquisition
298	Potential Full Acquisition	Potential Full Acquisition
299	Partial Acquisition	Partial Acquisition
300	N/A	ROW Coordination Required
301	Potential Full Acquisition	Potential Full Acquisition
302	Partial Acquisition	Partial Acquisition
303	Partial Acquisition	Partial Acquisition
304	Partial Acquisition	Partial Acquisition
305	Potential Full Acquisition	Potential Full Acquisition
306	Potential Full Acquisition	Potential Full Acquisition
307	Potential Full Acquisition	Potential Full Acquisition
308	N/A	N/A

309	Potential Full Acquisition	Potential Full Acquisition
310	Partial Acquisition	Partial Acquisition
311	N/A	N/A
313	N/A	N/A
314	N/A	N/A
315	N/A	N/A
316	N/A	N/A

Appendix D: Environmental Resources

Tier 1 Screening Form and Tribal Notification Form

Cultural and Paleo Clearance with Tier 1 Screening Form

Pursuant to the Programmatic Agreement between the UDOT and the Utah SHPO Regarding Implementation of U.C.A. 9-8-404 for State Funded Transportation Projects in Utah, UDOT has taken into account the effects of this undertaking on historic properties and has determined that the finding of effect is No Historic Properties Affected.

Pursuant to the Memorandum of Understanding between the UDOT and the Utah Geological Survey Concerning Agency Responsibilities Pursuant to U.C.A. 79-3-508, the UDOT has taken into account the effects of this undertaking on paleontological resources. If applicable, consultation letter from UGS is included in the environmental document.

PROJECT: PIN 18808—S-0154(92)0; Bangerter Highway Corridor Environmental: 9800 South, Salt Lake County

DATE: October 12, 2021
PREPARER: Jonathan Dugmore, M.A.A.; Region 2 Archaeologist
CONTACT: 385-414-2066, jdugmore@utah.gov
REVIEWER: Elizabeth Giraud AICP, UDOT Architectural Historian

Digitally signed by Jonathan Dugmore
Date: 2021.10.12 13:58:31 -06'00'
Elizabeth Giraud

PROJECT STIPULATIONS

1) Clearance is contingent upon the contractor adhering to the proposed scope of work and remaining within cleared areas. **Notify Region Environmental of any scope changes.**
2) *UDOT Standard Specification 01355 Part 3.7, Environmental Clearances by Contractor*
3) *UDOT Standard Specification 01355 Part 3.8, Discovery of Historical Archaeological, or Paleontological Objects, Features, Sites or Human Remains*. **Notify Region Environmental immediately of any discoveries during construction.**

PROJECT DESCRIPTION

UDOT proposes to improve the intersections of SR-154 (Bangerter Highway) at California Avenue, 3500 South/SR-201, 4700 South, 9800 South, 13400 South, and 2700 West in Salt Lake County, Utah. Separate environmental studies will be conducted for each individual intersection, and this document pertains to the intersection at Bangerter Highway and 9800 South. The proposed project will include: construction of a new grade-separated interchange configuration; relocation and/or replacement of existing utilities; installation of new and/or modification of existing storm drainage systems; and reconstruction of existing roadways to facilitate transitions to the proposed interchange. In addition, the project will include: modification and/or replacement of sidewalks/bike lanes and pedestrian ramps; the relocation and/or replacement of existing noise walls; installation/update of roadway signage; and replacement of pavement markings. Acquisition of right-of-way (ROW) and relocation of residences are anticipated in order to facilitate construction of the proposed interchange.

SCREENING PROCESS

Screened undertakings have the potential to affect historic properties, but have been determined by UDOT to require no further review or consultation under the Agreements. Screening may include any the following tasks and should be appropriate to the complexity, scale, and location of the undertaking. Documentation of the screening will be included in the project files, quarterly report submitted to SHPO, and environmental document.

Antiquities Project Number: U21HX0500

Literature Review

- ☐ Class I literature search (date completed and by whom):
- ☒ Records review (i.e. UDSH, UDOT, BLM, etc.): Sego
- ☐ Project plans
- ☐ As-built project plans
- ☒ Aerial photographs: DNR/UGS aerial imagery collection
- ☒ Historic Maps: BLM GLO Maps
- ☐ Topographic Maps:
- ☐ ROW/Ownership/Parcel Data:
- ☐ Other:

Description of search results: The search was conducted by archaeologists for Horrocks Engineers and is confined to the project APE which extends from approximately MP 9.9 to MP 11.0, and on 9800 South between approximately 3400 West and 3900 West in Salt Lake County. No cultural properties have been identified at this time.

Field Review

☒ Pedestrian survey (Class III) (survey interval): 15 meter
☒ Field review other than Class III (reconnaissance, windshield, etc.): selective-reconnaissance architectural survey
☐ Other:
☐ None

Description of survey results (If no field survey was conducted, explain why not):
The archaeological survey for this project was conducted by archaeologists for Horrocks Engineers. No cultural properties were identified at the time of the survey. The architectural survey for this project was conducted by the architectural historian for Horrocks Engineers. No historic properties were identified within the APE at the time of survey. The potential for cultural resources in this area is very low.

Supporting Documentation

Reports and/or forms generated from any cultural resource inventories shall be submitted quarterly to the Utah Division of State History (UDSH) for filing.

Title of report: *Bangerter Highway at 9800 South, PIN 18808, Project No. S-0154(84)14 – Historic Architecture Screening* and *An Archaeological Investigation of Bangerter Highway at 9800 South, Salt Lake County, Utah*

Consultation

☐ Utah SHPO (including APE consultation):
☐ Certified Local Government (CLG):
☒ Tribes: see below
☐ State/Federal Agencies:
☐ Knowledgeable Informants:
☐ Other:
☐ None:

Description of consultation efforts (If no consultation was done, explain why not):

Native American consultation was initiated through letters sent to the Eastern Shoshone Tribe of the Wind River Reservation, Shoshone-Bannock Tribes, Paiute Indian Tribe of Utah, Northwestern Band of Shoshone Nation, Uintah and Ouray Ute Tribes, and the Skull Valley Band of Goshute Indians (sent September 9, 2021). In addition, notification was also sent to those tribes with whom UDOT has Section 106 Programmatic Agreements: Cedar Band of Paiutes, Shivwits Band of Paiute Indian Tribe, and the Confederated Tribes of the Goshute Reservation (sent September 9, 2021). To date, none of the tribes have responded to these notifications.

☐ Controversy based on historic preservation issues? If yes, consultation with SHPO and UDOT Central Environmental is required. Additional consultation with FHWA may be required.

Finding of Effect

The undertaking will result in the following finding of effect:

☒ No Historic Properties Affected: no cultural resources present
☐ No Historic Properties Affected: cultural resources present but none eligible
☐ No Historic Properties Affected: historic properties present, but are completely avoided by the undertaking and the potential for substantial indirect effects is very low

Description of impacts:

As no cultural resources are present in the APE, the UDOT has determined that this project will result in No Historic Properties Affected

State of Utah

SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

CARLOS M. BRACERAS, P.E.
Executive Director

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

LISA J. WILSON, P.E.
Deputy Director of Engineering and Operations

Tribal Notification Form

The Utah Department of Transportation (UDOT) is preparing to undertake the subject state-aid project. In accordance with the *Programmatic Agreement between the UDOT and the Utah State Historic Preservation Officer Regarding Implementation of U.C.A. 9-8-404 for State Funded Transportation Projects in Utah* (renewed January 22, 2018), the UDOT has taken into account the effects of this undertaking on historic properties and seeks consultation with Native American tribes on the undertaking.

UDOT Project: 18808; S-0154(92)0; Bangerter Highway Environmental Document: 9800 South, Salt Lake County.
Contact Name: Jonathan Dugmore Date: September 9, 2021
Address: 2010 South 2760 West, Salt Lake City, Utah 84104
Telephone: 385-414-2066 Email: jdugmore@utah.gov

Project Description:
UDOT proposes to improve the intersections of SR-154 (Bangerter Highway) at California Avenue, 3500 South/SR-201, 4700 South, 9800 South, 13400 South, and 2700 West in Salt Lake County, Utah. Separate environmental studies will be conducted for each individual intersection, and this document pertains to the intersection at Bangerter Highway and 9800 South. The proposed project will include: construction of a new grade-separated interchange configuration; relocation and/or replacement of existing utilities; installation of new and/or modification of existing storm drainage systems; and reconstruction of existing roadways to facilitate transitions to the proposed interchange. In addition, the project will include: modification and/or replacement of sidewalks/bike lanes and pedestrian ramps; the relocation and/or replacement of existing noise walls; installation/update of roadway signage; and replacement of pavement markings. Acquisition of right-of-way (ROW) and relocation of residences are anticipated in order to facilitate construction of the proposed interchange.

Archaeological Potential (Prehistoric or Historic Sites):

- ☐ Known prehistoric sites in the project area
- ☐ Known historic sites in the project area
- ☐ Likely to find prehistoric sites in the project area
- ☐ Likely to find historic sites in the project area
- ☒ Unlikely to find prehistoric sites in the project area
- ☒ Unlikely to find historic sites in the project area
- ☐ No expected ground disturbance
- ☐ Other:

Additional Information/Comments: A pedestrian survey of the project area has been conducted by archaeologists for Horrocks Engineers. No cultural properties have been identified at this time.

Tribal Information
«AddressBlock»

Copies to: «cc_1»
«cc_2»
«cc_3»
«cc_4»

Comments:

1. Do you wish to be a consulting party on this project? ☐Yes ☐No ☐Not Sure
2. If you do not wish to be a consulting party, do you wish to continue to be involved in the development of this project? ☐Yes ☐No ☐Not Sure
   Note: If your answer is "Not Sure," UDOT will continue to provide information.
3. Are you aware of any traditional religious or culturally important places in or near the project area? ☐Yes ☐No ☐Not Sure
4. If yes, can you share details about the place (e.g., location and other characteristics) and any concerns you may have? ☐Yes ☐No
5. Is this information sensitive? ☐Yes ☐No

Additional Comments:

Name of person completing this form, if different from above:

Signature: Date:

Identical copies of the Project Notification Form sent to the following recipients:

Original to:	CC to:	Email to:
Mr. John St. Clair, Chairman Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Rd Fort Washakie, WY 82514	Ms. Glenda Trosper, Director, Cultural Center Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Rd Fort Washakie, WY 82514 Mr. Joshua Mann, THPO Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Rd Fort Washakie, WY 82514	vhill@easternshoshone.org glendatrosper@washakie.net wferris@easternshoshone.org
Mr. Devon Boyer, Chairman Shoshone-Bannock Tribes of Fort Hall P.O. Box 306 Pima Drive Fort Hall, ID 83203	Ms. Carolyn Smith, Cultural Resource Director Shoshone-Bannock Tribes of Fort Hall P.O. Box 306 Pima Drive Fort Hall, ID 83203	csmith@shoshonebannocktribes.com
Mr. Dennis Alex, Chairman Northwestern Band of Shoshone Nation 2575 Commerce Way Ogden, UT 84401	Ms. Patty Timbimboo-Madsen, Cultural Specialist Northwestern Band of Shoshone Nation 2575 Commerce Way Ogden, UT 84401	banner02@gmail.com ptimbimboo@nwbshoshone.com
Mr. Luke Dunkin, Chairperson Ute Indian Tribe of the Uintah and Ouray Ute Indian Reservation P.O. Box 190 Fort Duchesne, UT 84026	Ms. Betsy Chapoose, Director, Cultural Rights and Protection Ute Indian Tribe of the Uintah and Ouray Ute Indian Reservation P.O. Box 190 Fort Duchesne, UT 84026	luked@utetribe.com betsyc@utetribe.com
Ms. Candace Bear, Chairwoman Skull Valley Band of Goshute Indians 407 Skull Valley Rd Skull Valley, UT 84029	None	candaceb@svgoshutes.com
Mr. Tom Delice, Band Chairman Cedar Band of Paiutes 600 North 100 East P.O. Box 235 Cedar City, UT 84721	Mr. Robert Pete, Cultural Resources Representative Cedar Band of Paiutes 601 North 100 East P.O. Box 235 Cedar City, UT 84721	robertpete58@yahoo.com
Ms. Hope Silvas, Band Chairwoman Shivwits Band of Paiute Indian Tribe of Utah 6060 West 3650 North Ivins, UT 84738	Ms. Carmen Clark, Cultural Resources Director Shivwits Band of Paiute Indian Tribe of Utah 6060 West 3650 North Ivins, UT 84738	carmenclark435@gmail.com
Mr. Rupert Steele, Chairman Confederated Tribes of the Goshute Reservation P.O. BOX 6104 195 Tribal Center Rd. Ibapah, UT 84034	Ms. Mary Pete-Freeman, Cultural Resources Coordinator Confederated Tribes of the Goshute Reservation P.O. BOX 6104 195 Tribal Center Rd. Ibapah, UT 84034	rupertsteele@yahoo.com mary.freeman@ctgr.us

Appendix D: Environmental Resources

Utah Geological Survey Letter

State of Utah

SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

Department of Natural Resources

BRIAN C. STEED
Executive Director

Utah Geological Survey
R. WILLIAM KEACH, II
State Geologist/Division Director

July 12, 2021

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

RE: Paleontological file search and recommendations for the UDOT Bangerter Highway (SR-154) at 9800 South Interchange Project, Salt Lake 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 Haylie:

I have conducted a paleontological file search for the Bangerter Highway at 9800 South Interchange Project in response to your request of July 9, 2021. This project qualifies for treatment under the UDOT/UGS executed Memorandum of Understanding.

There are no paleontological localities recorded in our files for this project area. Quaternary and Recent alluvial and lacustrine deposits that are exposed along this project right-of-way have a low potential for yielding significant fossil localities (PFYC 2). 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

Appendix D: Environmental Resources

UDOT Threatened and Endangered Species and Wildlife Concurrence Memo

Memorandum

Environmental Services

DATE: June 1, 2021

TO: Haylie Ferguson, Environmental Specialist, Horrocks Engineers

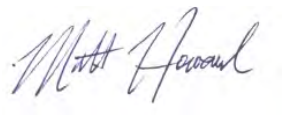
FROM: Matt Howard, Natural Resources Manager

SUBJECT: Bangerter Highway at 9800 S Interchange Improvements PIN 18808

Haylie,

I have reviewed the Biological Review for the Bangerter Highway at 9800 South Interchange Improvements project concerning potential impacts to threatened and endangered species and concur with its findings. The proposed improvements would not negatively impact federally listed species due to the extensive development in the area and a lack of suitable habitat. The project would not result in direct or incidental take under the BGEPA and MBTA. I have evaluated the project for impacts to greater sage-grouse. The project does not take place within a SGMA, nor does it take place within mapped habitat for sage-grouse and would therefore have no impact on sage-grouse or its habitat.

Sincerely,



Matt Howard
Natural Resource Manager

HORROCKS ENGINEERS

2162 West Grove Parkway, Ste 400
Pleasant Grove, Utah 84062
801-763-5100
www.horrocks.com

To: Matt Howard, UDOT Natural Resource Manager

From: Haylie Ferguson, Horrocks Environmental Specialist

Date: May 28, 2021 **Memorandum**

Subject: Biological Review for Bangerter Highway at 9800 South Interchange Improvements; PIN: 18808; Project Number: S-0154(92)0

Project Background

Horrocks Engineers has prepared this memo in support of the Utah Department of Transportation (UDOT), who is preparing a State Environmental Study (SES) to evaluate improvements to Bangerter Highway (S.R. 154) at 9800 South in South Jordan, Utah. Improvements would improve traffic flow and safety on Bangerter Highway and 9800 South. The project includes a grade-separated intersection/crossing at 9800 South; utility and storm drainage modifications; and installation of new pavement, traffic signals, ATMS equipment, and roadway signage. This project also includes the relocation and construction of a pedestrian structure over Bangerter Highway. The project area is located along Bangerter Highway from approximate milepost 9.9 to 11.0 and on 9800 South between 3400 West and Dunsinane Drive (see attached map).

Evaluation Methods

The study area has been evaluated for federally listed species and designated critical habitat protected under the Endangered Species Act utilizing information from the U.S. Fish and Wildlife Service, including species life history and a species list from the Information for Planning and Consultation (IPaC) system (see attached IPaC report). A request for reported species was submitted to the Utah Natural Heritage Program (UNHP). Migratory birds and Utah Sensitive Species were accounted for within the study area. A review of study area habitat was conducted using satellite imagery collected in 2021 and Google Maps Street View.

Analyses

Study Area Setting

The approximately 1.1-mile long study area is located between 9000 South and 10200 South on Bangerter Highway in South Jordan and is predominantly developed land. Development within the study area includes residential and commercial developments. Vegetation within the study area is a mixture of agricultural/open fields and vegetation consistent with development plantings (e.g. trees, turf sod, etc.). See Figures 1–4.

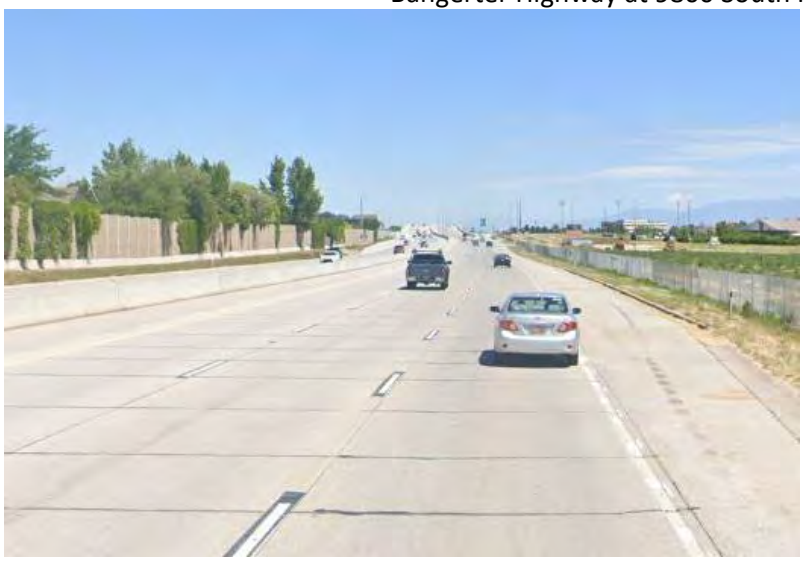


Figure 1. General setting along Bangerter Highway (looking north). Photo courtesy of Google Maps.

Figure 2. General setting along Bangerter Highway (looking south). Photo courtesy of Google Maps.

Figure 3. General setting along 9800 South (looking west). Photo courtesy of Google Maps.

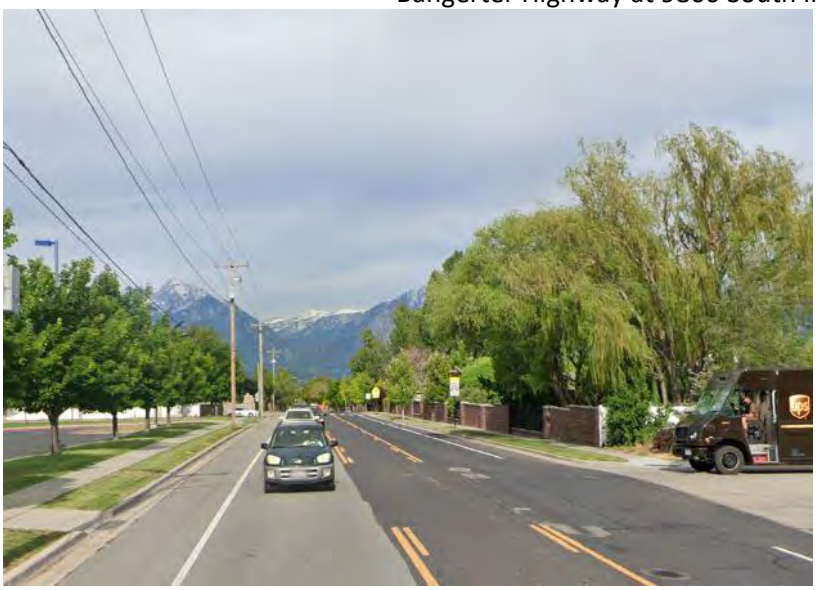


Figure 4. General setting along 9800 South (looking east). Photo courtesy of Google Maps.

Threatened and Endangered Species

IPaC data includes one species for consideration in the study area; no critical habitats were identified. An evaluation of the species preferred habitat and the potential for its occurrence within the study area can be seen in Table 1.

Table 1: IPaC Species of Consideration within the Study Area

Species Name	Status	Habitat Requirements[1]	Is Suitable Habitat within the Study Area?
Fishes			
June Sucker *Chasmistes liorus*	Endangered	Endemic to Utah Lake and its major tributaries, the lower Provo and Spanish Fork River.	IPaC results did not identify any critical habitat within the study area. The required waters are not found within the study area. There is **no suitable habitat** within the study area.
[1] Sources: UDWR Utah Conservation Data Center (https://dwrcdc.nr.utah.gov/ucdc/) and USFWS Environmental Conservation Online System (ECOS) and Species Fact Sheets			

There is no suitable habitat for June sucker (*Chasmistes liorus*) within the study area. The project is unlikely to impact federally listed species or critical habitat.

Utah Sensitive Species

The 2017 UDWR Utah's State Listed Species was reviewed to aid in the evaluation of potentially occurring, non-federal Utah sensitive species for the study area. A review of known location data from the Utah Natural Heritage Program (UNHP), species life history, and aerial imagery was also conducted. UNHP data does not list any plant or animal species within 0.5 miles of the project area. No plant species were identified with two miles of the study area. Burrowing owl (*Athene cunicularia*) is listed within two miles of the study area (see Table 2 and attached UNHP report).

Table 2: Utah Sensitive Species

Species Name	Habitat Requirements[1]	Is Suitable Habitat within the Study Area?
Burrowing Owl *Athene cunicularia*	Generally inhabit open, treeless areas within grassland, steppe, and desert biomes. Predominantly found in gently-sloping areas, characterized by low, sparse vegetation in areas with high densities of burrowing mammals such as prairie dogs.	The study area is not located in an open, treeless area within grassland, steppe, or desert biomes. There is **no suitable habitat** within the study area.
[1] Sources: USFWS Environmental Conservation Online System (ECOS) and Species Fact Sheets		

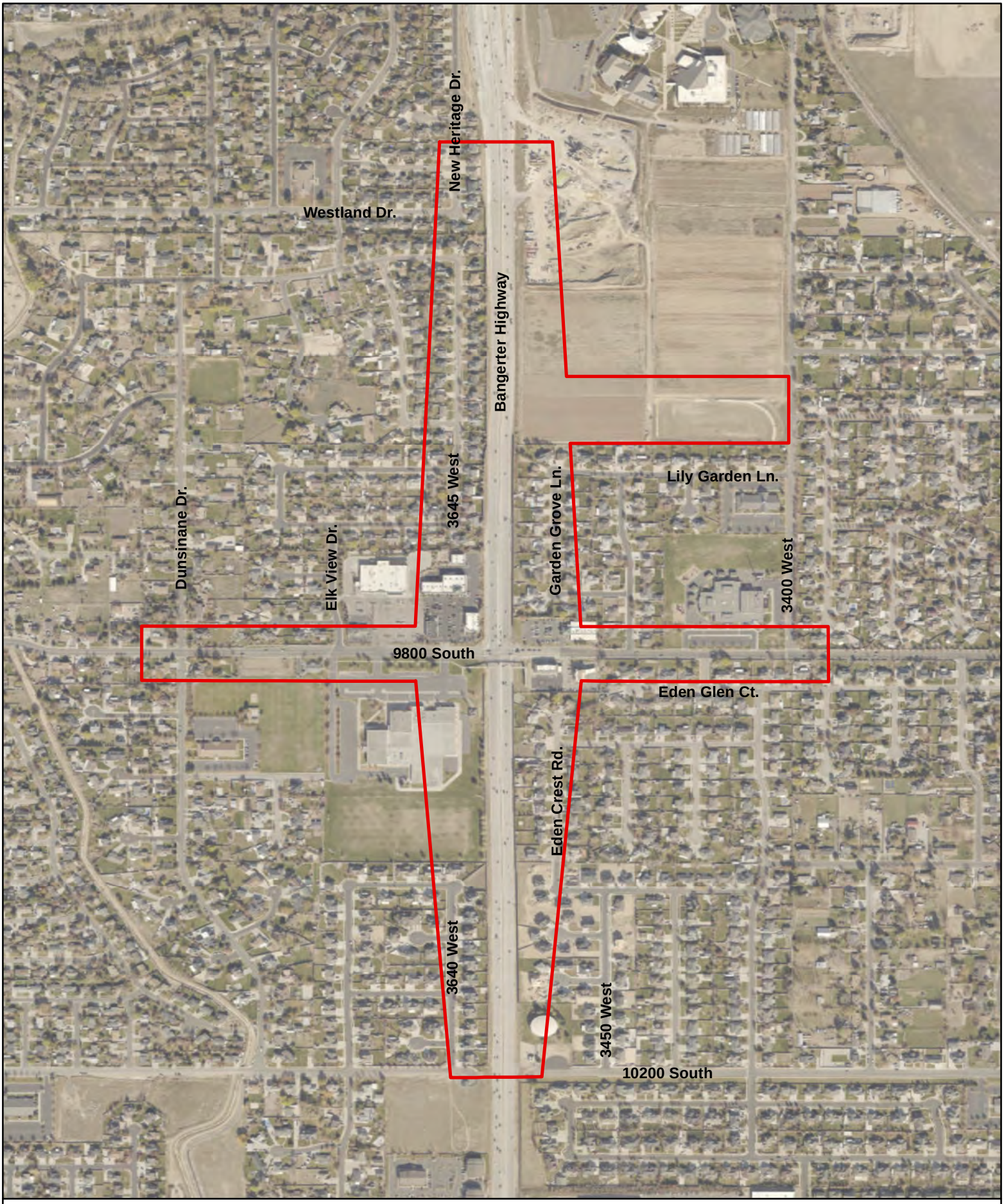
The life history for burrowing owl (*Athene cunicularia*) was reviewed and compared against the setting of the study area. Based on this evaluation, it is unlikely the study area would support burrowing owl (*Athene cunicularia*). A review of UNHP data from the last 10 years indicates no known occurrences and/or observations of burrowing owl (*Athene cunicularia*) within or adjacent to the study area. The last recorded observation year for burrowing owl (*Athene cunicularia*) within two miles of the study area was 2003 (see attached UNHP report). Impacts to this species are not expected.

Migratory Birds

Migratory bird habitat (trees, structures, etc.) is available within the study area (see Figures 1–4).

Results

Based on the above information, no potential habitat exist within the study area for June sucker (*Chasmistes liorus*). Migratory bird habitat is present within the study area. The project is unlikely to affect federally listed species, critical habitat, or Utah Sensitive Species.



18808: Bangerter Environmental

9800 South Study Area

Map 1 of 1

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly aected by activities in the project area. However, determining the likelihood and extent of eects a project may have on trust resources typically requires gathering additional site-specic (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS oce(s) with jurisdiction in the dened project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Salt Lake County, Utah

Local office

Utah Ecological Services Field Office

(801) 975-3330
(801) 975-3331

2369 West Orton Circle, Suite 50
West Valley City, UT 84119-7603

http://www.fws.gov
http://www.fws.gov/utahfieldoffice/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of inuence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water ow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

NOT FOR CONSULTATION

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Fishes

NAME	STATUS

June Sucker Chasmistes liorus — Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/4133

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird

NOT FOR CONSULTATION

species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in o. shore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black Rosy-finch Leucosticte atrata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9460	Breeds Jun 15 to Aug 31
Brewer's Sparrow Spizella breweri This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9291	Breeds May 15 to Aug 10
Golden Eagle Aquila chrysaetos This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Green-tailed Towhee Pipilo chlorurus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9444	Breeds May 1 to Aug 10

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Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

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Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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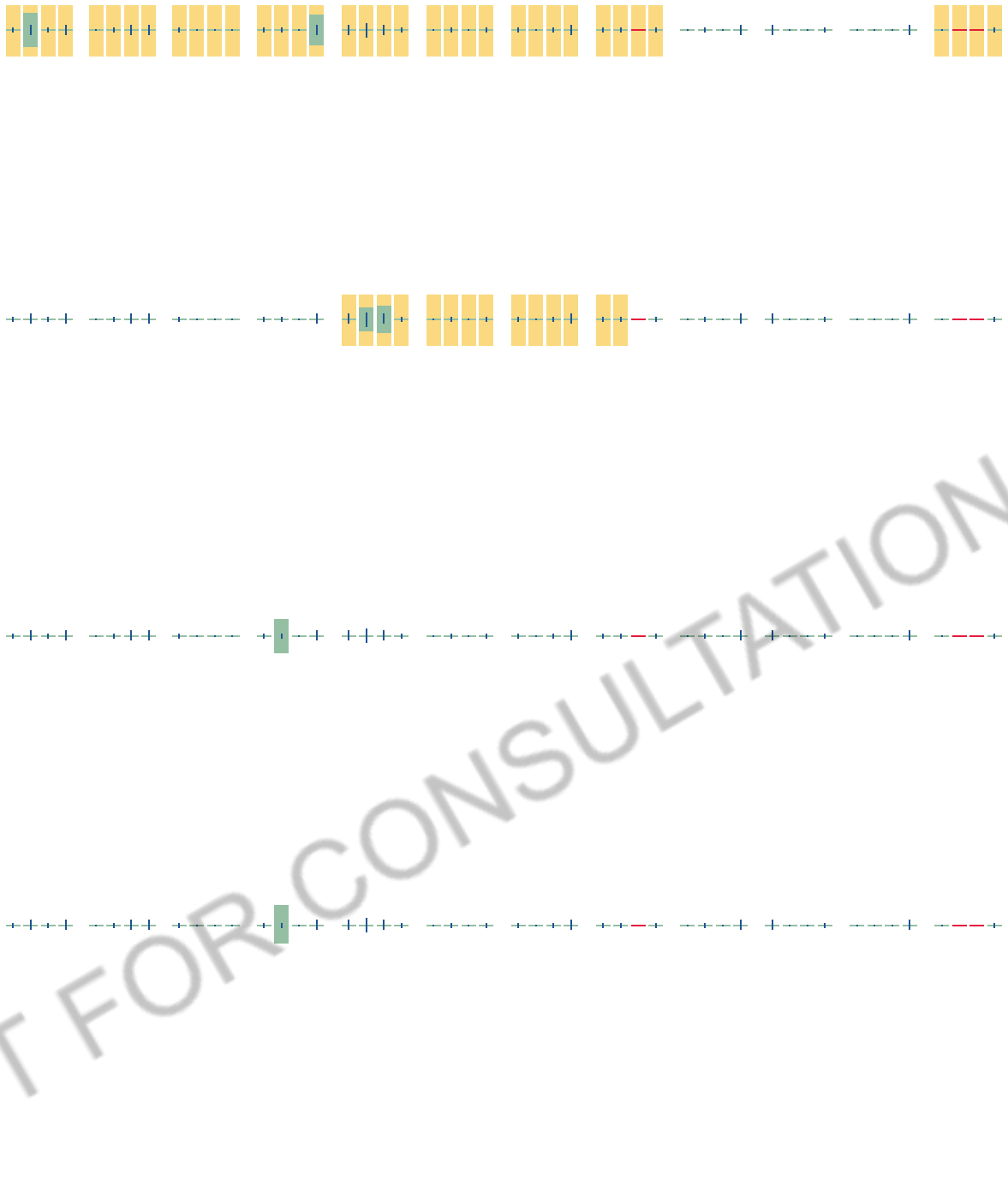

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially a. ected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Utah Division of Wildlife Resources
Utah Natural Heritage Program
1594 W. North Temple
PO Box 146301
Salt Lake City, UT 84116

Report Number: 12361
May 27, 2021

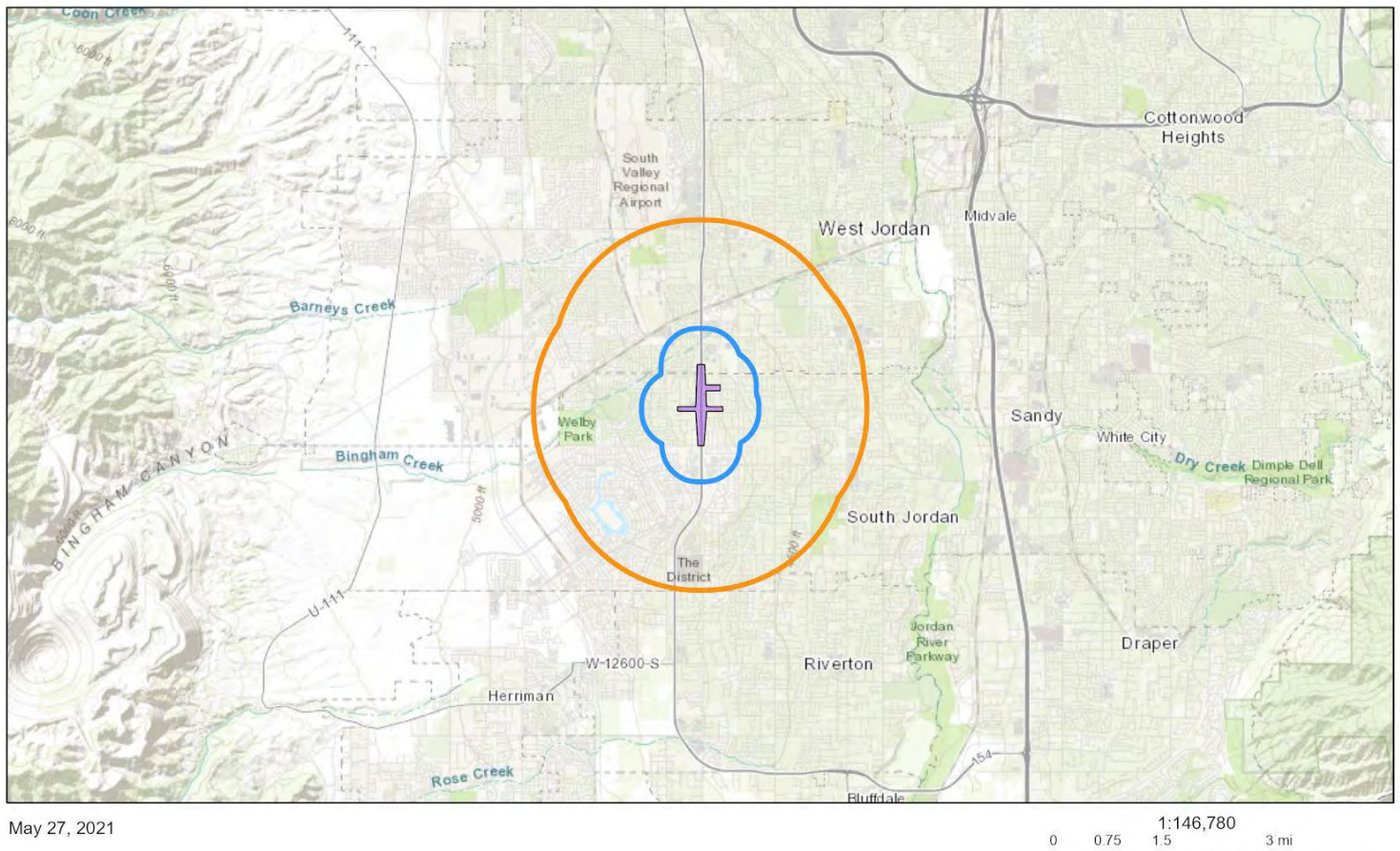
Utah Natural Heritage Program Online Species Search Report

Project Information

Project Name
Bangerter Highway and 9800 South

Project Description
Roadway improvements to Bangerter Highway at the 9800 South intersection

Location Description
South Jordan, Utah



May 27, 2021

1:146,780
0 0.75 1.5 3 mi
0 1.5 3 6 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Animals within a ½ mile radius

Common Name	Scientific Name	State Status	U.S. ESA Status	Last Observation Year
No Species Found				

Plants within a ½ mile radius

Common Name	Scientific Name	State Status	U.S. ESA Status	Last Observation Year
No Species Found				

Animals within a 2 mile radius

Common Name	Scientific Name	State Status	U.S. ESA Status	Last Observation Year
Burrowing Owl	Athene cunicularia	SGCN		2003

Plants within a 2 mile radius

Common Name	Scientific Name	State Status	U.S. ESA Status	Last Observation Year
No Species Found				

Definitions

State Status

SGCN	Species of greatest conservation need listed in the Utah Wildlife Action Plan

U.S. Endangered Species Act

LE	A taxon that is listed by the U.S. Fish and Wildlife Service as "endangered" with the probability of worldwide extinction
LT	A taxon that is listed by the U.S. Fish and Wildlife Service as "threatened" with becoming endangered
LE;XN	An "endangered" taxon that is considered by the U.S. Fish and Wildlife Service to be "experimental and nonessential" in its designated use areas in Utah
C	A taxon for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threats to justify it being a "candidate" for listing as endangered or threatened
PT/PE	A taxon "proposed" to be listed as "endangered" or "threatened" by the U.S. Fish and Wildlife Service

Disclaimer

The information provided in this report is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, any given response is only appropriate for its respective request.

The UDWR provides no warranty, nor accepts any liability, occurring from any incorrect, incomplete, or misleading data, or from any incorrect, incomplete, or misleading use of these data.

The results are a query of species tracked by the Utah Natural Heritage Program, which includes all species listed under the U.S. Endangered Species Act and species on the Utah Wildlife Action Plan. Other significant wildlife values might also be present on the designated site. Please contact UDWR's regional habitat manager if you have any questions.

Contact the U.S. Fish and Wildlife Service at (801) 975-3330 for the purpose of consultation under the Endangered Species Act.

Please contact our office at (801) 538-4759 or habitat@utah.gov if you require further assistance.

Your project is located in the following UDWR region(s): Central region

---

Report generated for:
Haylie Ferguson
Horrocks Engineers
2162 W Grove Parkway #400
Pleasant Grove, UT 84062
(801) 763-5316
haylief@horrocks.com

Appendix D: Environmental Resources

Environmental Review of Water Resources and Wetlands, Noxious Weeds, and Visual Aesthetics

HORROCKS ENGINEERS

MEMORANDUM

TO: Dan Bolin, UDOT Region 2

FROM: Nathan Clarke, Environmental Specialist

DATE: July 22, 2021

SUBJECT: Aquatic Resources Inventory

Bangerter Highway at 9800 South Intersection Improvements

PIN: 18808; Project No. S-0154(92)0

PROJECT BACKGROUND

The Utah Department of Transportation (UDOT) is preparing a State Environmental Study (SES) to evaluate improvements to Bangerter Highway (S.R. 154) at 9800 South in South Jordan, Utah. Improvements would increase traffic flow and safety on Bangerter Highway and 9800 South. The project includes a grade-separated intersection/crossing at 9800 South; utility and storm drainage modifications; and installation of new pavement, traffic signals, ATMS equipment, and roadway signage. This project will also likely include the removal of the existing pedestrian bridge and an evaluation to build a new pedestrian crossing or not. The study area is located along Bangerter Highway from approximate mileposts 9.9 to 11.0 and 9800 South between 3400 West and Dunsinane Drive (see attached map).

This memo summarizes the findings of an aquatic resources inventory performed by Horrocks Engineers to identify potential waters of the U.S. (WOTUS), including wetlands and other water resources located in the area.

METHODOLOGY

A desktop review of the study area was conducted by Nathan Clarke on July 13, 2021. National Wetlands Inventory (NWI) maps, Google Earth, and aerial imagery were studied to identify potential waters. An aquatic resources delineation was not conducted and a jurisdiction determination from the U.S. Army Corp of Engineers (USACE) was not obtained.

RESULTS

Potential WOTUS

Upon desktop investigation, no potential WOTUS were identified within the study area.

Floodplains

It has been determined that the study area is not located within the FEMA 100-year floodplain.

Stormwater

This project will likely disturb more than one acre of ground surface; thus, Utah Pollutant Discharge Elimination System (UPDES) requirements need to be followed.

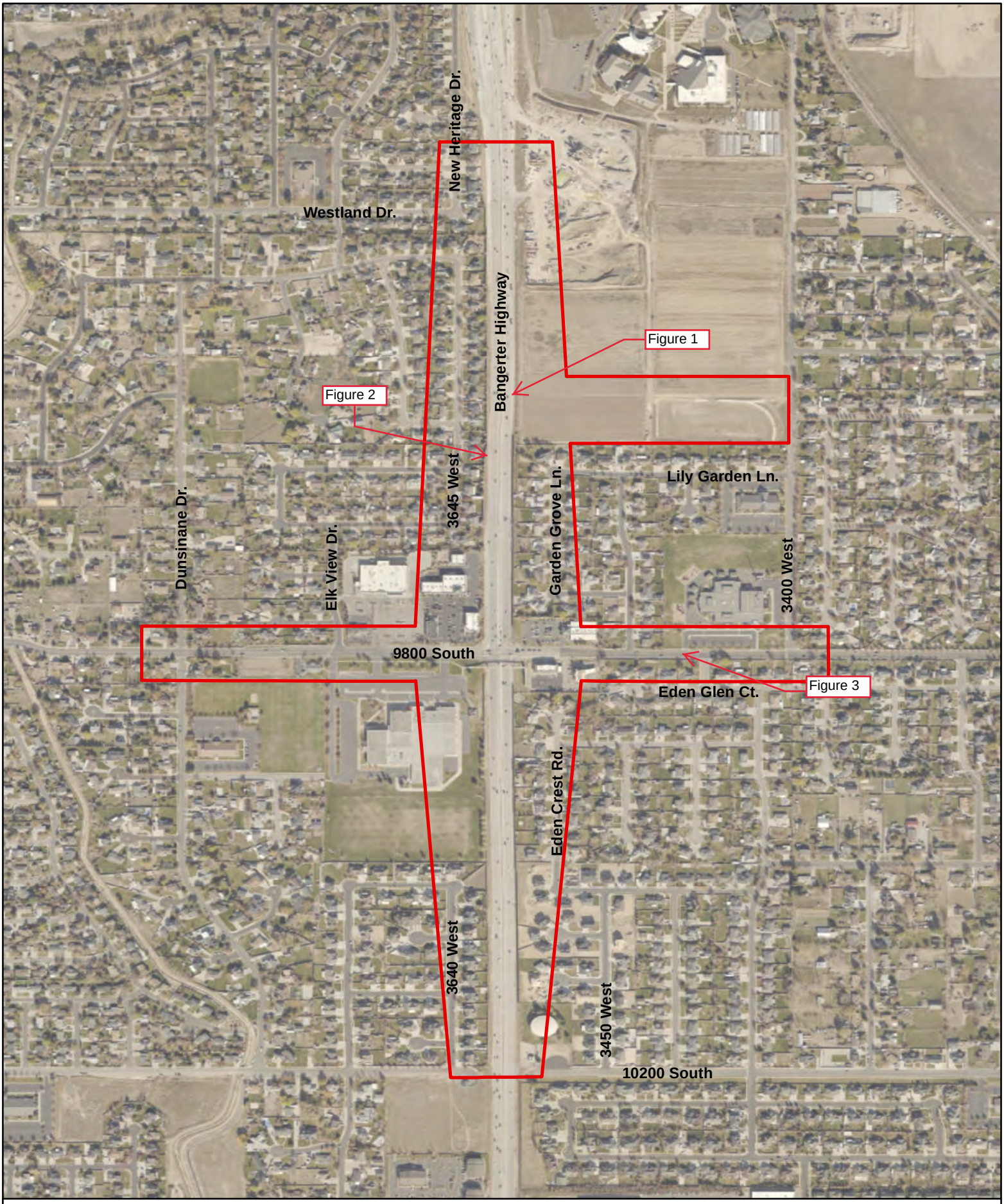
CONCLUSION

No potential WOTUS were identified within the study area; thus, no Department of the Army or State Stream Alteration permit would be required. No floodplain permitting would need to be obtained. Because the project would likely disturb more than one acre of ground, a Construction Storm Water (UPDES) permit would need to be obtained from the Utah Division of Water Quality prior to construction.

Figure 1. Northbound on Bangerter Highway north of 9800 South. Photo courtesy of Google Maps.

Figure 2. Southbound on Bangerter Highway north of 9800 South. Photo courtesy of Google Maps.

Figure 3. Westbound along 9800 South, east of Bangerter Highway. Photo courtesy of Google Maps.



N

0 500 1,000 Feet

Study Area

18808: Bangerter Environmental

9800 South Study Area

Map 1 of 1

MEMORANDUM

Date: Thursday, July 29, 2021

To: Nathan Clarke
Horrocks Engineers

From: Dan Bolin
UDOT Landscape Architect

RE: **ENVIRONMENTAL REVIEW FOR WATER RESOURCES AND WETLANDS, NOXIOUS WEED, AND VISUAL AESTHETICS**

PROJECT DESCRIPTION AND SCOPE OF WORK

The Utah Department of Transportation (UDOT) is preparing a State Environmental Study (SES) to evaluate improvements to Bangerter Highway (S.R. 154) at 9800 South in South Jordan, Utah. Improvements would increase traffic flow and safety on Bangerter Highway and 9800 South. The project includes a grade-separated intersection/crossing at 9800 South; utility and storm drainage modifications; and installation of new pavement, traffic signals, ATMS equipment, and roadway signage. This project will also likely include the removal of the existing pedestrian bridge and an evaluation to build a new pedestrian crossing or not. The study area is located along Bangerter Highway from approximate mileposts 9.9 to 11.0 and 9800 South between 3400 West and Dunsinane Drive (see attached map). This memo summarizes the findings of an aquatic resources inventory performed by Horrocks Engineers to identify potential waters of the U.S. (WOTUS), including wetlands and other water resources located in the area.

Water Resources and Wetlands:

Horrocks Engineers evaluated the project for waters of the U.S. (WOTUS), including wetlands and streams regulated by US Army Corps of Engineers (Army Corps) and other waters under the jurisdiction of the State of Utah. To determine whether WOTUS are situated within or adjacent to the project limits, a desktop analysis has been conducted. Aerial imagery, National Wetland Inventory (NWI) maps and Google Earth were studied.

No potential WOTUS were identified within the study area. No aquatic resource permitting is required.

Mitigation Commitments:

1. **None**

Utah Pollutant Discharge Elimination System (UPDES):

This project will disturb more than one (1) acre of earth and is therefore required to obtain a SWPPP to comply with the Utah Pollutant Discharge Elimination System (UPDES) Utah Construction General Permit (UCGP).

Mitigation Commitments:

1. **Comply with UCGP, by preparing a SWPPP during design and advertisement; provide SWPPP to the project awarded contractor prior to Notice to Proceed. (UDOT Responsible)**

2. **Comply with UCGP, by finalizing the SWPPP prior to beginning earth disturbing activities; implementing and maintaining the project SWPPP throughout project construction. (Awarded Contractor Responsible)**

Federal Emergency Management Agency (FEMA) Floodplains:

This project does not occur within a FEMA Special Flood Hazard Area. No permitting is required.

Mitigation Commitments:

1. **None**

Noxious Weeds:

Noxious weed species, as defined by the Utah Noxious Weed Act (Utah Administrative Code, Rule R68-9), have not been identified growing within the project limits. However, the project includes earthwork which has the potential to introduce noxious weeds. To reduce the introduction and spread of noxious weeds, the project is required to properly clean earthmoving construction equipment before mobilizing onto the project.

Mitigation Commitments:

1. **Include UDOT Special Provision Section 02924S NOXIOUS WEED CONTROL in the contract documents to require that earthmoving construction equipment is to be properly cleaned before mobilizing onto the project site. (UDOT Responsible)**

2. **Comply with UDOT Special Provision Section 02924S NOXIOUS WEED CONTROL requirements by properly cleaning all earthmoving construction equipment before mobilizing onto the project site and avoiding unnecessary earth disturbances. (Awarded Contractor Responsible)**

Visual Aesthetics:

This proposed project has limited disturbance and will not have significant visual impacts to the surrounding areas.

Mitigation Commitments:

1. **Visual: Reclaim all disturbed areas per UDOT standard specifications. (Awarded Contractor Responsible)**

Appendix D: Environmental Resources

Noise Study

BANGERTER HIGHWAY AT 9800 SOUTH INTERSECTION IMPROVEMENTS NOISE STUDY

PIN: 18808
PROJECT NUMBER: S-0154(92)0

PREPARED FOR:
The Utah Department of Transportation

PREPARED BY:
Horrocks Engineers

December 2021

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ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

AASHTO	American Association of State Highway and Transportation Officials
CFR	Code of Federal Regulations
dBA	A-weighted decibel
FHWA	Federal Highway Administration
L_{eq}	equivalent steady-state noise level, which in a stated period of time would contain the same acoustical energy as the time-varying noise level during the same period
$L_{eq}(h)$	energy-average of the A-weighted noise levels occurring during a 1-hour period
LOS	Level of Service
Noise	unwanted sound
NAC	Noise Abatement Criteria
Receptor	A discrete or representative location of a noise sensitive area(s)
TNM	Traffic Noise Model
UDOT	Utah Department of Transportation

NOISE STUDY

1.0 INTRODUCTION

This Noise Analysis was prepared in accordance with the Utah Department of Transportation (UDOT) Noise Abatement Policy (UDOT 2020) and is consistent with 23 Code of Federal Regulations (CFR) 772 and Utah Administrative Code R930-3.

2.0 DESCRIPTION OF PROJECT

The Utah Department of Transportation (UDOT) is conducting a State Environmental Study (SES) to analyze improvements at the Bangerter Highway (State Route 154) and 9800 South intersection in South Jordan, Utah. The Wasatch Front Regional Council 2019-2050 Regional Transportation Plan includes the conversion of Bangerter Highway into a freeway system by changing the remaining at-grade intersections to grade-separated conditions. The following improvements are proposed:

- construction of a grade-separated Tight Diamond Interchange with associated exit and entrance ramps
- two southbound and one northbound auxiliary lanes
- pavement improvements to tie into previous corridor improvements
- existing noise wall replacement
- replacement of existing pedestrian structure over Bangerter Highway
- modifications to the interchange and access along 9800 South
- modifications to utility and storm drainage
- installation of new pavement, traffic signals, advanced traffic management systems (ATMS) equiptment, and roadway signage

Acquisition of right-of-way (ROW) and relocation of residences are anticipated in order to facilitate construction of the proposed interchange.

For this analysis, the noise study area is defined as the land adjacent to Bangerter Highway and 9800 South that could be affected by an increase in noise levels to a distance of approximately 600 feet (see Figure 1). Two options were evaluated as part of this noise study. One option evaluated a grade-separated interchange with Bangerter Highway over 9800 South, with 9800 South remaining at grade. The second option evaluated a grade-separated interchange with Bangerter Highway under 9800 South, with 9800 South remaining at grade . These options will be referred to as the Bangerter Highway Over Option and Bangerter Highway Under Option.

2.1 Applicability

The UDOT Noise Abatement Policy states that “noise abatement will be considered for all Type I projects where noise impacts are identified.” Type I projects are projects that include any of the following: the construction of a highway at a new location; the physical alteration of an existing highway that substantially alters its alignment; the addition of a through traffic lane; the addition of an auxiliary lane; the addition or relocation of interchange lanes or ramps; or the addition or

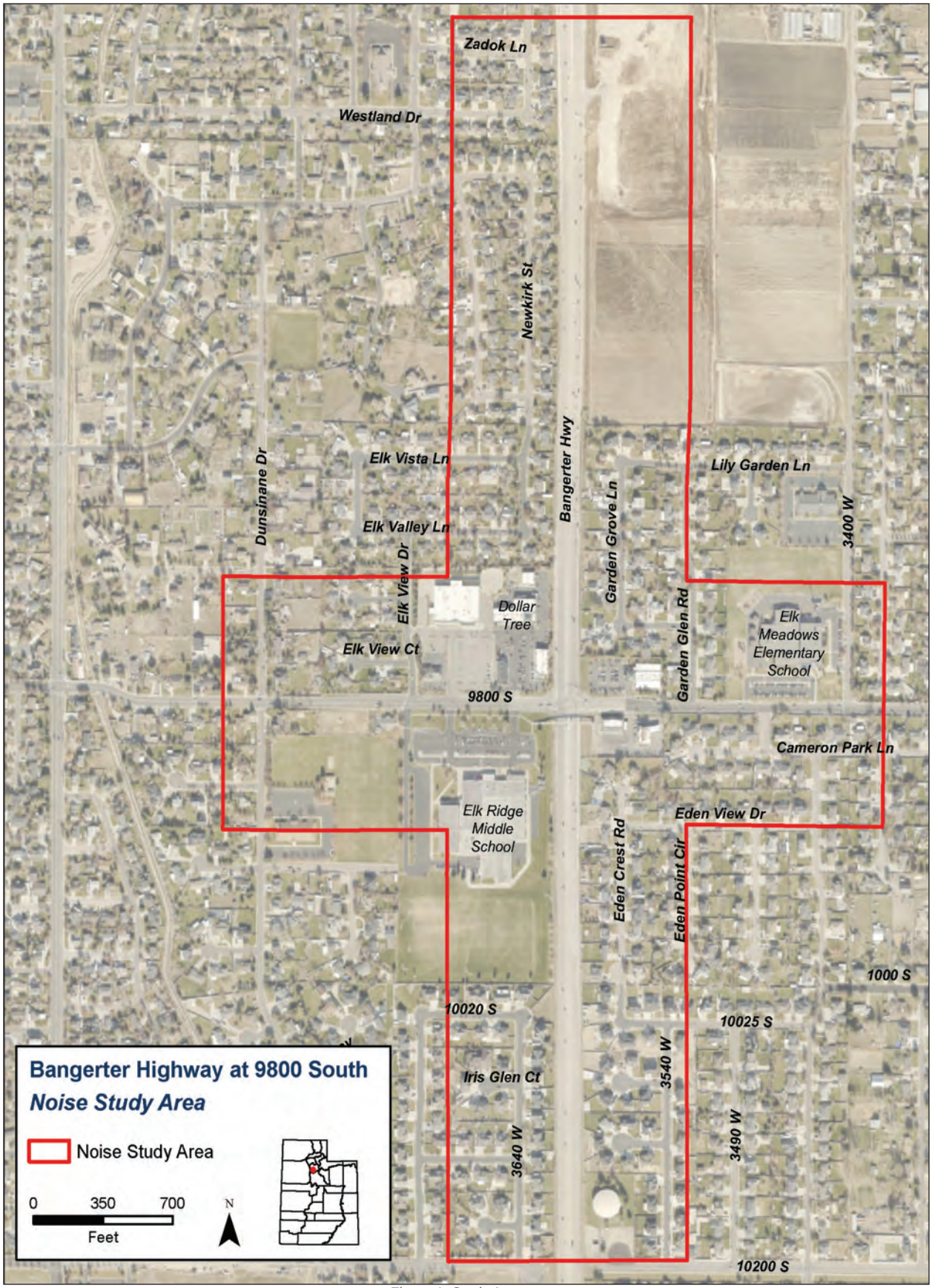


Figure 1: Study Area

substantial alteration of a weigh station, rest stop, ride share lot, or toll plaza. This project is considered a Type I project because of the substantial vertical alteration of an existing highway and the addition of interchange ramps.

3.0 ANALYSIS OF TRAFFIC NOISE IMPACTS

Traffic noise is measured in A-weighted sound levels in decibels (dBA), which most closely approximates the way the human ear hears sounds at different frequencies (see Figure 2). Since traffic noise varies over time, the sound levels for this noise analysis are expressed as "equivalent levels" or L_{eq}, representing the average sound level over a 1-hour period of time. Unless noted otherwise, all sound levels in this noise analysis are expressed in the hourly equivalent noise level.

3.1 Noise Abatement Criteria

The Federal Highway Administration (FHWA) has established Noise Abatement Criteria for several categories of land use activities (see Table 1). FHWA's noise criteria is based on sound levels that are considered to be an impact to nearby noise sensitive areas, also known as receptors. Primary consideration for noise abatement is to be given for exterior areas where frequent human use occurs.

UDOT has developed a Noise Abatement Policy for transportation projects, which conforms to FHWA noise abatement requirements outlined in 23 CFR §772.

UDOT's Noise Abatement Criteria is the noise decibel (dBA) value reflecting the approach criteria of 1 dBA below the Noise Abatement Criteria values listed in 23 CFR §772 for each land use category (see Table 1).

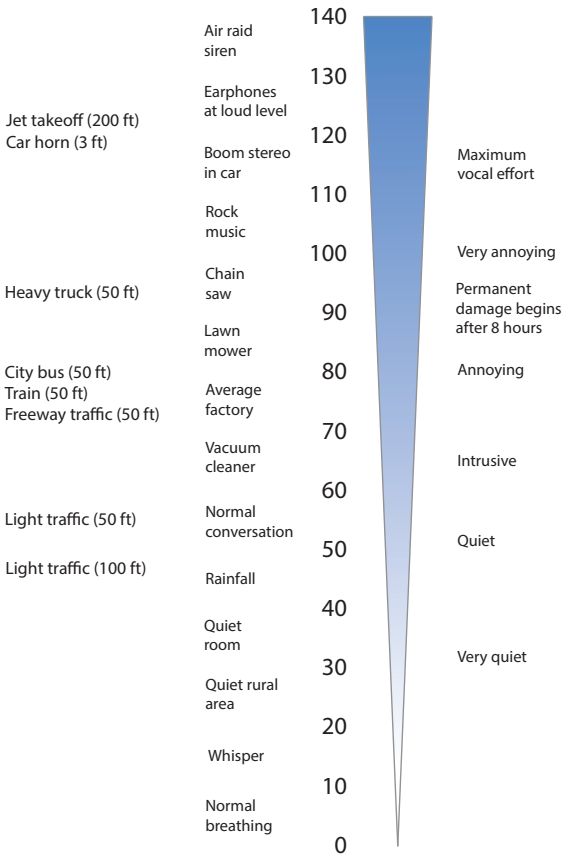


Figure 2: Sound Levels (in dBA) of Common Sounds (Compiled from Federal Transit Administration and Environmental Protection Agency Data)

UDOT's Noise Abatement Policy states that a traffic noise impact occurs when either 1) the future worst case noise level is equal to or greater than the UDOT Noise Abatement Criteria for specified land use categories or 2) the future worst case noise level is greater than or equal to an increase of 10 dBA over the existing noise level.

Noise impact and abatement analyses are required within Land Use Activity Categories A, B, C, D, and E (see Table 1) only when development exists or has been permitted (formal building permit issued prior to the date the final environmental decision document is approved). Activity Categories

F and G include lands that are not sensitive to traffic noise. There are no impact criteria for these land use types, and an analysis of noise impacts is not required.

For the purposes of this noise analysis, aerial photography and on-site visits were used to identify existing land uses and structure locations.

Table 1: Noise Abatement Criteria

Activity Category	FHWA Criteria $L_{eq}(h)$	UDOT Criteria $L_{eq}(h)$	Evaluation Location	Activity Description
A	57	56	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67	66	Exterior	Residential.
C	67	66	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	51	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72	71	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	---	---	---	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	---	---	---	Undeveloped lands that are not permitted.

Source: UDOT Noise Abatement Policy

3.2 Noise Sensitive Land Uses

Noise sensitive land uses within each of the Activity Categories within the study area can be seen in Table 2.

Table 2: Noise Sensitive Land Uses

Activity Category	Description of Location within Study Area
A	• None
B	• Residential locations within the study area
C	• Elk Ridge Middle School • Elk Meadows Elementary School • Church of Jesus Christ of Latter-Day Saints
D	• Northridge Learning Center: Dorius Academy
E	• Nice Ice Baby Shave Ice
F	• Agricultural land • Retail facilities
G	• Undeveloped land within the study area

The UDOT Noise Abatement Policy states that a noise impact analysis will not be required for Activity Categories F and G. However, for Activity Category G, an estimate of the distance to the approach criteria must be provided to local governments. See Section 6 of this noise study for additional information.

3.3 Existing Noise

The primary source of noise in the study area is automobile and truck traffic from Bangerter Highway, 9800 South, and other roadways in the area.

Existing noise levels were established via noise modeling for receptors located adjacent to, and approximately 600 feet from, Bangerter Highway and 9800 South. Existing traffic sound levels for receptors in this area were calculated with the FHWA Traffic Noise Model (TNM) 2.5 software using existing conditions (travel lane configurations and the posted speed limit).

On-site measurements were taken on Thursday, July 22, 2021 with an Extech Instruments SDL600 sound level meter/data logger for a duration of 20 minutes at the locations listed in Table 3 (see Appendix A for data sheets and noise measurement locations). Recorded measurements for locations ML-1–ML-4 were used to validate the noise model and to ensure it is representative of existing conditions. To be considered valid, the field noise measurements must be within 3 dBA of the model's predicted noise. The model validation results range between 0 and 4 dBA. The majority of the field noise measurements were within 3 dBA of the model's predicted noise level, and the model is considered valid (see Table 3). ML-1 exceeds the 3 dBA limit due to the presence of an existing noise wall adjacent to the property. The post-and-panel style noise wall has gaps between the vertical segments that allow noise to pass through the barrier. The TNM model assumes a solid barrier, resulting in a greater than 3 dBA difference between the field noise level and the TNM output.

Table 3: Field Noise Measurements

Map ID	Location	Field Noise Level (dBA)	TNM Output (dBA)	Difference
ML-1	Residence; 9553 South 3645 West	63	59	4.0
ML-2	Elk Ridge Middle School; 3659 West 9800 South	63	61	2.0
ML-3	Elk Meadows Elementary School; 3448 West Shields Lane	59	58	1.0
ML-4	Residence; 3572 West Dry Ridge Cove	62	60	2.0

Of the 345 receptors within the study area, one currently experiences a noise level above the Noise Abatement Criteria (NAC) threshold (see Table 4, Table 5, and Existing Noise Levels map 7 in Appendix A).

3.4 Proposed Action Noise

Projected traffic noise levels for the Bangerter Highway Over and Bangerter Highway Under Options were calculated with TNM 2.5 software using build conditions (travel lane configurations and traffic volumes). To be consistent with the UDOT Noise Abatement Policy, level of service (LOS) C traffic volumes were used to determine the greatest hourly traffic noise conditions likely to occur on a regular basis.

Bangerter Highway Over Option

Overall, noise levels for the Bangerter Highway Over Option would range from 34 dBA to 80 dBA compared to 33 dBA and 71 dBA for the existing conditions (see the Build Noise Impacts - Bangerter Highway Over maps in Appendix B).

Of the 345 receptors, 118 would be impacted, including 95 receptors exhibiting noise levels that are greater than 10 dBA above existing levels, 70 receptors exhibiting noise levels that exceed the NAC, and 46 receptors exhibiting both (see the Build Noise Impacts - Bangerter Highway Over Option maps in Appendix B).

Bangerter Highway Under Option

Overall, noise levels for the Bangerter Highway Under Option would range from 42 dBA to 80 dBA compared to 33 dBA and 71 dBA for the existing conditions (see the Build Noise Impacts - Bangerter Highway Under Option maps in Appendix B).

Of the 345 receptors, 72 would be impacted, including 64 receptors exhibiting noise levels that are greater than 10 dBA above existing levels, 45 receptors exhibiting noise levels that exceed the NAC, and 37 receptors exhibiting both (see the Build Noise Impacts - Bangerter Highway Under Option maps in Appendix B).

3.5 Existing and Proposed Action Summary

Table 4 shows a summary of existing and build noise levels for the Bangerter Highway Over Option, and Table 5 shows a summary of existing and build noise levels for the Bangerter Highway Under Option (the letter on the map label represents the activity category). Refer to the maps in Appendix A and Appendix B for receptor locations.

Table 4: Summary of Existing and Bangerter Highway Over Option Noise Levels

Map Label	UDOT Noise Abatement Criteria L_{eq}(h)	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
1B	66	60	No	67	No	Yes	7
2B	66	55	No	63	No	No	8
3B	66	53	No	60	No	No	7
4B	66	52	No	60	No	No	8
5B	66	48	No	55	No	No	7
6B	66	50	No	58	No	No	8
7B	66	50	No	58	No	No	8
8B	66	51	No	58	No	No	7
9B	66	54	No	62	No	No	8
10B	66	60	No	70	Yes	Yes	10
11B	66	60	No	73	Yes	Yes	13
12B	66	61	No	75	Yes	Yes	14
13B	66	55	No	63	No	No	8
14B	66	50	No	58	No	No	8
15B	66	50	No	59	No	No	9
16B	66	49	No	57	No	No	8
17B	66	48	No	56	No	No	8
18B	66	47	No	55	No	No	8
19B	66	49	No	56	No	No	7
20B	66	50	No	57	No	No	7
21B	66	51	No	59	No	No	8
22B	66	54	No	62	No	No	8
23B	66	63	No	79	Yes	Yes	16
24B	66	63	No	N/A*	–	–	–
25B	66	62	No	76	Yes	Yes	14
26B	66	54	No	67	Yes	Yes	13
27B	66	52	No	63	Yes	No	11

* Proposed Action noise level not applicable due to total acquisition of the parcel.

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
28B	66	50	No	60	Yes	No	10
29B	66	49	No	58	No	No	9
30B	66	47	No	57	Yes	No	10
31B	66	48	No	56	No	No	8
32B	66	49	No	58	No	No	9
33B	66	50	No	60	Yes	No	10
34B	66	51	No	62	Yes	No	11
35B	66	53	No	66	Yes	Yes	13
36B	66	57	No	72	Yes	Yes	15
37B	66	62	No	N/A*	–	–	–
38B	66	61	No	79	Yes	Yes	18
39B	66	56	No	67	Yes	Yes	11
40B	66	52	No	62	Yes	No	10
41B	66	50	No	60	Yes	No	10
42B	66	48	No	57	No	No	9
43B	66	48	No	57	No	No	9
44B	66	52	No	61	No	No	9
45B	66	56	No	67	Yes	Yes	11
46B	66	61	No	79	Yes	Yes	18
47B	66	60	No	79	Yes	Yes	19
48B	66	55	No	67	Yes	Yes	12
49B	66	51	No	61	Yes	No	10
50B	66	48	No	57	No	No	9
51B	66	48	No	57	No	No	9
52B	66	52	No	61	No	No	9
53B	66	55	No	66	Yes	Yes	11
54B	66	59	No	78	Yes	Yes	19
55B	66	59	No	78	Yes	Yes	19
56B	66	55	No	66	Yes	Yes	11
57B	66	51	No	61	Yes	No	10
58B	66	48	No	58	Yes	No	10
59B	66	51	No	62	Yes	No	11
60B	66	55	No	66	Yes	Yes	11
61B	66	59	No	78	Yes	Yes	19

* Proposed Action noise level not applicable due to total acquisition of the parcel.

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
62B	66	59	No	78	Yes	Yes	19
63B	66	55	No	67	Yes	Yes	12
64B	66	51	No	62	Yes	No	11
65B	66	48	No	59	Yes	No	11
66B	66	52	No	63	Yes	No	11
67B	66	55	No	68	Yes	Yes	13
68B	66	59	No	N/A*	–	–	–
69B	66	59	No	79	Yes	Yes	20
70B	66	55	No	70	Yes	Yes	15
71B	66	52	No	64	Yes	No	12
72B	66	48	No	60	Yes	No	12
73B	66	49	No	60	Yes	No	11
74B	66	52	No	65	Yes	No	13
75B	66	54	No	71	Yes	Yes	17
76B	66	59	No	N/A*	–	–	–
77B	66	58	No	N/A*	–	–	–
78B	66	54	No	71	Yes	Yes	17
79B	66	52	No	65	Yes	No	13
80B	66	49	No	60	Yes	No	11
81B	66	48	No	60	Yes	No	12
82B	66	50	No	62	Yes	No	12
83B	66	52	No	66	Yes	Yes	14
84B	66	55	No	70	Yes	Yes	15
85B	66	58	No	N/A*	–	–	–
86B	66	59	No	N/A*	–	–	–
87B	66	55	No	69	Yes	Yes	14
88B	66	52	No	65	Yes	No	13
89B	66	49	No	61	Yes	No	12
90B	66	47	No	59	Yes	No	12
91B	66	50	No	61	Yes	No	11
92B	66	52	No	63	Yes	No	11
93B	66	53	No	65	Yes	No	12
94B	66	56	No	67	Yes	Yes	11
95B	66	58	No	N/A*	–	–	–

* Proposed Action noise level not applicable due to total acquisition of the parcel.

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
96B	66	59	No	N/A*	–	–	–
97B	66	59	No	N/A*	–	–	–
98B	66	56	No	67	Yes	Yes	11
99B	66	51	No	64	Yes	No	13
100B	66	50	No	62	Yes	No	12
101B	66	51	No	60	No	No	9
102B	66	50	No	61	Yes	No	11
103B	66	51	No	63	Yes	No	12
104B	66	53	No	65	Yes	No	12
105B	66	58	No	66	No	Yes	8
106B	66	60	No	N/A*	–	–	–
107B	66	65	No	N/A*	–	–	–
108D[1]	51	33	No	34	No	No	1
109E	71	71	Yes	N/A*	–	–	–
110B	66	62	No	64	No	No	2
111B	66	54	No	61	No	No	7
112B	66	50	No	60	Yes	No	10
113B	66	47	No	60	Yes	No	13
114B	66	46	No	58	Yes	No	12
115B	66	49	No	58	No	No	9
116B	66	53	No	59	No	No	6
117B	66	62	No	63	No	No	1
118B	66	61	No	62	No	No	1
119B	66	56	No	58	No	No	2
120B	66	52	No	58	No	No	6
121B	66	49	No	56	No	No	7
122B	66	47	No	53	No	No	6
123B	66	46	No	57	Yes	No	11
124B	66	46	No	54	No	No	8
125B	66	49	No	54	No	No	5
126B	66	52	No	55	No	No	3
127B	66	62	No	62	No	No	0

* Proposed Action noise level not applicable due to total acquisition of the parcel.
[1] Receptors with a D suffix represent the interiors of structures. Masonry buildings with double-glazed glass windows generally provide a noise reduction of approximately 35 dBA. Therefore, the interior noise levels for these buildings were estimated to be 35 dBA less than the exterior noise levels calculated by TNM.

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
128B	66	46	No	49	No	No	3
129B	66	49	No	51	No	No	2
130B	66	53	No	54	No	No	1
131B	66	64	No	64	No	No	0
132B	66	61	No	62	No	No	1
133B	66	50	No	53	No	No	3
134B	66	46	No	52	No	No	6
135B	66	47	No	53	No	No	6
136B	66	62	No	63	No	No	1
137B	66	51	No	54	No	No	3
138C	66	49	No	56	No	No	7
139B	66	62	No	63	No	No	1
140C	66	57	No	71	Yes	Yes	14
141B	66	54	No	68	Yes	Yes	14
142B	66	52	No	64	Yes	No	12
143B	66	49	No	61	Yes	No	12
144B	66	58	No	76	Yes	Yes	18
145B	66	48	No	58	Yes	No	10
146B	66	49	No	57	No	No	8
147B	66	49	No	57	No	No	8
148B	66	51	No	60	No	No	9
149B	66	54	No	65	Yes	No	11
150B	66	54	No	64	Yes	No	10
151B	66	51	No	60	No	No	9
152B	66	49	No	57	No	No	8
153B	66	48	No	55	No	No	7
154B	66	48	No	55	No	No	7
155B	66	50	No	58	No	No	8
156B	66	48	No	55	No	No	7
157B	66	50	No	57	No	No	7
158B	66	53	No	61	No	No	8
159B	66	59	No	79	Yes	Yes	20
160B	66	59	No	79	Yes	Yes	20
161B	66	59	No	80	Yes	Yes	21
162B	66	59	No	79	Yes	Yes	20

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
163B	66	59	No	80	Yes	Yes	21
164B	66	59	No	79	Yes	Yes	20
165B	66	53	No	62	No	No	9
166B	66	50	No	58	No	No	8
167B	66	49	No	56	No	No	7
168B	66	47	No	54	No	No	7
169B	66	47	No	54	No	No	7
170B	66	48	No	53	No	No	5
171B	66	50	No	57	No	No	7
172B	66	53	No	61	No	No	8
173B	66	60	No	70	Yes	Yes	10
174B	66	59	No	66	No	Yes	7
175B	66	60	No	66	No	Yes	6
176B	66	55	No	62	No	No	7
177B	66	51	No	57	No	No	6
178B	66	48	No	53	No	No	5
179B	66	52	No	57	No	No	5
180B	66	55	No	59	No	No	4
181B	66	54	No	58	No	No	4
182B	66	55	No	59	No	No	4
183B	66	60	No	63	No	No	3
184B	66	59	No	64	No	No	5
185B	66	60	No	63	No	No	3
186B	66	57	No	63	No	No	6
187B	66	57	No	62	No	No	5
188B	66	56	No	61	No	No	5
189B	66	56	No	61	No	No	5
190B	66	56	No	62	No	No	6
191B	66	60	No	66	No	Yes	6
192B	66	65	No	70	No	Yes	5
193B	66	60	No	65	No	No	5
194B	66	56	No	61	No	No	5
195B	66	52	No	58	No	No	6
196B	66	52	No	58	No	No	6
197B	66	55	No	61	No	No	6

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
198B	66	59	No	64	No	No	5
199B	66	59	No	65	No	No	6
200B	66	58	No	64	No	No	6
201B	66	54	No	60	No	No	6
202B	66	51	No	56	No	No	5
203B	66	51	No	57	No	No	6
204B	66	55	No	60	No	No	5
205B	66	58	No	64	No	No	6
206B	66	58	No	65	No	No	7
207B	66	58	No	66	No	Yes	8
208B	66	53	No	59	No	No	6
209B	66	53	No	59	No	No	6
210B	66	52	No	58	No	No	6
211B	66	53	No	58	No	No	5
212B	66	53	No	58	No	No	5
213B	66	52	No	58	No	No	6
214B	66	51	No	57	No	No	6
215B	66	50	No	56	No	No	6
216B	66	48	No	55	No	No	7
217B	66	50	No	57	No	No	7
218B	66	50	No	57	No	No	7
219B	66	53	No	61	No	No	8
220B	66	59	No	67	No	Yes	8
221B	66	58	No	67	No	Yes	9
222B	66	57	No	67	Yes	Yes	10
223B	66	57	No	67	Yes	Yes	10
224B	66	57	No	65	No	No	8
225B	66	58	No	68	Yes	Yes	10
226B	66	58	No	67	No	Yes	9
227B	66	58	No	67	No	Yes	9
228B	66	53	No	61	No	No	8
229B	66	53	No	62	No	No	9
230B	66	53	No	62	No	No	9
231B	66	53	No	63	Yes	No	10
232B	66	53	No	63	Yes	No	10

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
233B	66	54	No	63	No	No	9
234B	66	54	No	63	No	No	9
235B	66	50	No	57	No	No	7
236B	66	50	No	58	No	No	8
237B	66	50	No	58	No	No	8
238B	66	50	No	59	No	No	9
239B	66	50	No	59	No	No	9
240B	66	51	No	60	No	No	9
241B	66	51	No	60	No	No	9
242B	66	59	No	67	No	Yes	8
243B	66	60	No	67	No	Yes	7
244B	66	62	No	66	No	Yes	4
245B	66	59	No	64	No	No	5
246B	66	56	No	64	No	No	8
247B	66	55	No	63	No	No	8
248B	66	52	No	61	No	No	9
249B	66	52	No	60	No	No	8
250B	66	50	No	58	No	No	8
251B	66	49	No	57	No	No	8
252B	66	48	No	56	No	No	8
253B	66	48	No	55	No	No	7
254B	66	47	No	54	No	No	7
255B	66	47	No	54	No	No	7
256B	66	47	No	53	No	No	6
257B	66	47	No	53	No	No	6
258B	66	49	No	54	No	No	5
259B	66	45	No	51	No	No	6
260B	66	46	No	51	No	No	5
261B	66	49	No	53	No	No	4
262B	66	47	No	54	No	No	7
263B	66	48	No	54	No	No	6
264B	66	48	No	55	No	No	7
265B	66	48	No	55	No	No	7
266B	66	48	No	56	No	No	8
267B	66	49	No	57	No	No	8

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
268B	66	53	No	61	No	No	8
269B	66	55	No	61	No	No	6
270B	66	62	No	64	No	No	2
271B	66	62	No	63	No	No	1
272B	66	62	No	63	No	No	1
273B	66	62	No	62	No	No	0
274B	66	61	No	62	No	No	1
275B	66	62	No	62	No	No	0
276B	66	62	No	62	No	No	0
277B	66	61	No	62	No	No	1
278B	66	62	No	63	No	No	1
279B	66	62	No	62	No	No	0
280B	66	60	No	61	No	No	1
281B	66	55	No	57	No	No	2
282B	66	49	No	53	No	No	4
283B	66	47	No	53	No	No	6
284B	66	46	No	53	No	No	7
285C	66	59	No	61	No	No	2
286B	66	58	No	62	No	No	4
287B	66	54	No	60	No	No	6
288B	66	51	No	60	No	No	9
289B	66	50	No	60	Yes	No	10
290B	66	50	No	60	Yes	No	10
291B	66	51	No	59	No	No	8
292B	66	56	No	62	No	No	6
293B	66	51	No	61	Yes	No	10
294B	66	54	No	62	No	No	8
295B	66	60	No	64	No	No	4
296B	66	62	No	65	No	No	3
297B	66	60	No	66	No	Yes	6
298B	66	59	No	67	No	Yes	8
299B	66	56	No	66	Yes	Yes	10
300B	66	57	No	66	No	Yes	9
301B	66	58	No	66	No	Yes	8

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
302B	66	58	No	N/A*	–	–	–
303B	66	59	No	67	No	Yes	8
304B	66	59	No	67	No	Yes	8
305B	66	60	No	65	No	No	5
306B	66	62	No	65	No	No	3
307B	66	57	No	64	No	No	7
308B	66	56	No	64	No	No	8
309B	66	55	No	64	No	No	9
310B	66	55	No	64	No	No	9
311B	66	56	No	64	No	No	8
312B	66	56	No	64	No	No	8
313B	66	57	No	64	No	No	7
314B	66	60	No	63	No	No	3
315B	66	52	No	62	Yes	No	10
316B	66	51	No	60	No	No	9
317B	66	53	No	61	No	No	8
318B	66	53	No	61	No	No	8
319B	66	53	No	61	No	No	8
320B	66	53	No	61	No	No	8
321B	66	54	No	61	No	No	7
322B	66	57	No	61	No	No	4
323B	66	56	No	59	No	No	3
324B	66	51	No	58	No	No	7
325B	66	51	No	58	No	No	7
326B	66	51	No	58	No	No	7
327B	66	52	No	58	No	No	6
328B	66	53	No	58	No	No	5
329B	66	54	No	58	No	No	4
330B**	66	57	No	59	No	No	2
331B**	66	57	No	59	No	No	2
332B**	66	56	No	58	No	No	2
333B**	66	57	No	59	No	No	2
334B**	66	59	No	60	No	No	1

* Proposed Action noise level not applicable due to total acquisition of the parcel.
** Planned residential property with the potential to be permitted before the date of public knowledge.

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Over Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
335B**	66	59	No	61	No	No	2
336B**	66	58	No	59	No	No	1
337B**	66	58	No	60	No	No	2
338B**	66	62	No	63	No	No	1
339B**	66	63	No	65	No	No	2
340B**	66	61	No	62	No	No	1
341B**	66	62	No	64	No	No	2
342B	66	60	No	66	No	Yes	6
343B	66	60	No	74	Yes	Yes	14
344B	66	59	No	N/A*	–	–	–
345B	66	59	No	65	No	No	6

* Proposed Action noise level not applicable due to total acquisition of the parcel.
** Planned residential property with the potential to be permitted before the date of public knowledge.

Table 5: Summary of Existing and Bangerter Highway Under Option Noise Levels

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
1B	66	60	No	63	No	No	3
2B	66	55	No	59	No	No	4
3B	66	53	No	57	No	No	4
4B	66	52	No	56	No	No	4
5B	66	48	No	53	No	No	5
6B	66	50	No	55	No	No	5
7B	66	50	No	55	No	No	5
8B	66	51	No	55	No	No	4
9B	66	54	No	59	No	No	5
10B	66	60	No	63	No	No	3
11B	66	60	No	63	No	No	3
12B	66	61	No	66	No	Yes	5
13B	66	55	No	61	No	No	6
14B	66	50	No	55	No	No	5
15B	66	50	No	55	No	No	5
16B	66	49	No	54	No	No	5

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
17B	66	48	No	53	No	No	5
18B	66	47	No	52	No	No	5
19B	66	49	No	53	No	No	4
20B	66	50	No	54	No	No	4
21B	66	51	No	56	No	No	5
22B	66	54	No	61	No	No	7
23B	66	63	No	78	Yes	Yes	15
24B	66	63	No	N/A*	–	–	–
25B	66	62	No	75	Yes	Yes	13
26B	66	54	No	66	Yes	Yes	12
27B	66	52	No	62	Yes	No	10
28B	66	50	No	58	No	No	8
29B	66	49	No	56	No	No	7
30B	66	47	No	55	No	No	8
31B	66	48	No	54	No	No	6
32B	66	49	No	56	No	No	7
33B	66	50	No	58	No	No	8
34B	66	51	No	61	Yes	No	10
35B	66	53	No	65	Yes	No	12
36B	66	57	No	71	Yes	Yes	14
37B	66	62	No	N/A*	–	–	–
38B	66	61	No	78	Yes	Yes	17
39B	66	56	No	66	Yes	Yes	10
40B	66	52	No	60	No	No	8
41B	66	50	No	58	No	No	8
42B	66	48	No	55	No	No	7
43B	66	48	No	55	No	No	7
44B	66	52	No	60	No	No	8
45B	66	56	No	66	Yes	Yes	10
46B	66	61	No	78	Yes	Yes	17
47B	66	60	No	78	Yes	Yes	18
48B	66	55	No	65	Yes	No	10
49B	66	51	No	60	No	No	9
50B	66	48	No	55	No	No	7

* Proposed Action noise level not applicable due to total acquisition of the parcel.

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
51B	66	48	No	56	No	No	8
52B	66	52	No	60	No	No	8
53B	66	55	No	65	Yes	No	10
54B	66	59	No	78	Yes	Yes	19
55B	66	59	No	78	Yes	Yes	19
56B	66	55	No	65	Yes	No	10
57B	66	51	No	60	No	No	9
58B	66	48	No	57	No	No	9
59B	66	51	No	61	Yes	No	10
60B	66	55	No	65	Yes	No	10
61B	66	59	No	78	Yes	Yes	19
62B	66	59	No	78	Yes	Yes	19
63B	66	55	No	66	Yes	Yes	11
64B	66	51	No	61	Yes	No	10
65B	66	48	No	58	Yes	No	10
66B	66	52	No	62	Yes	No	10
67B	66	55	No	67	Yes	Yes	12
68B	66	59	No	N/A*	–	–	–
69B	66	59	No	79	Yes	Yes	20
70B	66	55	No	69	Yes	Yes	14
71B	66	52	No	63	Yes	No	11
72B	66	48	No	58	Yes	No	10
73B	66	49	No	59	Yes	No	10
74B	66	52	No	64	Yes	No	12
75B	66	54	No	70	Yes	Yes	16
76B	66	59	No	N/A*	–	–	–
77B	66	58	No	N/A*	–	–	–
78B	66	54	No	70	Yes	Yes	16
79B	66	52	No	65	Yes	No	13
80B	66	49	No	59	Yes	No	10
81B	66	48	No	60	Yes	No	12
82B	66	50	No	62	Yes	No	12
83B	66	52	No	66	Yes	Yes	14
84B	66	55	No	71	Yes	Yes	16

* Proposed Action noise level not applicable due to total acquisition of the parcel.

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
85B	66	58	No	N/A*	–	–	–
86B	66	59	No	N/A*	–	–	–
87B	66	55	No	70	Yes	Yes	15
88B	66	52	No	65	Yes	No	13
89B	66	49	No	61	Yes	No	12
90B	66	47	No	59	Yes	No	12
91B	66	50	No	59	No	No	9
92B	66	52	No	61	No	No	9
93B	66	53	No	64	Yes	No	11
94B	66	56	No	68	Yes	Yes	12
95B	66	58	No	N/A*	–	–	–
96B	66	59	No	N/A*	–	–	–
97B	66	59	No	N/A*	–	–	–
98B	66	56	No	68	Yes	Yes	12
99B	66	51	No	64	Yes	No	13
100B	66	50	No	61	Yes	No	11
101B	66	51	No	59	No	No	8
102B	66	50	No	57	No	No	7
103B	66	51	No	59	No	No	8
104B	66	53	No	61	No	No	8
105B	66	58	No	67	No	Yes	9
106B	66	60	No	N/A*	–	–	–
107B	66	65	No	N/A*	–	–	–
108D[1]	51	33	No	42	No	No	9
109E	71	71	Yes	N/A*	–	–	–
110B	66	62	No	63	No	No	1
111B	66	54	No	56	No	No	2
112B	66	50	No	54	No	No	4
113B	66	47	No	54	No	No	7
114B	66	46	No	52	No	No	6
115B	66	49	No	52	No	No	3
116B	66	53	No	54	No	No	1

* Proposed Action noise level not applicable due to total acquisition of the parcel.

[1] Receptors with a D suffix represent the interiors of structures. Masonry buildings with double-glazed glass windows generally provide a noise reduction of approximately 35 dBA. Therefore, the interior noise levels for these buildings were estimated to be 35 dBA less than the exterior noise levels calculated by TNM.

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
117B	66	62	No	62	No	No	0
118B	66	61	No	61	No	No	0
119B	66	56	No	57	No	No	1
120B	66	52	No	53	No	No	1
121B	66	49	No	51	No	No	2
122B	66	47	No	50	No	No	3
123B	66	46	No	51	No	No	5
124B	66	46	No	50	No	No	4
125B	66	49	No	51	No	No	2
126B	66	52	No	53	No	No	1
127B	66	62	No	62	No	No	0
128B	66	46	No	48	No	No	2
129B	66	49	No	50	No	No	1
130B	66	53	No	54	No	No	1
131B	66	64	No	64	No	No	0
132B	66	61	No	61	No	No	0
133B	66	50	No	52	No	No	2
134B	66	46	No	49	No	No	3
135B	66	47	No	50	No	No	3
136B	66	62	No	62	No	No	0
137B	66	51	No	52	No	No	1
138C	66	49	No	52	No	No	3
139B	66	62	No	62	No	No	0
140C	66	57	No	71	Yes	Yes	14
141B	66	54	No	67	Yes	Yes	13
142B	66	52	No	62	Yes	No	10
143B	66	49	No	59	Yes	No	10
144B	66	58	No	75	Yes	Yes	17
145B	66	48	No	56	No	No	8
146B	66	49	No	55	No	No	6
147B	66	49	No	56	No	No	7
148B	66	51	No	59	No	No	8
149B	66	54	No	63	No	No	9
150B	66	54	No	62	No	No	8

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
151B	66	51	No	59	No	No	8
152B	66	49	No	55	No	No	6
153B	66	48	No	53	No	No	5
154B	66	48	No	54	No	No	6
155B	66	50	No	57	No	No	7
156B	66	48	No	54	No	No	6
157B	66	50	No	56	No	No	6
158B	66	53	No	60	No	No	7
159B	66	59	No	79	Yes	Yes	20
160B	66	59	No	79	Yes	Yes	20
161B	66	59	No	79	Yes	Yes	20
162B	66	59	No	79	Yes	Yes	20
163B	66	59	No	80	Yes	Yes	21
164B	66	59	No	79	Yes	Yes	20
165B	66	53	No	60	No	No	7
166B	66	50	No	57	No	No	7
167B	66	49	No	55	No	No	6
168B	66	47	No	53	No	No	6
169B	66	47	No	53	No	No	6
170B	66	48	No	53	No	No	5
171B	66	50	No	56	No	No	6
172B	66	53	No	60	No	No	7
173B	66	60	No	70	Yes	Yes	10
174B	66	59	No	65	No	No	6
175B	66	60	No	65	No	No	5
176B	66	55	No	61	No	No	6
177B	66	51	No	57	No	No	6
178B	66	48	No	53	No	No	5
179B	66	52	No	57	No	No	5
180B	66	55	No	59	No	No	4
181B	66	54	No	58	No	No	4
182B	66	55	No	59	No	No	4
183B	66	60	No	63	No	No	3
184B	66	59	No	64	No	No	5
185B	66	60	No	63	No	No	3

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
186B	66	57	No	63	No	No	6
187B	66	57	No	62	No	No	5
188B	66	56	No	61	No	No	5
189B	66	56	No	61	No	No	5
190B	66	56	No	62	No	No	6
191B	66	60	No	66	No	Yes	6
192B	66	65	No	70	No	Yes	5
193B	66	60	No	65	No	No	5
194B	66	56	No	61	No	No	5
195B	66	52	No	57	No	No	5
196B	66	52	No	57	No	No	5
197B	66	55	No	61	No	No	6
198B	66	59	No	64	No	No	5
199B	66	59	No	65	No	No	6
200B	66	58	No	64	No	No	6
201B	66	54	No	60	No	No	6
202B	66	51	No	56	No	No	5
203B	66	51	No	56	No	No	5
204B	66	55	No	60	No	No	5
205B	66	58	No	63	No	No	5
206B	66	58	No	63	No	No	5
207B	66	58	No	64	No	No	6
208B	66	53	No	59	No	No	6
209B	66	53	No	59	No	No	6
210B	66	52	No	58	No	No	6
211B	66	53	No	58	No	No	5
212B	66	53	No	58	No	No	5
213B	66	52	No	58	No	No	6
214B	66	51	No	56	No	No	5
215B	66	50	No	55	No	No	5
216B	66	48	No	53	No	No	5
217B	66	50	No	55	No	No	5
218B	66	50	No	55	No	No	5
219B	66	53	No	58	No	No	5
220B	66	59	No	64	No	No	5

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
221B	66	58	No	63	No	No	5
222B	66	57	No	63	No	No	6
223B	66	57	No	63	No	No	6
224B	66	57	No	65	No	No	8
225B	66	58	No	69	Yes	Yes	11
226B	66	58	No	71	Yes	Yes	13
227B	66	58	No	68	Yes	Yes	10
228B	66	53	No	58	No	No	5
229B	66	53	No	58	No	No	5
230B	66	53	No	58	No	No	5
231B	66	53	No	58	No	No	5
232B	66	53	No	59	No	No	6
233B	66	54	No	59	No	No	5
234B	66	54	No	59	No	No	5
235B	66	50	No	54	No	No	4
236B	66	50	No	54	No	No	4
237B	66	50	No	54	No	No	4
238B	66	50	No	54	No	No	4
239B	66	50	No	54	No	No	4
240B	66	51	No	54	No	No	3
241B	66	51	No	54	No	No	3
242B	66	59	No	68	No	Yes	9
243B	66	60	No	68	No	Yes	8
244B	66	62	No	65	No	No	3
245B	66	59	No	60	No	No	1
246B	66	56	No	59	No	No	3
247B	66	55	No	59	No	No	4
248B	66	52	No	55	No	No	3
249B	66	52	No	53	No	No	1
250B	66	50	No	51	No	No	1
251B	66	49	No	51	No	No	2
252B	66	48	No	50	No	No	2
253B	66	48	No	49	No	No	1
254B	66	47	No	49	No	No	2
255B	66	47	No	48	No	No	1

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
256B	66	47	No	48	No	No	1
257B	66	47	No	49	No	No	2
258B	66	49	No	50	No	No	1
259B	66	45	No	47	No	No	2
260B	66	46	No	48	No	No	2
261B	66	49	No	50	No	No	1
262B	66	47	No	49	No	No	2
263B	66	48	No	49	No	No	1
264B	66	48	No	49	No	No	1
265B	66	48	No	49	No	No	1
266B	66	48	No	50	No	No	2
267B	66	49	No	51	No	No	2
268B	66	53	No	54	No	No	1
269B	66	55	No	56	No	No	1
270B	66	62	No	62	No	No	0
271B	66	62	No	62	No	No	0
272B	66	62	No	62	No	No	0
273B	66	62	No	62	No	No	0
274B	66	61	No	61	No	No	0
275B	66	62	No	62	No	No	0
276B	66	62	No	62	No	No	0
277B	66	61	No	61	No	No	0
278B	66	62	No	62	No	No	0
279B	66	62	No	62	No	No	0
280B	66	60	No	60	No	No	0
281B	66	55	No	55	No	No	0
282B	66	49	No	51	No	No	2
283B	66	47	No	49	No	No	2
284B	66	46	No	49	No	No	3
285C	66	59	No	59	No	No	0
286B	66	58	No	59	No	No	1
287B	66	54	No	55	No	No	1
288B	66	51	No	53	No	No	2
289B	66	50	No	53	No	No	3
290B	66	50	No	53	No	No	3

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
291B	66	51	No	53	No	No	2
292B	66	56	No	58	No	No	2
293B	66	51	No	55	No	No	4
294B	66	54	No	55	No	No	1
295B	66	60	No	59	No	No	-1
296B	66	62	No	62	No	No	0
297B	66	60	No	62	No	No	2
298B	66	59	No	62	No	No	3
299B	66	56	No	61	No	No	5
300B	66	57	No	62	No	No	5
301B	66	58	No	62	No	No	4
302B	66	58	No	62	No	No	4
303B	66	59	No	64	No	No	5
304B	66	59	No	63	No	No	4
305B	66	60	No	64	No	No	4
306B	66	62	No	64	No	No	2
307B	66	57	No	58	No	No	1
308B	66	56	No	58	No	No	2
309B	66	55	No	58	No	No	3
310B	66	55	No	58	No	No	3
311B	66	56	No	58	No	No	2
312B	66	56	No	59	No	No	3
313B	66	57	No	60	No	No	3
314B	66	60	No	61	No	No	1
315B	66	52	No	55	No	No	3
316B	66	51	No	53	No	No	2
317B	66	53	No	55	No	No	2
318B	66	53	No	55	No	No	2
319B	66	53	No	55	No	No	2
320B	66	53	No	56	No	No	3
321B	66	54	No	57	No	No	3
322B	66	57	No	59	No	No	2
323B	66	56	No	57	No	No	1
324B	66	51	No	52	No	No	1
325B	66	51	No	53	No	No	2

Map Label	UDOT Noise Abatement Criteria $L_{eq}(h)$	Existing Noise Levels (dBA)	Existing Exceeds NAC	Bangerter Highway Under Noise Levels (dBA)	Projected Impact		Difference
					≥ 10 dBA Increase From Existing Level	≥ UDOT Noise Abatement Criteria	
326B	66	51	No	53	No	No	2
327B	66	52	No	54	No	No	2
328B	66	53	No	55	No	No	2
329B	66	54	No	56	No	No	2
330B**	66	57	No	58	No	No	1
331B**	66	57	No	59	No	No	2
332B**	66	56	No	58	No	No	2
333B**	66	57	No	58	No	No	1
334B**	66	59	No	60	No	No	1
335B**	66	59	No	61	No	No	2
336B**	66	58	No	59	No	No	1
337B**	66	58	No	60	No	No	2
338B**	66	62	No	63	No	No	1
339B**	66	63	No	65	No	No	2
340B**	66	61	No	62	No	No	1
341B**	66	62	No	64	No	No	2
342B	66	60	No	63	No	No	3
343B	66	60	No	69	No	Yes	9
344B	66	59	No	N/A*	–	–	–
345B	66	59	No	65	No	No	6

* Proposed Action noise level not applicable due to total acquisition of the parcel.
** Planned residential property with the potential to be permitted before the date of public knowledge.

4.0 NOISE ABATEMENT

According to the UDOT Noise Abatement Policy, specific conditions must be met before traffic noise abatement is implemented. Noise abatement must be considered feasible and reasonable. The factors considered when determining if abatement is feasible include:

- **Engineering Considerations:** Engineering considerations such as safety, presence of cross streets, sight distance, access to adjacent properties, wall height, topography, drainage, utilities, maintenance access, and maintenance of the abatement measure must be taken into account as part of establishing feasibility. Noise abatement measures are not intended to serve as privacy fences or safety barriers. Abatement measures installed on structures will not exceed 10-feet in height measured from the top of deck or roadway to the top of the noise wall. Noise walls will not be installed on structures that require retrofitting to accommodate the noise abatement measure. Noise abatement measures will be considered if the project meets the criteria established in this policy if structure replacement is included as part of the project.

Abatement measures shall be consistent with general American Association of State Highway and Transportation Officials (AASHTO) design principles.

- **Safety on Urban Non-Access Controlled Roadways:** To avoid a damaged barrier from becoming a safety hazard, in the event of a failure, barrier height shall be no greater than the distance from the back-of-curb to the face of proposed barrier. Because the distance from the back-of-curb to the face of a proposed barrier varies, barrier heights which meet this safety requirement may also vary.
- **Acoustic Feasibility:** Noise abatement must be considered "acoustically feasible." This is defined as achieving at least a 5 dBA highway traffic noise reduction for at least 50% of front-row receptors.

The factors considered when determining if mitigation is reasonable include:

- **Noise Abatement Design Goal:** Every reasonable effort should be made to obtain substantial noise reductions. UDOT defines the minimum noise reduction (design goal) from proposed abatement measures to be 7 dBA or greater for at least 35% of front-row receptors.
- **Cost Effectiveness:** The cost of noise abatement measures must be deemed reasonable in order to be included in the project. Noise abatement costs are based on a fixed unit cost of $20 per square foot, multiplied by the height and length of the wall, in addition to the cost of any other item associated with the abatement measure that is critical to safety. The fixed unit cost is based on the historical average cost of noise walls installed on UDOT projects and is reviewed at regular intervals, not to exceed five years. The cost effectiveness of abatement is determined by analyzing the cost of a wall that would provide a noise reduction of 5 dBA or more for a benefited receptor. A reasonable cost is considered to be a maximum of $30,000 per benefited receptor for Activity Category B and $360 per linear foot for Activity Categories A,C, D, or E. If the anticipated cost of the noise abatement measure is less than the allowable cost, then the abatement is deemed reasonable.

  The cost effectiveness calculation needs to take into account the cost of any items associated with the abatement measure that is critical to safety, such as snow storage and safety barriers. Therefore, the cost to construct items necessary for snow storage and safety barriers was taken into consideration as part of the cost effectiveness calculation.
- **Viewpoints of Property Owners and Residents:** As part of the final design phase, public balloting would take place if noise abatement measures appear to meet the criteria outlined in UDOT's Noise Abatement Policy.

4.1 Noise Barriers

For a noise barrier to be effective, it must be high enough and long enough to block the view of the noise source from the receptor's perspective. The FHWA's *Highway Traffic Noise: Analysis and Abatement Guidance* states that a good rule of thumb is that the noise barrier should extend four times as far in each direction as the distance from the receptor to the barrier. For instance, if the receptor is 50 feet from the proposed noise barrier, the barrier needs to extend at least 200 feet on either side of the receptor in order to shield the receptor from noise traveling past the ends of the barrier.

Openings in noise barriers for driveway and cross street access greatly reduce the effectiveness of noise barriers. Therefore, impacted receptors with direct access onto local streets do not qualify for noise barriers.

The anticipated cost of each wall was calculated by multiplying the wall area and the wall cost per square foot ($20). The allowable cost was calculated using two variables: 1) Activity Category B allowable cost and, 2) Activity Category C allowable cost. The Activity Category B allowable cost was calculated by multiplying the allowable cost per benefited receptor ($30,000) by the number of receptors benefited by the wall. The Activity Category C allowable cost was calculated by multiplying the length of the wall associated with Activity Category C land use by the allowable cost for Activity Category C land ($360 per linear foot). These two variables, Activity Category B allowable cost and Activity Category C allowable cost, were combined to produce the allowable cost for each wall (see Appendix D for detailed wall analyses).

In an effort to provide an objective analysis of traffic noise reduction to impacted receptors, a variety of noise wall heights were considered. If multiple wall heights meet noise abatement requirements, the shortest wall height found to be both feasible and reasonable would be recommended for balloting.

Six noise walls were considered for the Bangerter Highway Over Option and four noise walls were considered for the Bangerter Highway Under Option. See the Noise Wall maps in Appendix C for benefited receptors associated with existing noise walls that will remain in place and those noise walls which will be replaced "in-kind" for each option.

4.2 Bangerter Highway Over Option Barrier Analysis

Wall 1

Wall 1 would be located on the west side of Bangerter Highway, north of 9800 South. The wall would extend approximately 2,258 feet north of 9800 South where it would tie in to the existing 15 foot tall noise wall that would remain in place (see Noise Walls - Bangerter Highway Over Option maps 1–6 in Appendix C). Wall 1 was evaluated to replace a portion of the existing noise wall that would be removed as part of the Bangerter Highway Over Option. The wall is approximately 2,258 feet in length and was evaluated to mitigate noise for 65 impacted receptors from the Bangerter Highway Over Option on the west side of Bangerter Highway (12B, 23B, 25B-28B, 30B, 33B-36B, 38B-41B, 45B-49B, 53B-67B, 69B-75B, 78B-84B, 87B-94B, 98B-100B, 102B-105B, and 343B). This analysis assumes that a portion of the 15 foot tall existing noise wall to the north would remain in place. As summarized in Table 6, walls ranging in height from 6 to 20 feet were evaluated (see Appendix D for detailed barrier analyses).

Table 6: Summary of Wall 1: Bangerter Highway Over Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
6	0	No	N/A	N/A	N/A	N/A	N/A	No
8	5	No	N/A	N/A	N/A	N/A	N/A	No
10	5	No	N/A	N/A	N/A	N/A	N/A	No
12	11	No	N/A	N/A	N/A	N/A	N/A	No
14	42	No	N/A	No	N/A	N/A	N/A	No
16	47	No	N/A	No	N/A	N/A	N/A	No
18	47	No	N/A	No	N/A	N/A	N/A	No
20	53	Yes	0	No	N/A	N/A	N/A	No

[1] 5 dBA reduction for at least 50% of front-row receptors

[2] 7 dBA for at least 35% of front-row receptors

[3] Anticipated cost is less than allowable cost

Walls ranging in height from 6 to 18 feet are not acoustically feasible. A wall 20 feet in height is acoustically feasible, however it does not meet the noise abatement design goal. While walls ranging in height from 6 to 20 feet are not feasible and reasonable, a 15 foot tall wall is recommended to be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy.

Wall 2

Wall 2 would be located on the west side of Bangerter Highway, south of 9800 South. The wall would extend approximately 2,003 feet south of 9800 South where it would tie in to the existing 13 foot tall noise wall that would remain in place (see Noise Walls - Bangerter Highway Over Option maps 7–11 in Appendix C). Wall 2 was evaluated to replace a portion of the existing noise wall that would be removed as part of the Bangerter Highway Over Option. The wall is approximately 2,003 feet in length and was evaluated to mitigate noise for 17 impacted receptors from the Bangerter Highway Over Option on the west side of Bangerter Highway (140C-145B, 149B-150B, 159B-164B, and 173B-175B). This analysis assumes that the 13 foot tall existing noise wall to the south would remain in place. As summarized in Table 7, walls ranging in height from 6 to 20 feet were evaluated (see Appendix D for detailed barrier analyses).

Table 7: Summary of Wall 2: Bangerter Highway Over Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
6	11	No	N/A	N/A	N/A	N/A	N/A	No
8	56	Yes	11	No	N/A	N/A	N/A	No
10	78	Yes	56	Yes	$400,600	$210,000	No	No
12	78	Yes	56	Yes	$480,720	$210,000	No	No
14	78	Yes	67	Yes	$560,840	$210,000	No	No
16	78	Yes	67	Yes	$640,960	$210,000	No	No
18	89	Yes	78	Yes	$721,080	$240,000	No	No
20	89	Yes	78	Yes	$801,200	$240,000	No	No

[1] 5 dBA reduction for at least 50% of front-row receptors

[2] 7 dBA for at least 35% of front-row receptors

[3] Anticipated cost is less than allowable cost

A wall 6 feet in height is not acoustically feasible. A wall 8 feet in height is acoustically feasible, however, it does not meet the noise abatement design goal. Walls ranging in height from 10 to 20 feet in height are acoustically feasible and meet the noise abatement design goal, however they are not cost reasonable. While walls ranging in height from 6 to 20 feet are not considered feasible and reasonable, a 13 foot tall wall is recommended to be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy.

Wall 3

Wall 3 would be located on the east side of Bangerter Highway, south of 9800 South. The wall would extend approximately 647 feet south of 9800 South where it would tie in to the existing 14 foot tall noise wall that would remain in place (see Noise Walls - Bangerter Highway Over Option maps 16–17 in Appendix C). Wall 3 was evaluated to replace a portion of the existing noise wall that would be removed as part of the Bangerter Highway Over Option. The wall is approximately 647 feet in length and was evaluated to mitigate noise for six impacted receptors from the Bangerter Highway Over Option on the east side of Bangerter Highway (225B-227B and 242B-244B). This analysis assumes that the 14 foot tall existing noise wall to the south would remain in place. As summarized in Table 8, walls ranging in height from 6 to 20 feet were evaluated (see Appendix D for detailed barrier analyses).

Table 8: Summary of Wall 3: Bangerter Highway Over Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
6	0	No	N/A	N/A	N/A	N/A	N/A	No
8	0	No	N/A	N/A	N/A	N/A	N/A	No
10	0	No	N/A	N/A	N/A	N/A	N/A	No
12	0	No	N/A	N/A	N/A	N/A	N/A	No
14	0	No	N/A	N/A	N/A	N/A	N/A	No
16	0	No	N/A	N/A	N/A	N/A	N/A	No
18	0	No	N/A	N/A	N/A	N/A	N/A	No
20	0	No	N/A	N/A	N/A	N/A	N/A	No

[1] 5 dBA reduction for at least 50% of front-row receptors

[2] 7 dBA for at least 35% of front-row receptors

[3] Anticipated cost is less than allowable cost

Walls ranging in height from 6 to 20 feet are not acoustically feasible. While walls ranging in height from 6 to 20 feet are not considered feasible and reasonable, a 14 foot tall wall is recommended to be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy.

Wall 4

Wall 4 would be located on the east side of Bangerter Highway, south of Dry Ridge Cove. The wall would extend approximately 236 feet south of Dry Ridge Cove where it would tie in to the existing 14 foot tall noise wall that would remain in place (see Noise Walls - Bangerter Highway Over Option map 13 in Appendix C). The wall is approximately 236 feet in length and was evaluated to mitigate noise for two impacted receptors from the Bangerter Highway Over Option on the east side of Bangerter Highway (191B-192B). This analysis assumes that the 14 foot tall existing noise wall to the north would remain in place. As summarized in Table 9, walls ranging in height from 6 to 20 feet were evaluated (see Appendix D for detailed barrier analyses).

Table 9: Summary of Wall 4: Bangerter Highway Over Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
6	20	No	N/A	N/A	N/A	N/A	N/A	No
8	20	No	N/A	N/A	N/A	N/A	N/A	No
10	20	No	N/A	N/A	N/A	N/A	N/A	No
12	20	No	N/A	N/A	N/A	N/A	N/A	No
14	20	No	N/A	N/A	N/A	N/A	N/A	No
16	40	No	N/A	N/A	N/A	N/A	N/A	No
18	60	Yes	20	No	N/A	N/A	N/A	No
20	60	Yes	20	No	N/A	N/A	N/A	No

[1] 5 dBA reduction for at least 50% of front-row receptors

[2] 7 dBA for at least 35% of front-row receptors

[3] Anticipated cost is less than allowable cost

Walls ranging in height from 6 to 16 feet are not acoustically feasible. Walls ranging in height from 18 to 20 feet are acoustically feasible, however they do not meet the noise abatement design goal. Therefore, a wall 236 feet in length at this location is not reasonable and is not recommended for balloting.

Wall 5

Wall 5 is an existing 14 foot tall wall that is located on the east side of Bangerter Highway, extending approximately 1,359 feet north of Dry Ridge Cove (see Noise Walls - Bangerter Highway Over Option maps 13–16 in Appendix C). The wall is approximately 1,359 feet in length and was evaluated to mitigate noise for seven impacted receptors from the Bangerter Highway Over Option on the east side of Bangerter Highway (207B, 220B-223B, and 231-232B). As a result of the Bangerter Highway Over Option, noise impacts were identified behind the existing noise wall. This portion of the existing noise wall will not be removed as part of the Bangerter Highway Over Option. In accordance with FHWA guidance, the existing noise wall was evaluated to determine noise levels for the impacted receptors in a "no barrier" scenario. This "no barrier" scenario was then compared to the "with barrier" scenario to determine if the existing noise wall satisfied the requirements of UDOT Noise Abatement Policy for acoustic feasibility and the noise abatement design goal (see Table 10 and Appendix D for detailed barrier analysis).

Table 10: Summary of Wall 5: Bangerter Highway Over Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
14[4]	93	Yes	64	Yes	N/A	N/A	N/A	Yes

[1] 5 dBA reduction for at least 50% of front-row receptors
[2] 7 dBA for at least 35% of front-row receptors
[3] Anticipated cost is less than allowable cost
[4] Existing wall height

The existing 14 foot tall wall is acoustically feasible and meets the noise abatement design goal. Consistent with FHWA guidance, the existing wall is recommended to remain in place.

Wall 6

Wall 6 is an existing 14 foot tall wall that is located on the east side of Bangerter Highway, extending approximately 1,217 feet north from the 9800 South intersection (see Noise Walls - Bangerter Highway Over Option maps 18–20 in Appendix C). The wall is approximately 1,217 feet in length and was evaluated to mitigate noise for eight impacted receptors from the Bangerter Highway Over Option on the east side of Bangerter Highway (297B-301B, 303B-304B, and 315B). As a result of the Bangerter Highway Over Option, noise impacts were identified behind the existing noise wall. This existing noise wall will not be removed as part of the Bangerter Highway Over Option. In accordance with FHWA guidance, the existing noise wall was evaluated to determine noise levels for the impacted receptors in a "no barrier" scenario. This "no barrier" scenario was then compared to the "with barrier" scenario to determine if the existing noise wall satisfied the requirements of UDOT Noise Abatement Policy for acoustic feasibility and met the noise abatement design goal. The existing noise wall did not meet the requirements of the UDOT Noise Abatement Policy for acoustic feasibility or the noise abatement design goal. An analysis was then conduted to evaluate a wall ranging in height from 14 to 20 feet (see Table 11 and Appendix D for detailed barrier analyses).

Table 11: Summary of Wall 6: Bangerter Highway Over Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
14[4]	20	No	N/A	N/A	N/A	N/A	N/A	No
15	20	No	N/A	N/A	N/A	N/A	N/A	No
16	20	No	N/A	N/A	N/A	N/A	N/A	No
17	20	No	N/A	N/A	N/A	N/A	N/A	No
18	20	No	N/A	N/A	N/A	N/A	N/A	No
19	20	No	N/A	N/A	N/A	N/A	N/A	No
20	20	No	N/A	N/A	N/A	N/A	N/A	No

[1] 5 dBA reduction for at least 50% of front-row receptors
[2] 7 dBA for at least 35% of front-row receptors
[3] Anticipated cost is less than allowable cost
[4] Existing wall height

Walls ranging in height from 14 to 20 feet are not acoustically feasible. While walls ranging in height from 14 to 20 feet are not considered feasible and reasonable, the existing 14 foot tall wall is recommended to remain in place, consistent with FHWA guidance.

4.3 Bangerter Highway Under Option Barrier Analysis

Wall 1

Wall 1 would be located on the west side of Bangerter Highway, north of 9800 South. The wall would extend approximately 2,258 feet north of 9800 South where it would tie in to the existing 15 foot tall noise wall that would remain in place (see Noise Walls - Bangerter Highway Under Option maps 1–6 in Appendix C). Wall 1 was evaluated to replace a portion of the existing noise wall that would be removed as part of the Bangerter Highway Under Option. The wall is approximately 2,258 feet in length and was evaluated to mitigate noise for 65 impacted receptors from the Bangerter Highway Under Option on the west side of Bangerter Highway (12B, 23B, 25B-28B, 30B, 33B-36B, 38B-41B, 44B-49B, 51B-67B, 69B-75B, 78B-84B, 87B-94B, 98B-100B, 105B, and 343B). This analysis assumes that the 15 foot tall existing noise wall to the north would remain in place. As summarized in Table 12, walls ranging in height from 6 to 20 feet were evaluated (see Appendix D for detailed barrier analyses).

Table 12: Summary of Wall 1: Bangerter Highway Under Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
6	5	No	N/A	N/A	N/A	N/A	N/A	No
8	5	No	N/A	N/A	N/A	N/A	N/A	No
10	32	No	N/A	N/A	N/A	N/A	N/A	No
12	47	No	N/A	N/A	N/A	N/A	N/A	No
14	53	Yes	5	No	N/A	N/A	N/A	No
16	53	Yes	5	No	N/A	N/A	N/A	No
18	53	Yes	5	No	N/A	N/A	N/A	No
20	53	Yes	5	No	N/A	N/A	N/A	No

[1] 5 dBA reduction for at least 50% of front-row receptors

[2] 7 dBA for at least 35% of front-row receptors

[3] Anticipated cost is less than allowable cost

Walls ranging in height from 6 to 12 feet are not acoustically feasible. Walls ranging in height from 14 to 20 feet are acoustically feasible, however they do not meet the noise abatement design goal. While walls ranging in height from 6 to 20 feet are not feasible and reasonable, a 15 foot tall wall is recommended to be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy.

Wall 2

Wall 2 would be located on the west side of Bangerter Highway, south of 9800 South. The wall would extend approximately 2,003 feet south of 9800 South where it would tie in to the existing 13 foot tall noise wall that would remain in place (see Noise Walls - Bangerter Highway Under Option maps 7–12 in Appendix C). Wall 2 was evaluated to replace a portion of the existing noise wall that would be removed as part of the Bangerter Highway Under Option. The wall is approximately 2,003 feet in length and was evaluated to mitigate noise for 12 impacted receptors from the Bangerter Highway Under Option on the west side of Bangerter Highway (140C-144B, 159B-164B, and 173B). This analysis assumes that the 13 foot tall existing noise wall to the south would remain in place. As summarized in Table 13, walls ranging in height from 6 to 20 feet were evaluated (see Appendix D for detailed barrier analyses).

Table 13: Summary of Wall 2: Bangerter Highway Under Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
6	11	No	N/A	N/A	N/A	N/A	N/A	No
8	56	Yes	11	No	N/A	N/A	N/A	No
10	78	Yes	56	Yes	$400,600	$210,000	No	No
12	78	Yes	56	Yes	$480,720	$210,000	No	No
14	78	Yes	67	Yes	$560,840	$210,000	No	No
16	78	Yes	67	Yes	$640,960	$210,000	No	No
18	89	Yes	78	Yes	$721,080	$240,000	No	No
20	89	Yes	78	Yes	$801,200	$240,000	No	No

[1] 5 dBA reduction for at least 50% of front-row receptors

[2] 7 dBA for at least 35% of front-row receptors

[3] Anticipated cost is less than allowable cost

A wall 6 feet in height is not acoustically feasible. A wall 8 feet in height is acoustically feasible, however, it does not meet the noise abatement design goal. Walls ranging in height from 10 to 20 feet in height are acoustically feasible and meet the noise abatement design goal, however they are not cost reasonable. While walls ranging in height from 6 to 20 feet are not considered feasible and reasonable, a 13 foot tall wall is recommended to be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy.

Wall 3

Wall 3 would be located on the east side of Bangerter Highway, south of 9800 South. The wall would extend approximately 647 feet south of 9800 South where it would tie in to the existing 14 foot tall noise wall that would remain in place (see Noise Walls - Bangerter Highway Under Option maps 16–17 in Appendix C). Wall 3 was evaluated to replace a portion of the existing noise wall that would be removed as part of the Bangerter Highway Under Option. The wall is approximately 647 feet in length and was evaluated to mitigate noise for five impacted receptors from the Bangerter Highway Under Option on the east side of Bangerter Highway (225B-227B and 242B-243B). This analysis assumes that the 14 foot tall existing noise wall to the south would remain in place. As summarized in Table 14, walls ranging in height from 6 to 20 feet were evaluated (see Appendix D for detailed barrier analyses).

Table 14: Summary of Wall 3: Bangerter Highway Under Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
6	0	No	N/A	N/A	N/A	N/A	N/A	No
8	0	No	N/A	N/A	N/A	N/A	N/A	No
10	0	No	N/A	N/A	N/A	N/A	N/A	No
12	0	No	N/A	N/A	N/A	N/A	N/A	No
14	0	No	N/A	N/A	N/A	N/A	N/A	No
16	0	No	N/A	N/A	N/A	N/A	N/A	No
18	0	No	N/A	N/A	N/A	N/A	N/A	No
20	0	No	N/A	N/A	N/A	N/A	N/A	No

[1] 5 dBA reduction for at least 50% of front-row receptors

[2] 7 dBA for at least 35% of front-row receptors

[3] Anticipated cost is less than allowable cost

Walls ranging in height from 6 to 20 feet are not acoustically feasible. While walls ranging in height from 6 to 20 feet are not considered feasible and reasonable, a 14 foot tall wall is recommended to be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy.

Wall 4

Wall 4 would be located on the east side of Bangerter Highway, south of Dry Ridge Cove. The wall would extend approximately 236 feet north where it would tie in to the existing 14 foot tall noise wall that would remain in place (see Noise Walls - Bangerter Highway Under Option map 13 in Appendix C). The wall is approximately 236 feet in length and was evaluated to mitigate noise for two impacted receptors from the Bangerter Highway Under Option on the east side of Bangerter Highway (191B-192B). This analysis assumes that the 14 foot tall existing noise wall to the north would remain in place. As summarized in Table 15, walls ranging in height from 6 to 20 feet were evaluated (see Appendix D for detailed barrier analyses).

Table 15: Summary of Wall 4: Bangerter Highway Under Option

Barrier Height	Feasible		Reasonable					Is Barrier Feasible & Reasonable?
	% front-row with 5 dBA reduction	Acoustically feasible? [1]	% front-row with 7 dBA reduction	Noise Abatement Design Goal? [2]	Anticipated Cost	Allowable Cost	Cost Effective? [3]	
6	20	No	N/A	N/A	N/A	N/A	N/A	No
8	20	No	N/A	N/A	N/A	N/A	N/A	No
10	20	No	N/A	N/A	N/A	N/A	N/A	No
12	20	No	N/A	N/A	N/A	N/A	N/A	No
14	40	No	N/A	N/A	N/A	N/A	N/A	No
16	40	No	N/A	N/A	N/A	N/A	N/A	No
18	40	No	N/A	N/A	N/A	N/A	N/A	No
20	60	Yes	20	No	N/A	N/A	N/A	No

[1] 5 dBA reduction for at least 50% of front-row receptors

[2] 7 dBA for at least 35% of front-row receptors

[3] Anticipated cost is less than allowable cost

Walls ranging in height from 6 to 18 feet are not acoustically feasible. A wall 20 feet in height is acoustically feasible, however it does not meet the noise abatement design goal. Therefore, a wall 236 feet in length at this location is not reasonable and is not recommended for balloting.

5.0 CONSTRUCTION IMPACTS

Construction noise impacts are considered temporary and will be minimized through adherence to UDOT Special Provision 01355M (Environmental Compliance) and Special Provision 0055 (Prosecution and Progress). Extended disruption of normal activities is not anticipated, since no receptors are expected to be exposed to construction noise for a long duration of time.

6.0 INFORMATION FOR LOCAL OFFICIALS

According to the UDOT Noise Abatement Policy, an estimated distance from the edge of pavement to where the worst hour $L_{eq}(h)$ levels of 66 dBA and 71 dBA occurs must be provided to local governments for land uses with Activity Category G.

Within the study area, one tract of undeveloped land was analyzed for both the Bangerter Highway Over Option and the Bangerter Highway Under Option. The area is located on the east side of Bangerter Highway and north of 9800 South. Projected traffic noise levels from the edge of pavement to a level of 66 dBA and 71 dBA are shown in Table 16 (see Undeveloped Land maps in Appendix E).

Table 16: 66 dBA and 71 dBA From Edge of Pavement

Option	66 dBA Distance (feet)	71 dBA Distance (feet)
Over	170–260	40–120
Under	160–260	30–120

7.0 CONCLUSION

Overall, noise levels for the Bangerter Highway Over Option would range from 34 dBA to 80 dBA compared to 33 dBA and 71 dBA for the existing conditions (see the Build Noise Impacts - Bangerter Highway Over Option maps in Appendix B). Six noise walls were evaluated for impacted receptors (see Table 17). Three walls are recommended to be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy. Two existing noise walls will remain in place and one wall is not recommended for balloting.

Overall, noise levels for the Bangerter Highway Under Option would range from 42 dBA to 80 dBA compared to 33 dBA and 71 dBA for the existing conditions (see the Build Noise Impacts - Bangerter Highway Over Option maps in Appendix B). Four noise walls were evaluated for impacted receptors (see Table 18). Three walls are recommended to be replaced “in-kind”, consistent with the UDOT Noise Abatement Policy, and one wall is not recommended for balloting.

No balloting is required for noise walls that will remain in place or are replaced “in-kind”.

7.1 Bangerter Highway Over Option Summary of Evaluated Walls

Table 17 summarized the evaluated walls for the Bangerter Highway Over Option.

Table 17: Bangerter Highway Over Option Evaluated Walls

Wall	Length (feet)	Minimum Height (feet)	Determination
1	2,258	15	Replace “in-kind”
2	2,003	13	Replace “in-kind”
3	647	14	Replace “in-kind”
4	–	–	Not Recommended
5	1,359	14	Remain in place
6	1,217	14	Remain in place

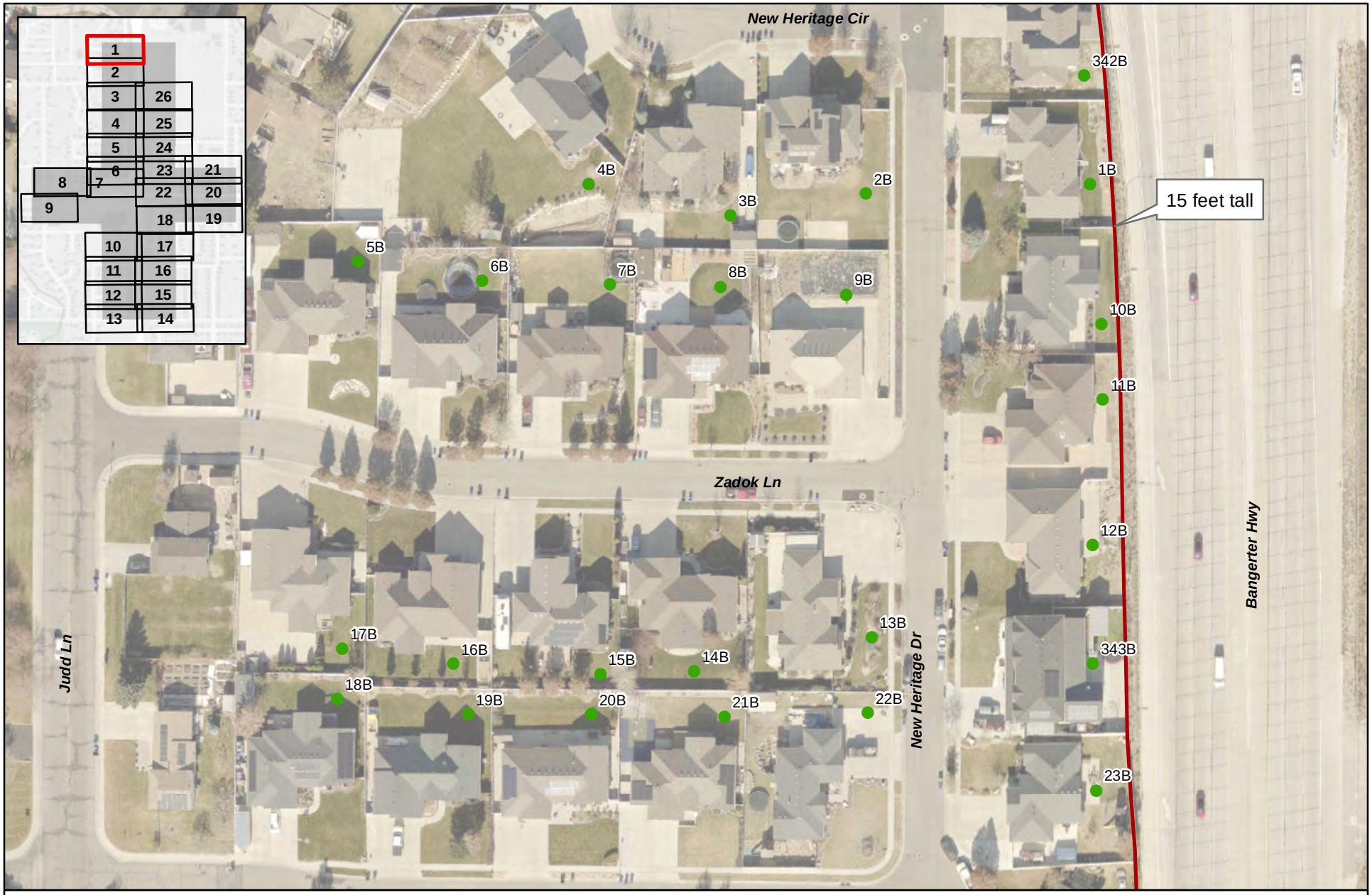
7.2 Bangerter Highway Under Option Summary of Evaluated Walls

Table 18 summarized the evaluated walls for the Bangerter Highway Under Option.

Table 18: Bangerter Highway Under Option Evaluated Walls

Wall	Length (feet)	Minimum Height (feet)	Determination
1	2,258	15	Replace “in-kind”
2	2,003	13	Replace “in-kind”
3	647	14	Replace “in-kind”
4	–	–	Not Recommended

APPENDIX A: EXISTING NOISE LEVEL MAPS AND NOISE MEASUREMENT DATASHEETS



N

0 50 100

Feet

Below NAC

Above NAC

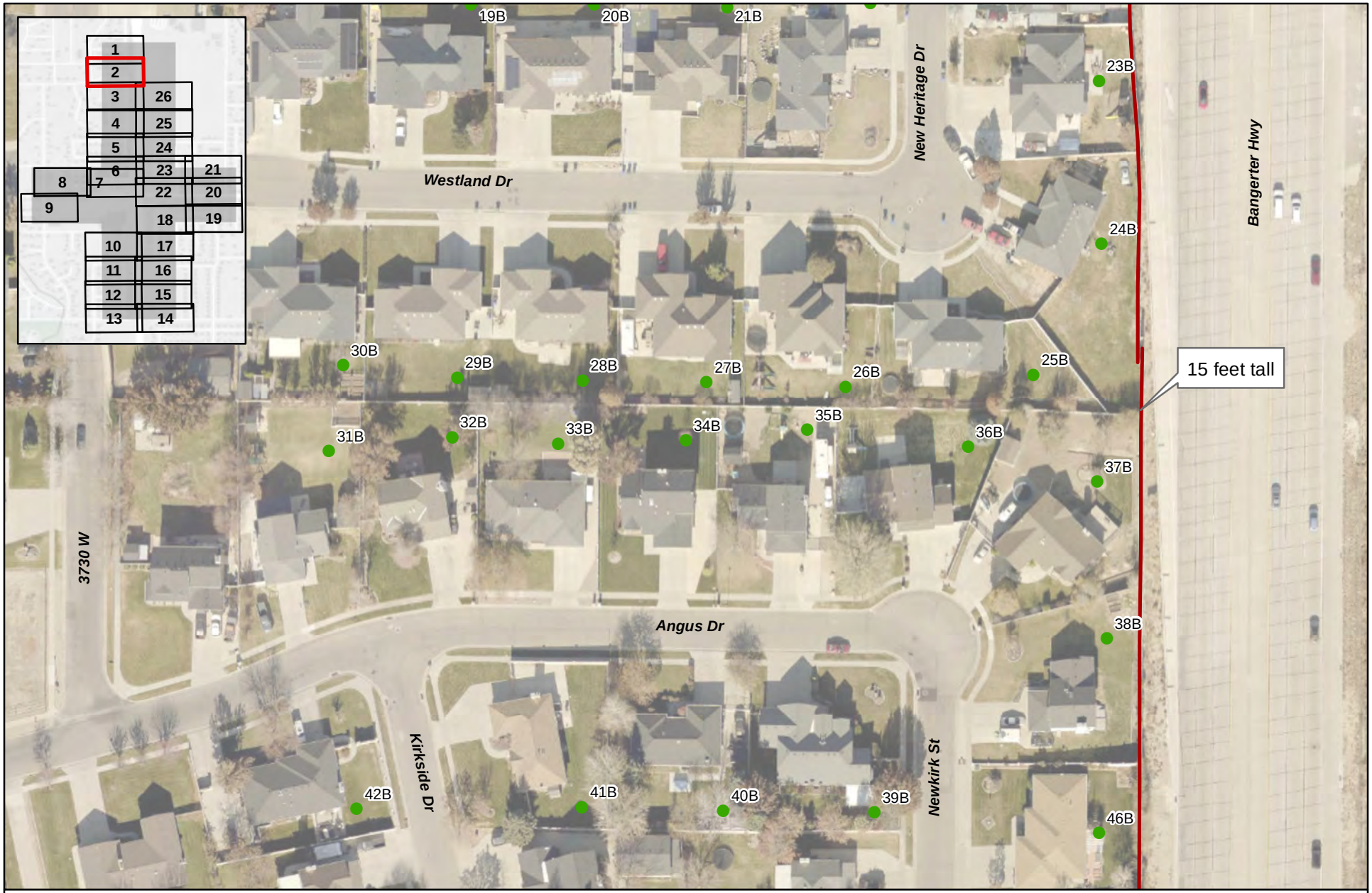
Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 1 of 26



N

0 50 100

Feet

Below NAC

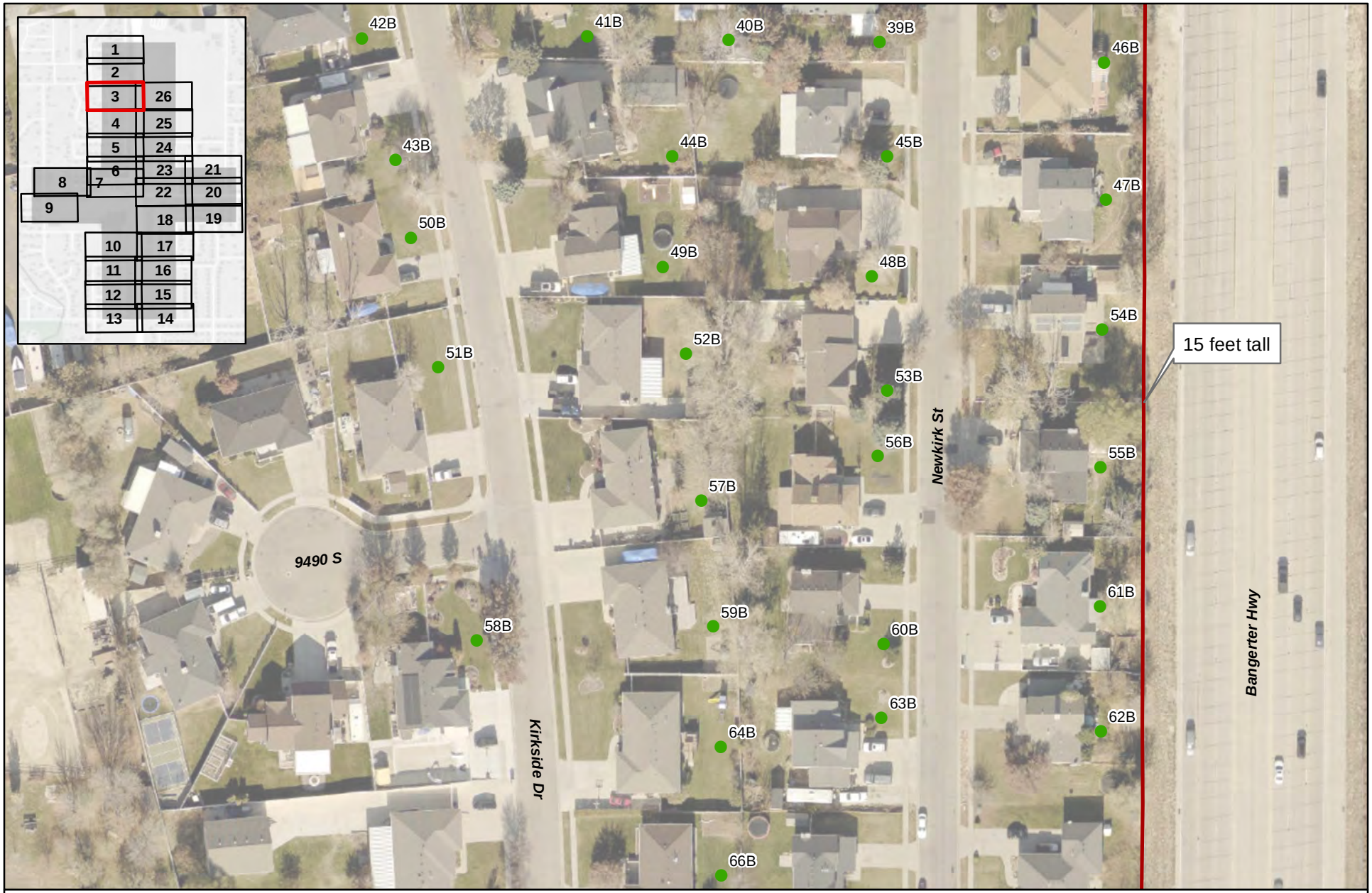
Above NAC

Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

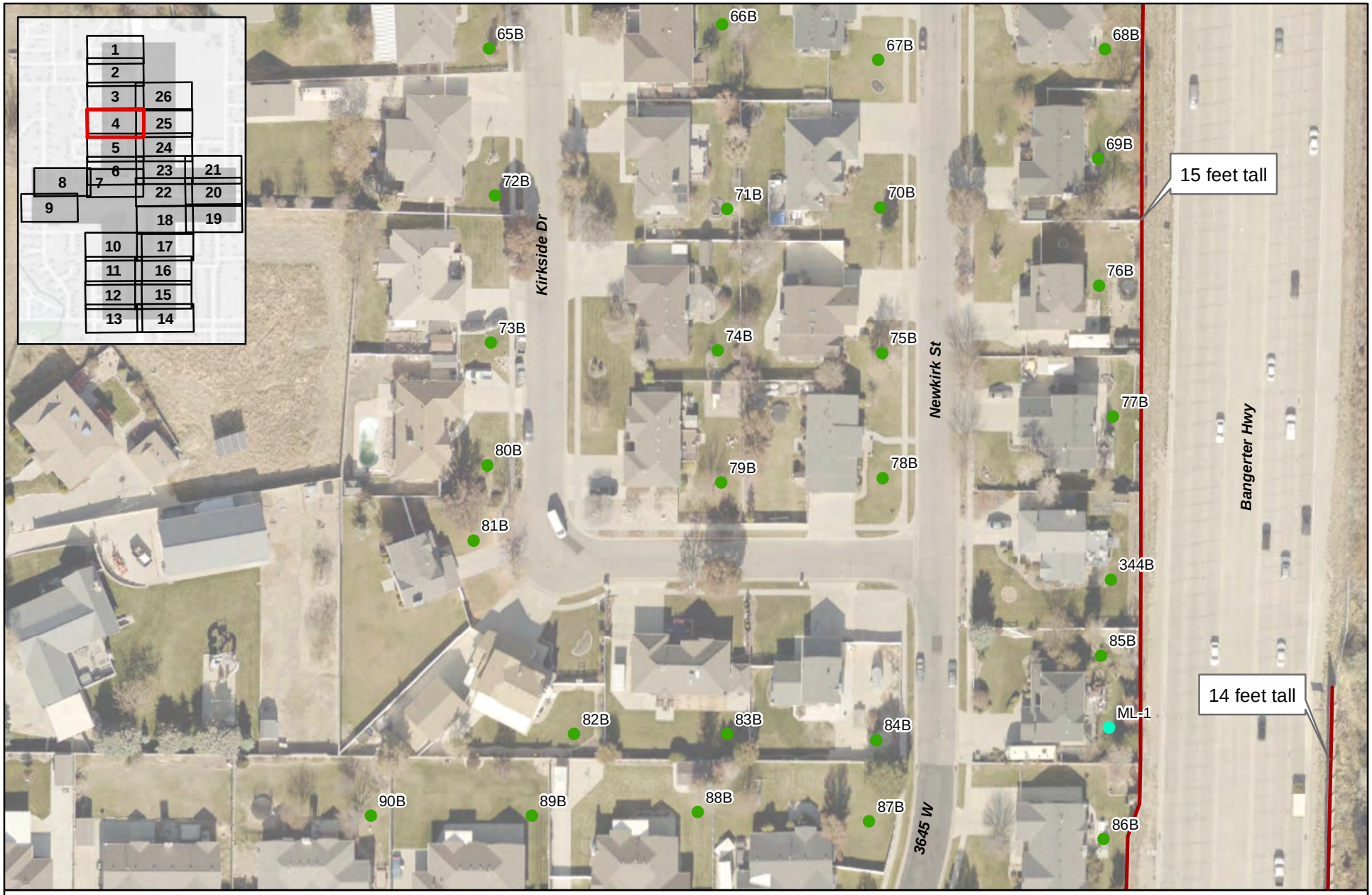
Existing Noise Levels



18808: Bangerter Highway at 9800 South

Existing Noise Levels

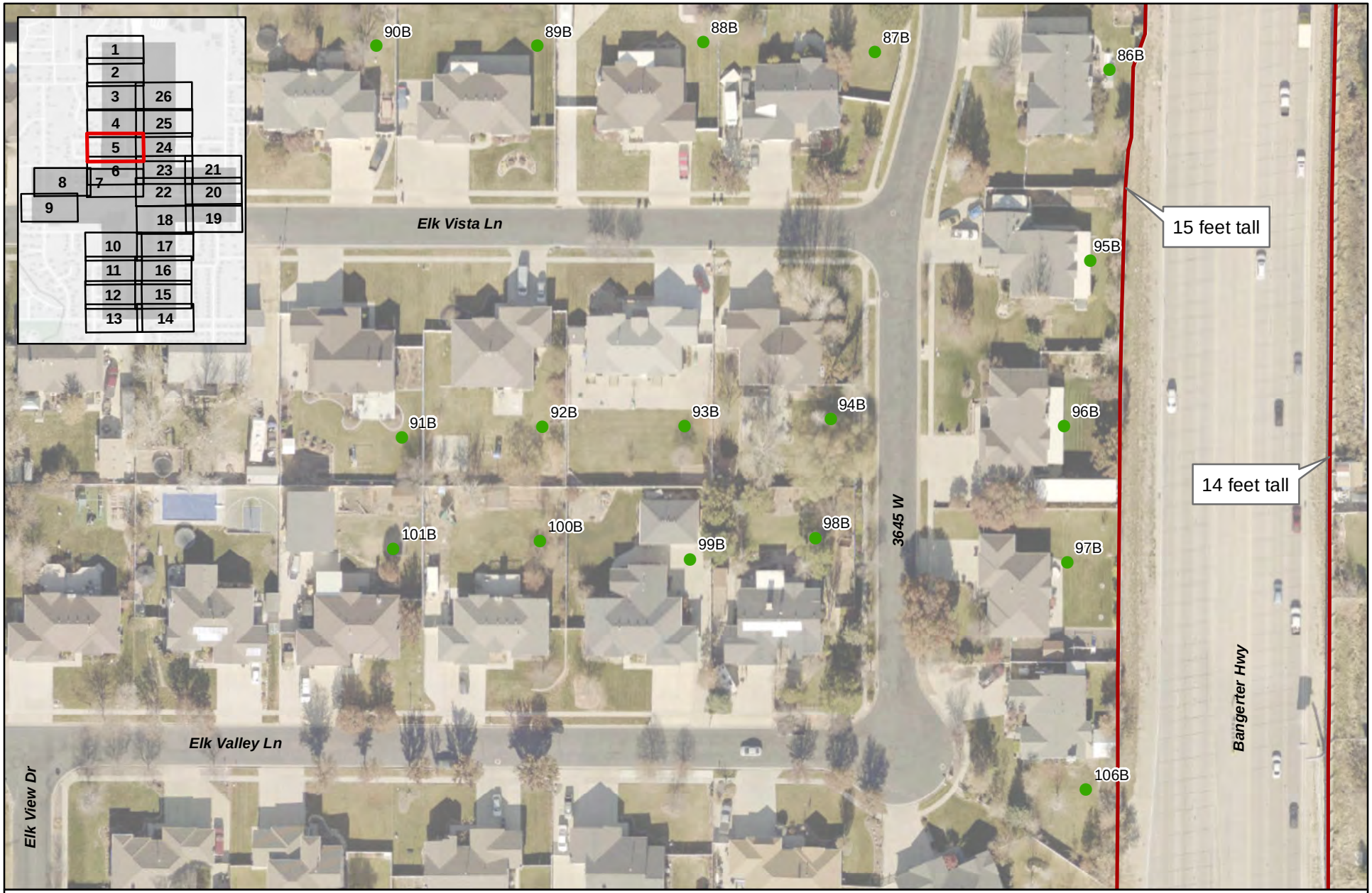
Map 3 of 26



18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 4 of 26



18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 5 of 26

N

0 50 100

Feet

Below NAC

Above NAC

Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 6 of 26

N

0 50 100

Feet

Below NAC

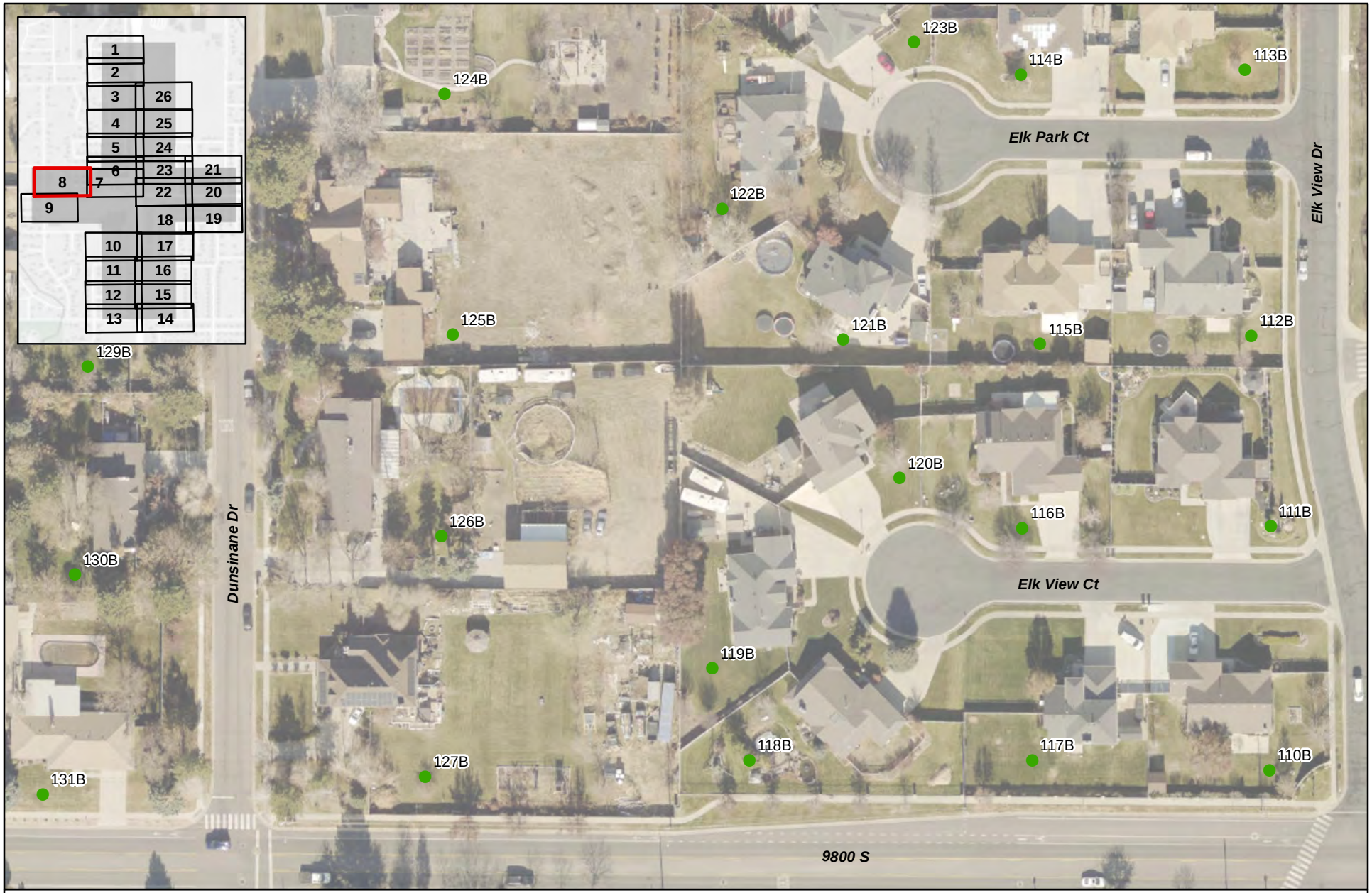
Above NAC

Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels



N

0 50 100

Feet

Below NAC

Above NAC

Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 8 of 26

N

0 50 100

Feet

Below NAC

Above NAC

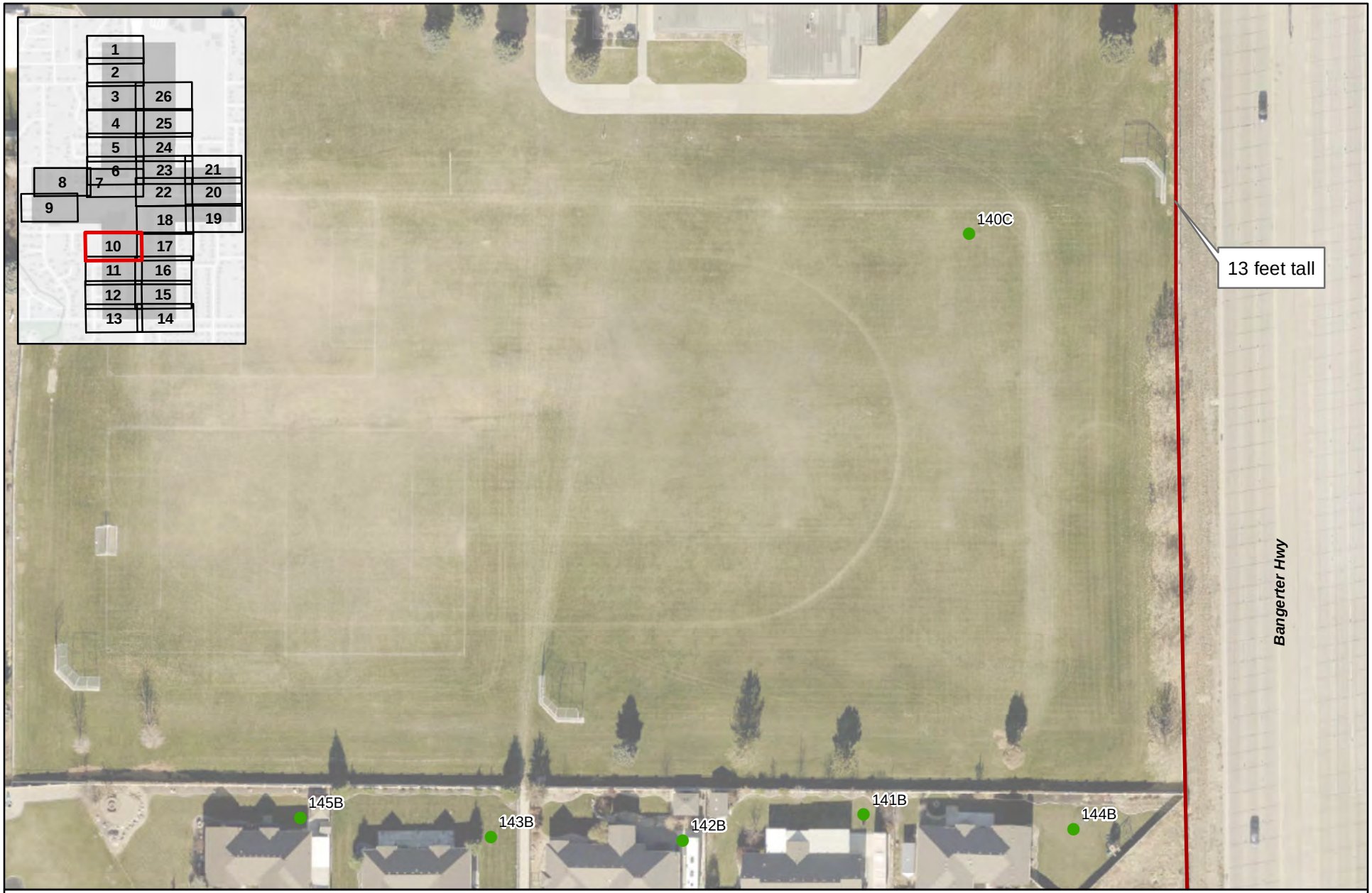
Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 9 of 26



N

0 50 100

Feet

Below NAC

Above NAC

Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels

N

0 50 100

Feet

Below NAC

Above NAC

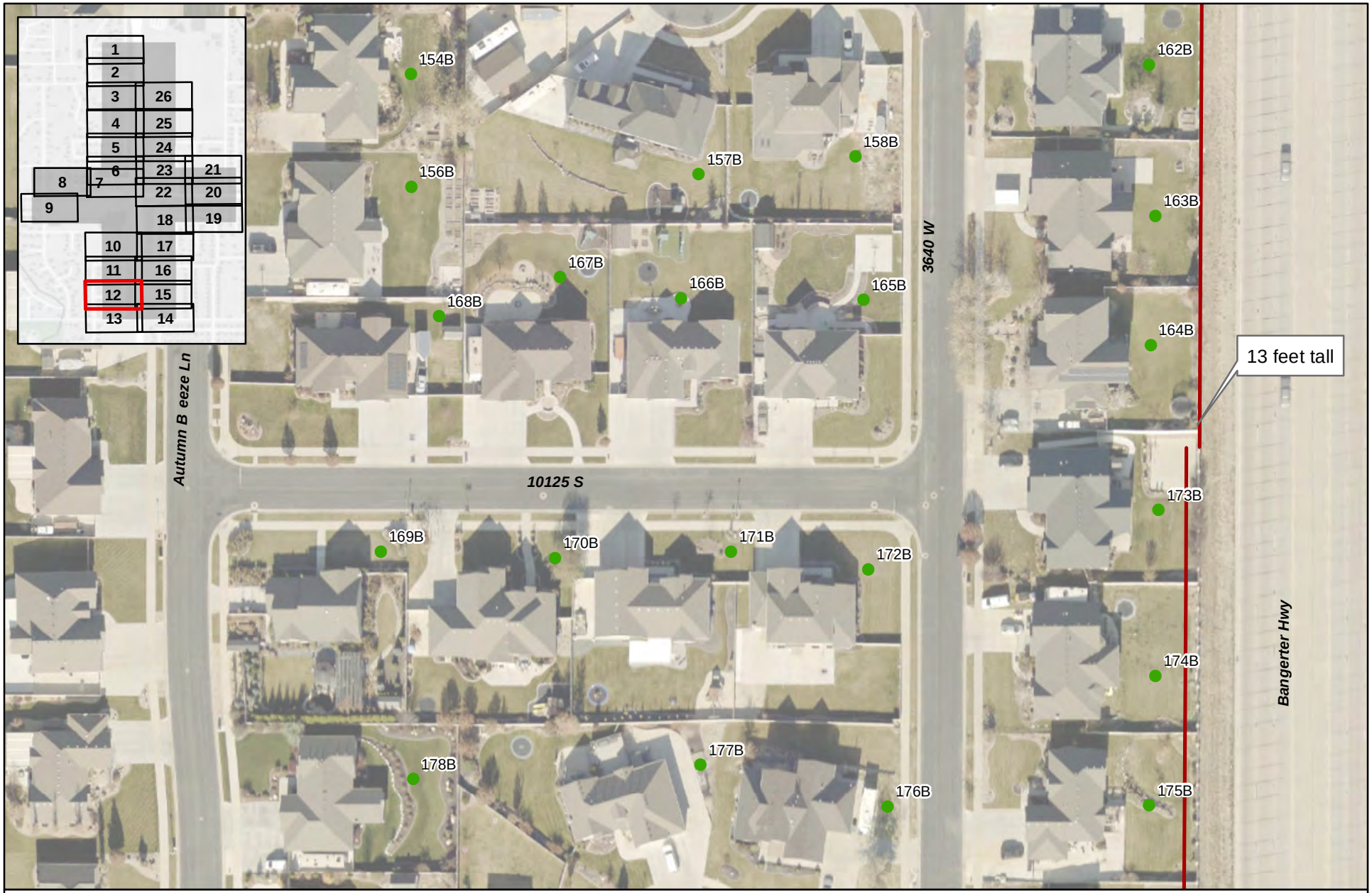
Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels

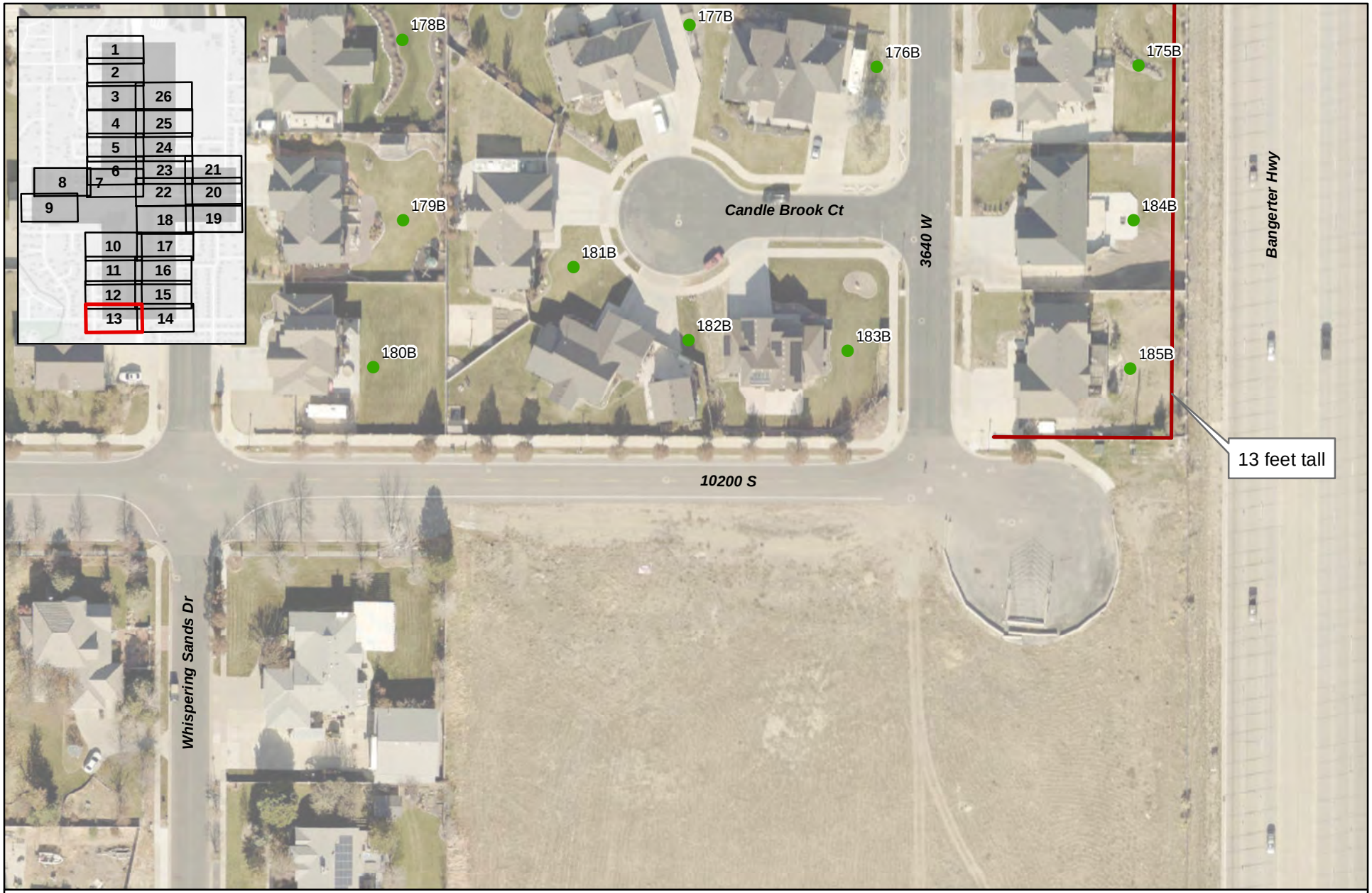
Map 11 of 26



18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 12 of 26



18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 13 of 26

N

0 50 100

Feet

Below NAC

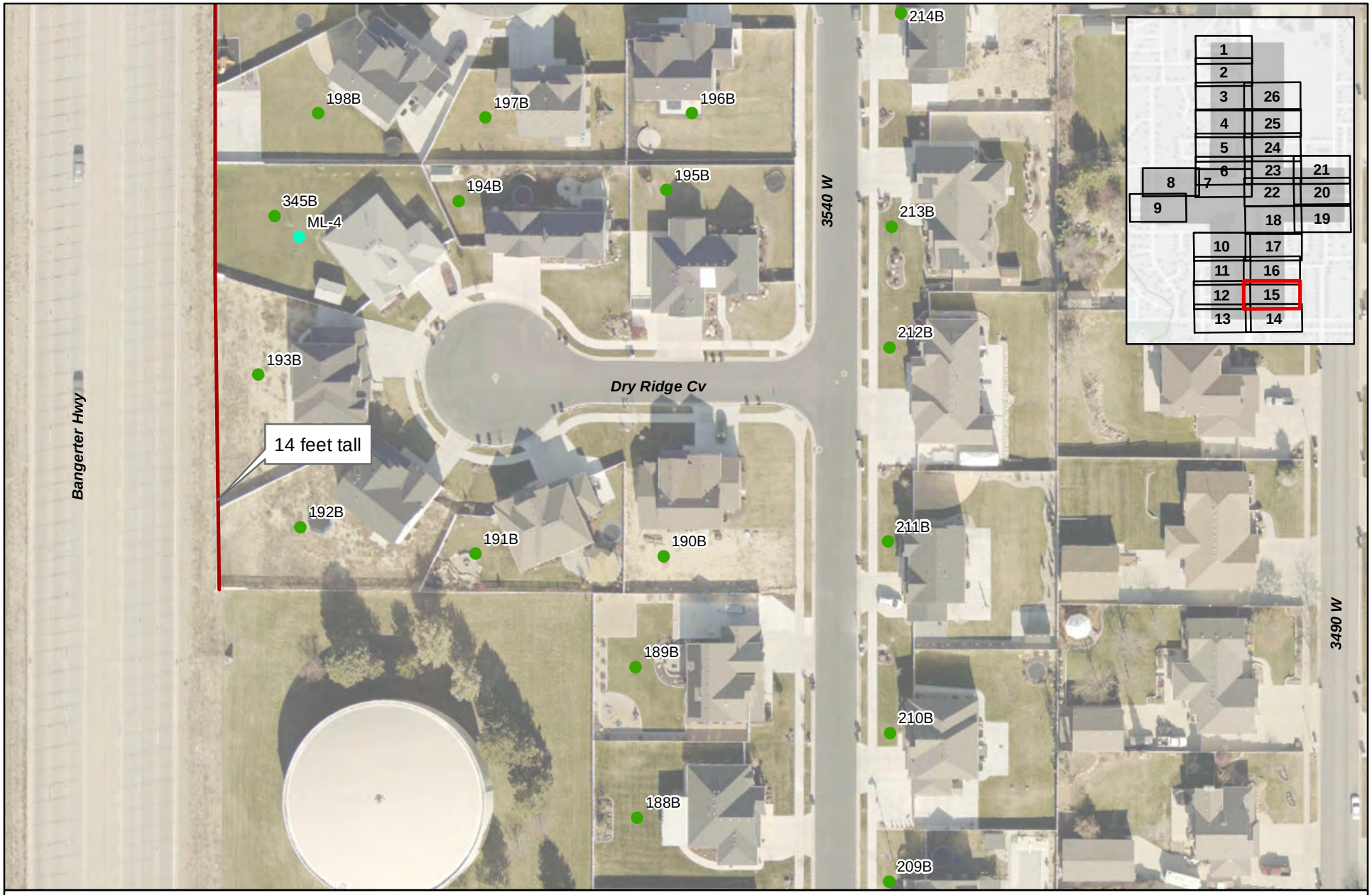
Above NAC

Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

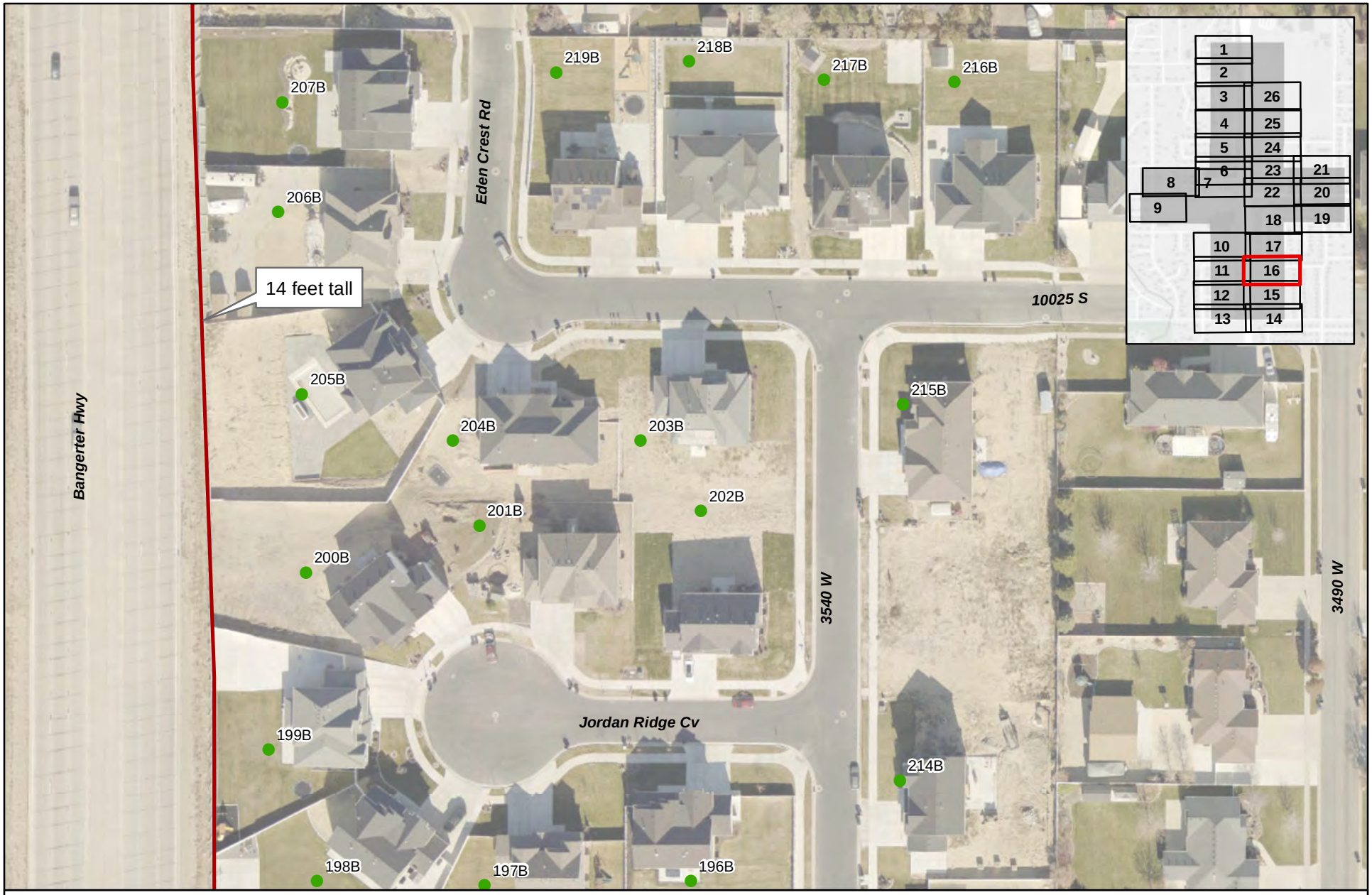
Existing Noise Levels



18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 15 of 26



N

0 50 100

Feet

Below NAC

Above NAC

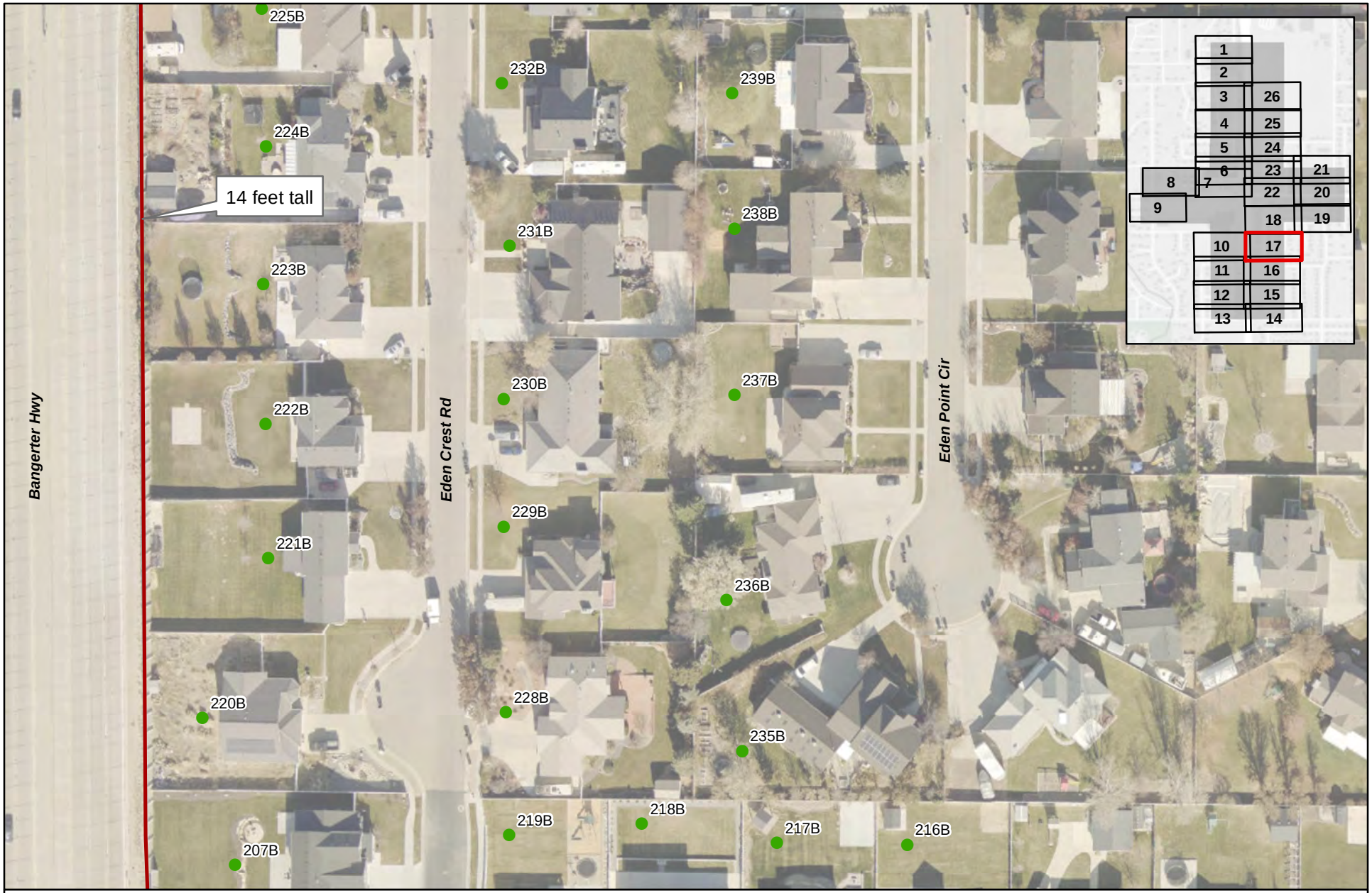
Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels

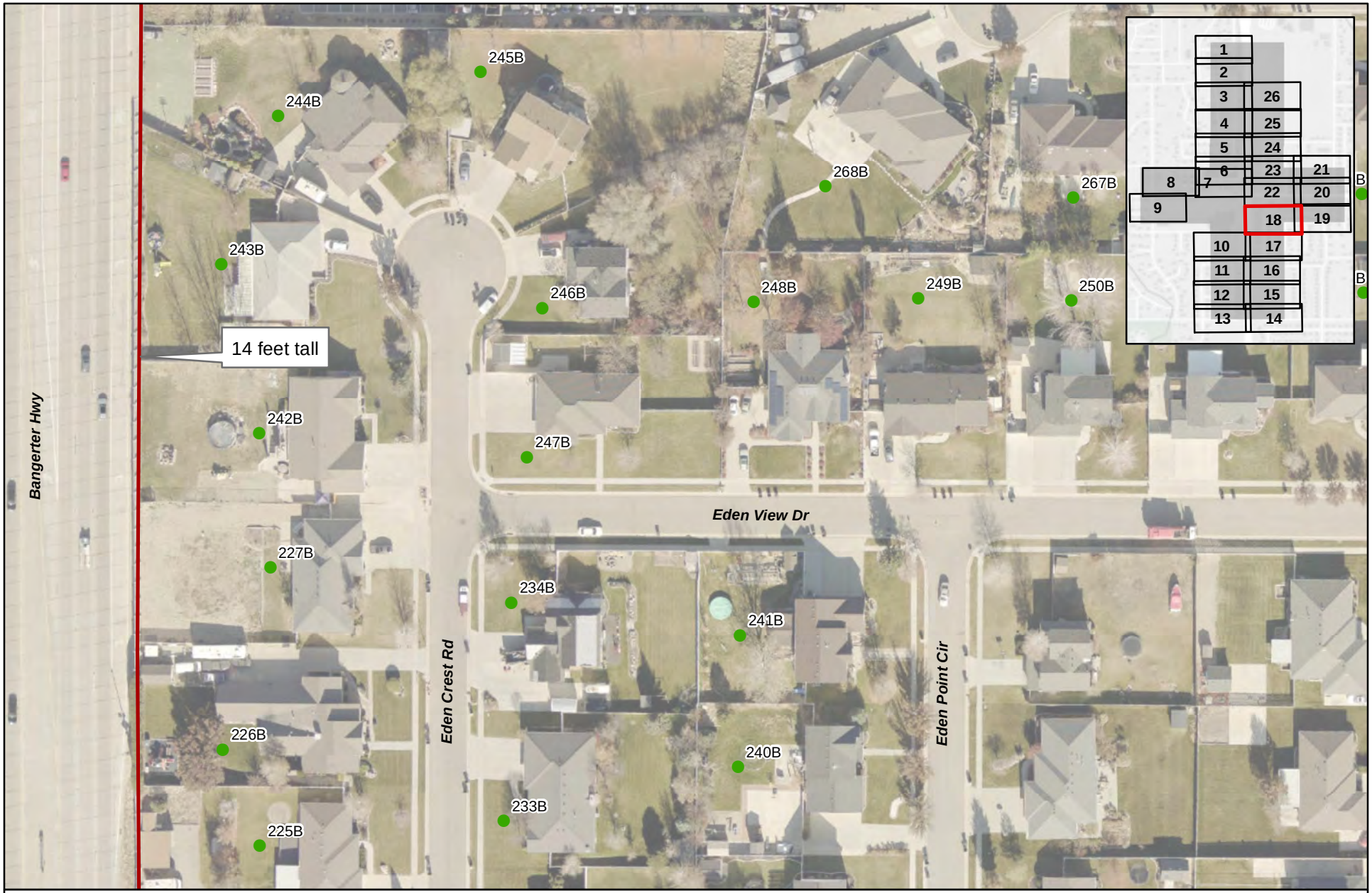
Map 16 of 26



18808: Bangerter Highway at 9800 South

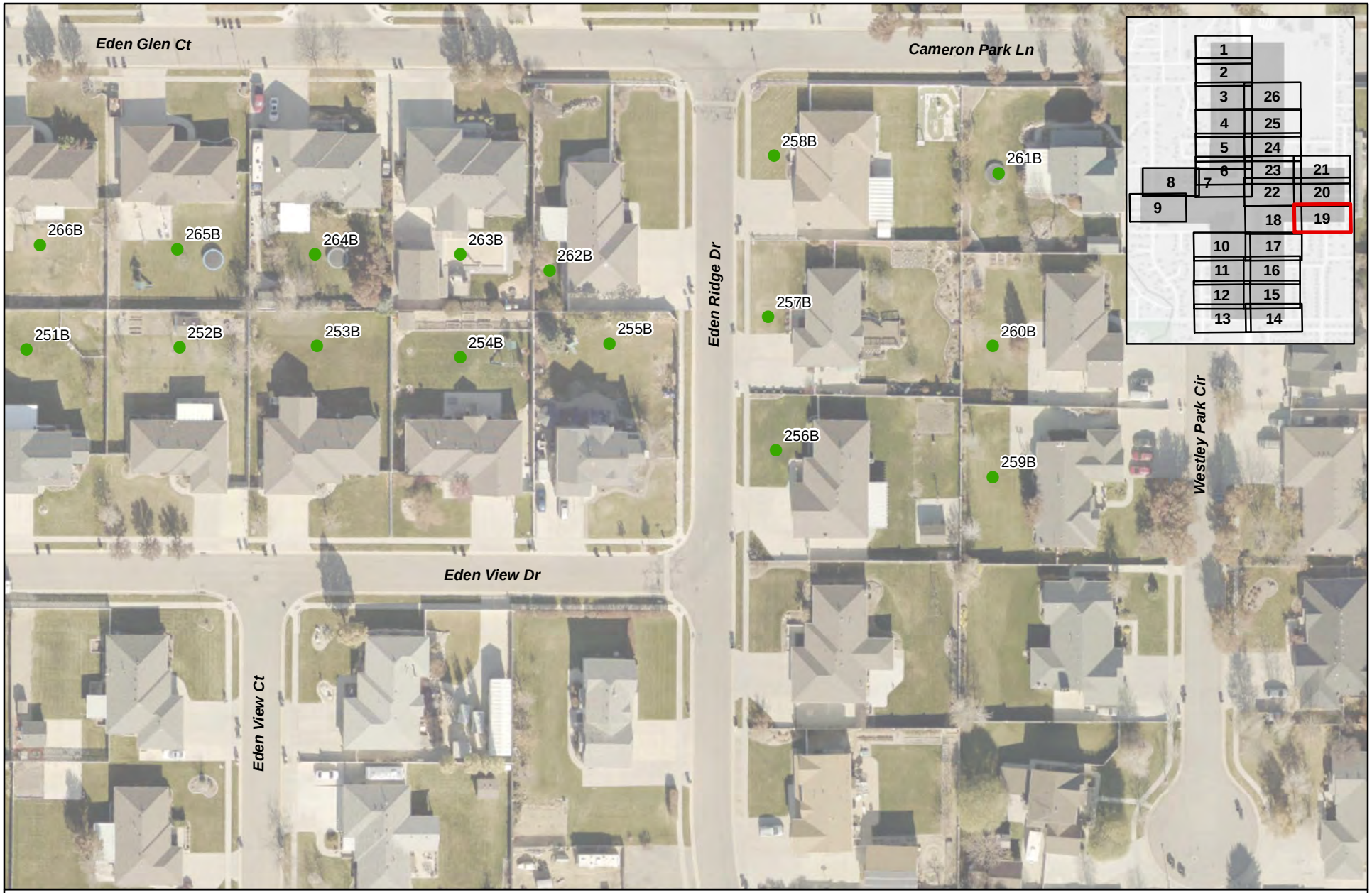
Existing Noise Levels

Map 17 of 26



18808: Bangerter Highway at 9800 South

Existing Noise Levels



18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 19 of 26

18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 20 of 26

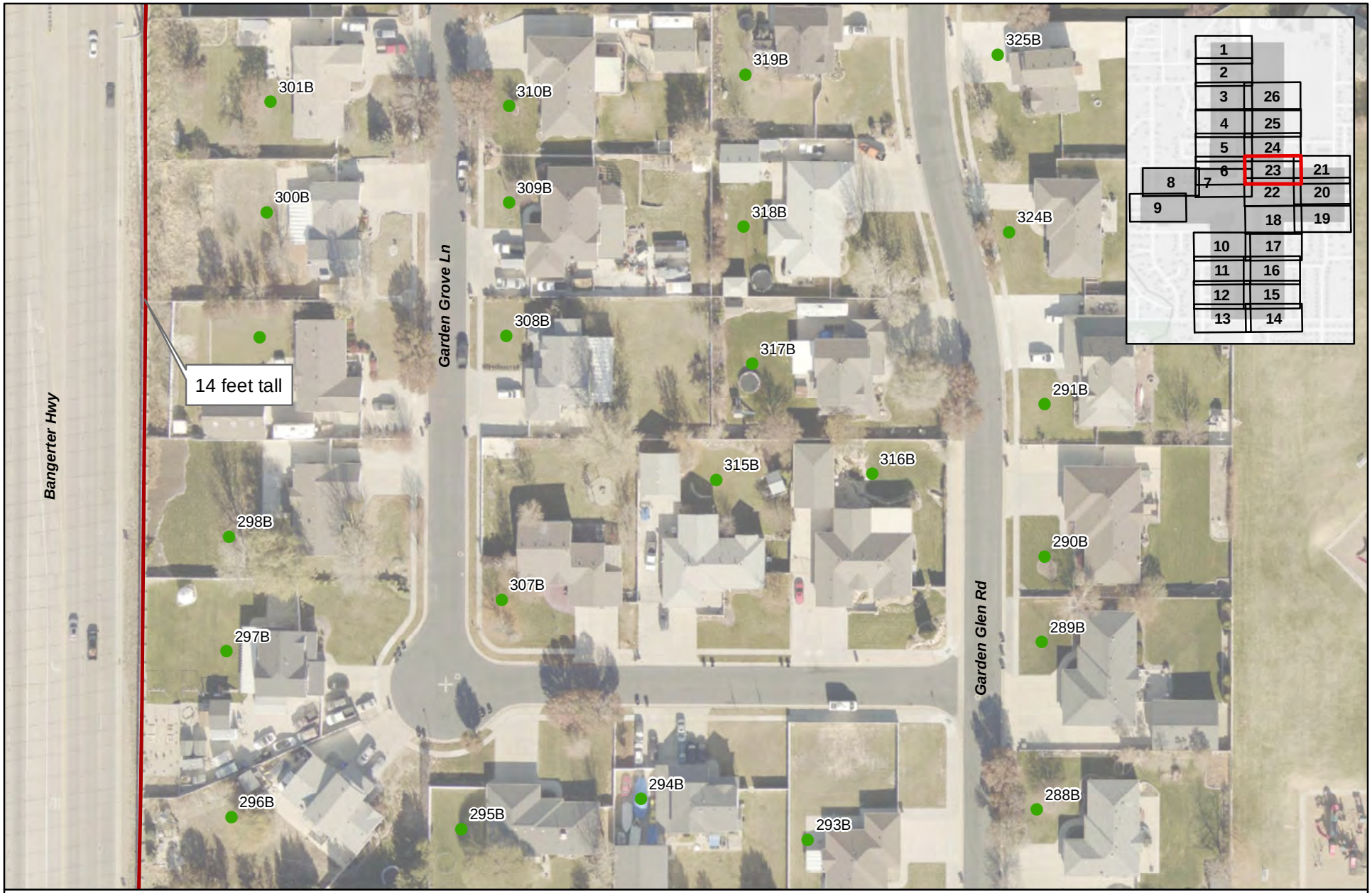
18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 21 of 26

18808: Bangerter Highway at 9800 South

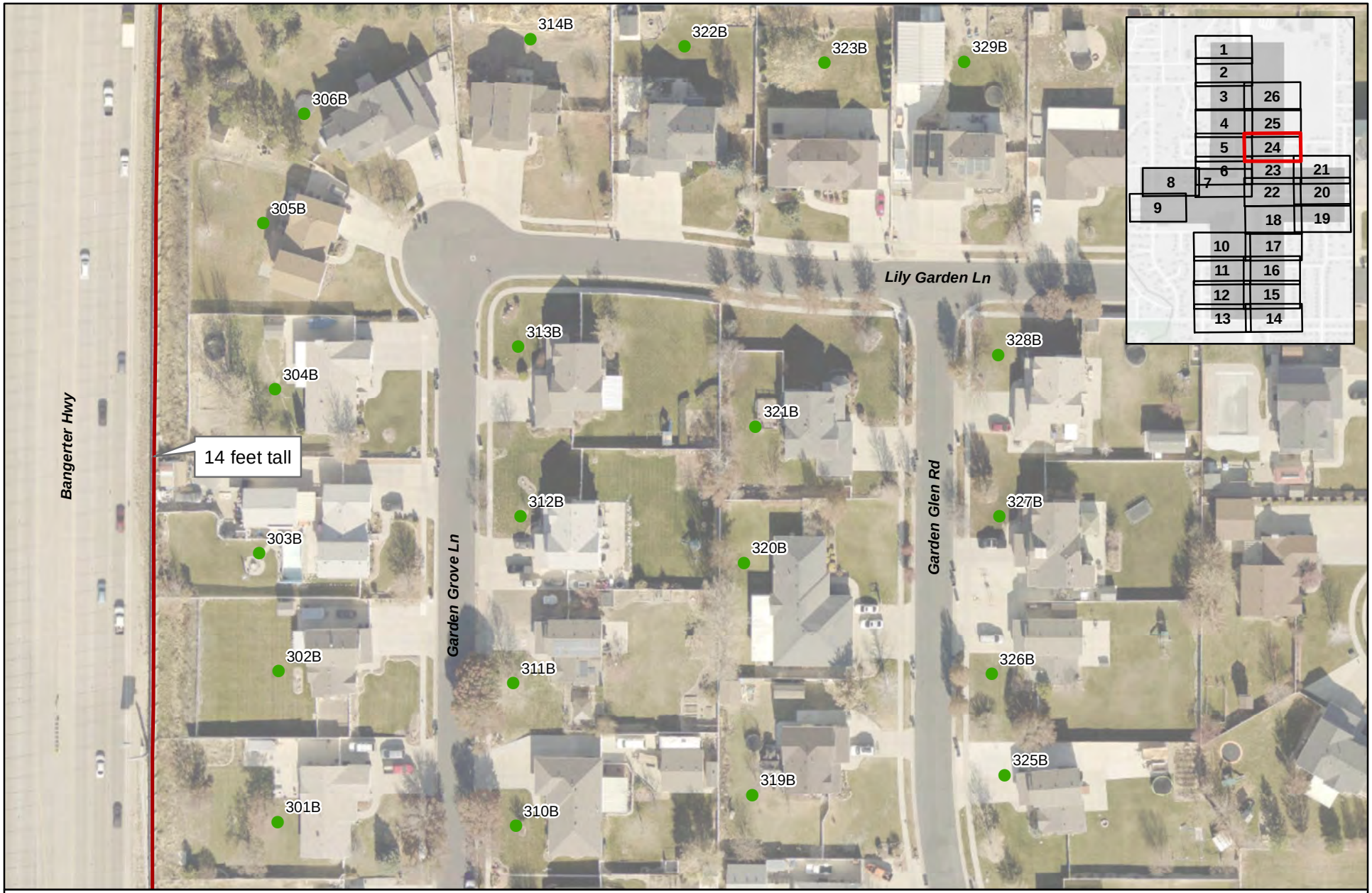
Existing Noise Levels



18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 23 of 26



N

0 50 100

Feet

Below NAC

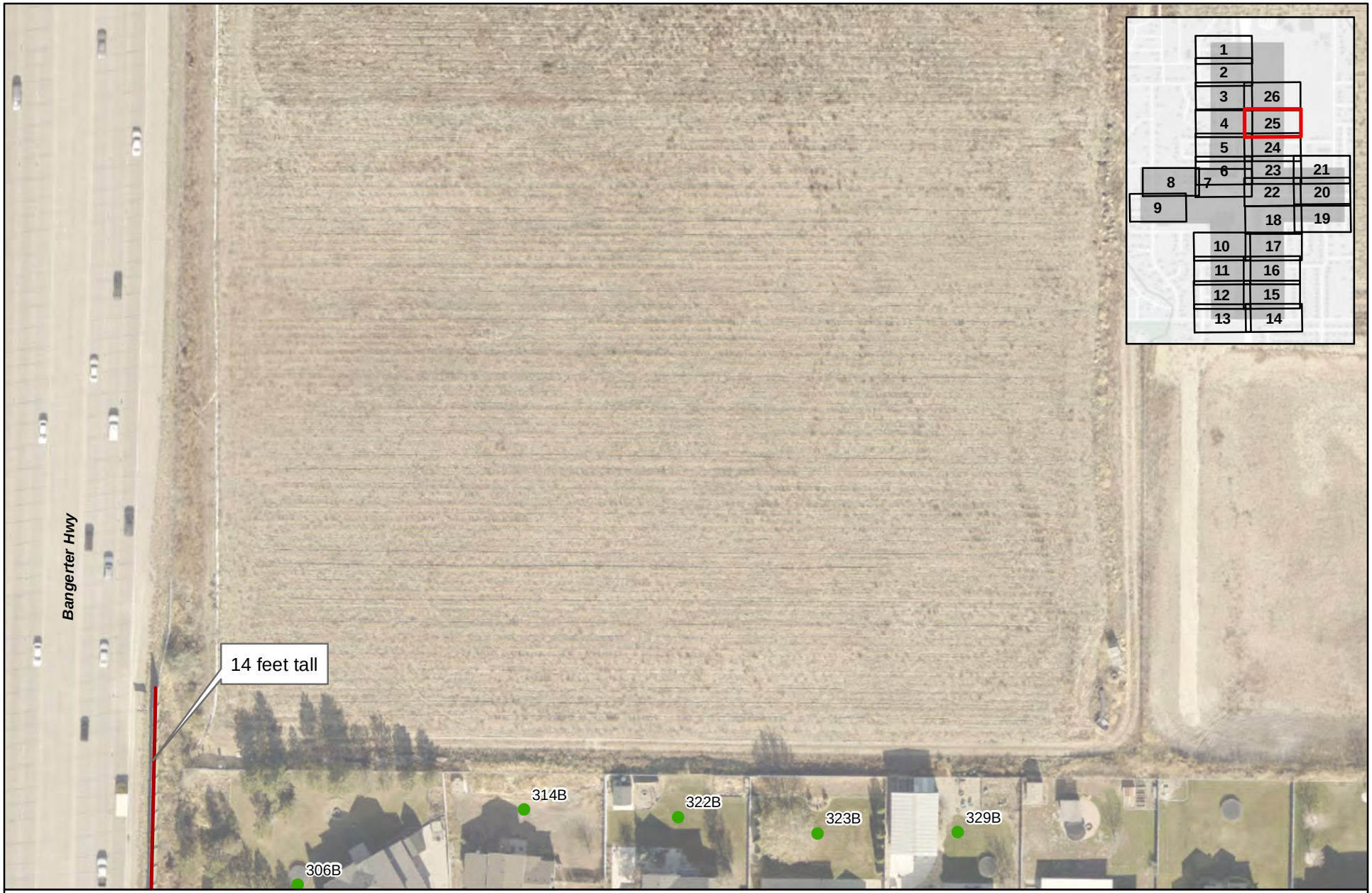
Above NAC

Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels



N

0 50 100

Feet

Below NAC

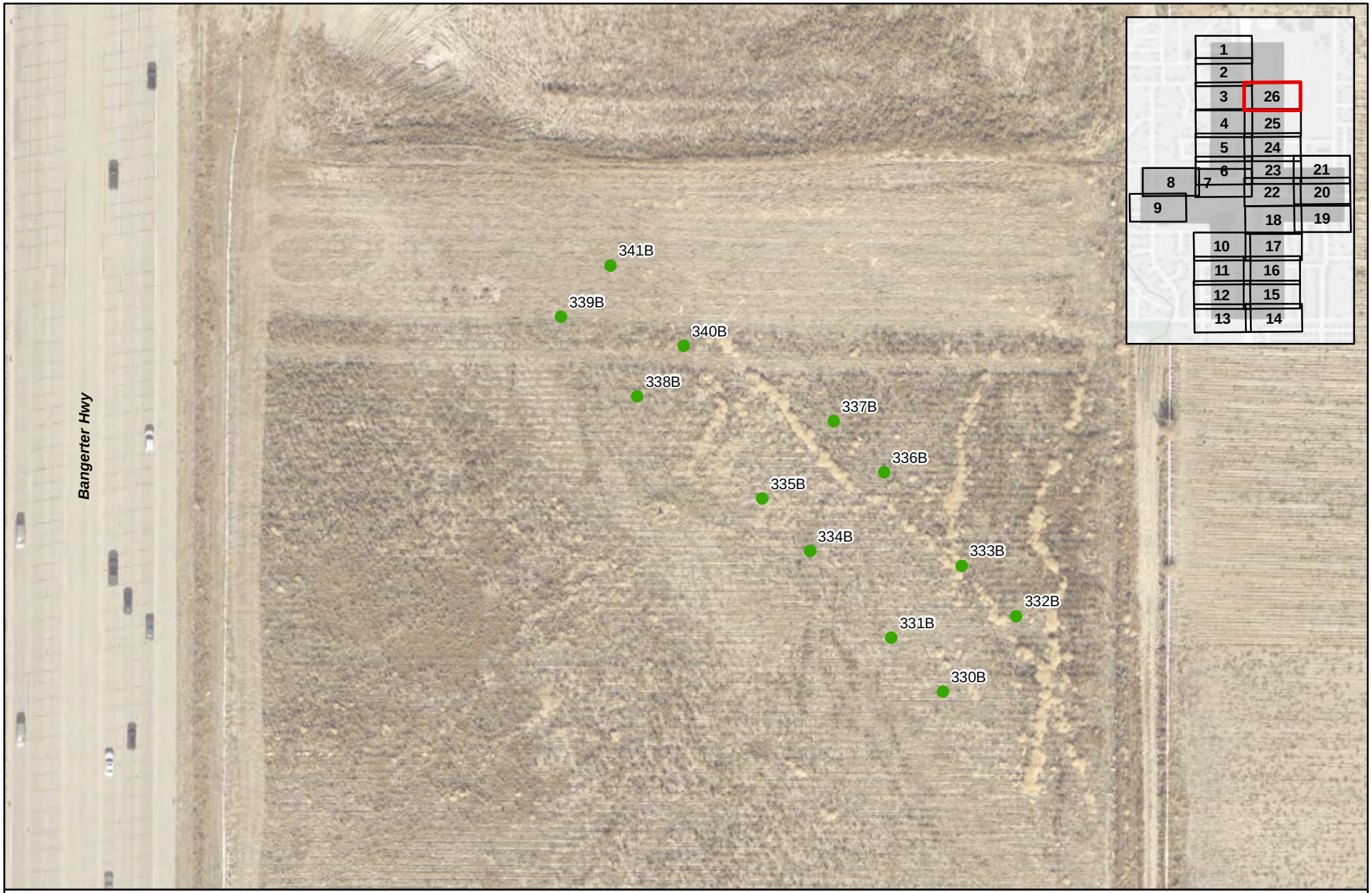
Above NAC

Monitoring Location

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Existing Noise Levels



18808: Bangerter Highway at 9800 South

Existing Noise Levels

Map 26 of 26

Test No.: 1	Project Name: Bangerter Highway at 9800 South Intersection Improvements PIN: 18808	Project No.: S-0154(92)0	Sheet 1 of 1
Date: 7/22/21	Location: ML-1	Relative elevation to road:	
Time Started: 9:50 am	Weather Conditions: 82° mostly sunny 50% humidity 5 mph wind	Site Conditions:	
Time Ended: 10:10 am			
Calibration			
Pre: 94.0 dBA		Date file was downloaded:	
Post: 93.9 dBA		File name:	

Site Map:

Automobiles						
Heavy Trucks						
Medium Trucks						
Busses/Motorcycles						

Bangerter Highway traffic counts obtained from PeMS

Elapsed Time (min)	Comments	Elapsed Time (min)	Comments
1		11	
2		12	
3		13	
4		14	Airplane
5		15	
6		16	
7		17	
8		18	
9		19	
10		20	

Test No.: 1	Project Name: Bangerter Highway at 9800 South Intersection Improvements PIN: 18808	Project No.: S-0154(92)0	Sheet 1 of 1
Date: 7/22/21	Location: ML-2	Relative elevation to road:	
Time Started: 10:17 am	Weather Conditions: 84° mostly sunny 47% humidity 8 mph wind	Site Conditions:	
Time Ended: 10:37 am			
Calibration			
Pre: 94.0 dBA		Date file was downloaded:	
Post: 93.5 dBA		File name:	

Site Map:

	9800 S EB	9800 S WB
Automobiles	80	68
Heavy Trucks	1	1
Medium Trucks	1	1
Busses/Motorcycles		

Bangerter Highway traffic counts obtained from PeMS

Elapsed Time (min)	Comments	Elapsed Time (min)	Comments
1		11	
2		12	
3		13	
4		14	Airplane
5		15	
6		16	
7		17	
8		18	
9		19	
10		20	

Test No.: 1	Project Name: Bangerter Highway at 9800 South Intersection Improvements PIN: 18808	Project No.: S-0154(92)0	Sheet 1 of 1
Date: 7/22/21	Location: ML-3	Relative elevation to road:	
Time Started: 10:43 am	Weather Conditions: 84° partly cloudy 46% humidity 6 mph wind	Site Conditions:	
Time Ended: 11:03 am			
Calibration			
Pre: 94.0 dBA		Date file was downloaded:	
Post: 94.1 dBA		File name:	

Site Map:

	9800 S EB	9800 S WB
Automobiles	89	49
Heavy Trucks	0	0
Medium Trucks	1	3
Busses/Motorcycles	0	0

Bangerter Highway traffic counts obtained from PeMS

Elapsed Time (min)	Comments	Elapsed Time (min)	Comments
1		11	
2		12	
3		13	
4		14	
5		15	
6		16	
7		17	
8		18	
9		19	
10		20	

Test No.: 1	Project Name: Bangerter Highway at 9800 South Intersection Improvements PIN: 18808	Project No.: S-0154(92)0	Sheet 1 of 1
Date: 7/22/21	Location: ML-4	Relative elevation to road:	

Time Started: 9:13 am	Weather Conditions: 79° mostly sunny 58% humidity 2 mph wind	Site Conditions:
Time Ended: 9:33 am		
Calibration		
Pre: 94.0 dBA		Date file was downloaded:
Post: 93.0 dBA		File name:

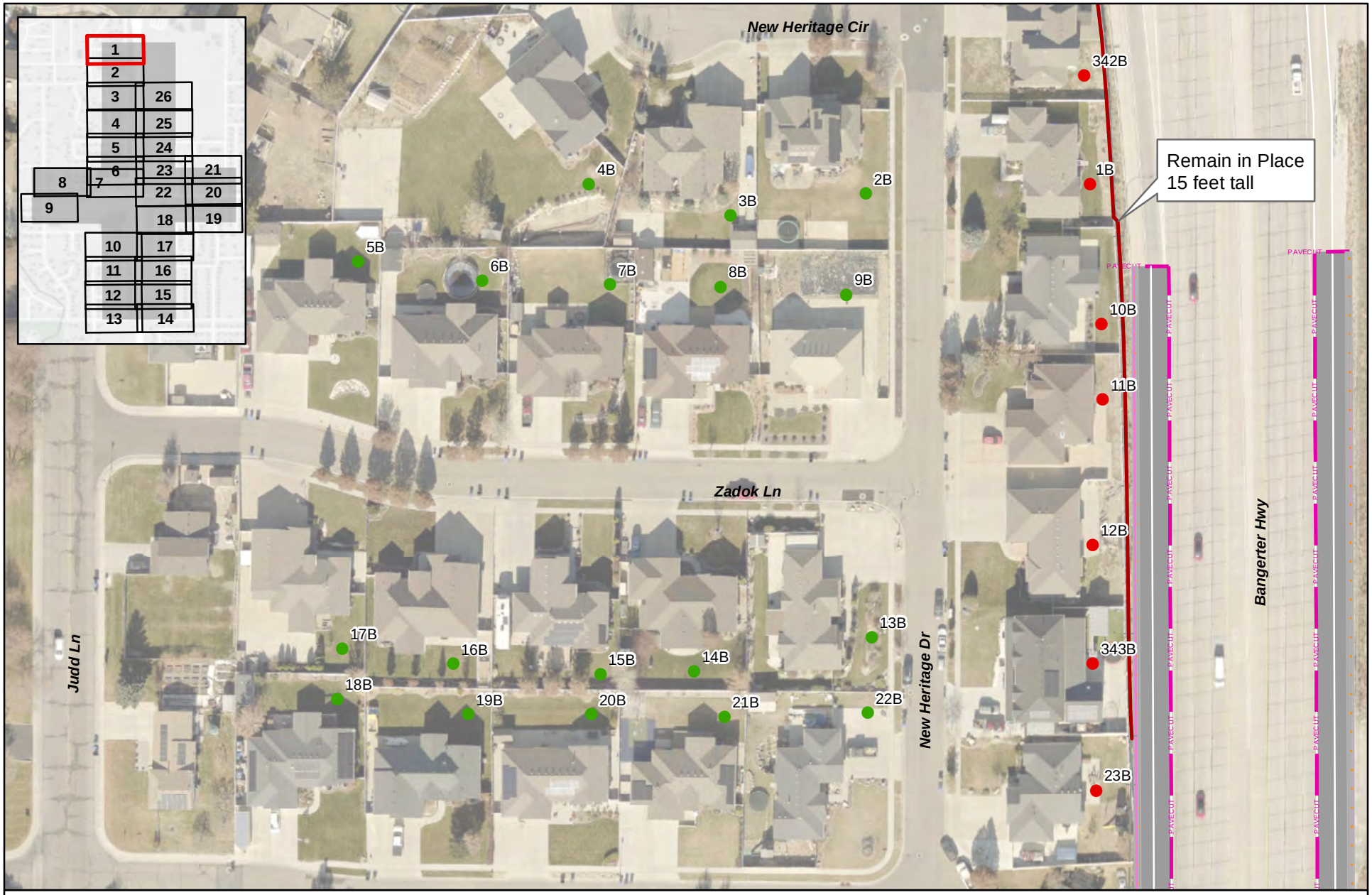
Site Map:

Automobiles						
Heavy Trucks						
Medium Trucks						
Busses/Motorcycles						

Bangerter Highway traffic counts obtained from PeMS

Elapsed Time (min)	Comments	Elapsed Time (min)	Comments
1		11	
2		12	
3		13	
4		14	
5		15	
6		16	
7		17	
8		18	
9		19	
10		20	

APPENDIX B: BUILD NOISE IMPACTS MAPS



N

0 50 100

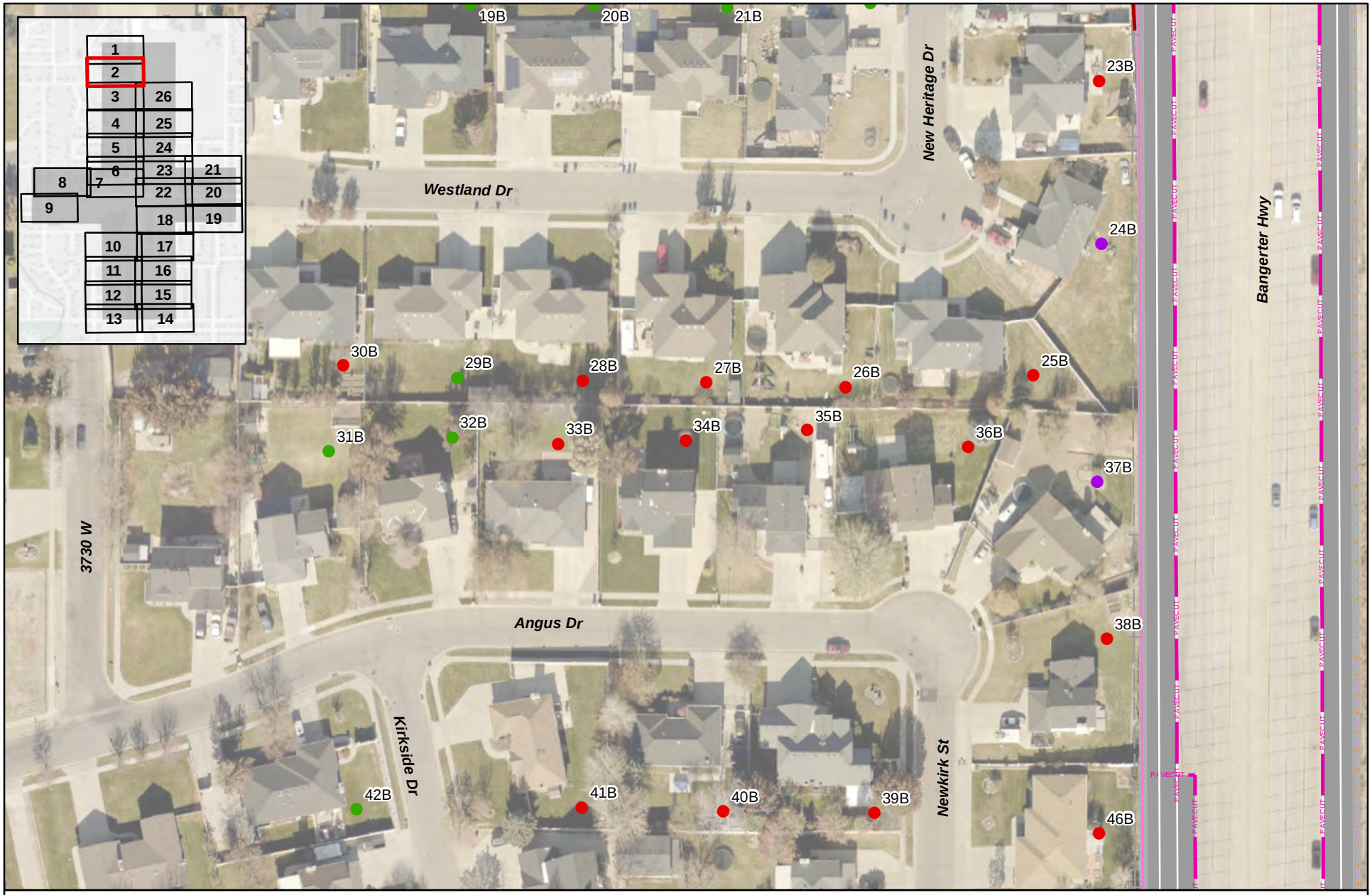
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

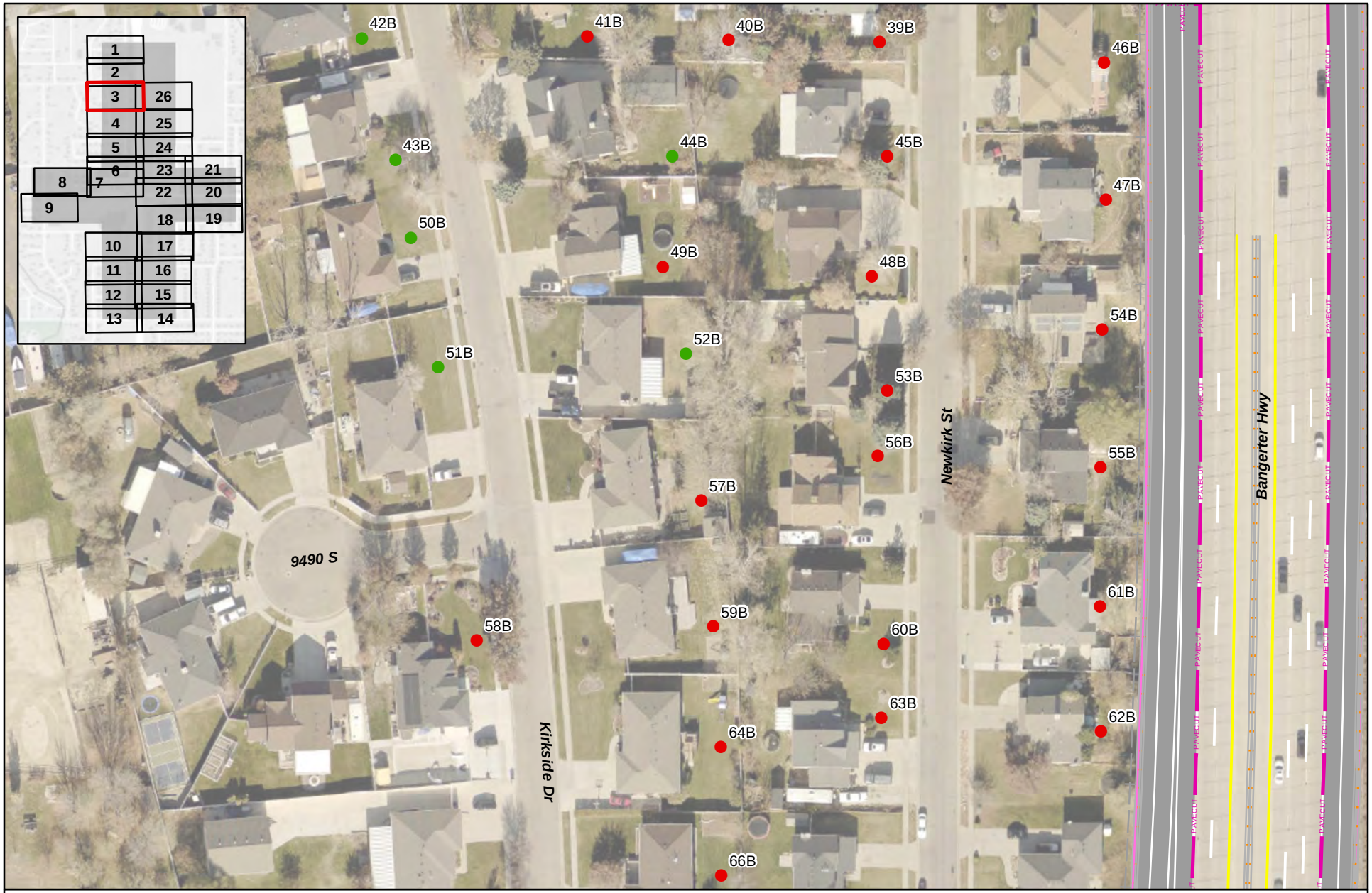
Build Noise Impacts - Bangerter Highway Over Option

Map 1 of 26



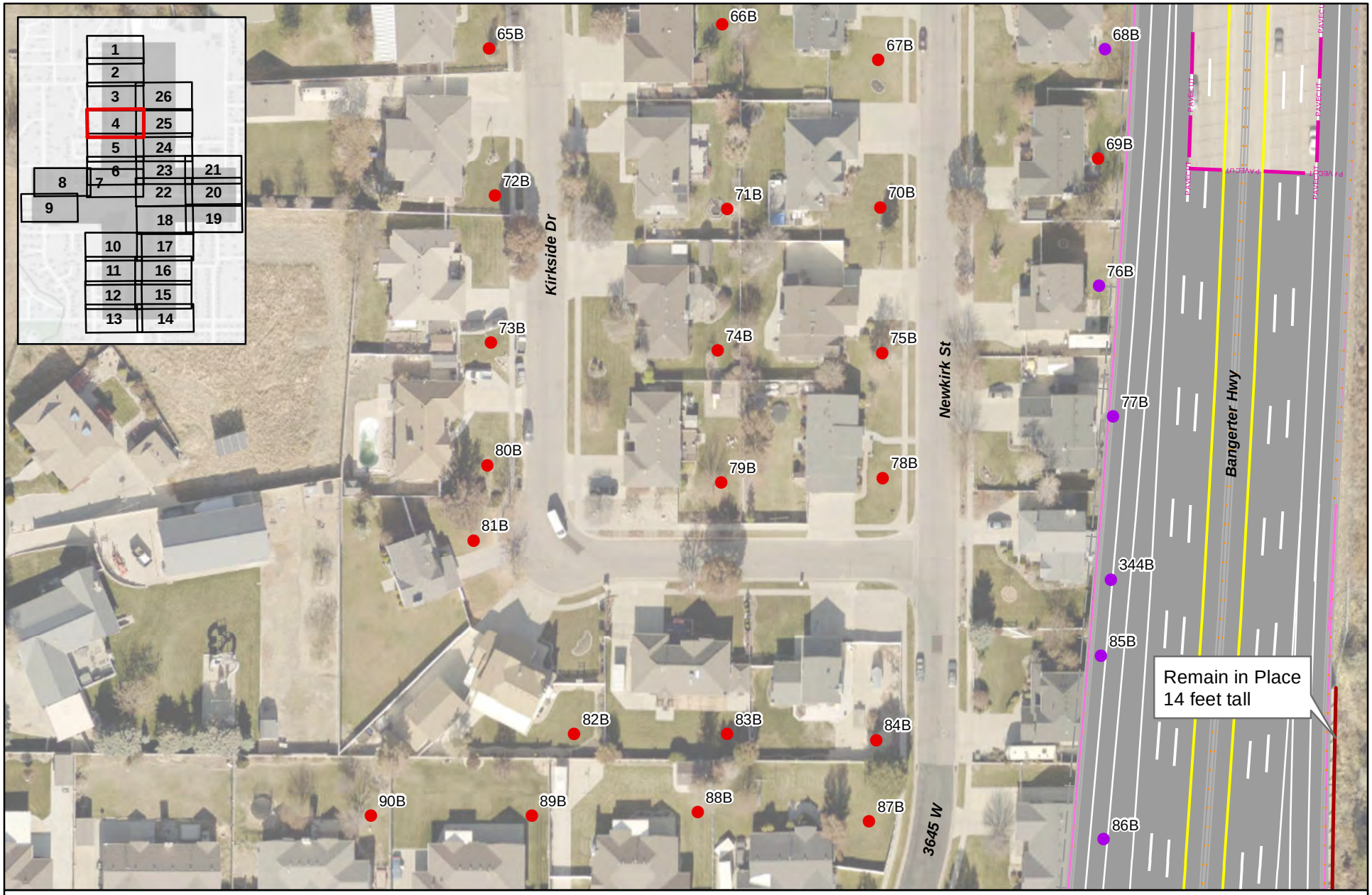
18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option



N

0 50 100

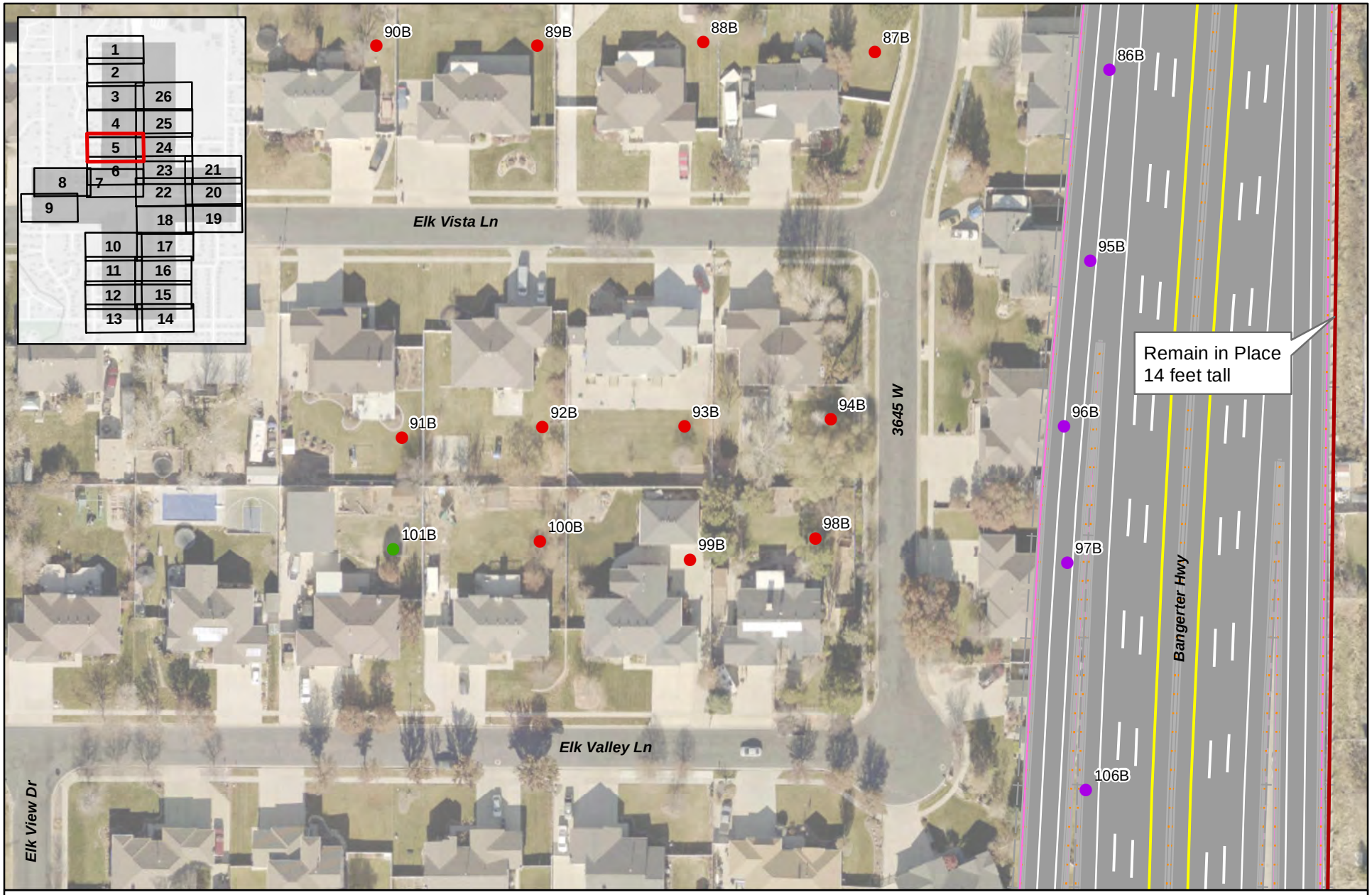
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 4 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 5 of 26

N

0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

N

0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 7 of 26

N

0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 8 of 26

N

0 50 100

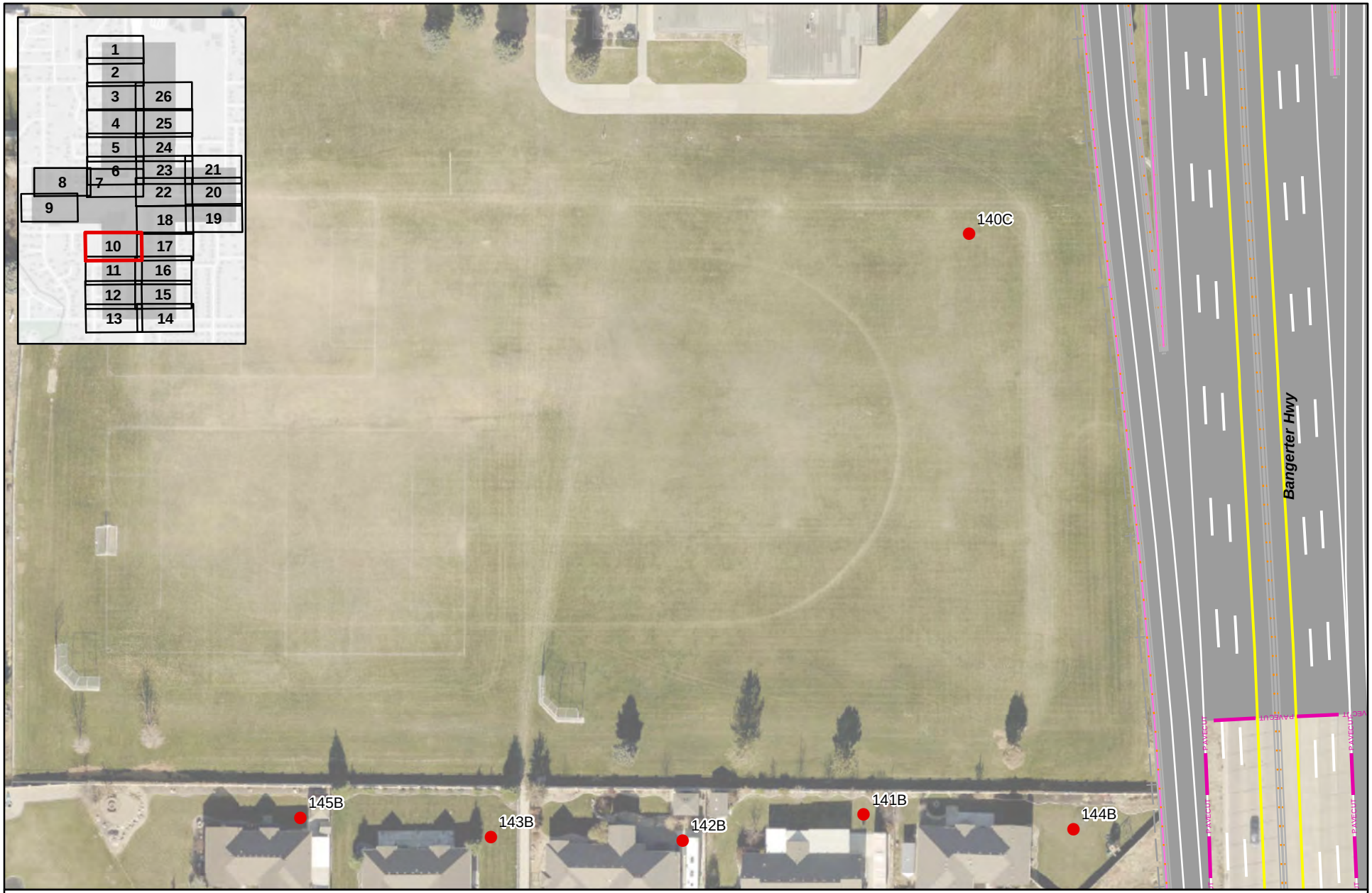
Feet

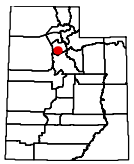
- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 9 of 26





N

0 50 100

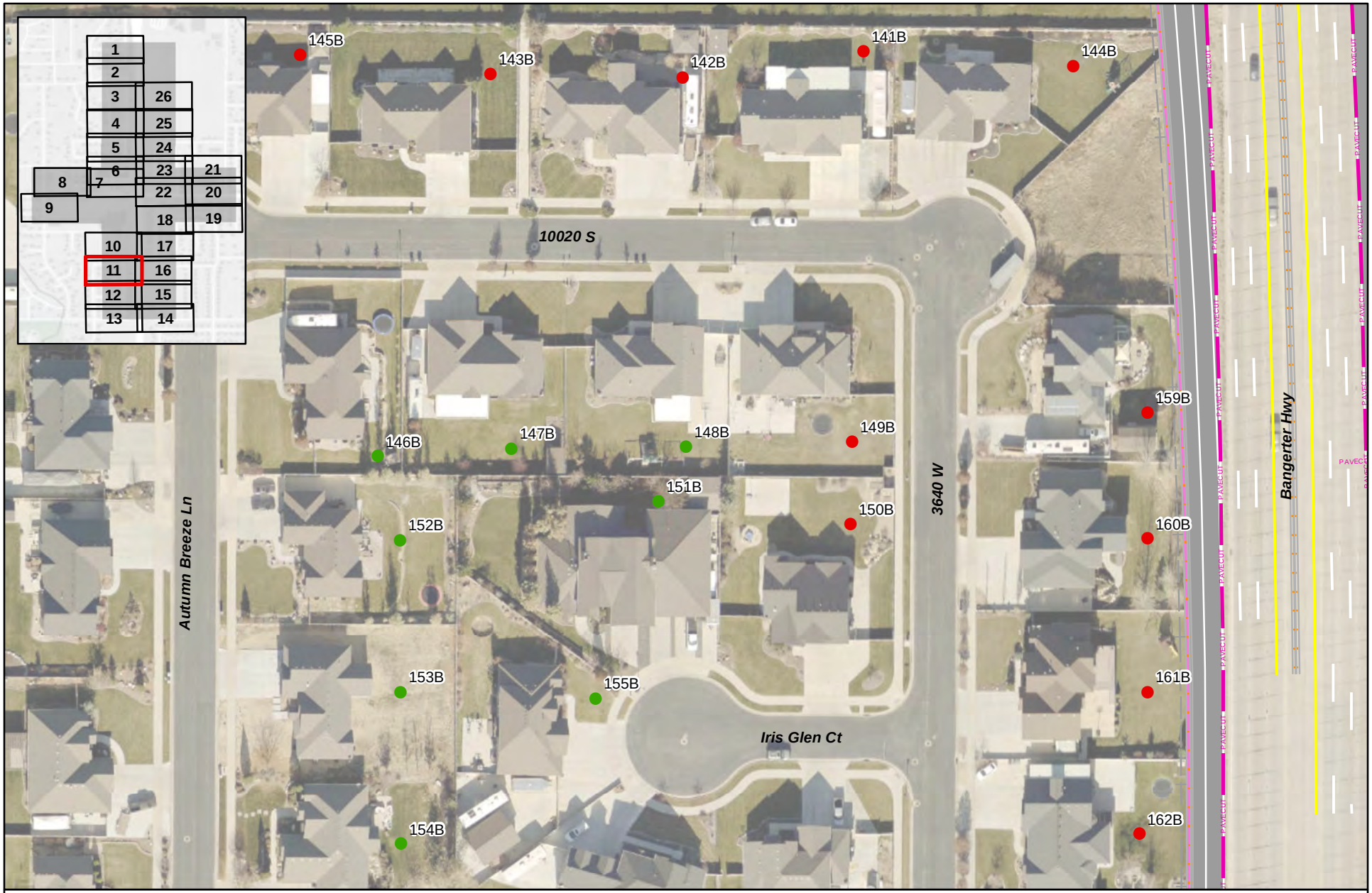
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

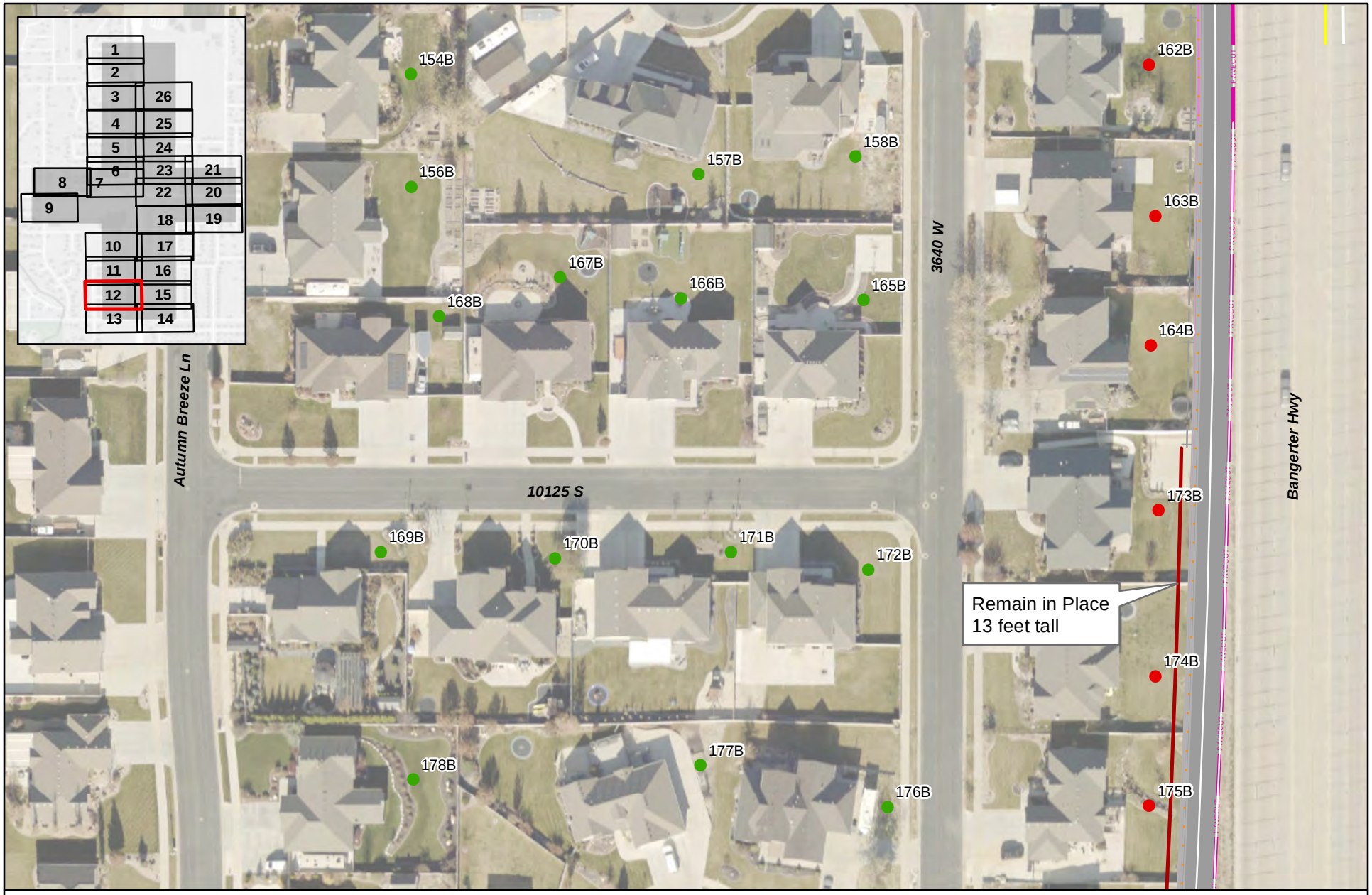
Map 10 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

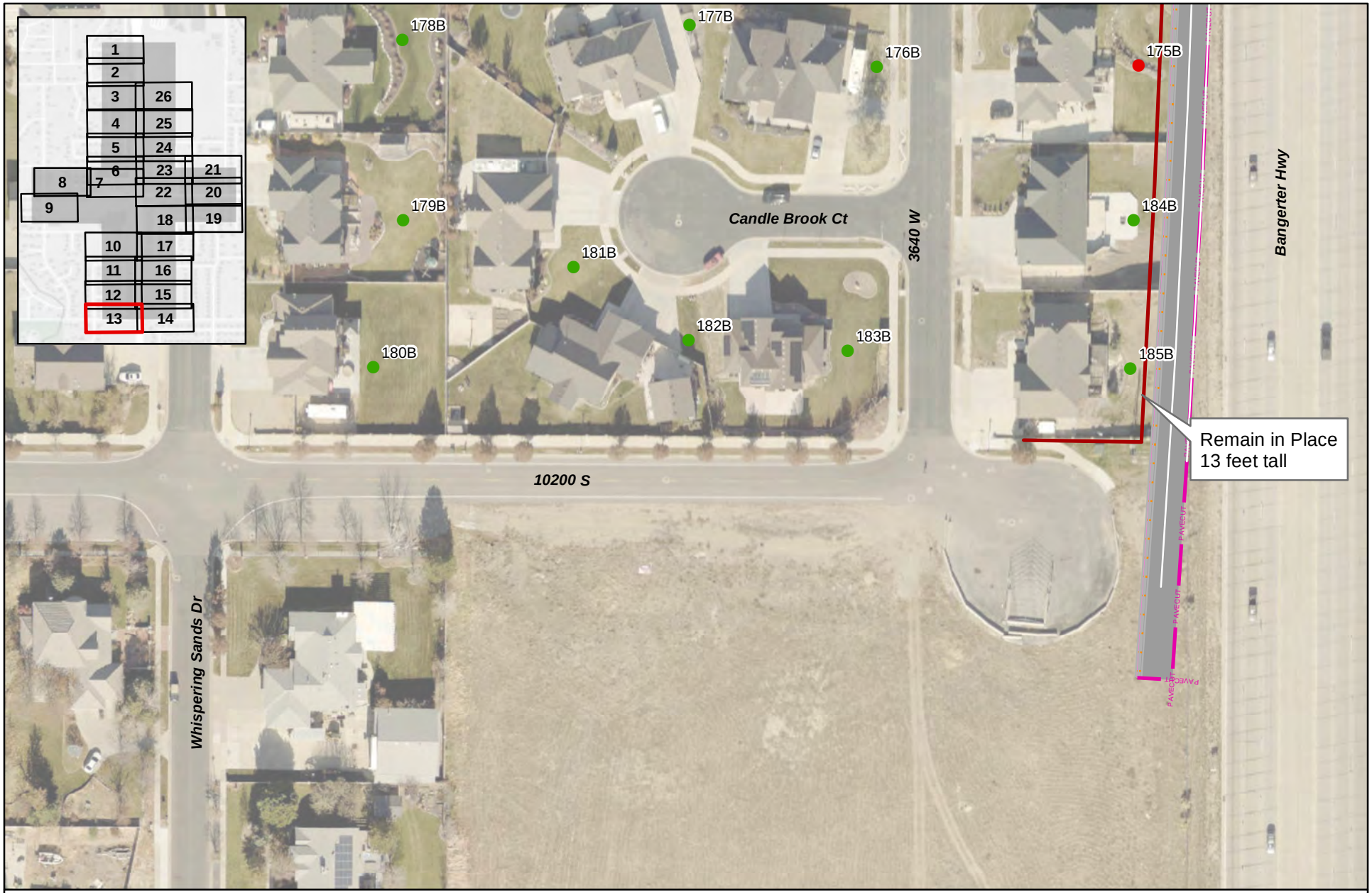
Map 11 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 12 of 26



N

0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

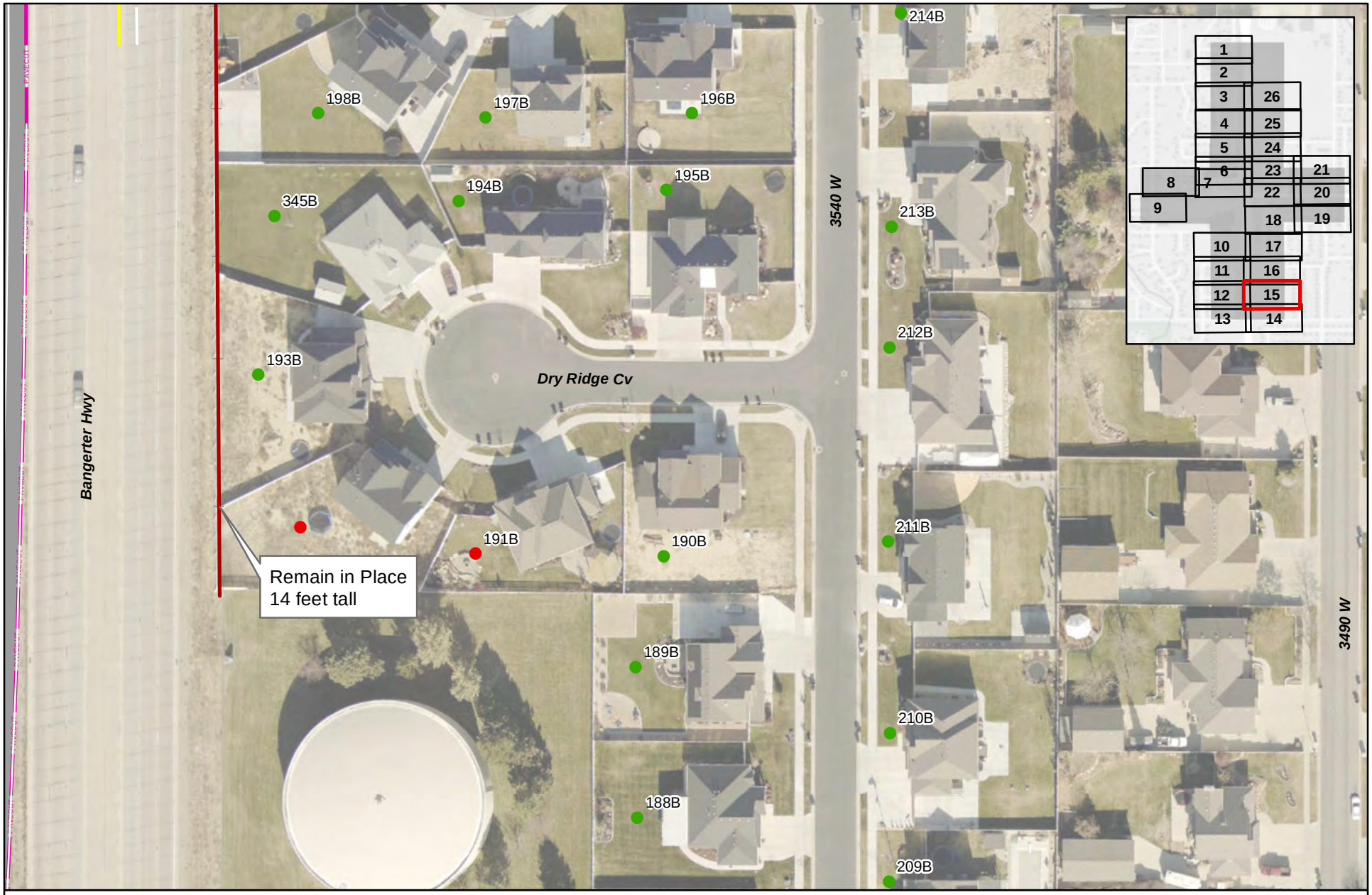
Build Noise Impacts - Bangerter Highway Over Option

Map 13 of 26

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 14 of 26



N

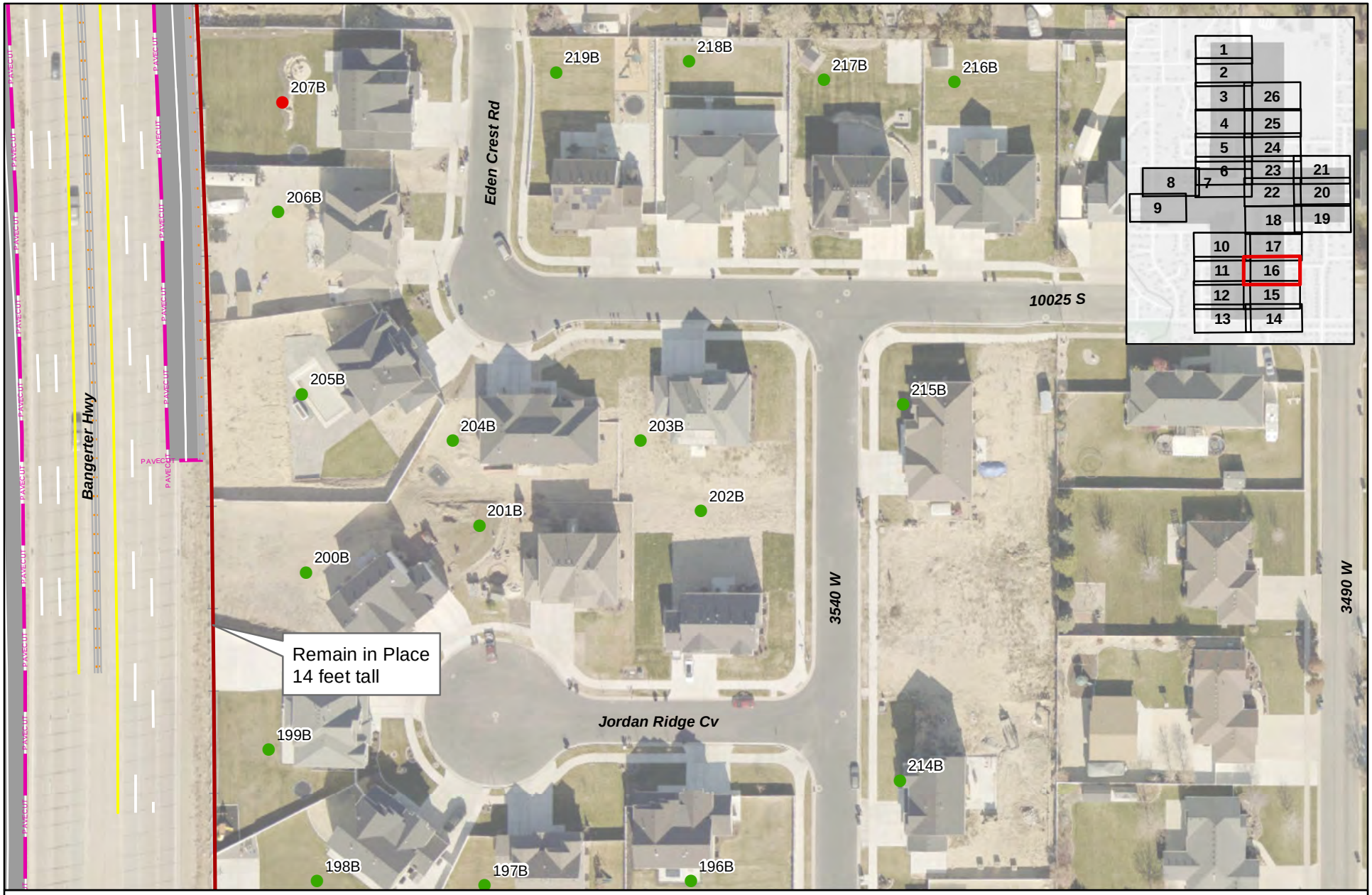
0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

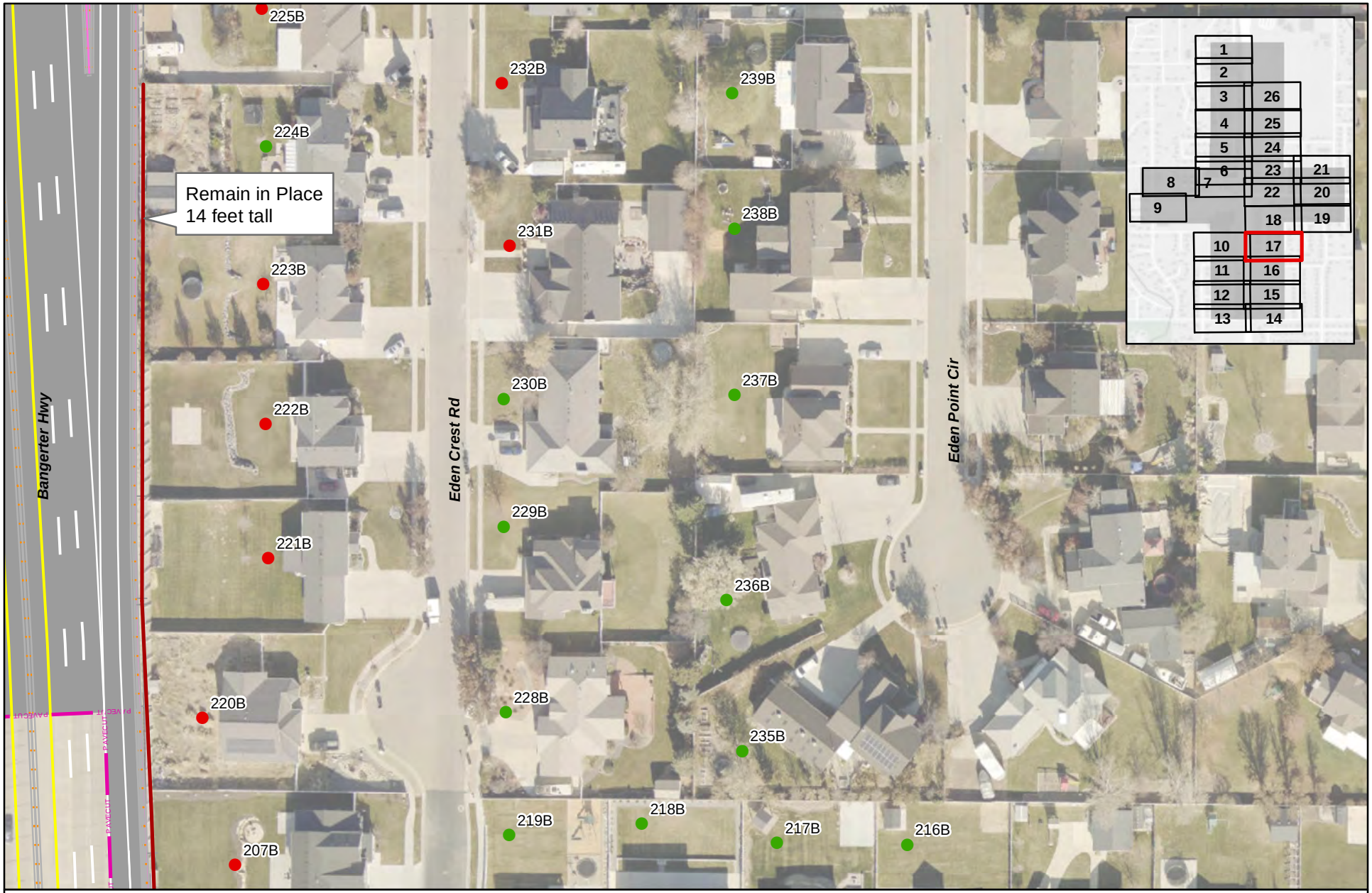
18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option



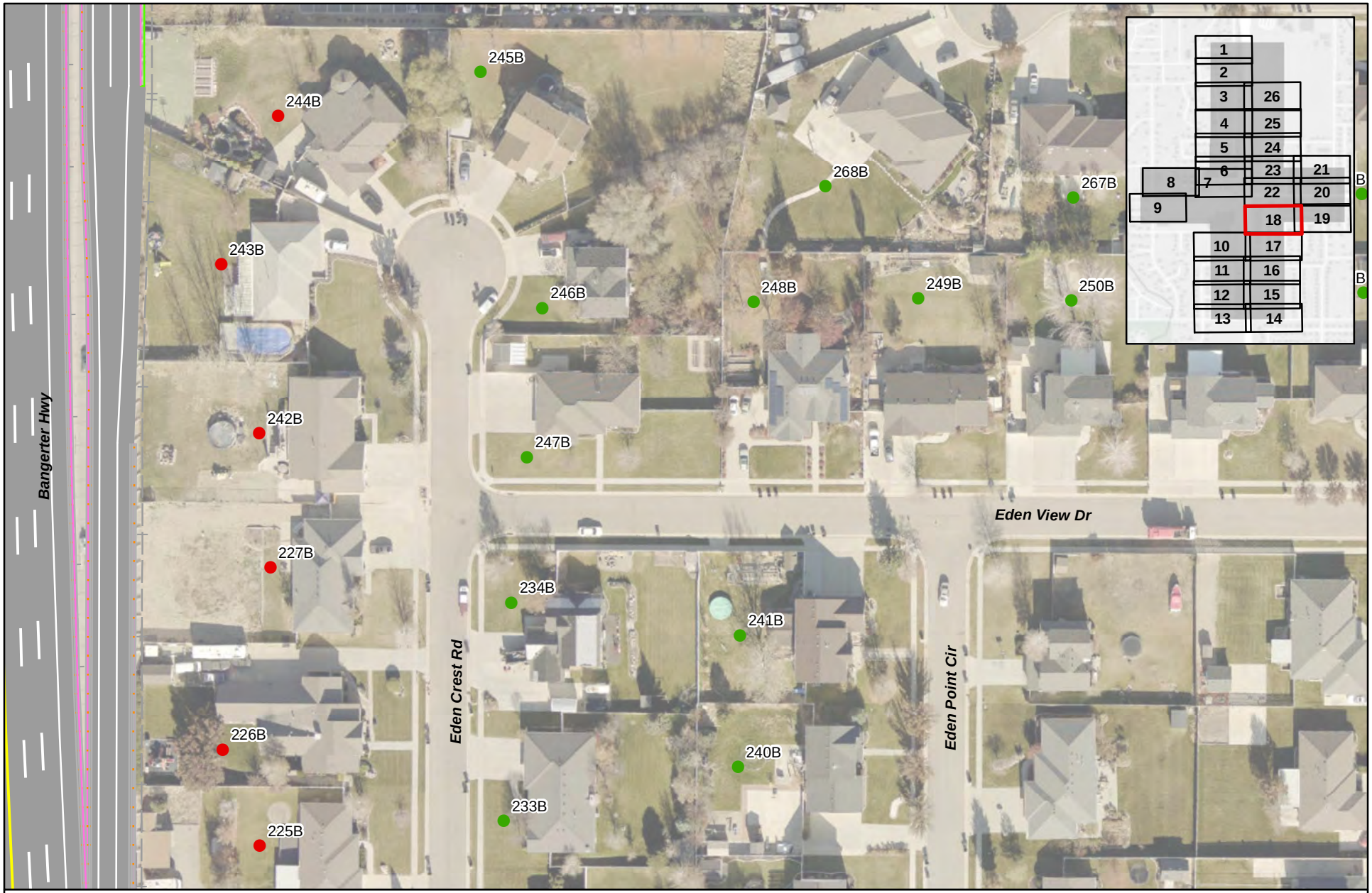
18808: Bangerter Highway at 9800 South

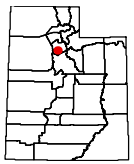
Build Noise Impacts - Bangerter Highway Over Option



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option





N

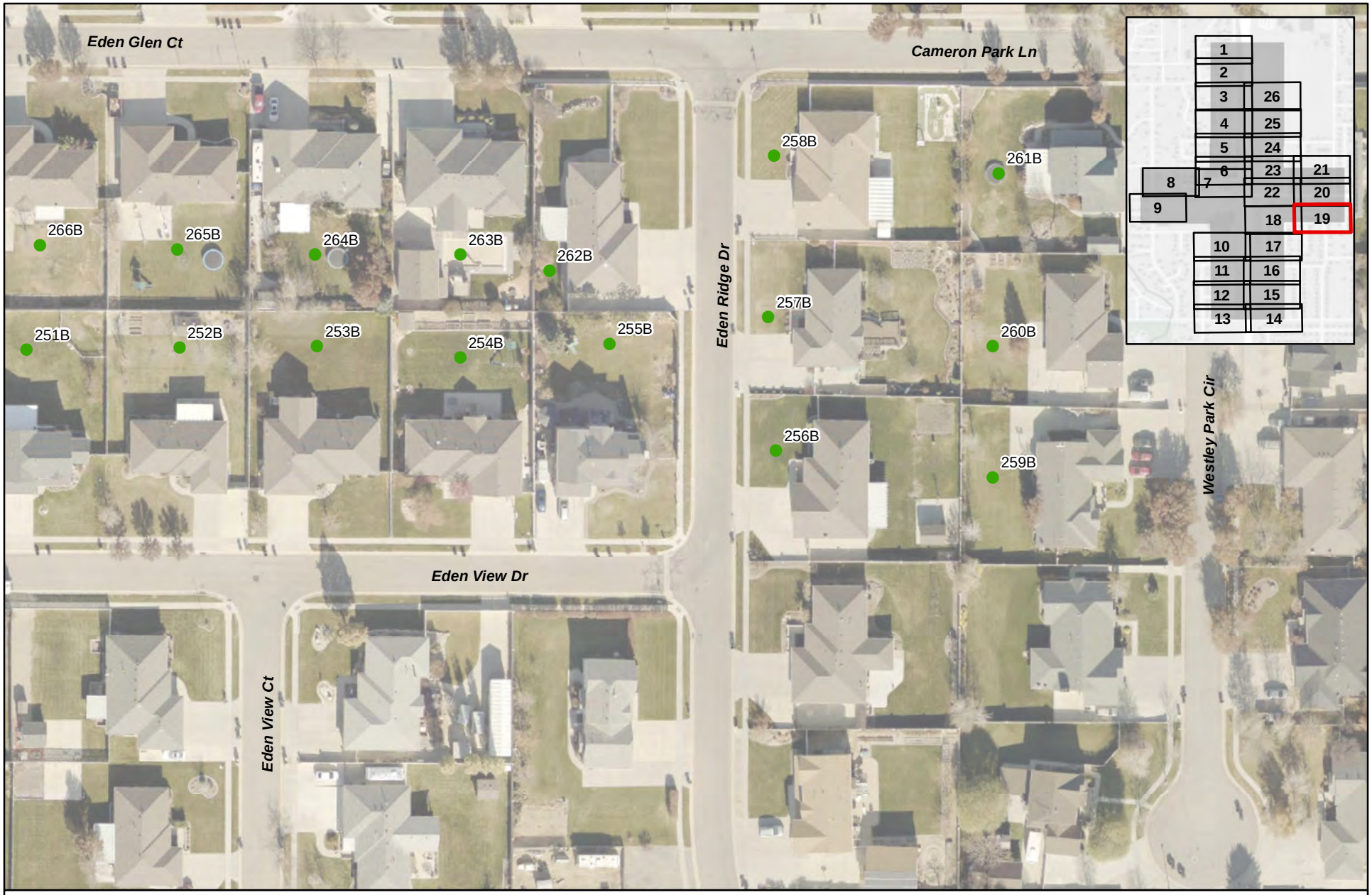
0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option



N

0 50 100

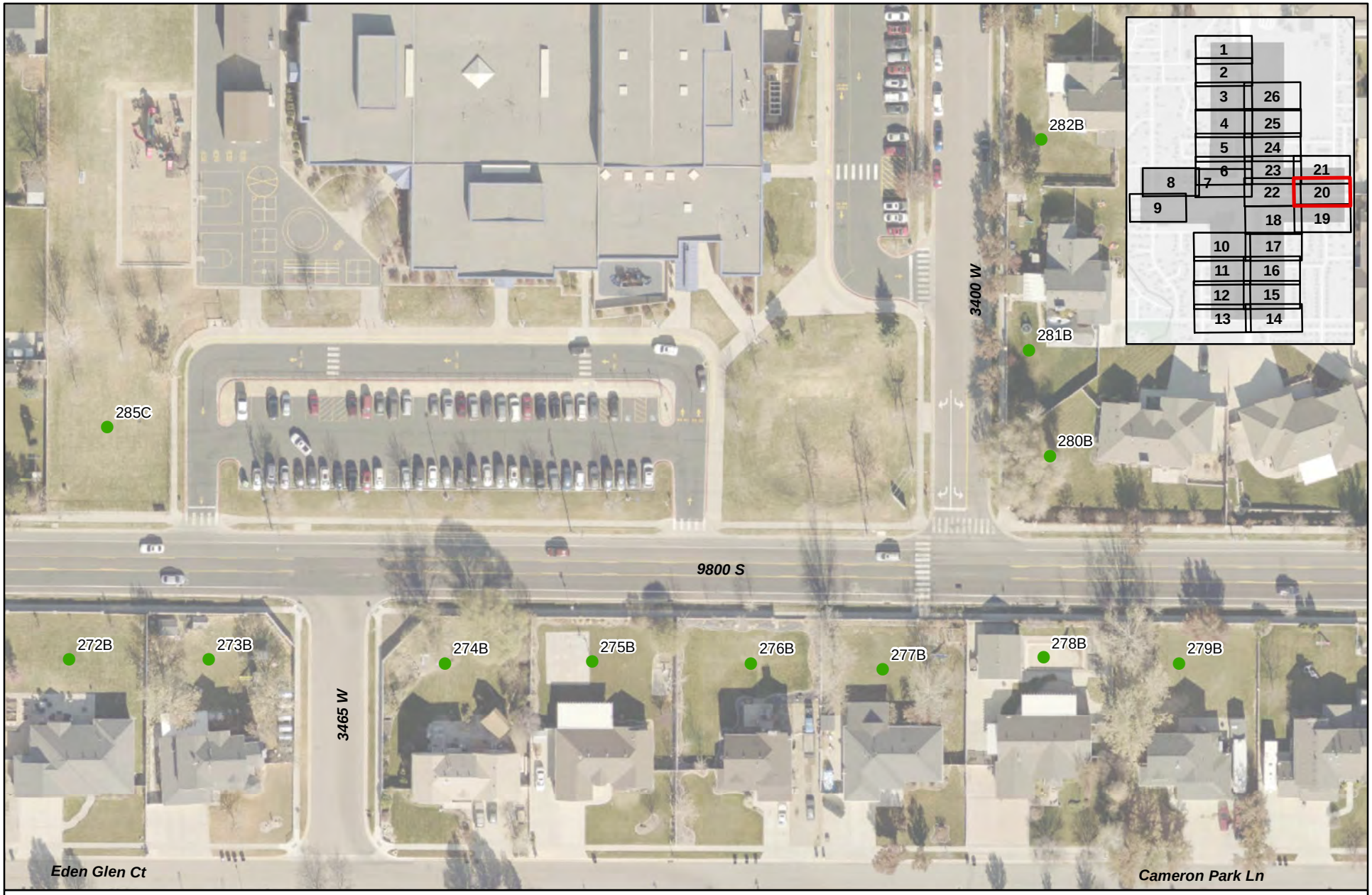
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

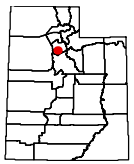
Map 19 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 20 of 26



N

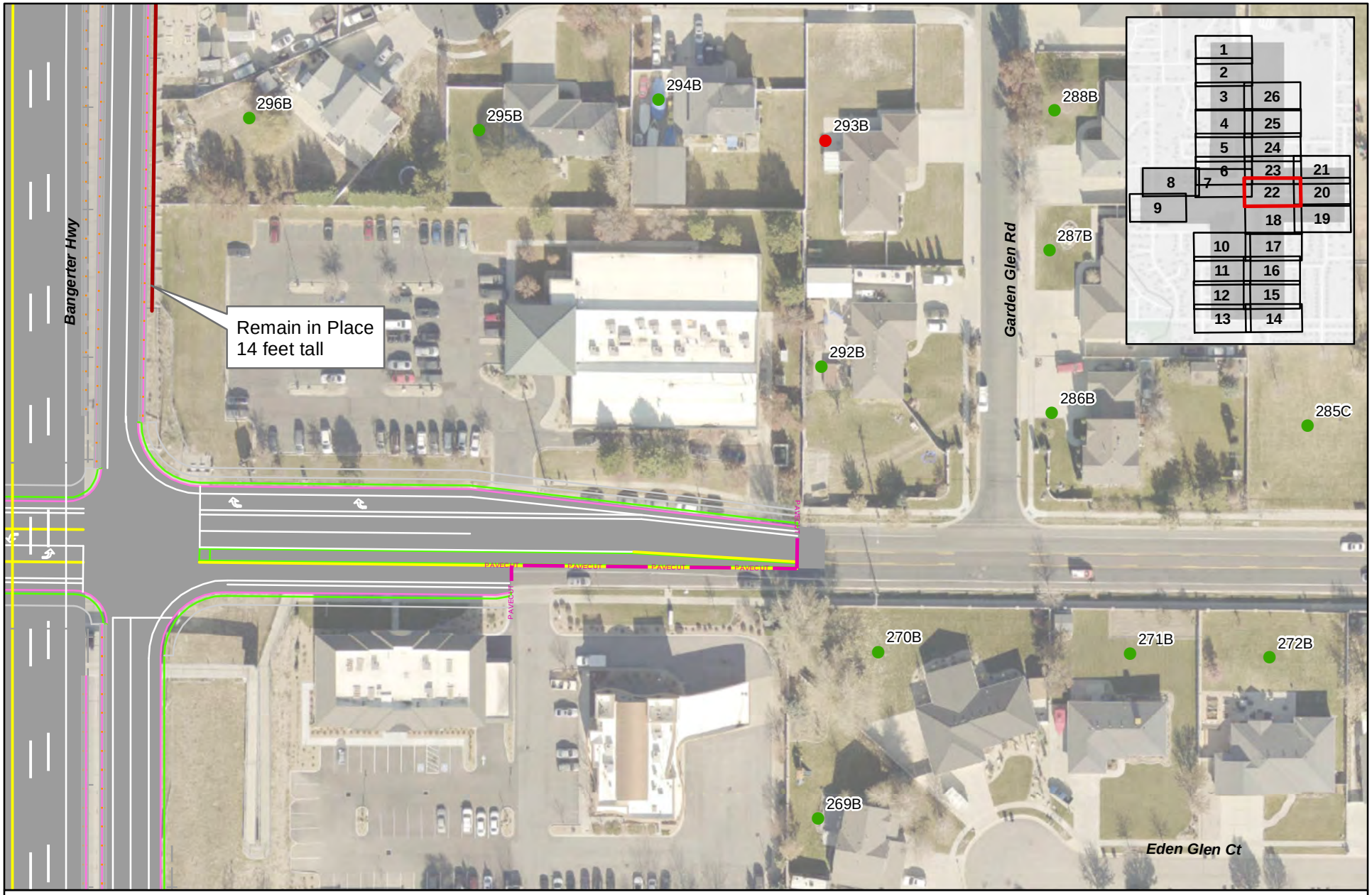
0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

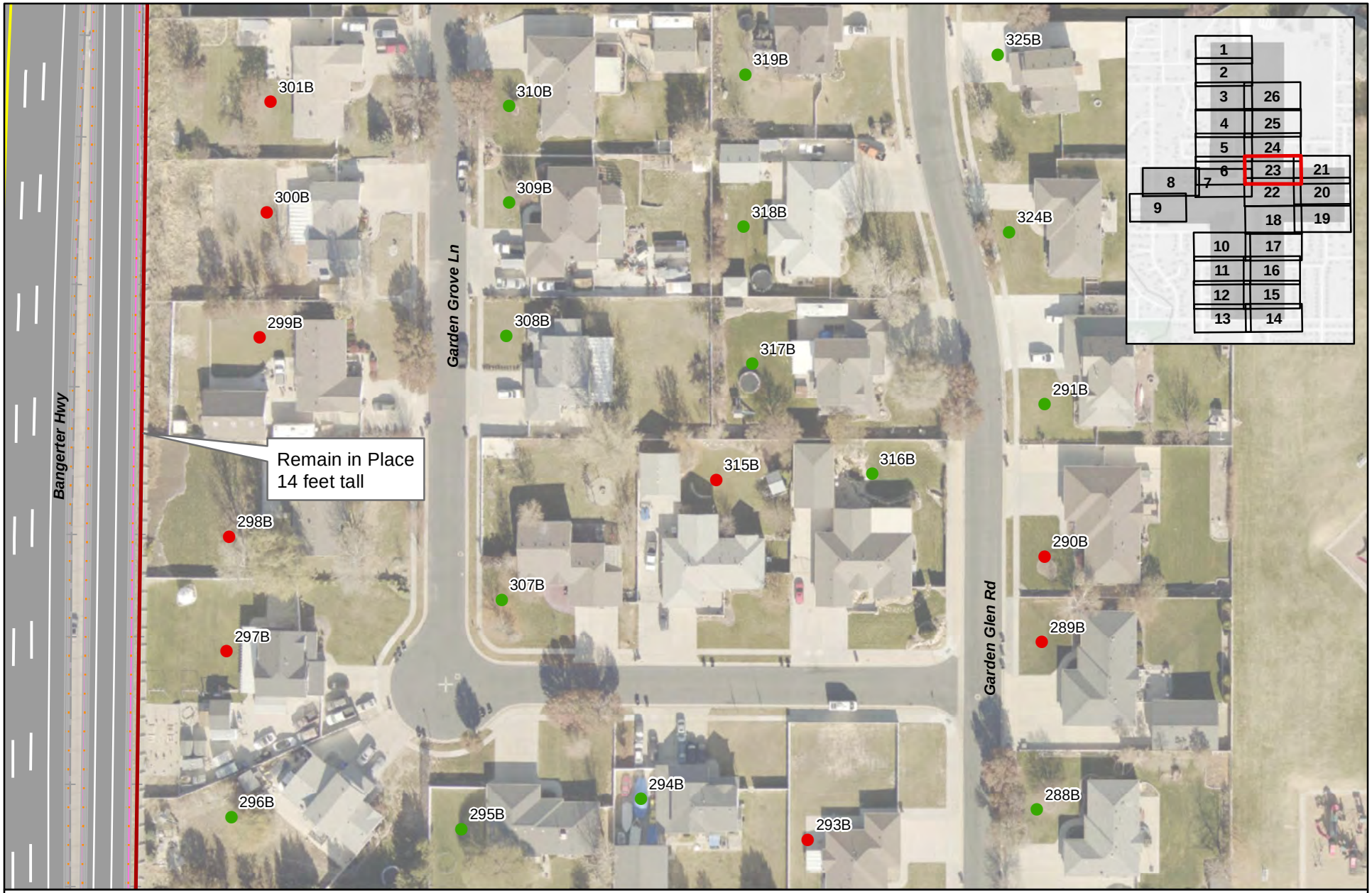
18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option



N

0 50 100

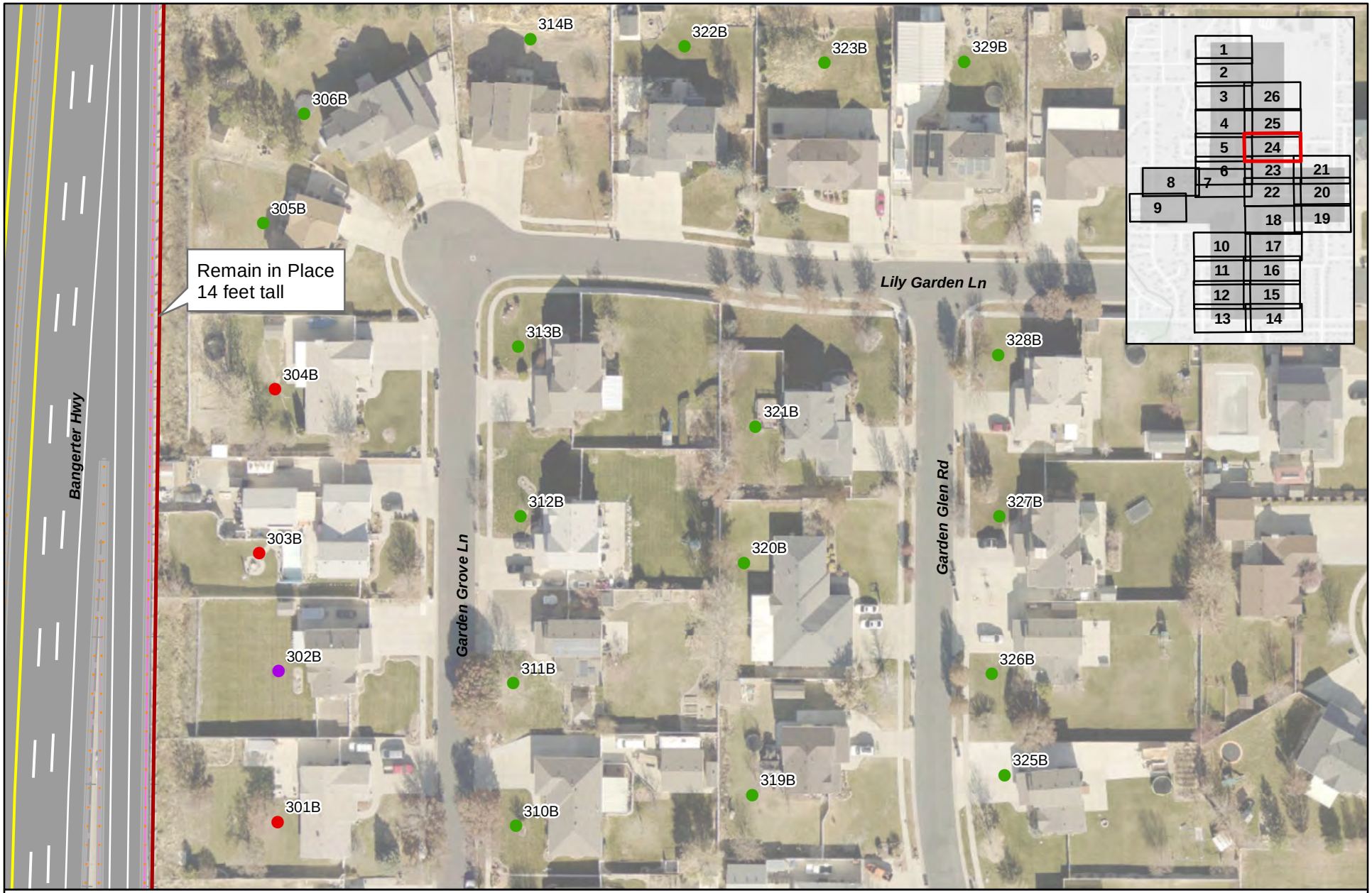
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

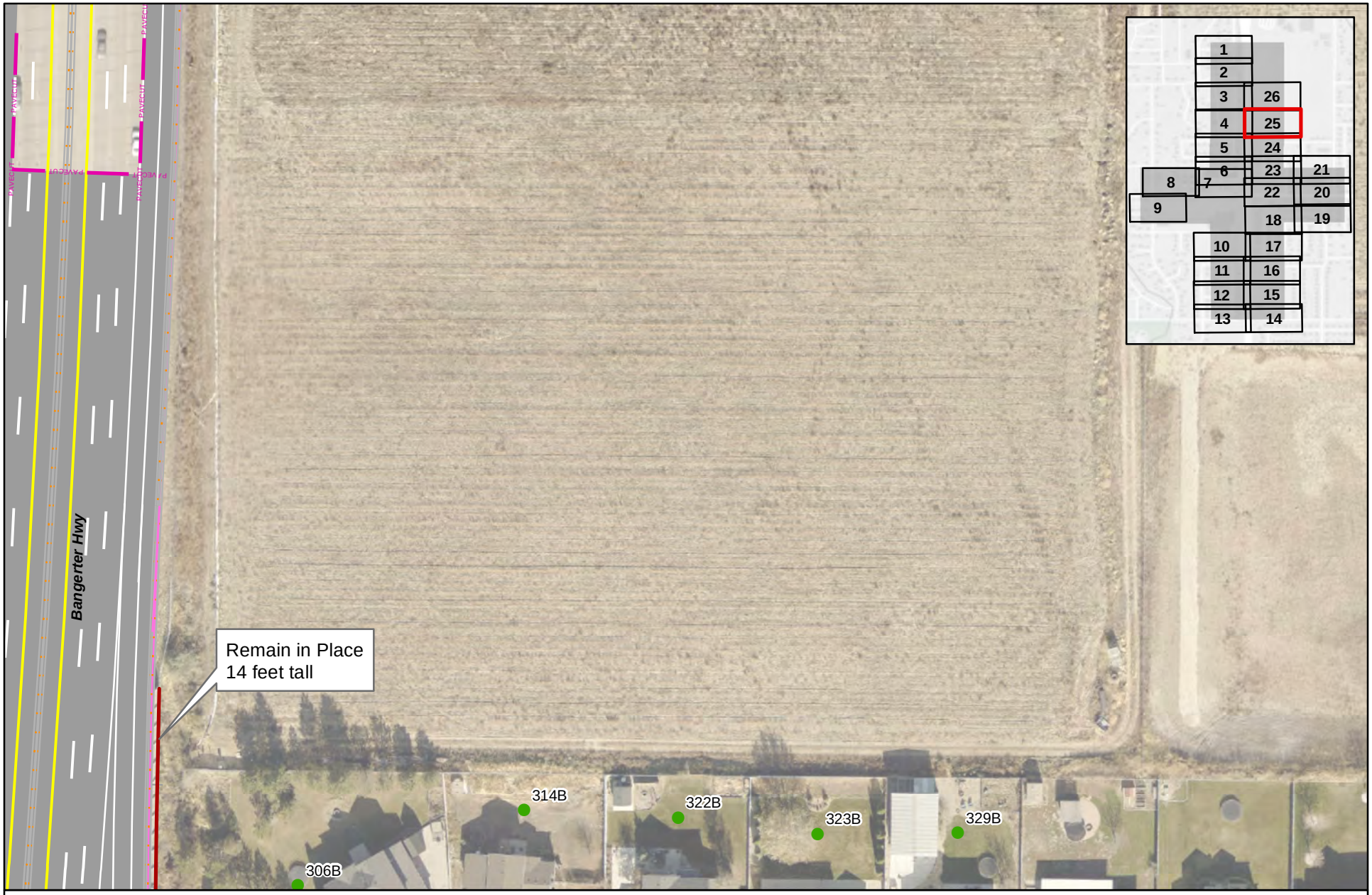
Build Noise Impacts - Bangerter Highway Over Option

Map 23 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option



N

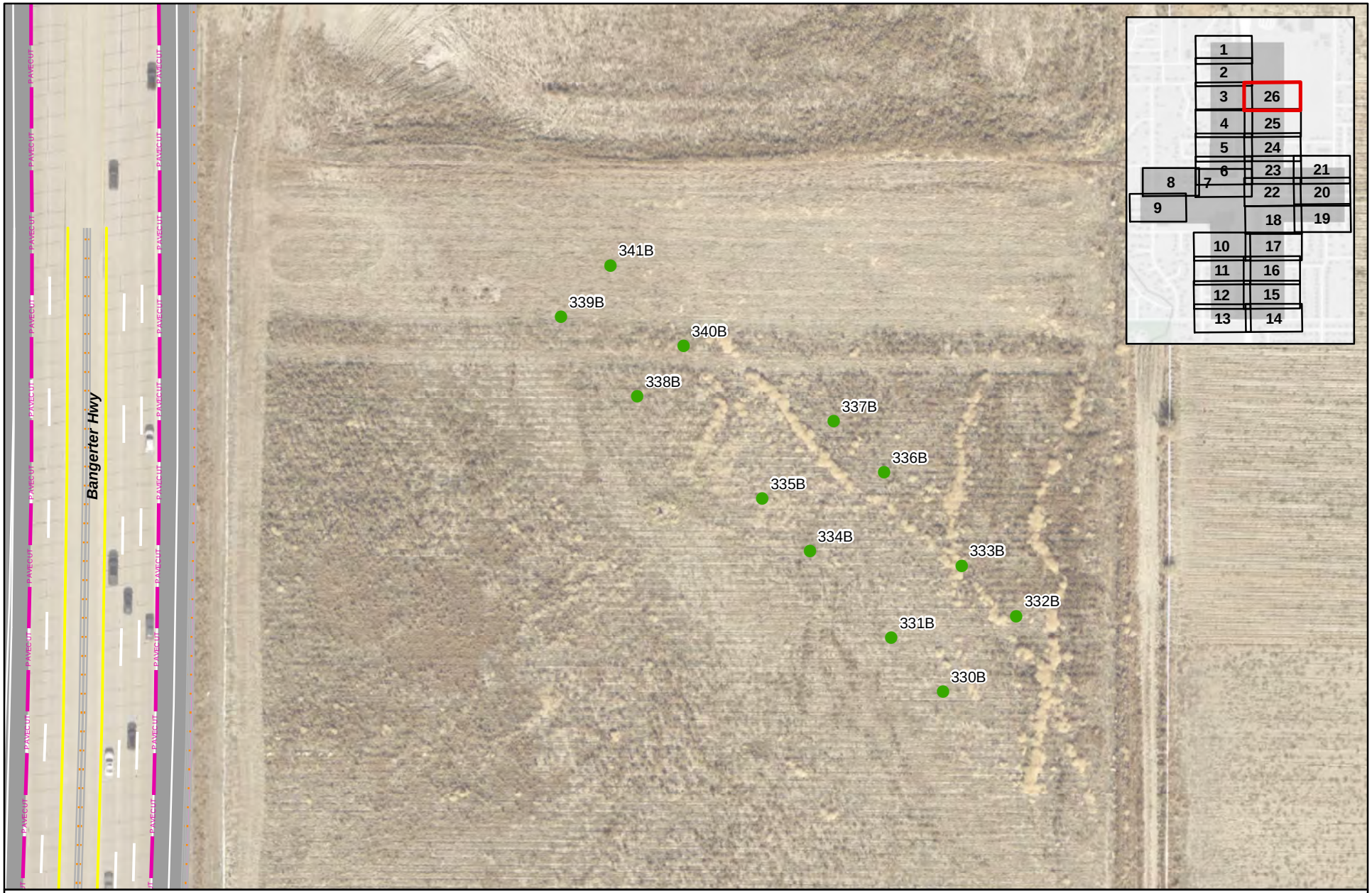
0 50 100

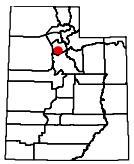
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option





N

0 50 100

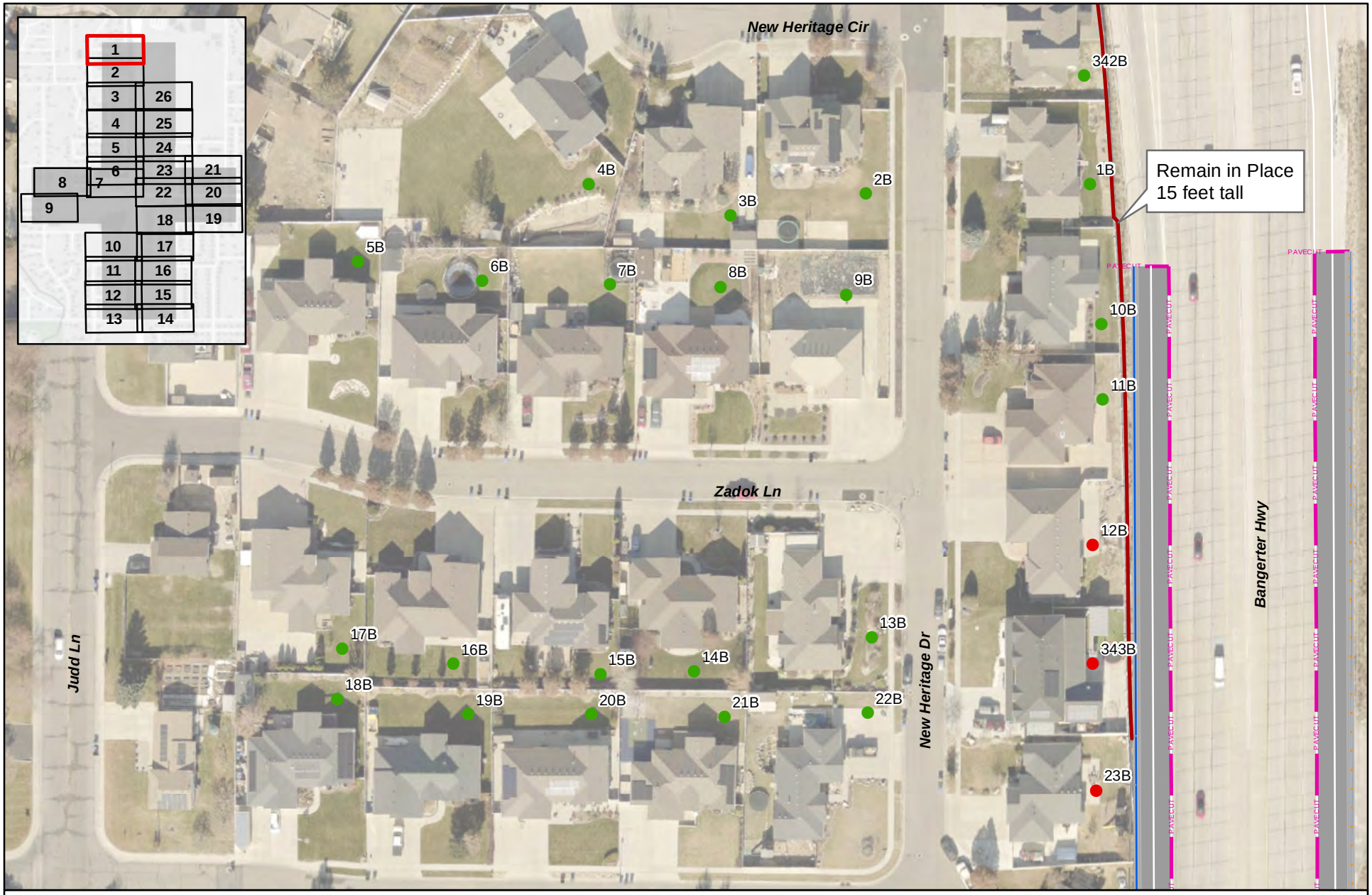
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Over Option

Map 26 of 26



N

0 50 100

Feet

Not Impacted

Impacted

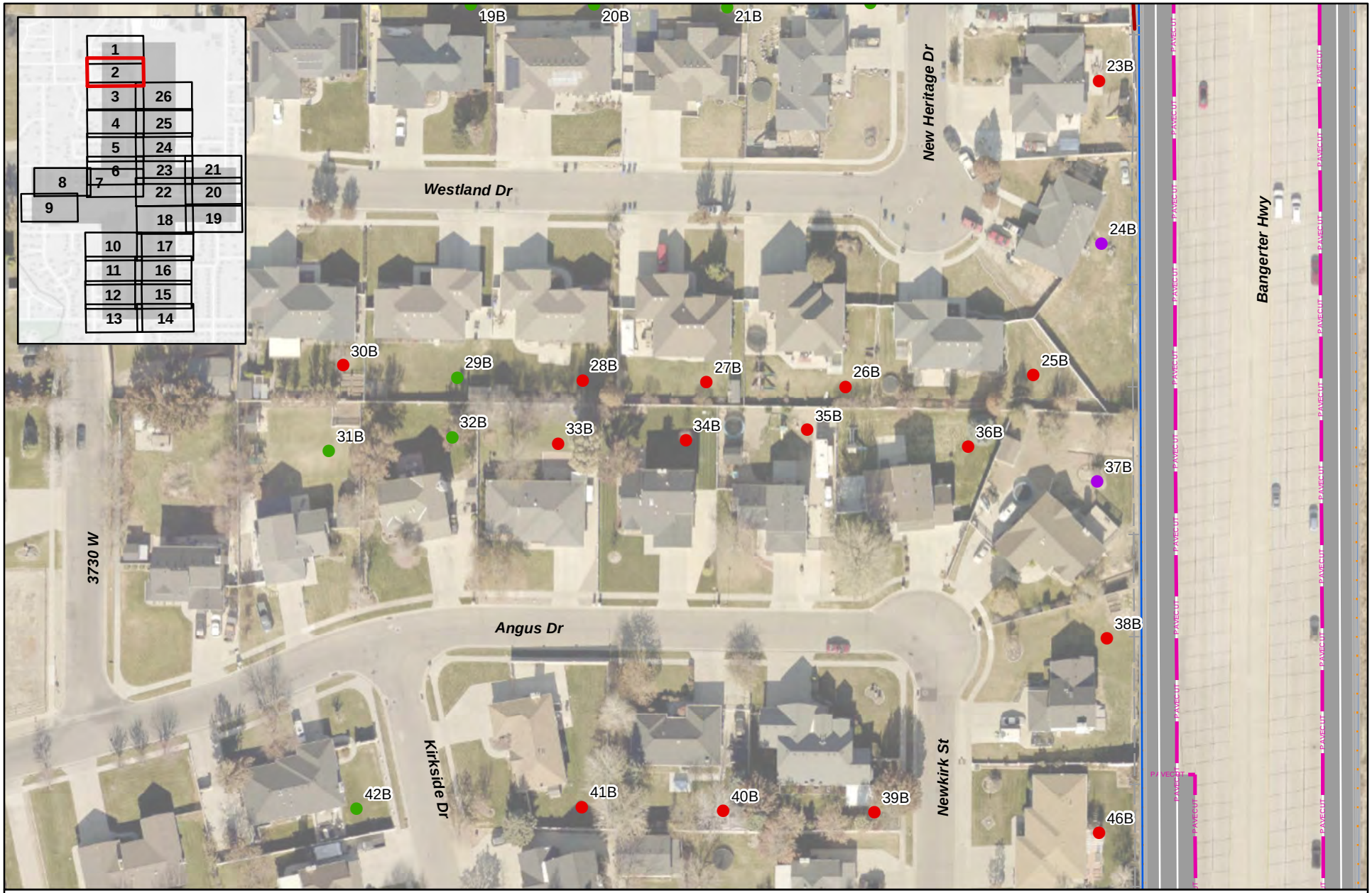
Relocation

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

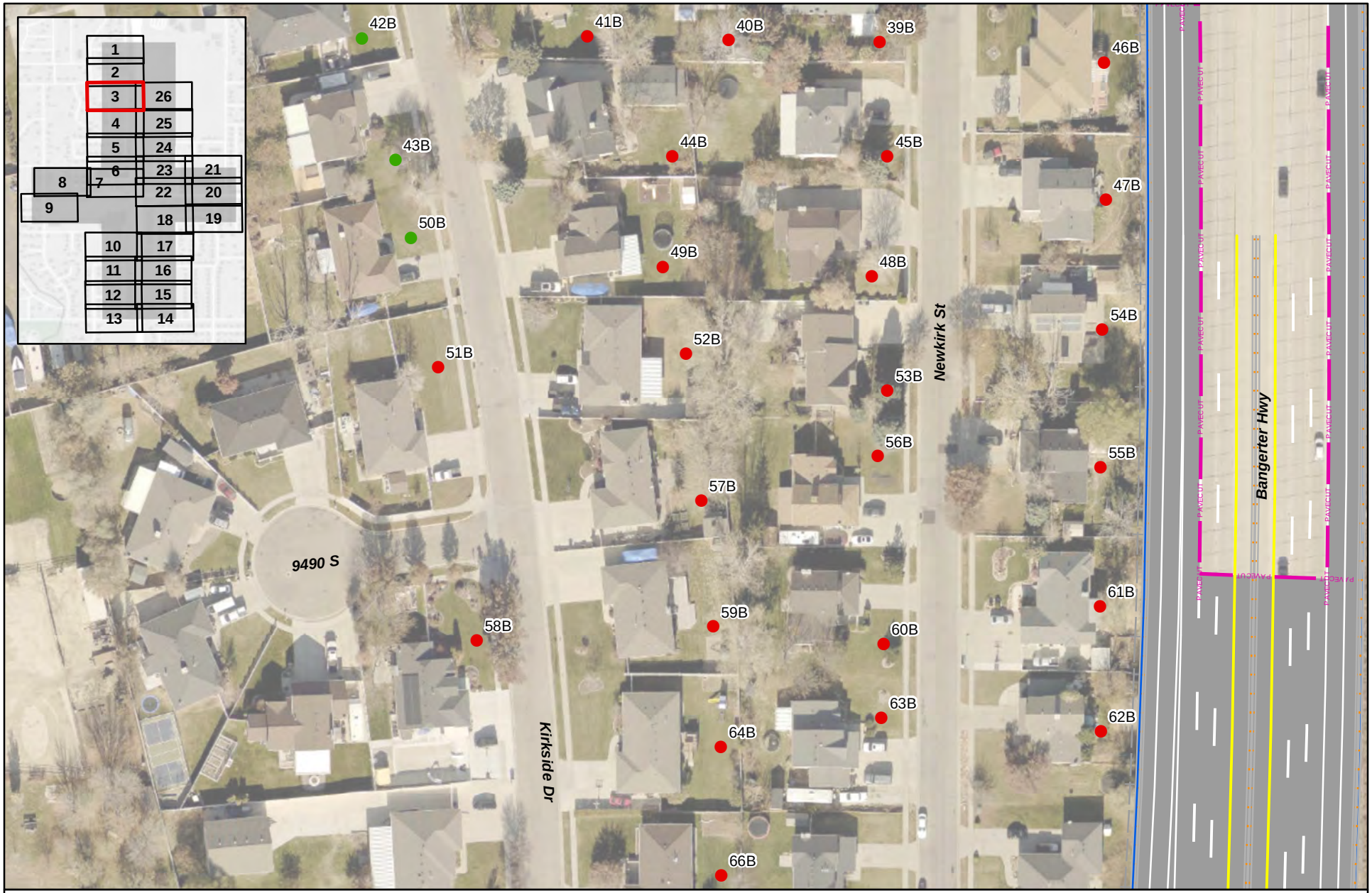
Map 1 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 2 of 26



N

0 50 100

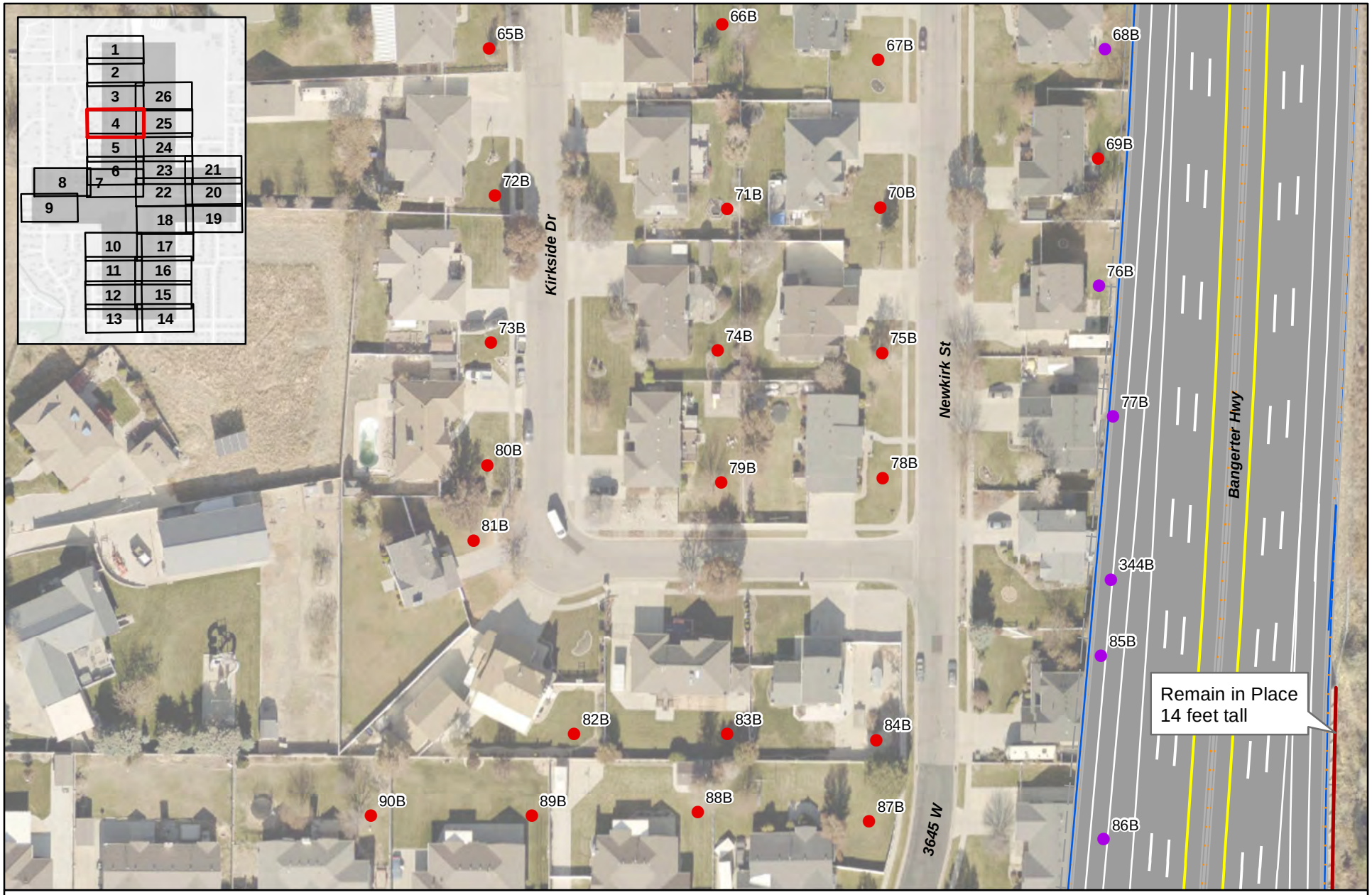
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 3 of 26



N

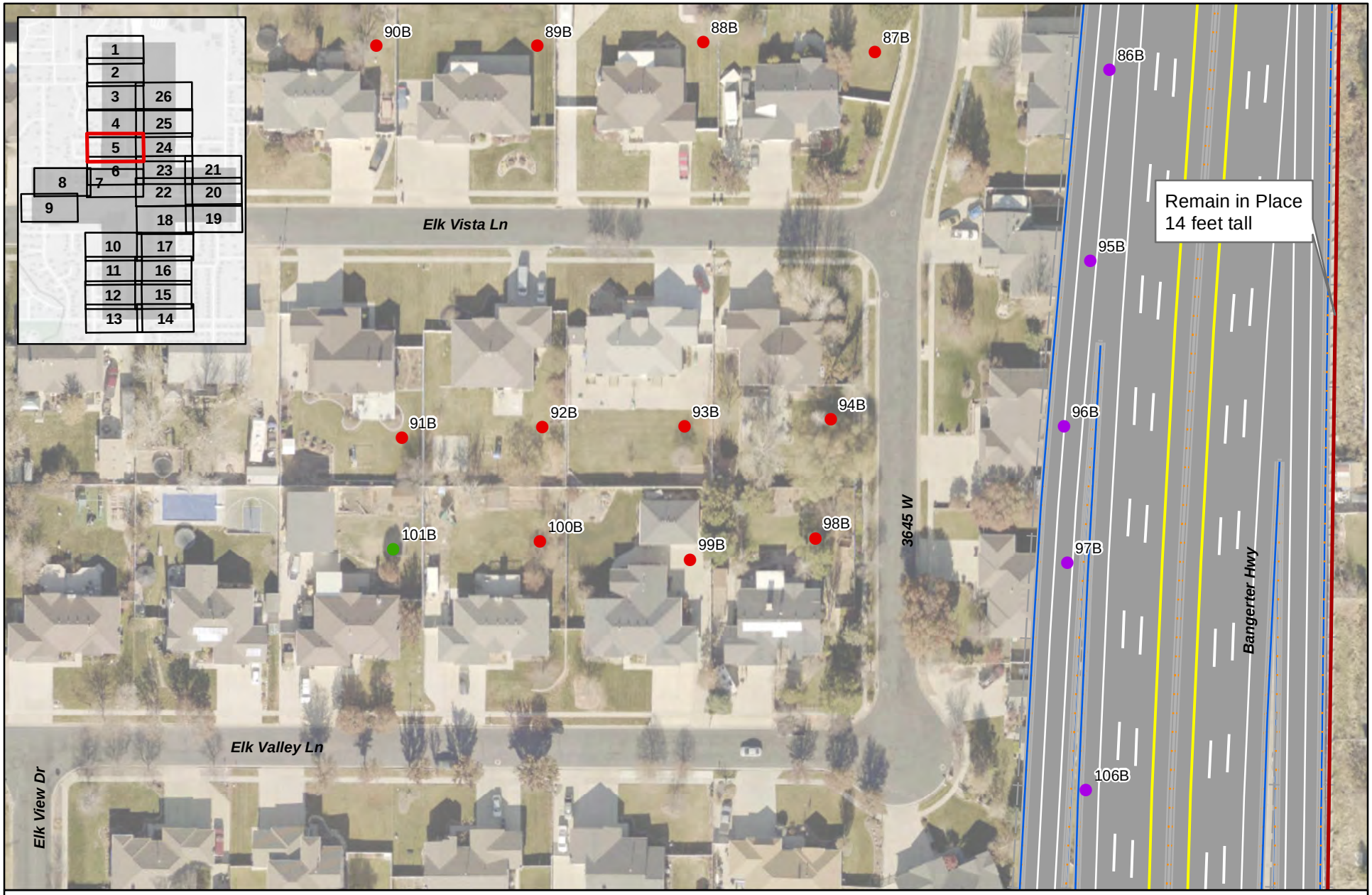
0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option



N

0 50 100

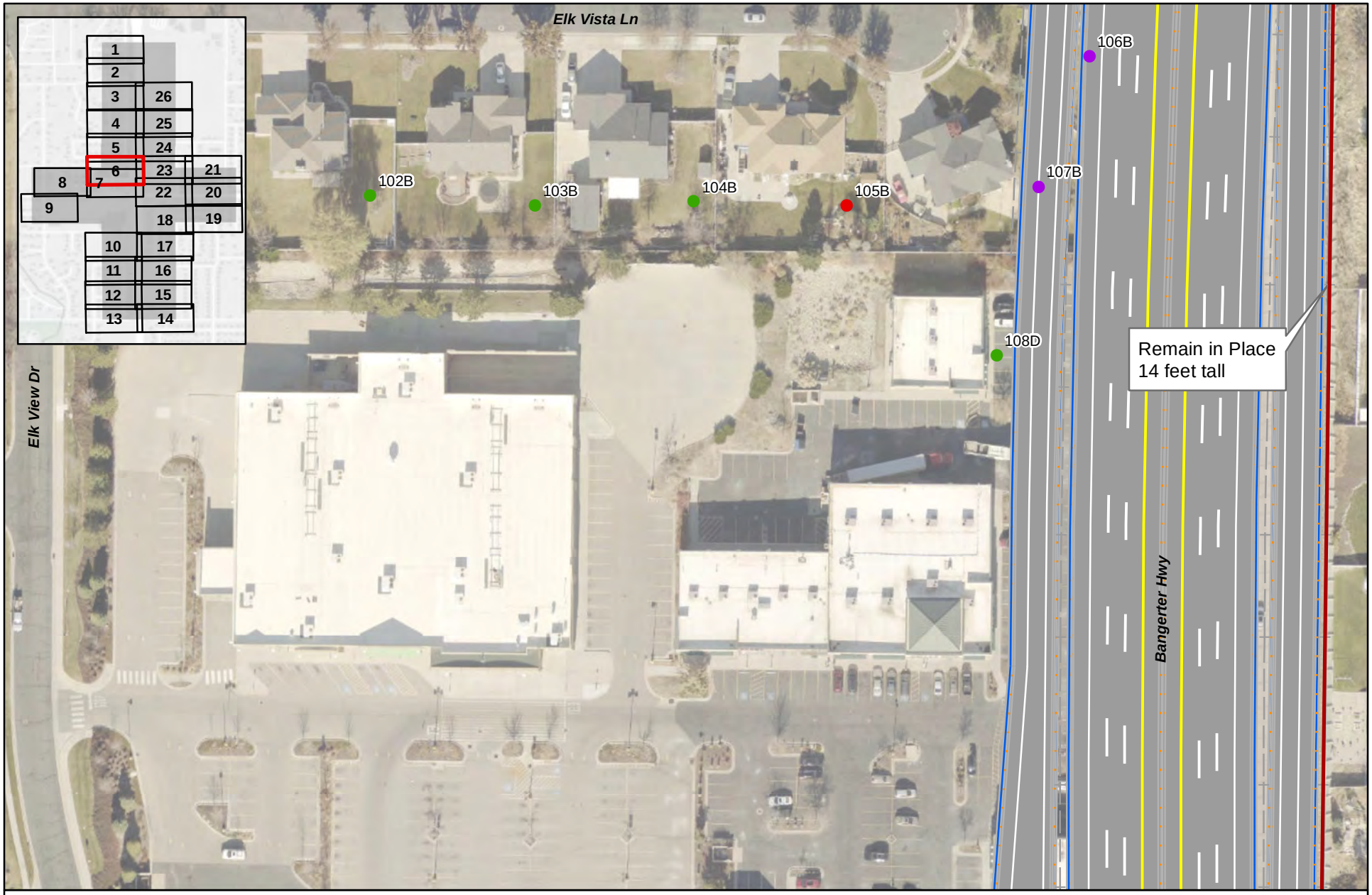
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 5 of 26



N

0 50 100

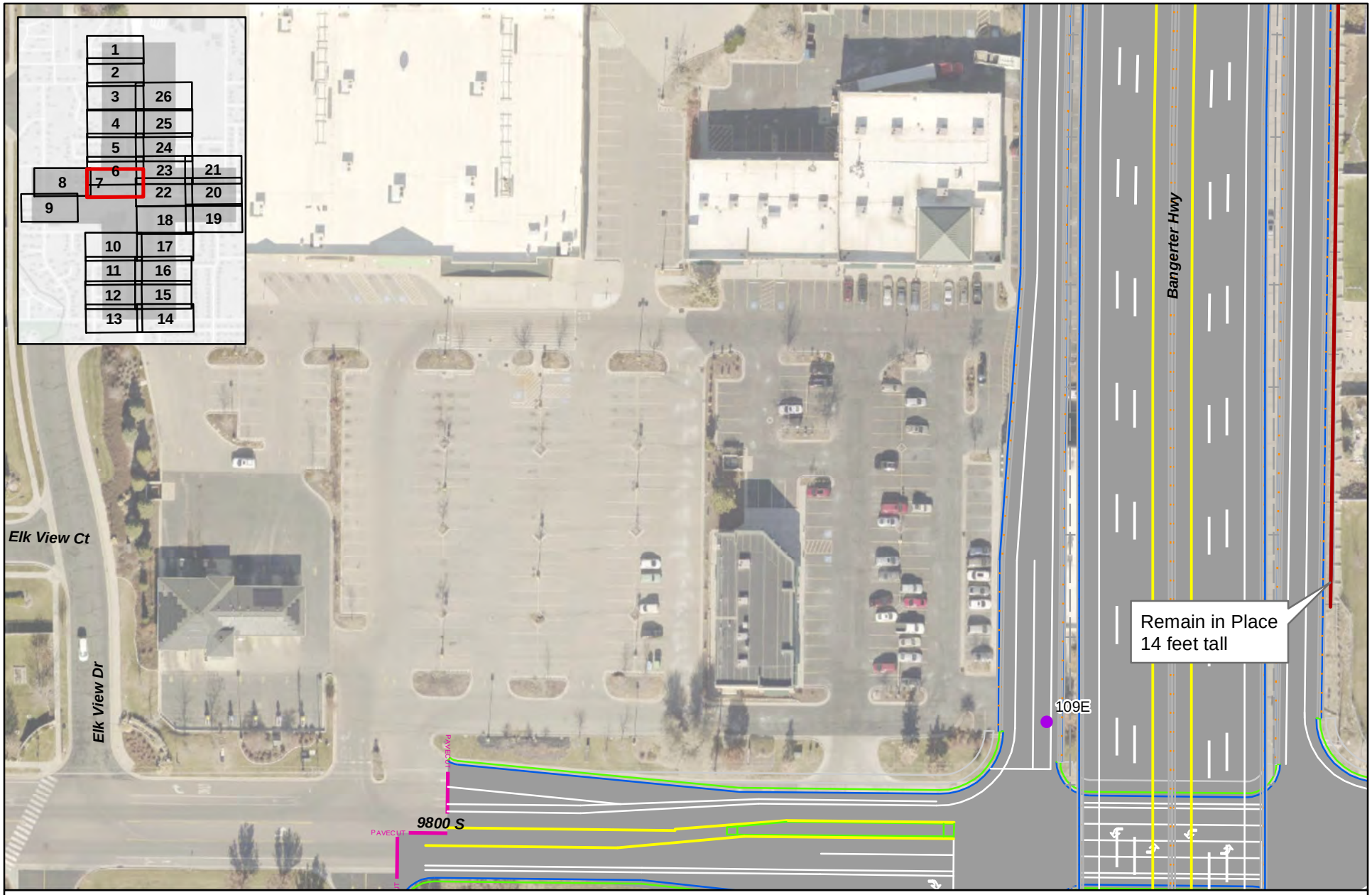
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 6 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 7 of 26

N

0 50 100

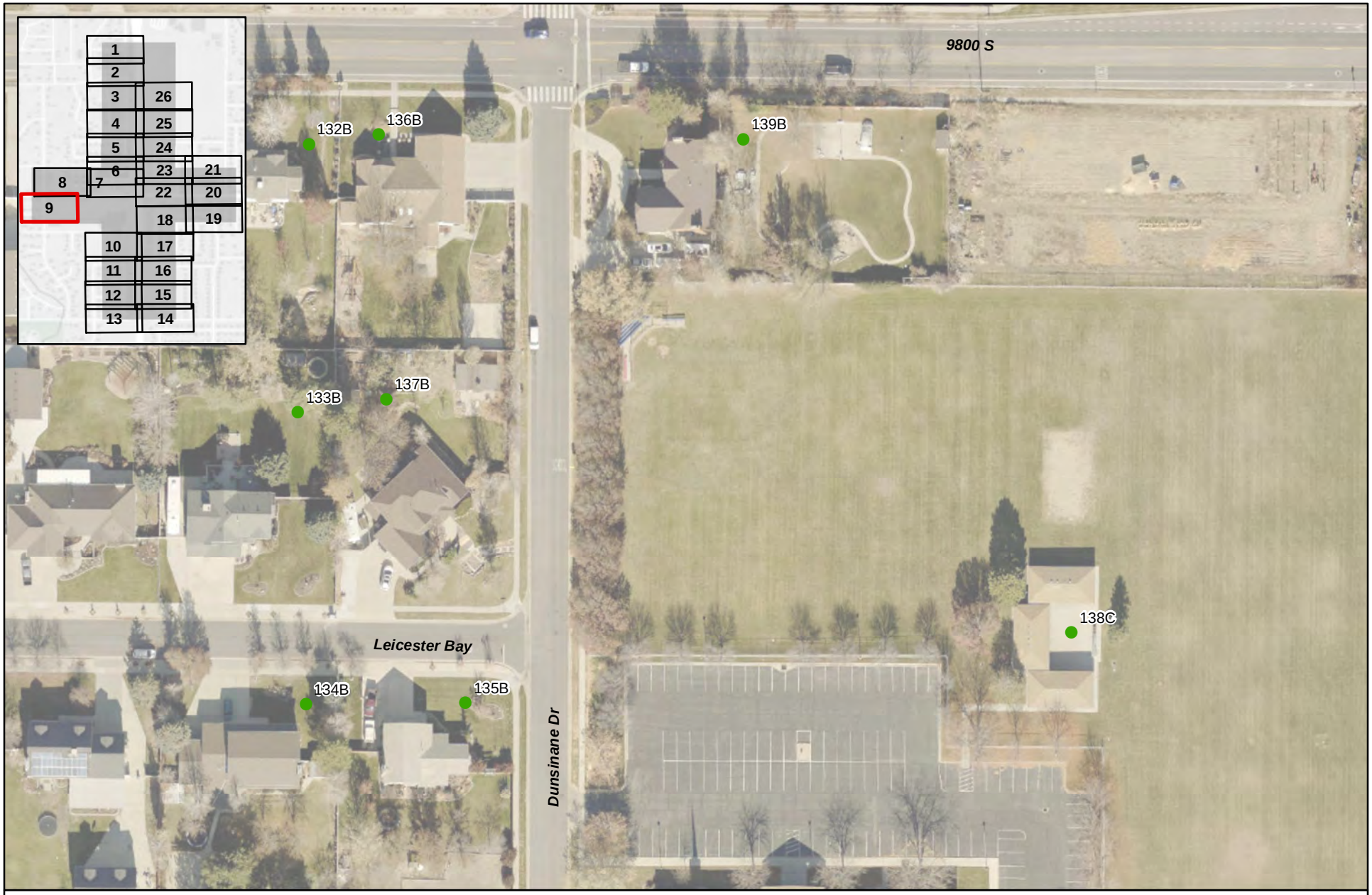
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 8 of 26



N

0 50 100

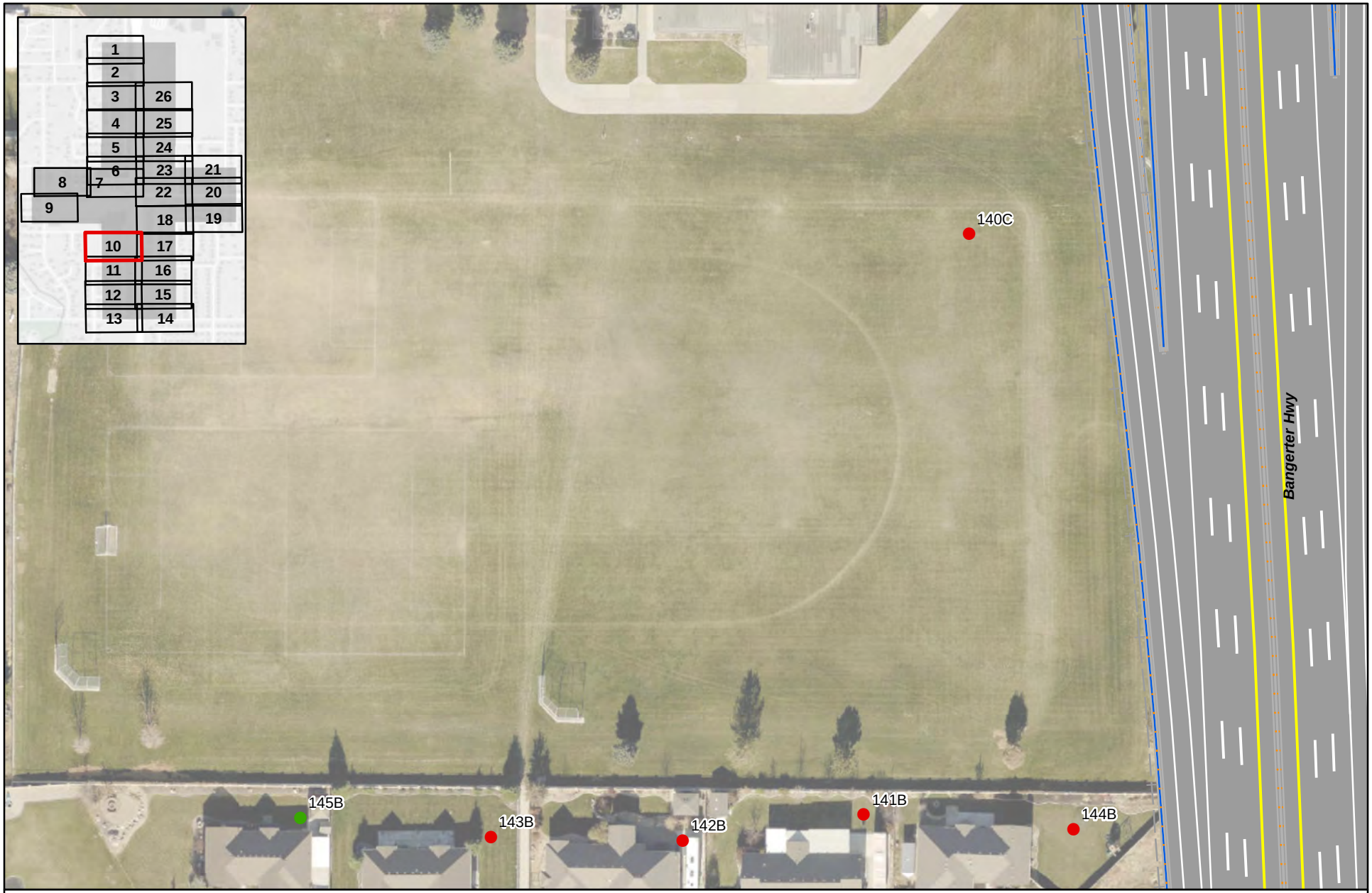
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 9 of 26



N

0 50 100

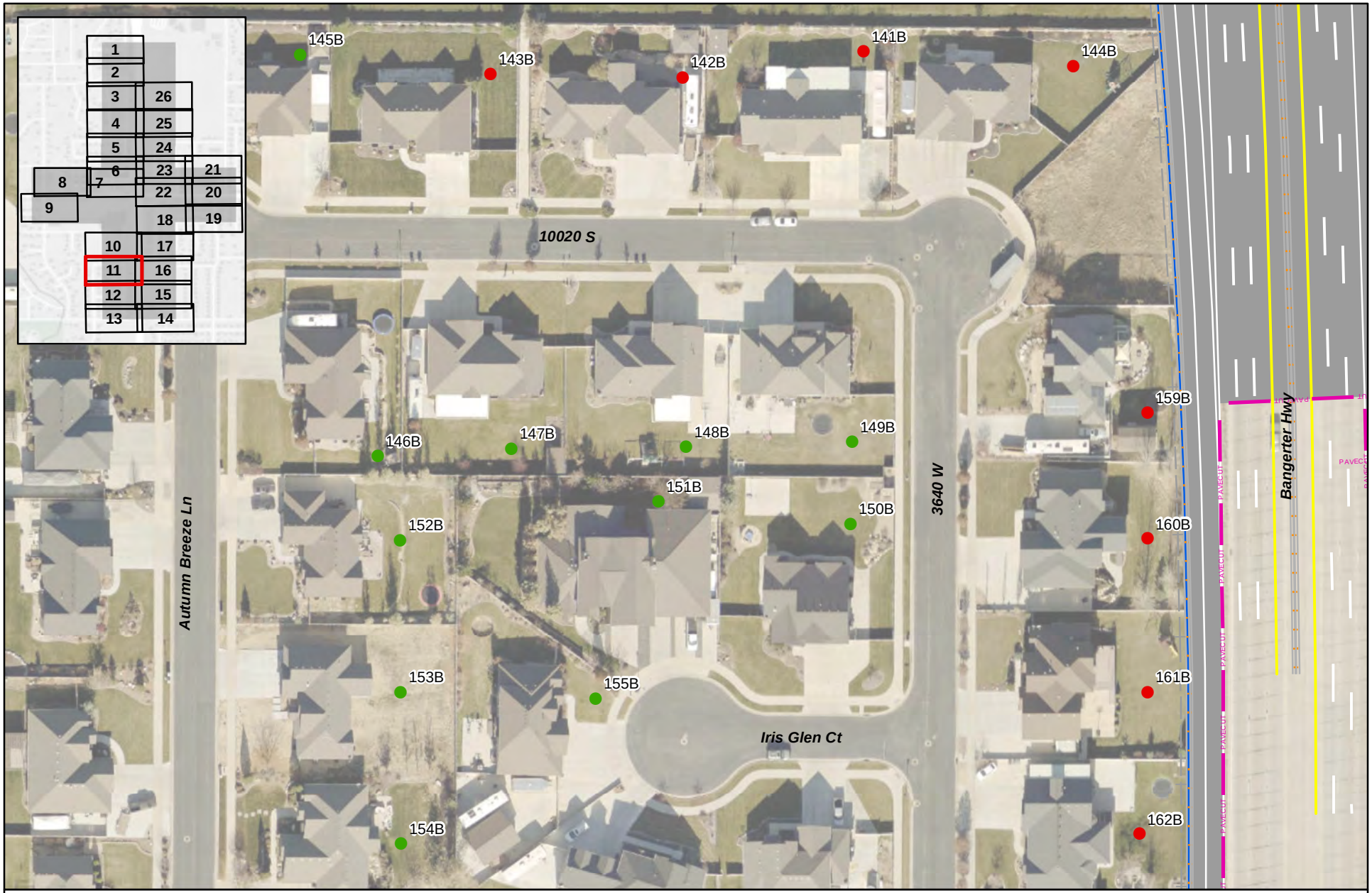
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

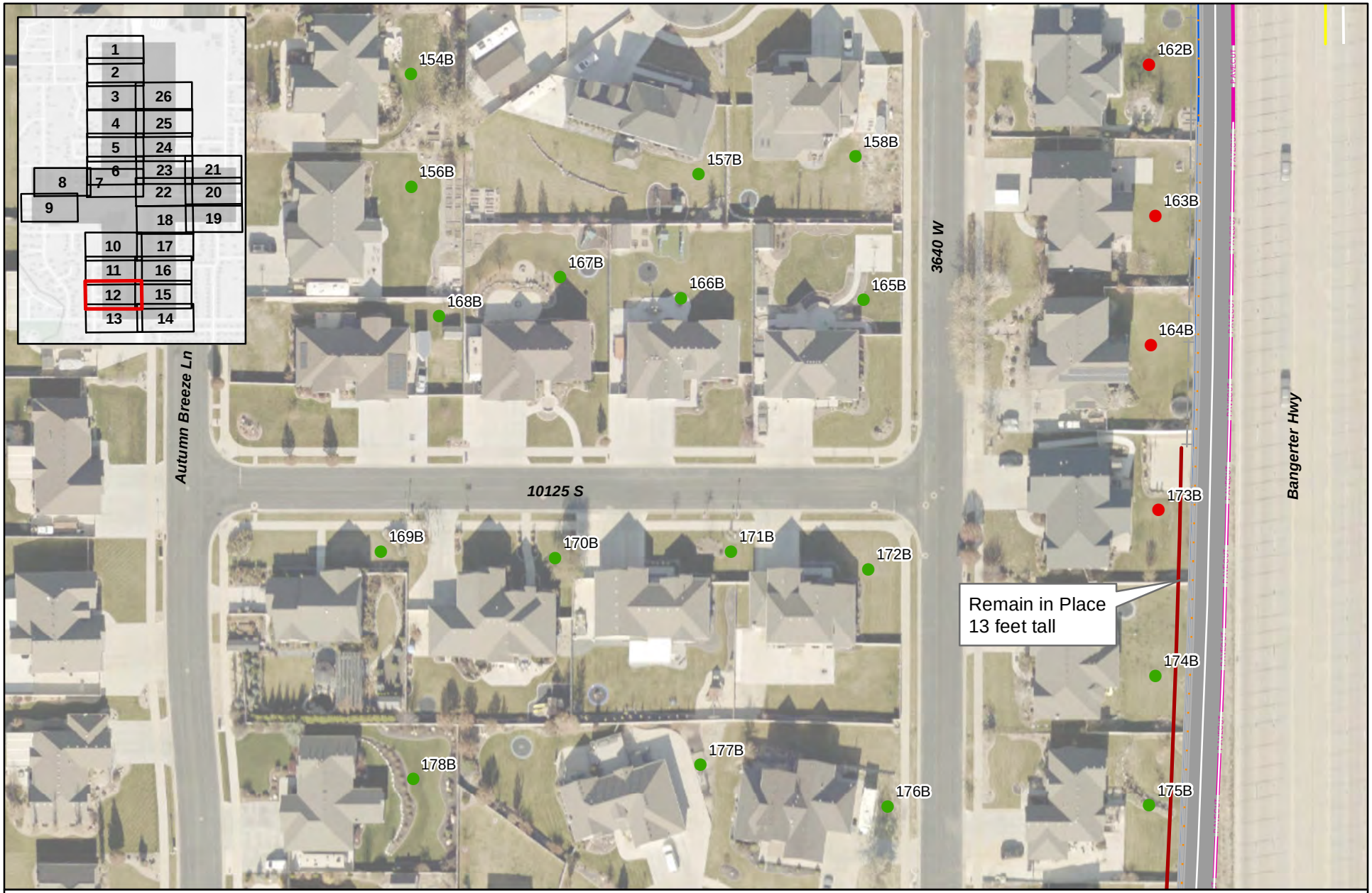
Map 10 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

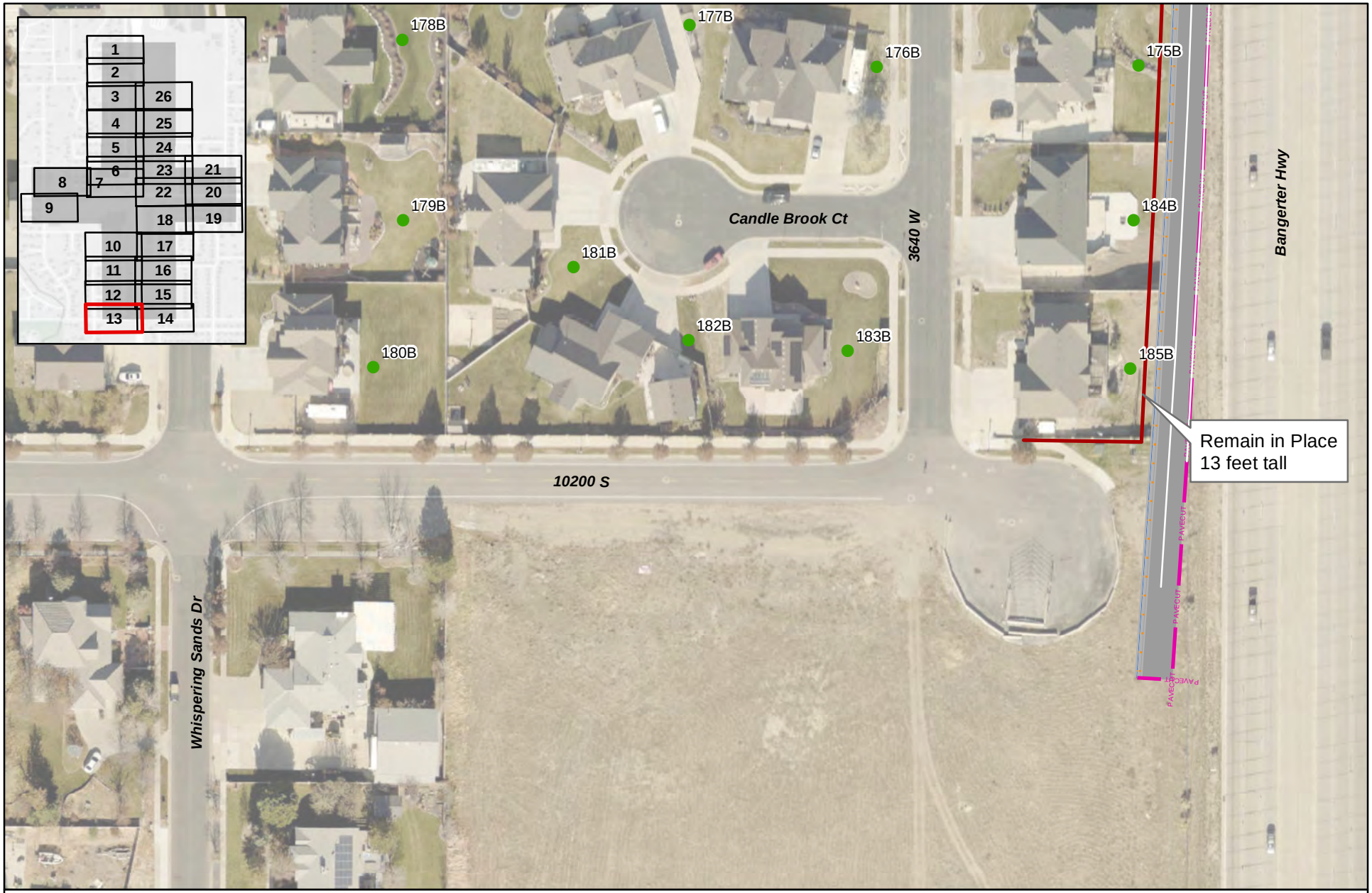
Map 11 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 12 of 26



18808: Bangerter Highway at 9800 South

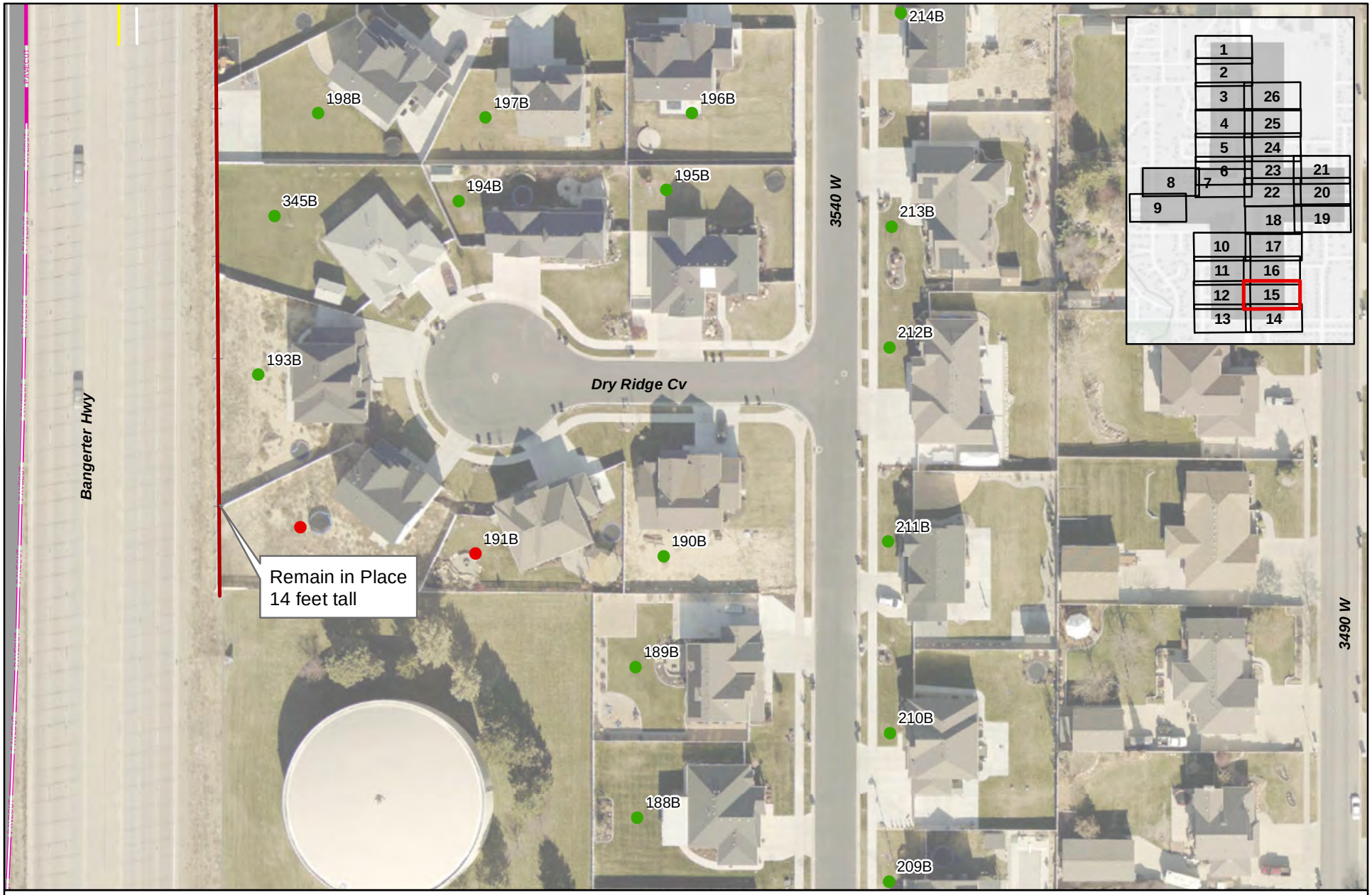
Build Noise Impacts - Bangerter Highway Under Option

Map 13 of 26

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 14 of 26



N

0 50 100

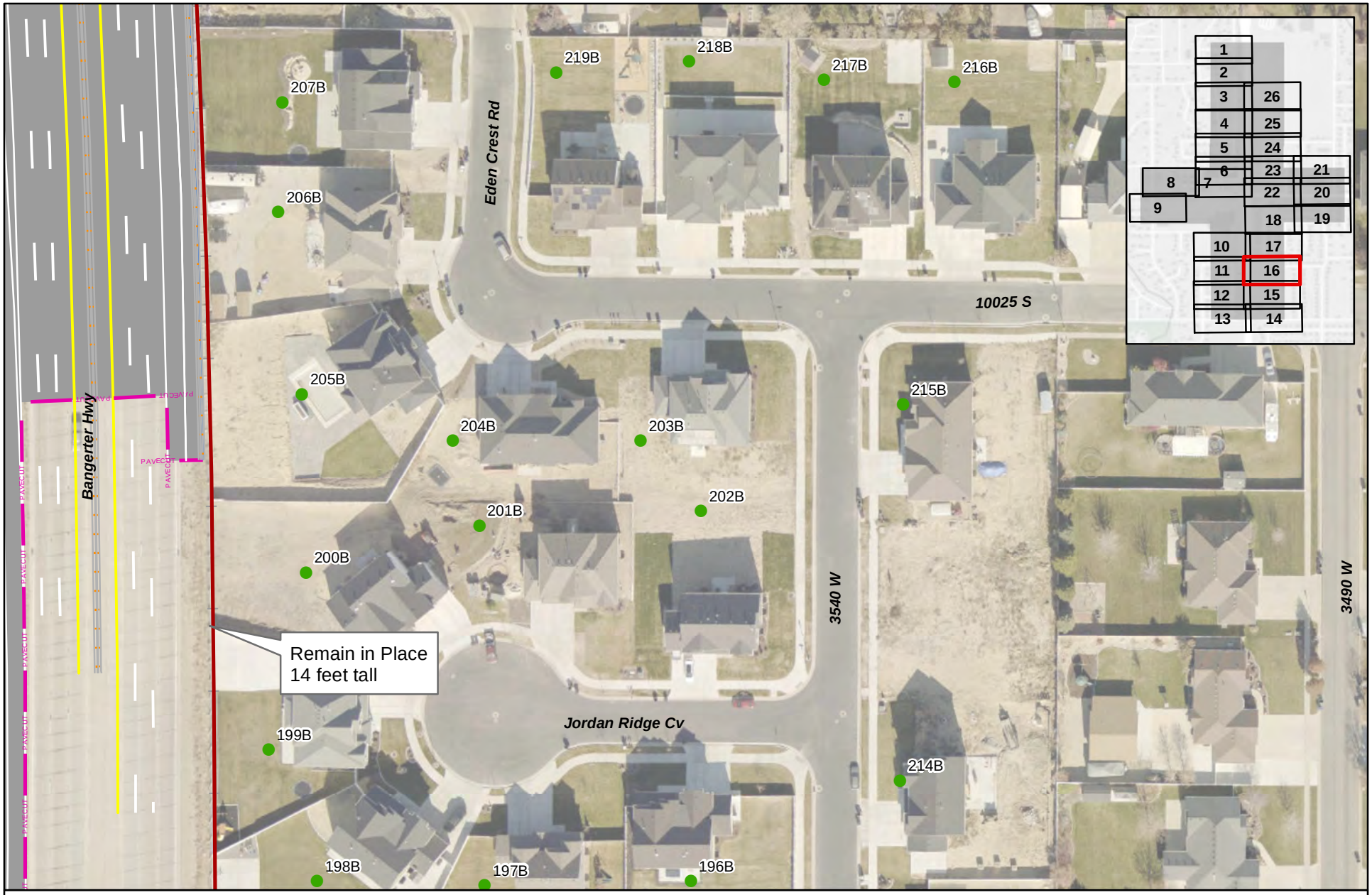
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

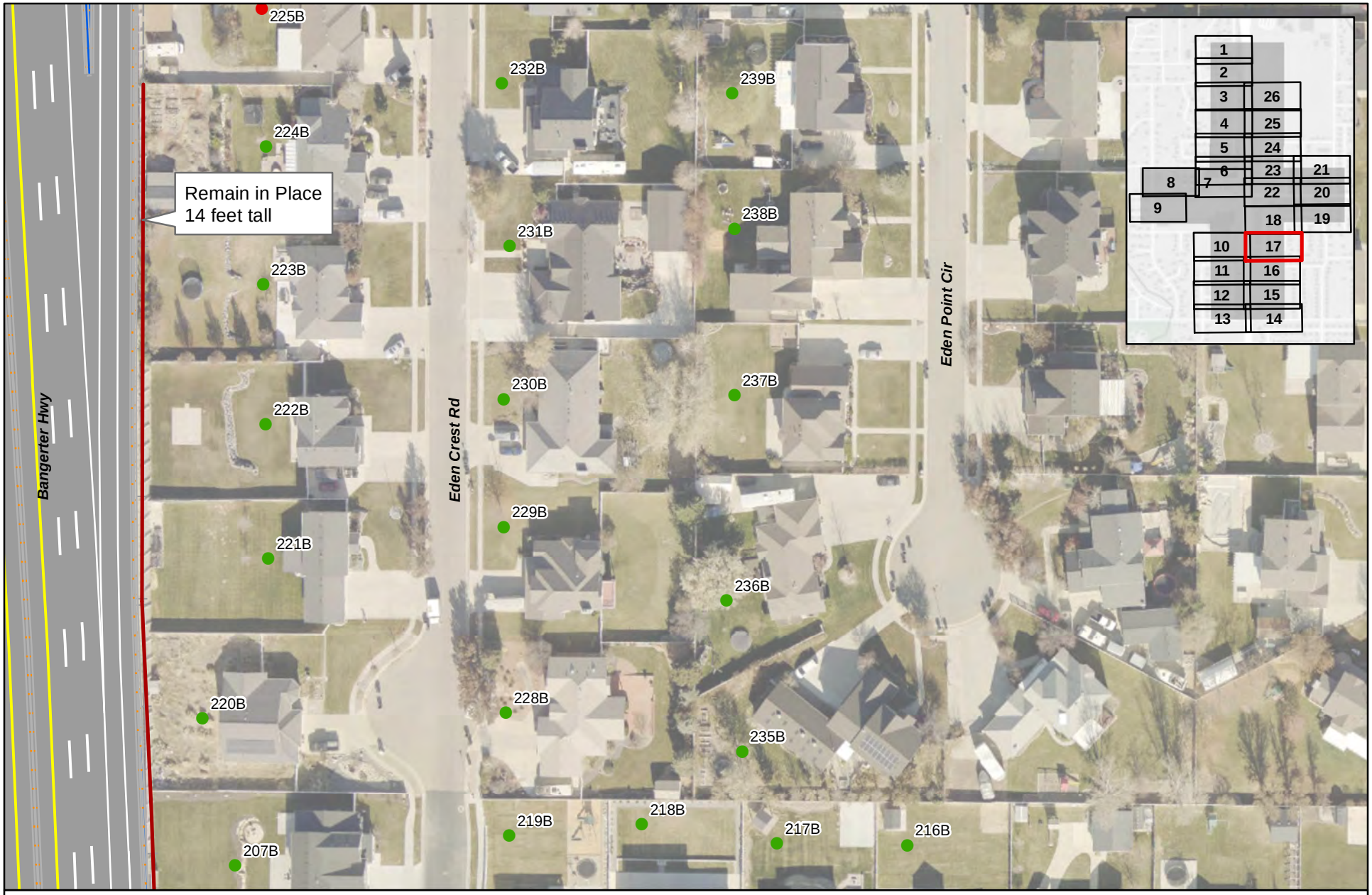
Build Noise Impacts - Bangerter Highway Under Option

Map 15 of 26



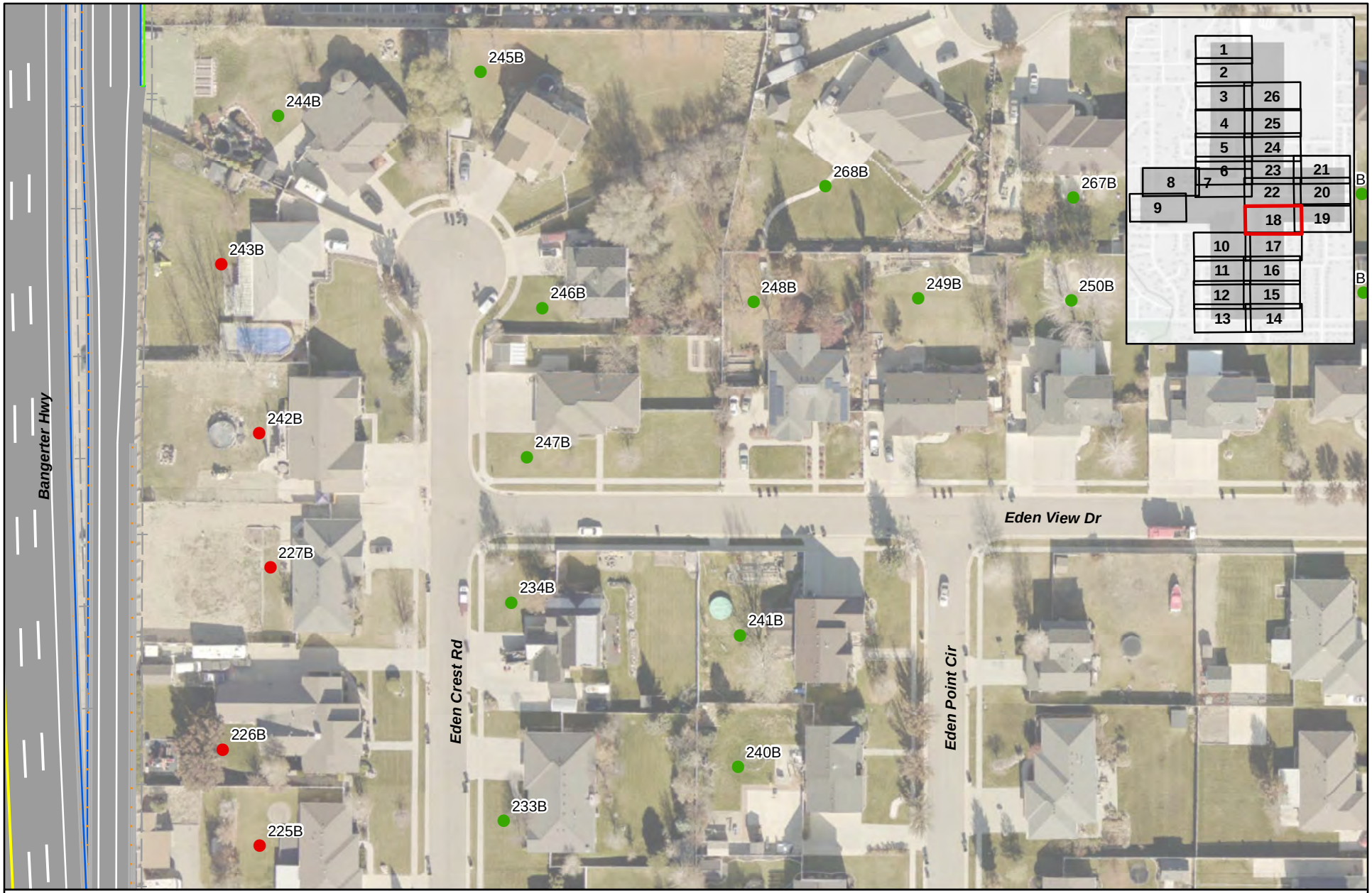
18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option



N

0 50 100

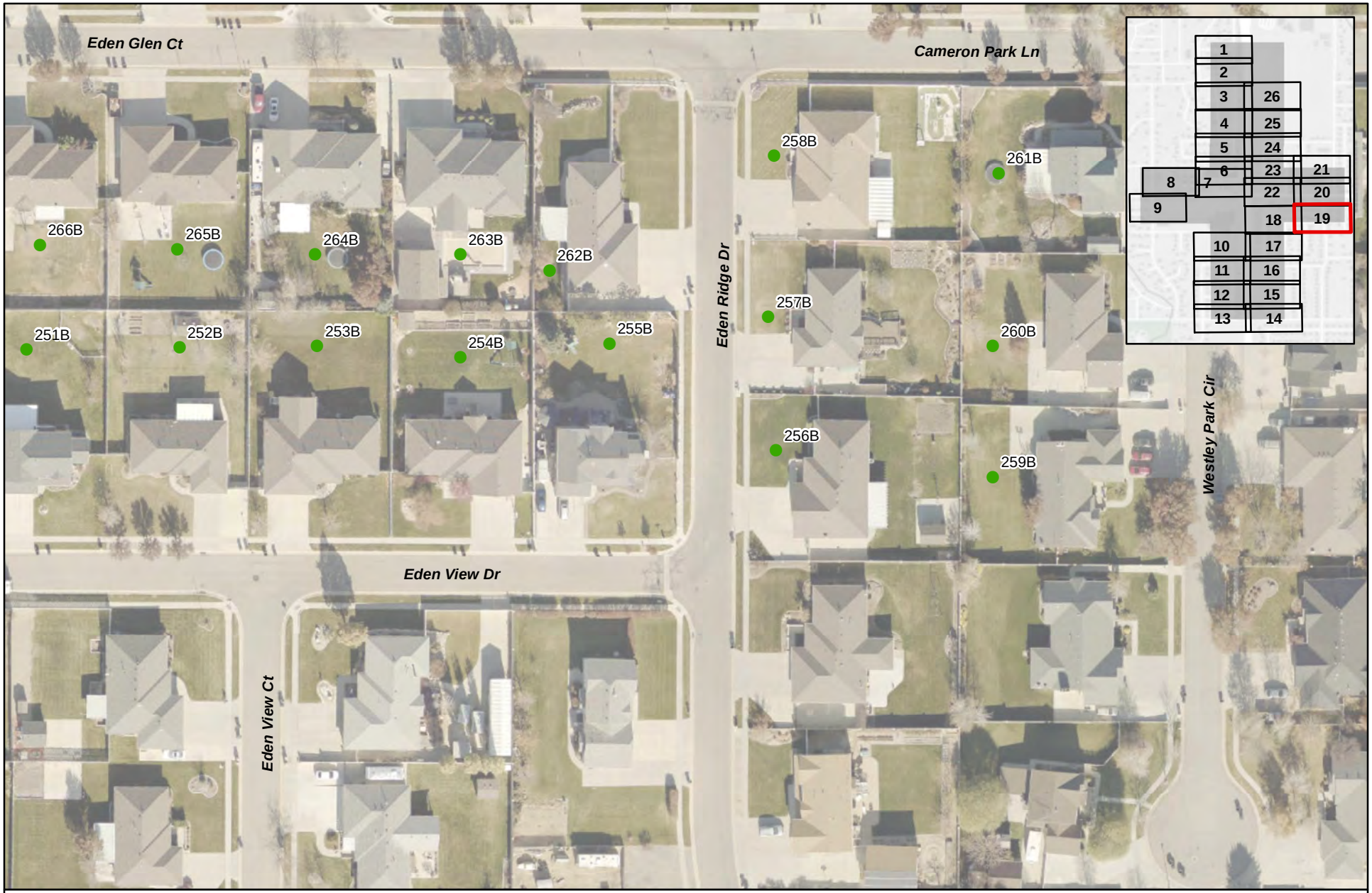
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

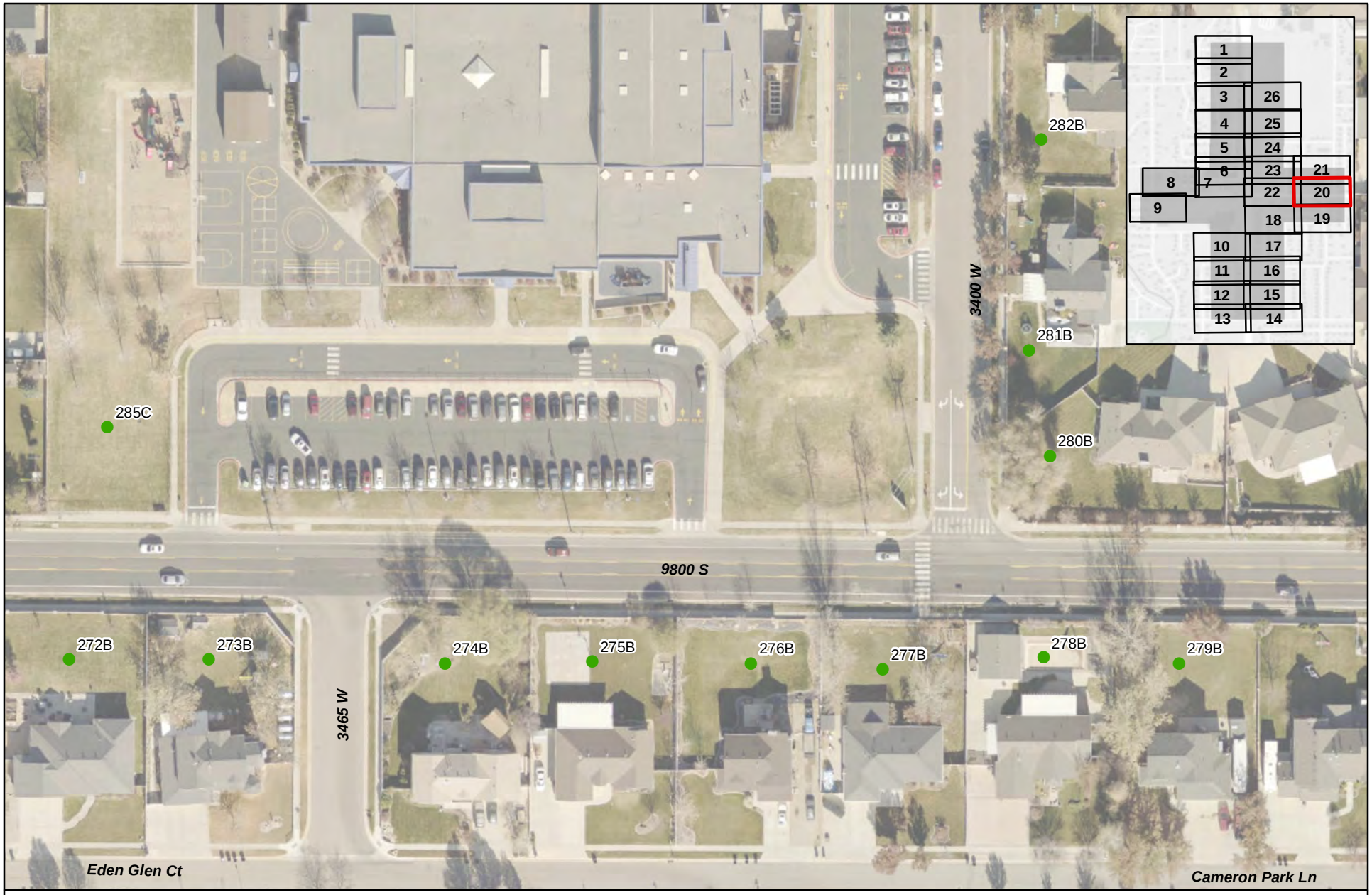
Map 18 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 19 of 26



N

0 50 100

Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

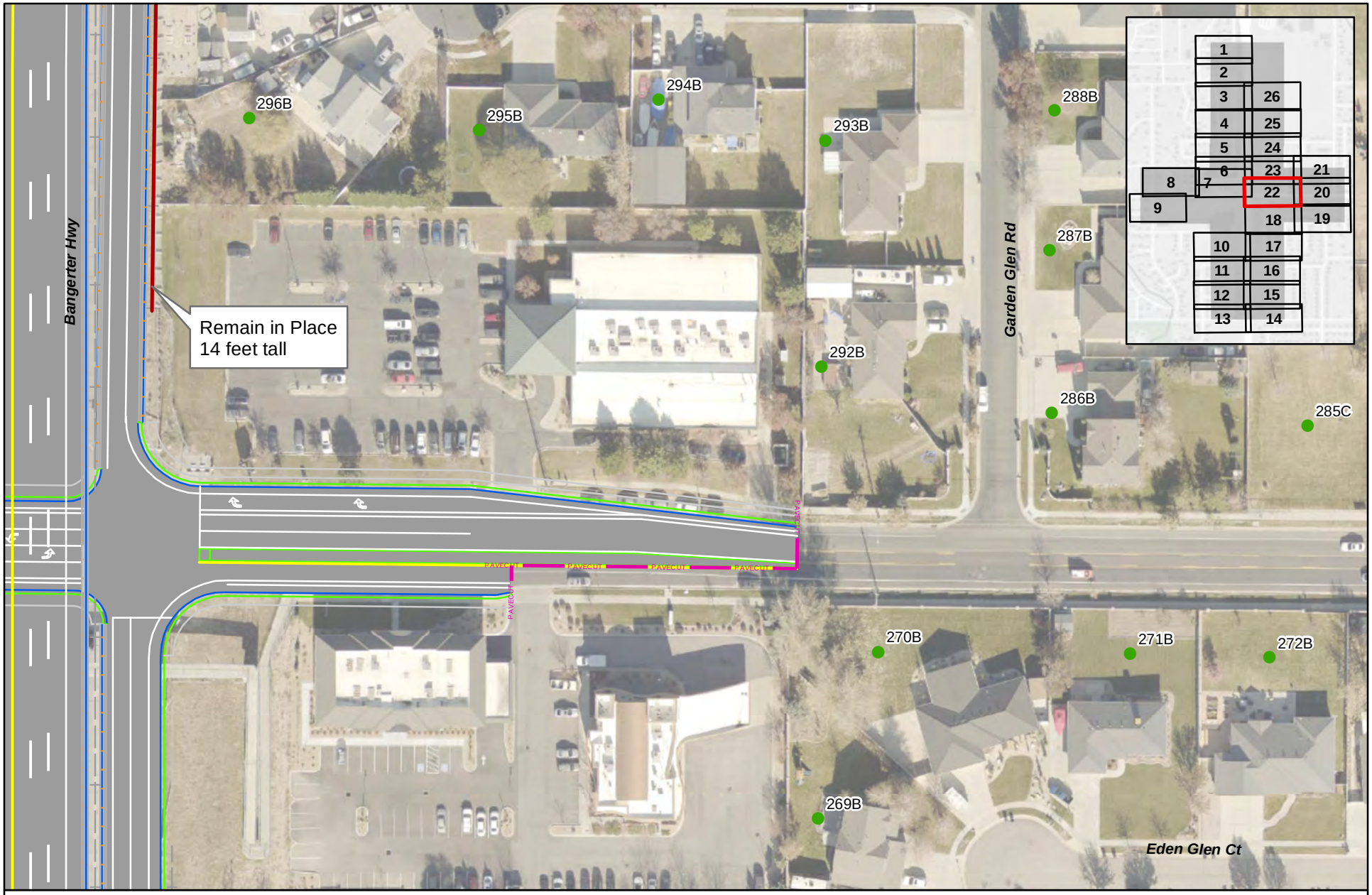
18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

18808: Bangerter Highway at 9800 South

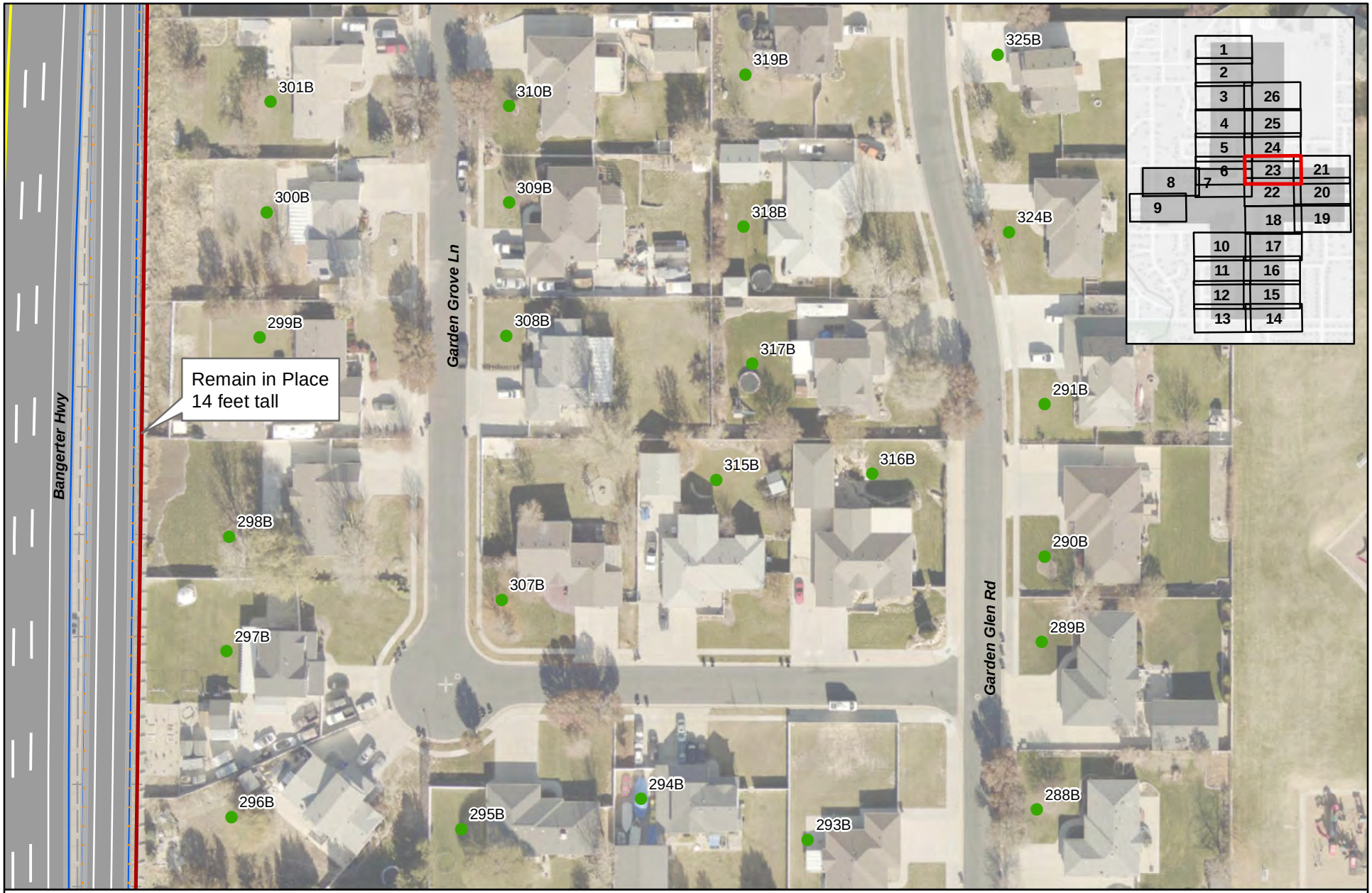
Build Noise Impacts - Bangerter Highway Under Option

Map 21 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option



N

0 50 100

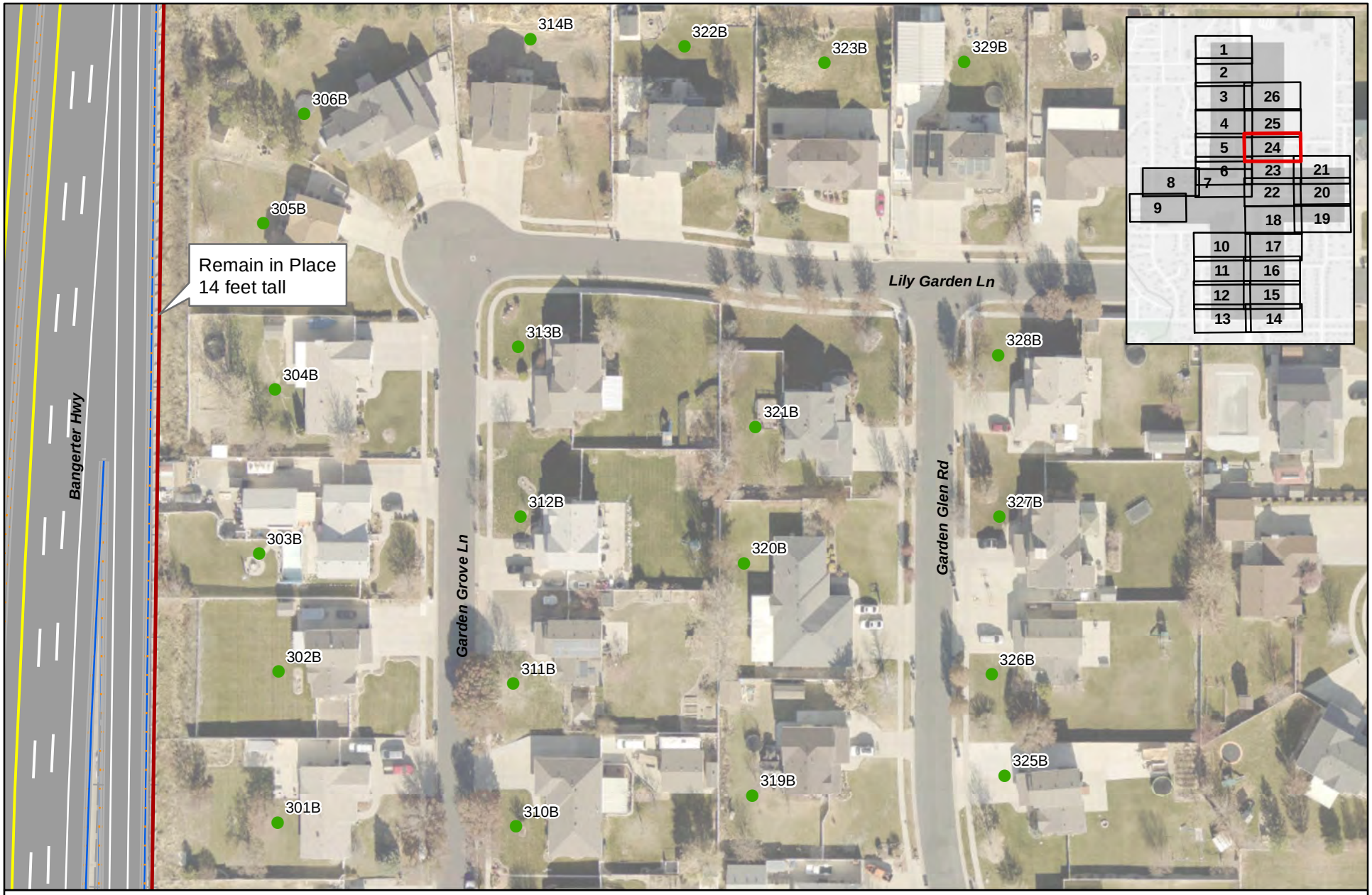
Feet

- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

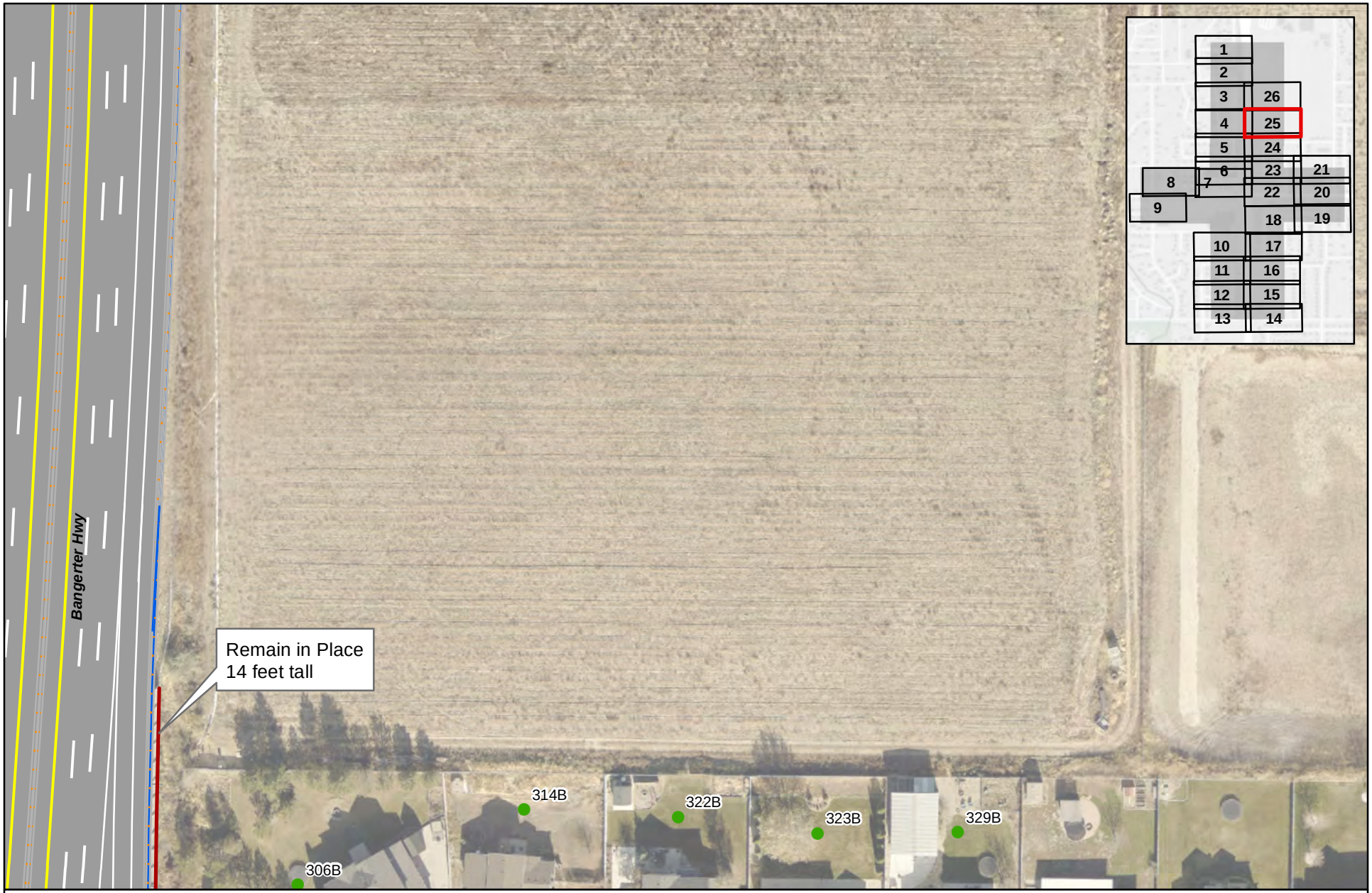
Map 23 of 26



18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 24 of 26



N

0 50 100

Feet

Not Impacted

Impacted

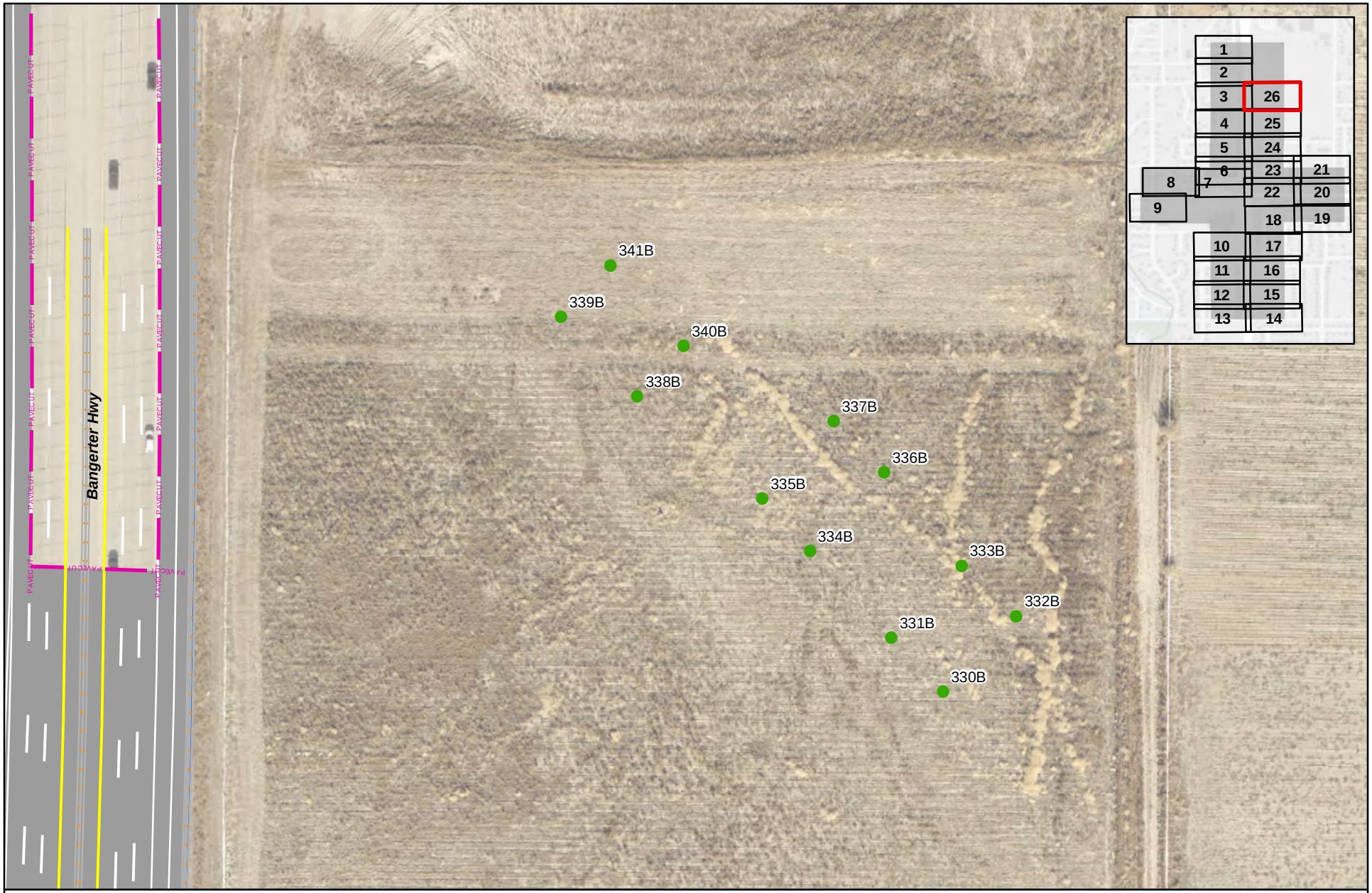
Relocation

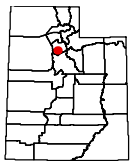
Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 25 of 26





N

0 50 100

Feet

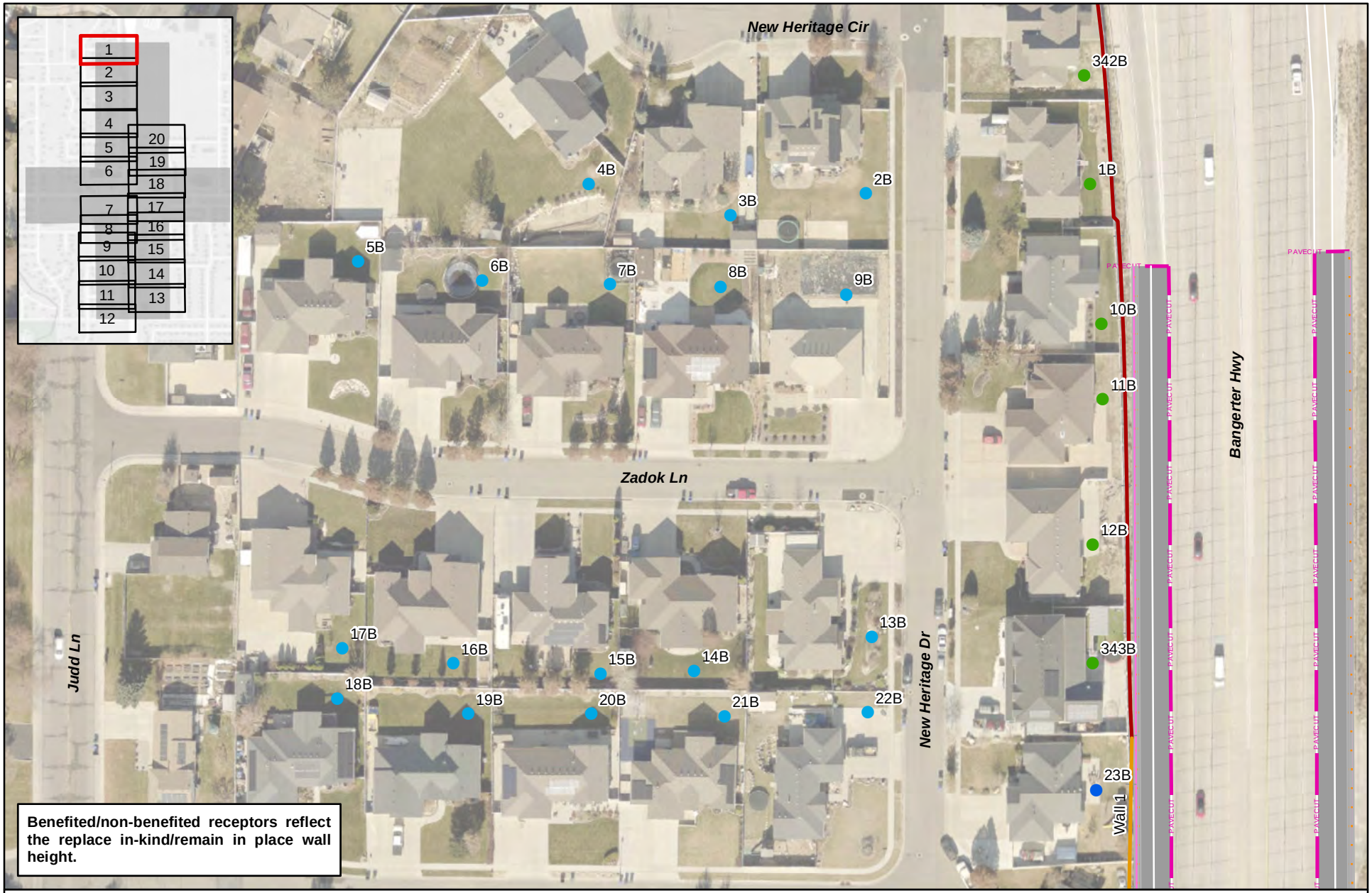
- Not Impacted
- Impacted
- Relocation
- Existing Noise Wall

18808: Bangerter Highway at 9800 South

Build Noise Impacts - Bangerter Highway Under Option

Map 26 of 26

APPENDIX C: NOISE WALL MAPS



N

0 40 80

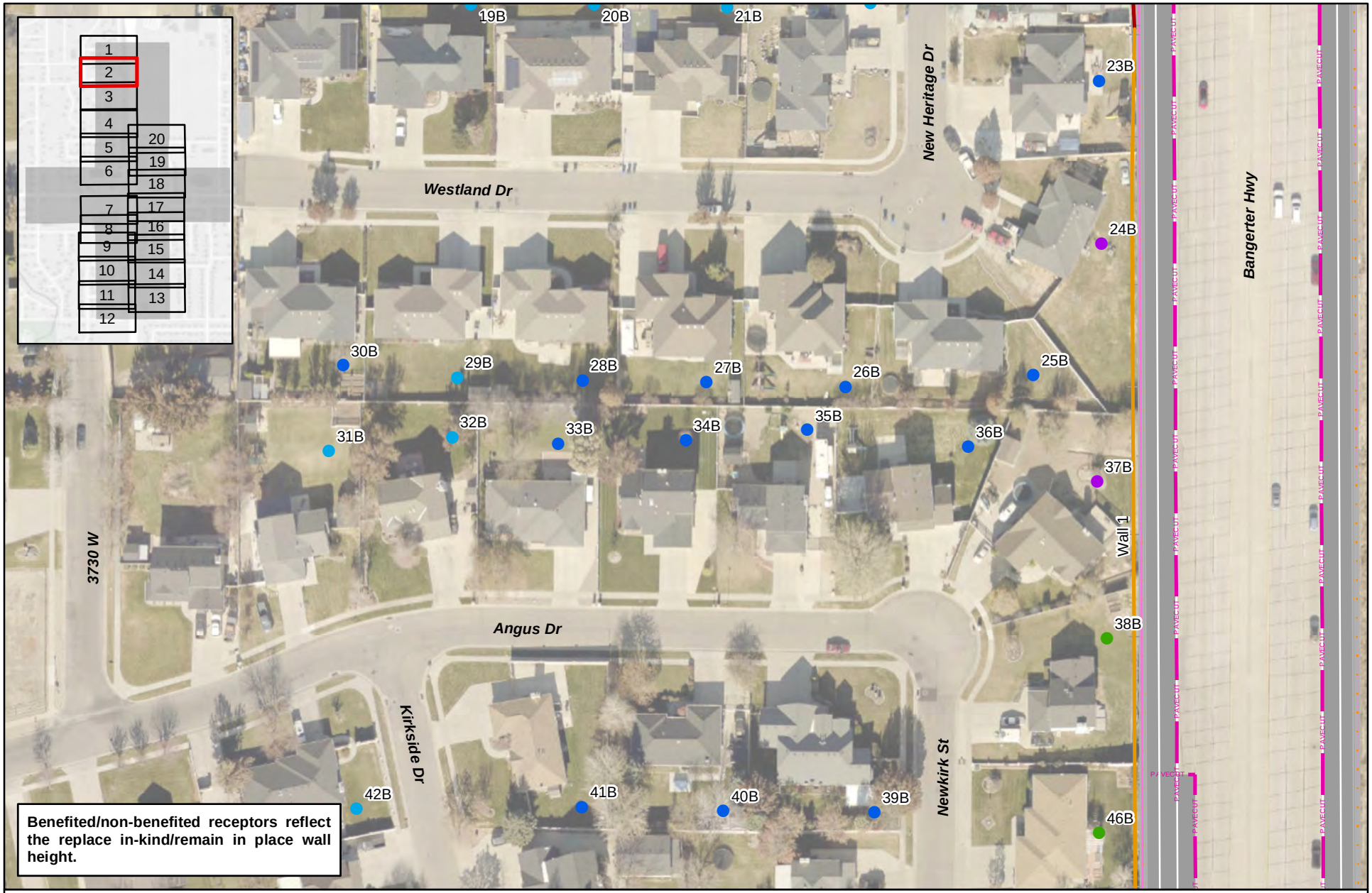
Feet

- Benefited, Impacted
- Benefited, Not Impacted
- Not Benefited, Impacted
- Not Benefited, Not Impacted
- Relocation
- Existing Noise Wall - Remain in Place
- Evaluated Noise Wall - Replace In-Kind
- Evaluated Noise Wall - Not Feasible and Reasonable

18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Over Option

Map 1 of 20



N

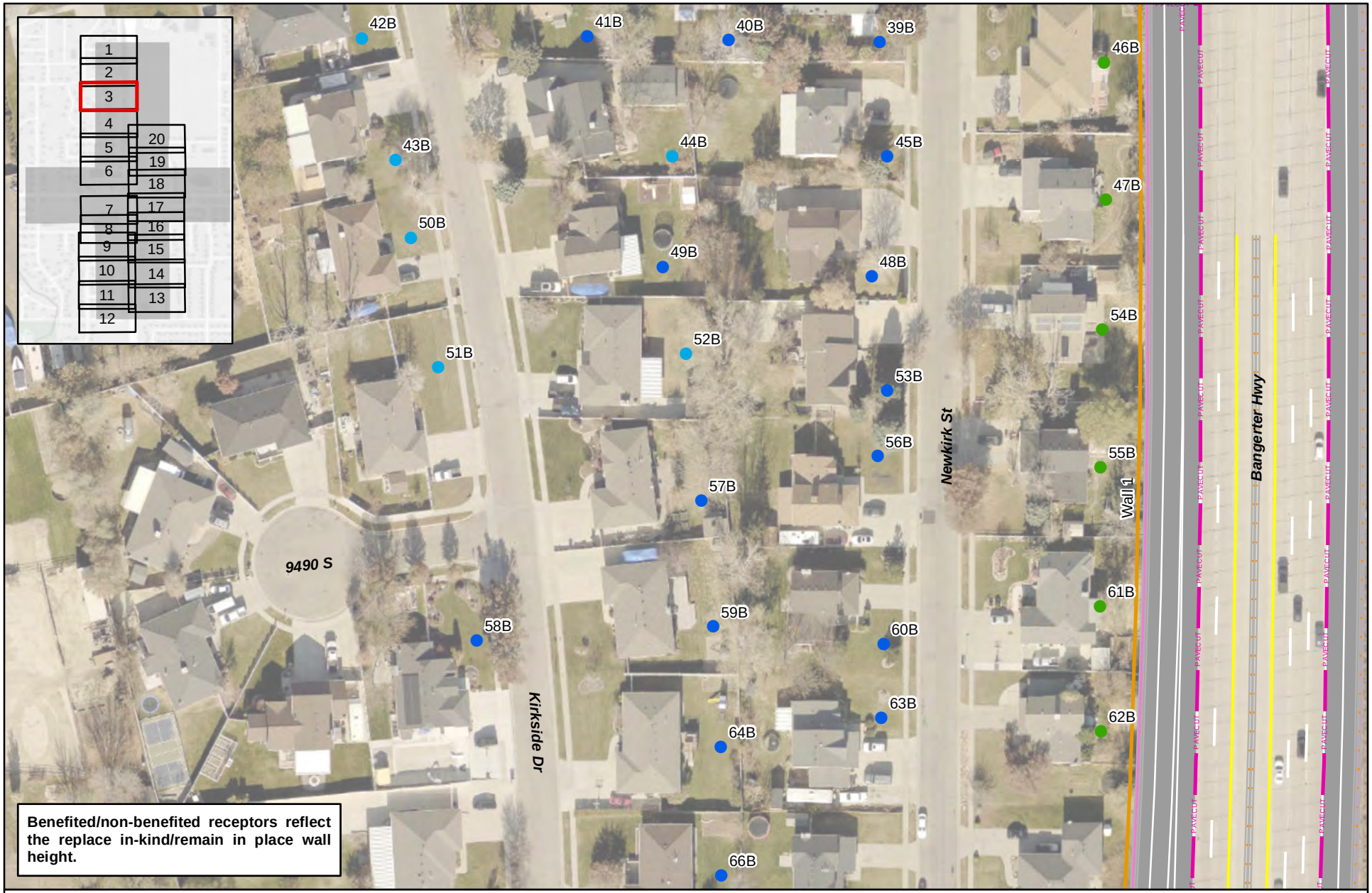
0 40 80

Feet

- Benefited, Impacted
- Benefited, Not Impacted
- Not Benefited, Impacted
- Not Benefited, Not Impacted
- Relocation
- Existing Noise Wall - Remain in Place
- Evaluated Noise Wall - Replace In-Kind
- Evaluated Noise Wall - Not Feasible and Reasonable

18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Over Option



N

0 40 80

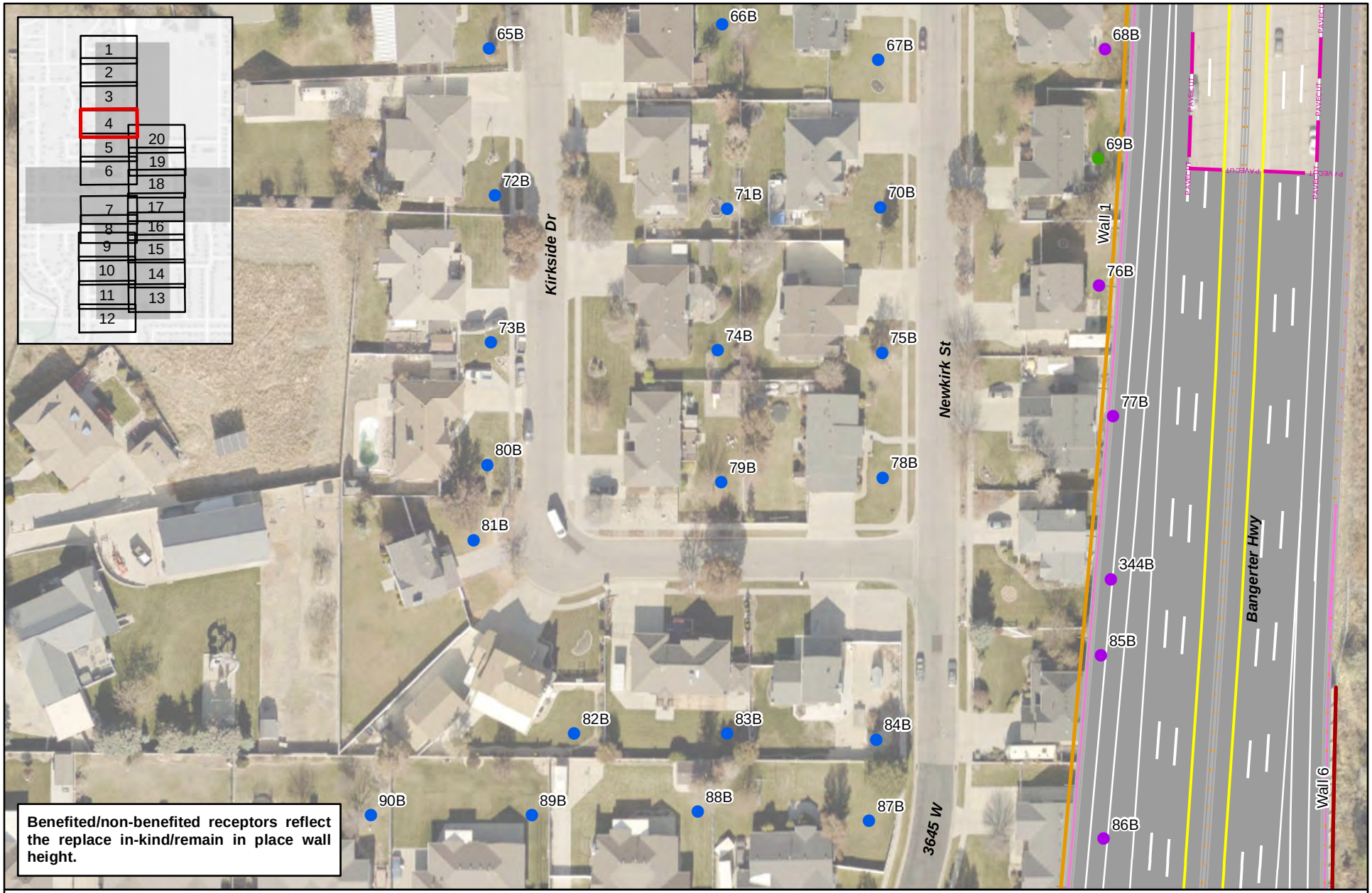
Feet

- Benefited, Impacted
- Benefited, Not Impacted
- Not Benefited, Impacted
- Not Benefited, Not Impacted
- Relocation
- Existing Noise Wall - Remain in Place
- Evaluated Noise Wall - Replace In-Kind
- Evaluated Noise Wall - Not Feasible and Reasonable

18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Over Option

Map 3 of 20



N

0 40 80

Feet

- Benefited, Impacted
- Benefited, Not Impacted
- Not Benefited, Impacted
- Not Benefited, Not Impacted
- Relocation
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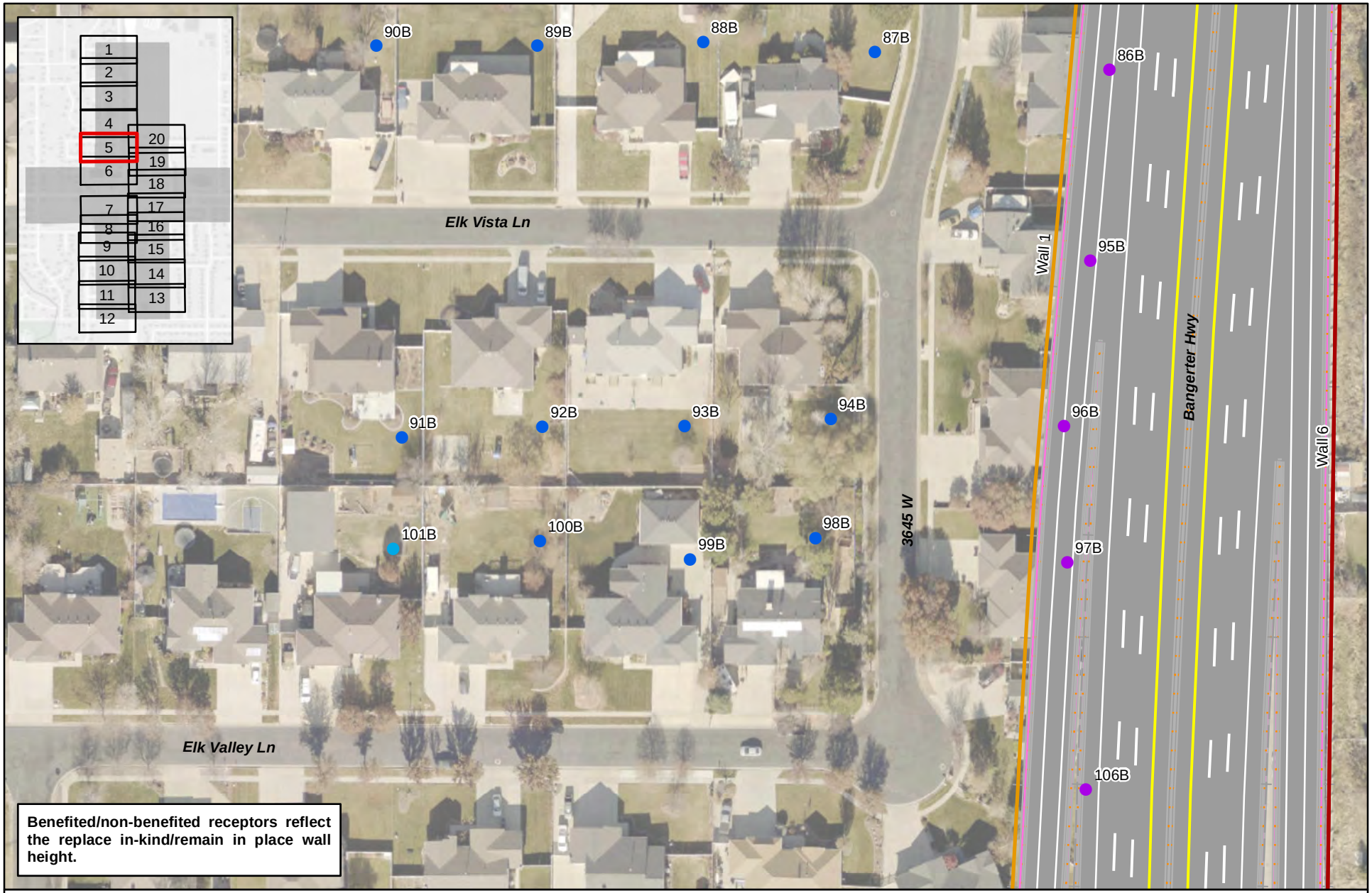
18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Over Option



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Feet

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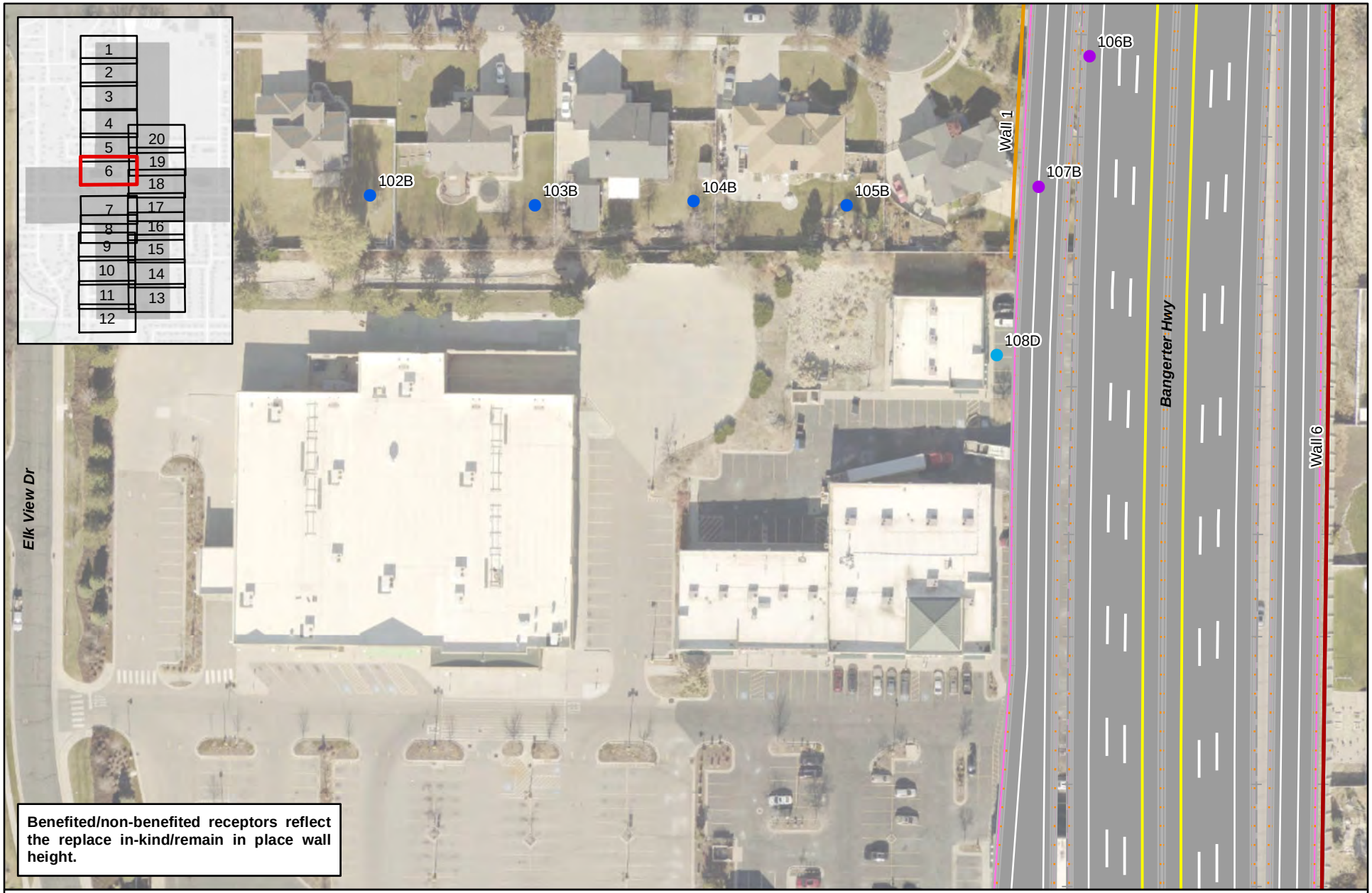

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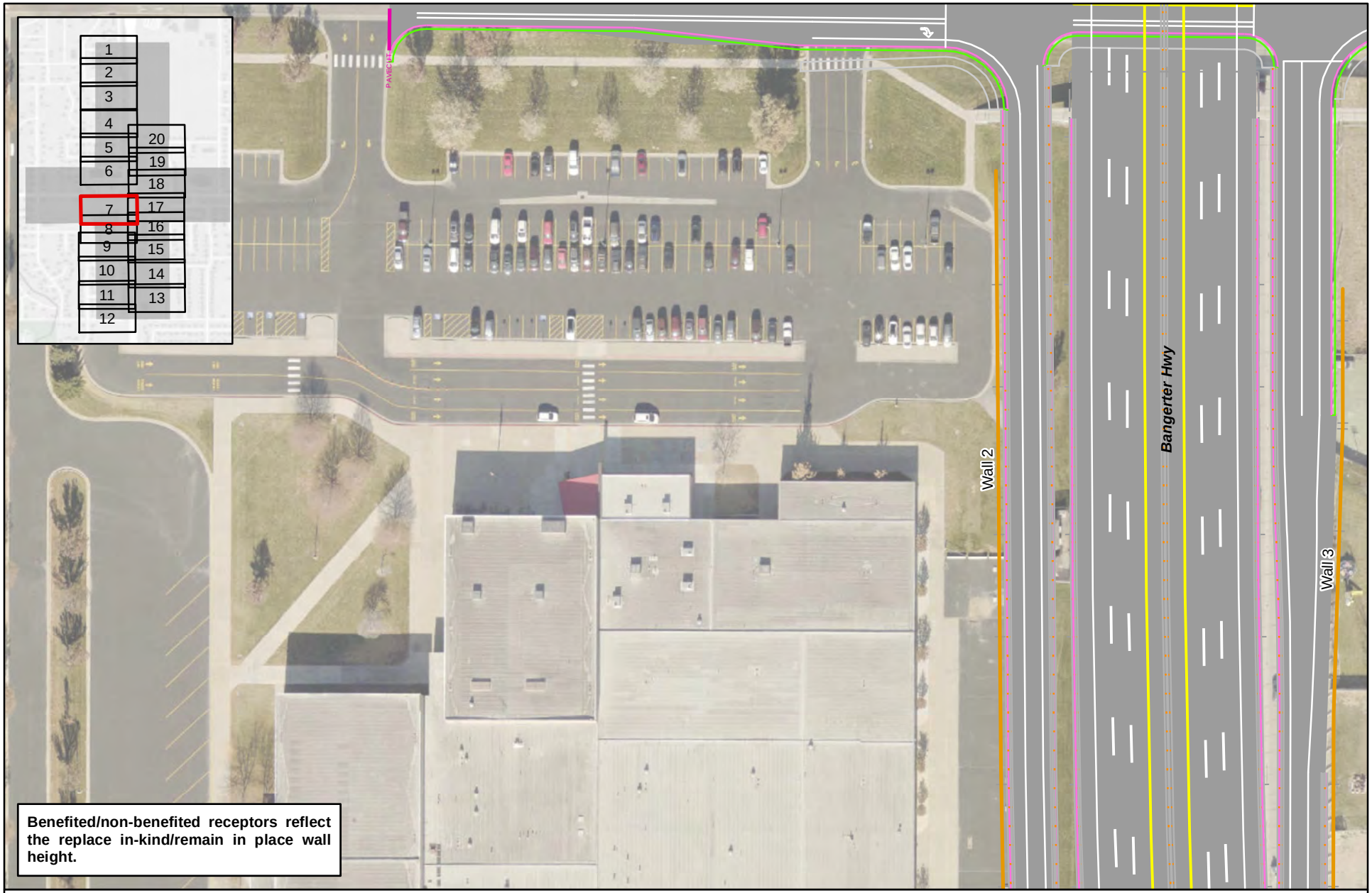

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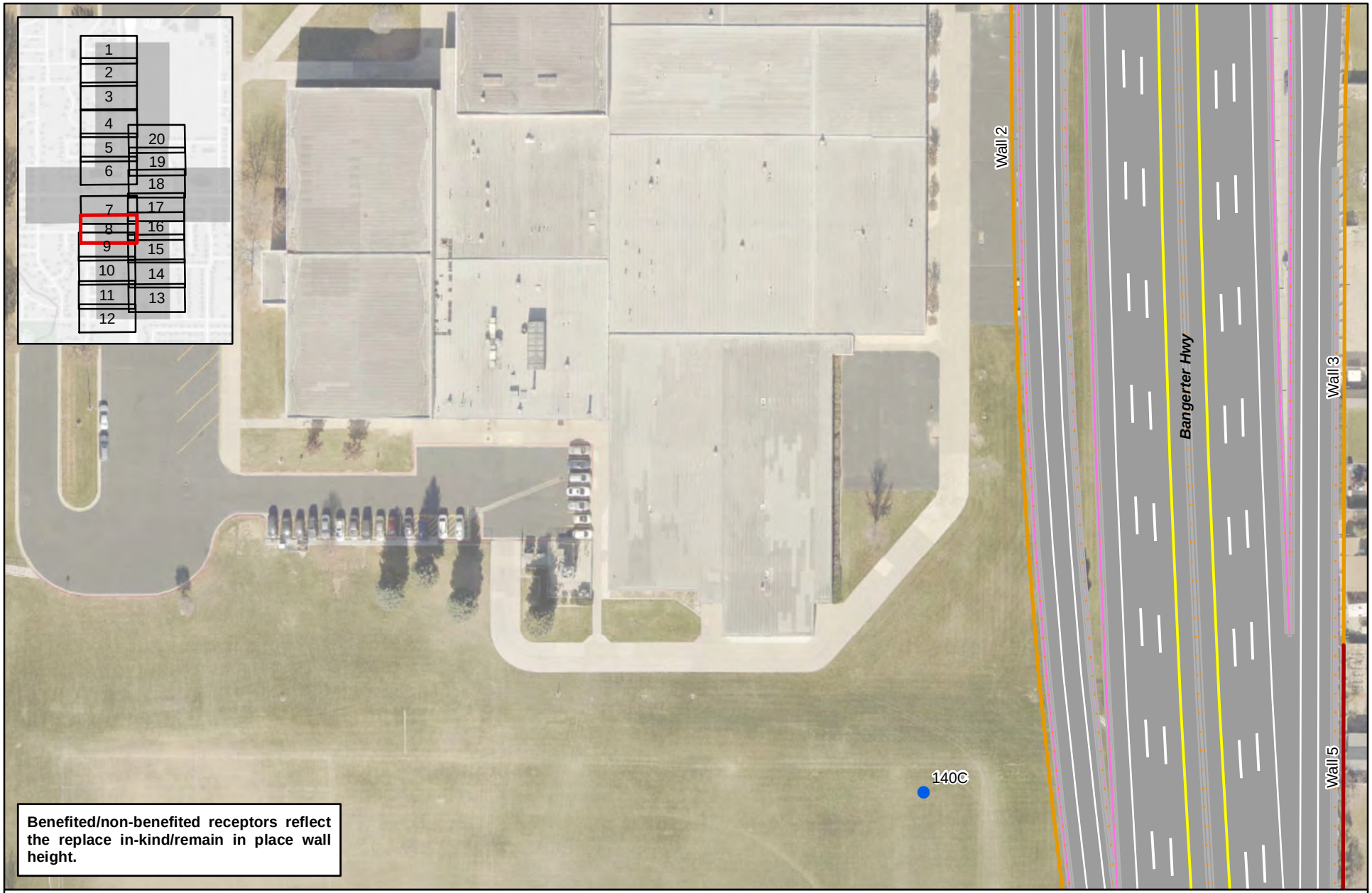

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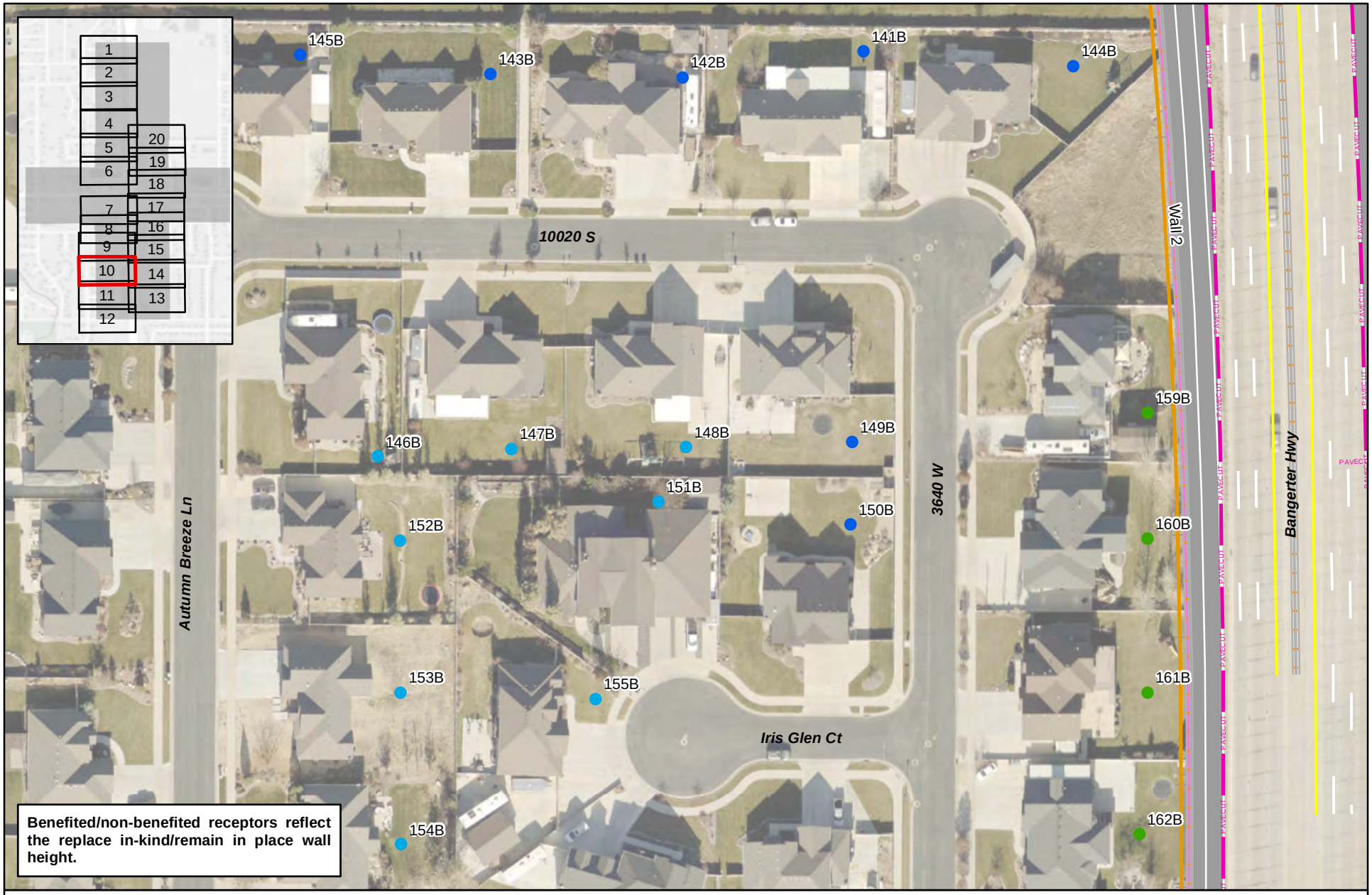

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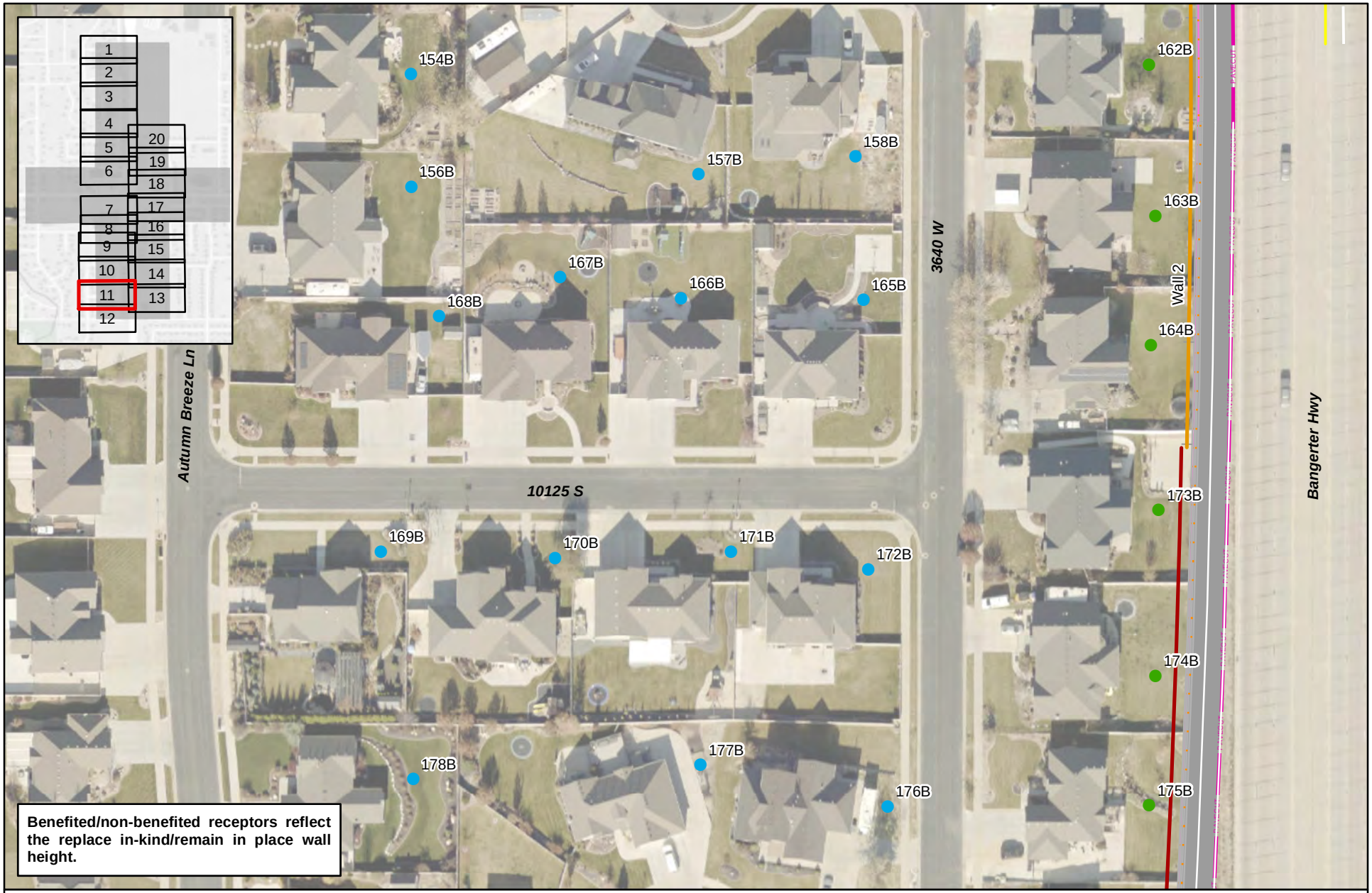
Noise Walls - Bangerter Highway Over Option



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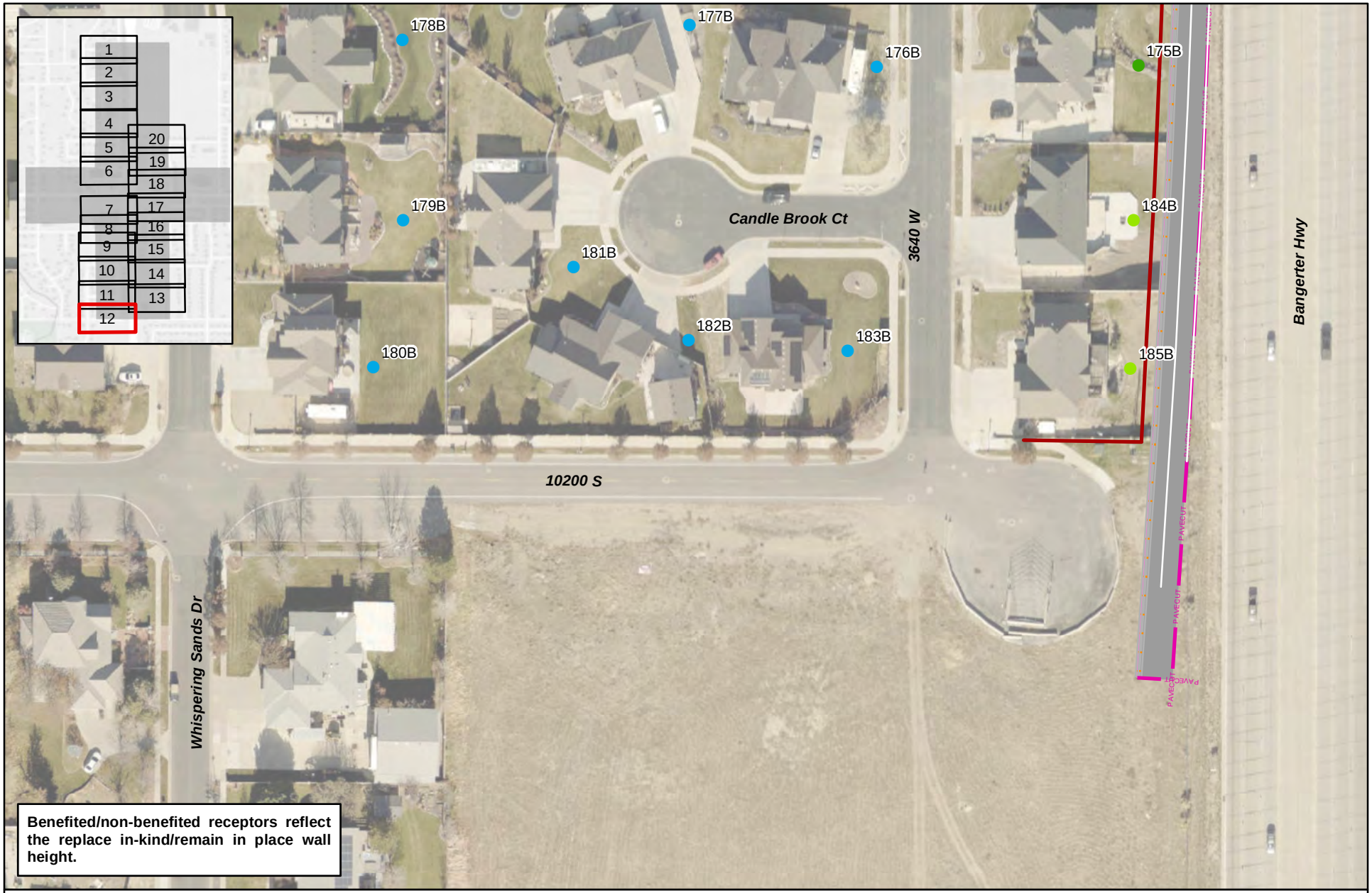

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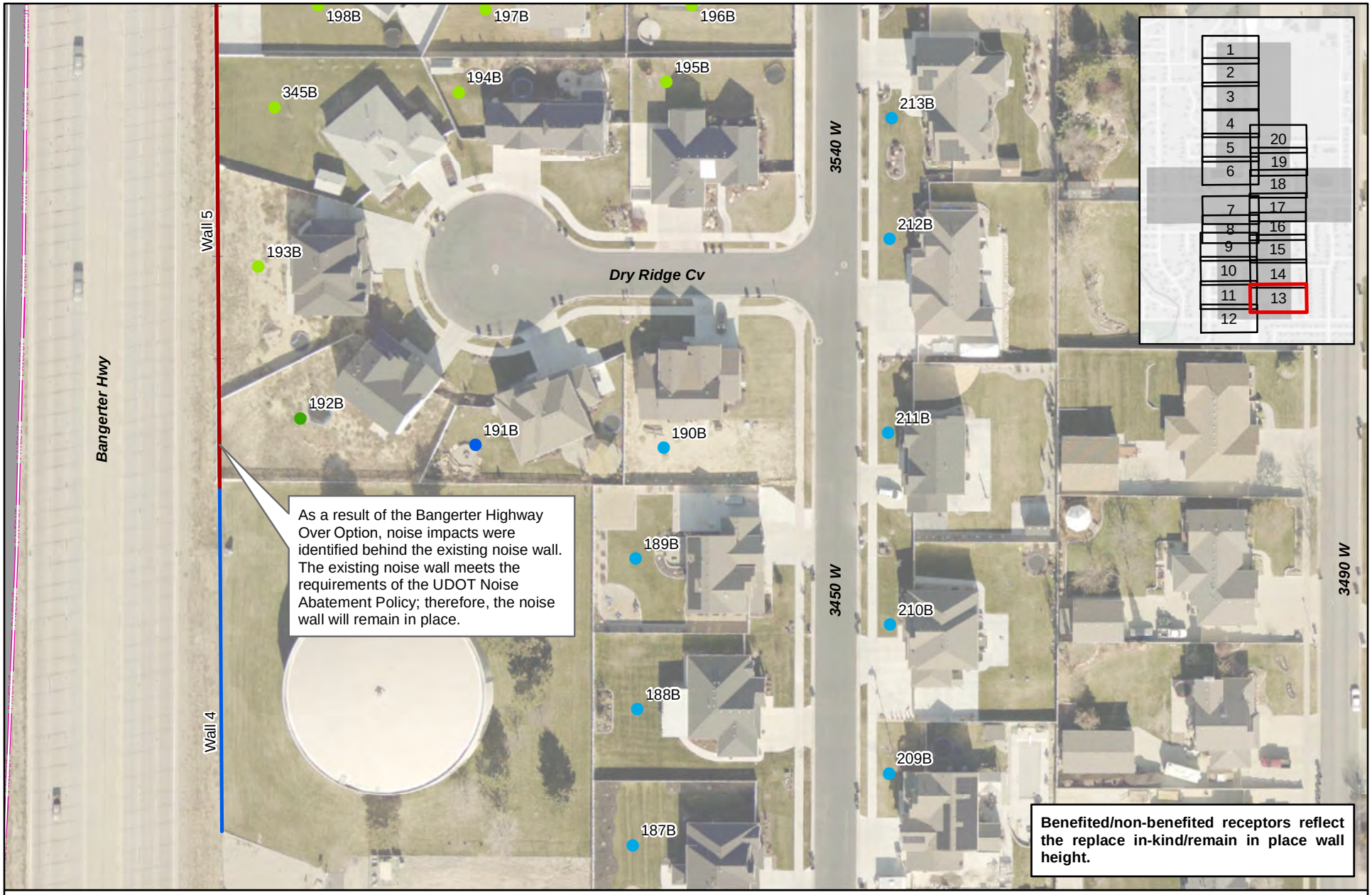

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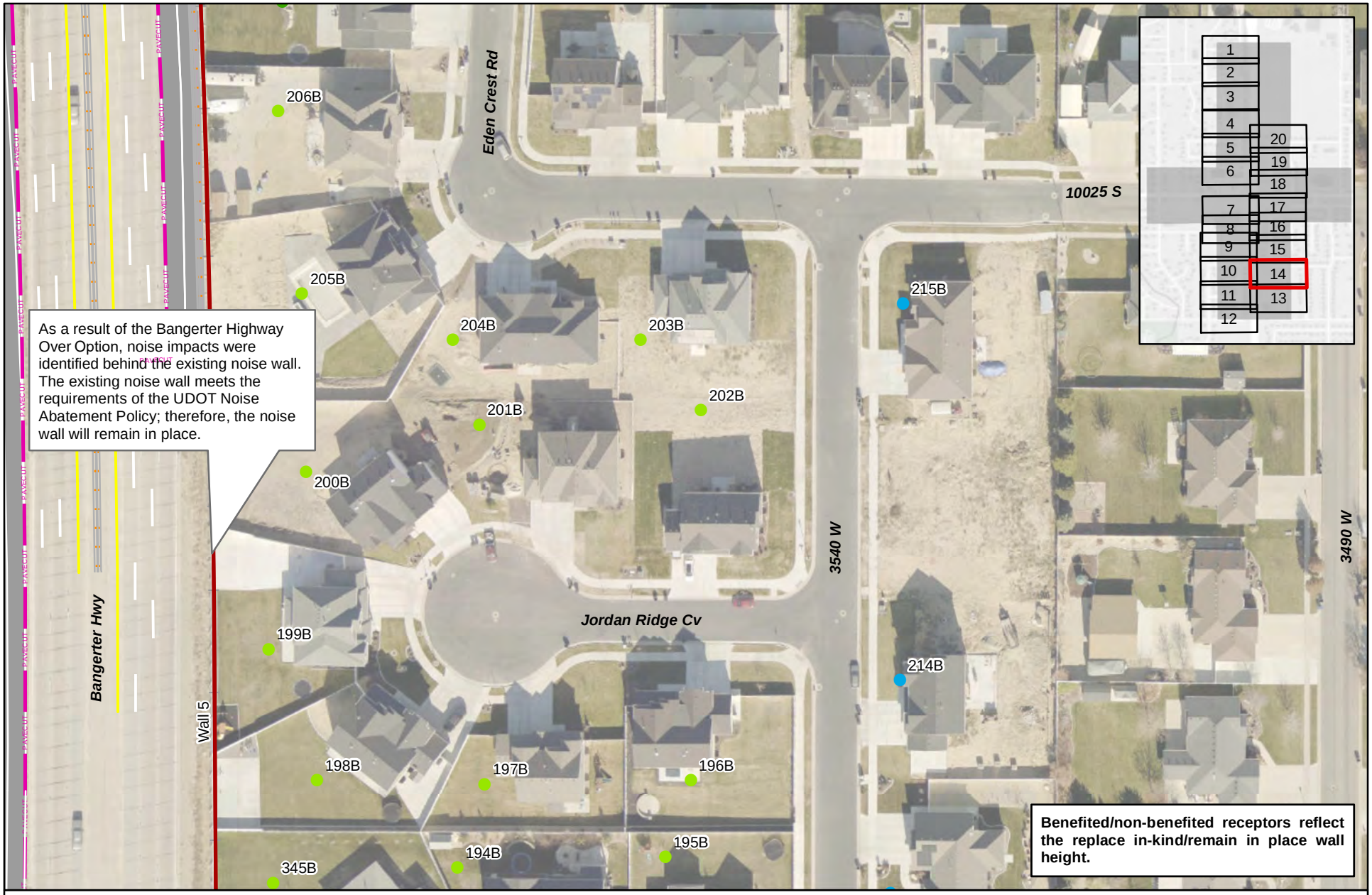

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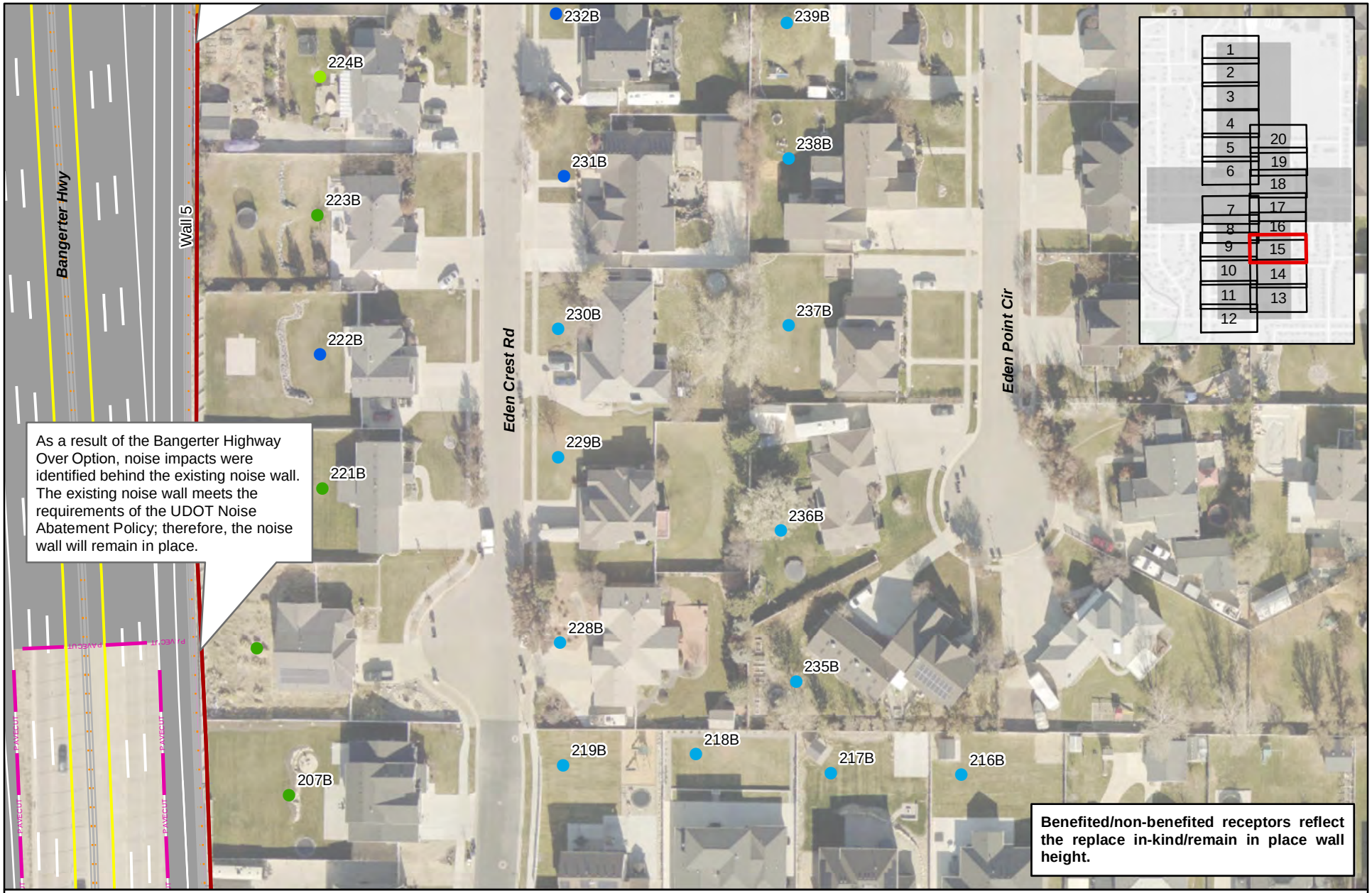

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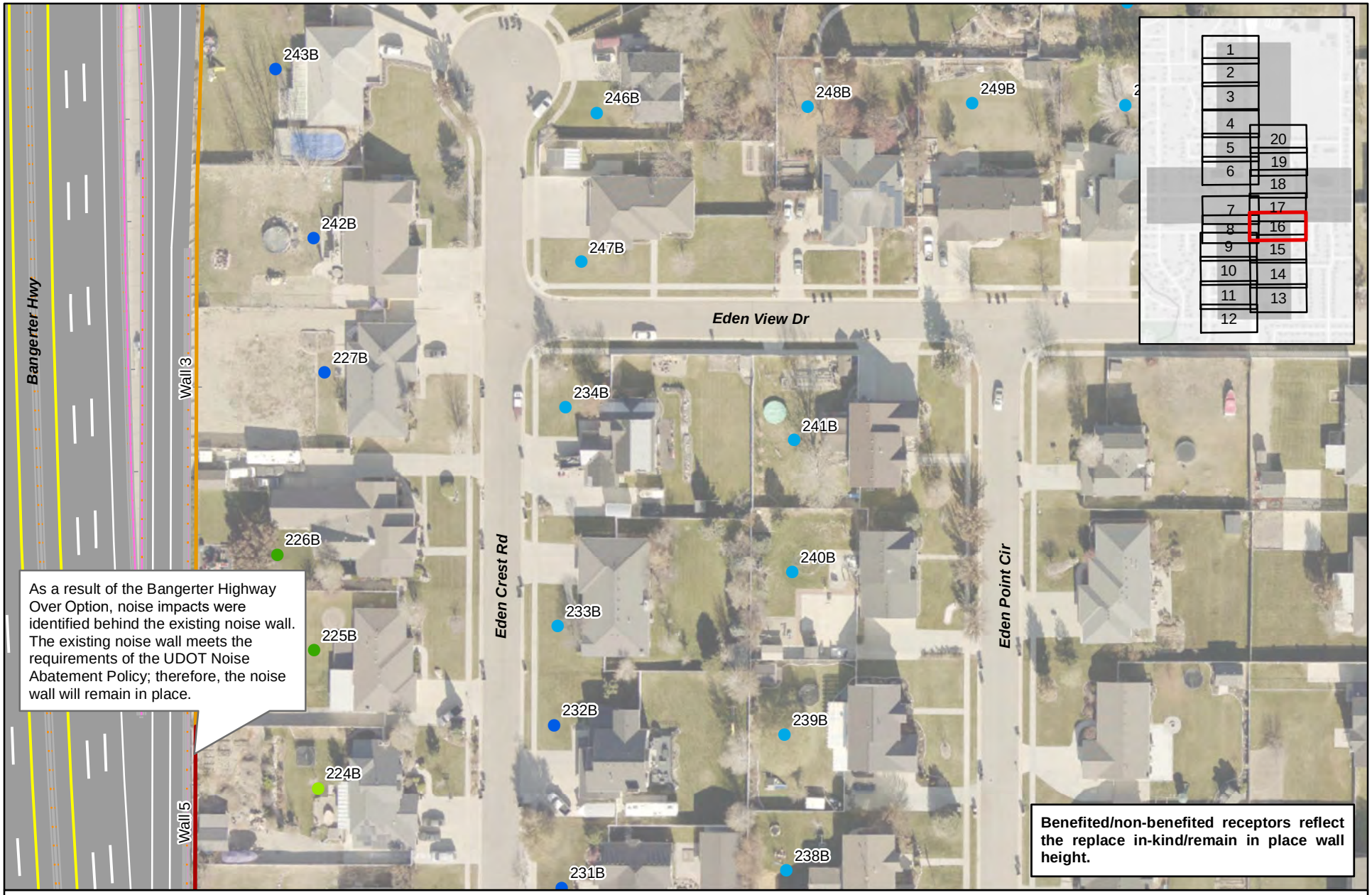

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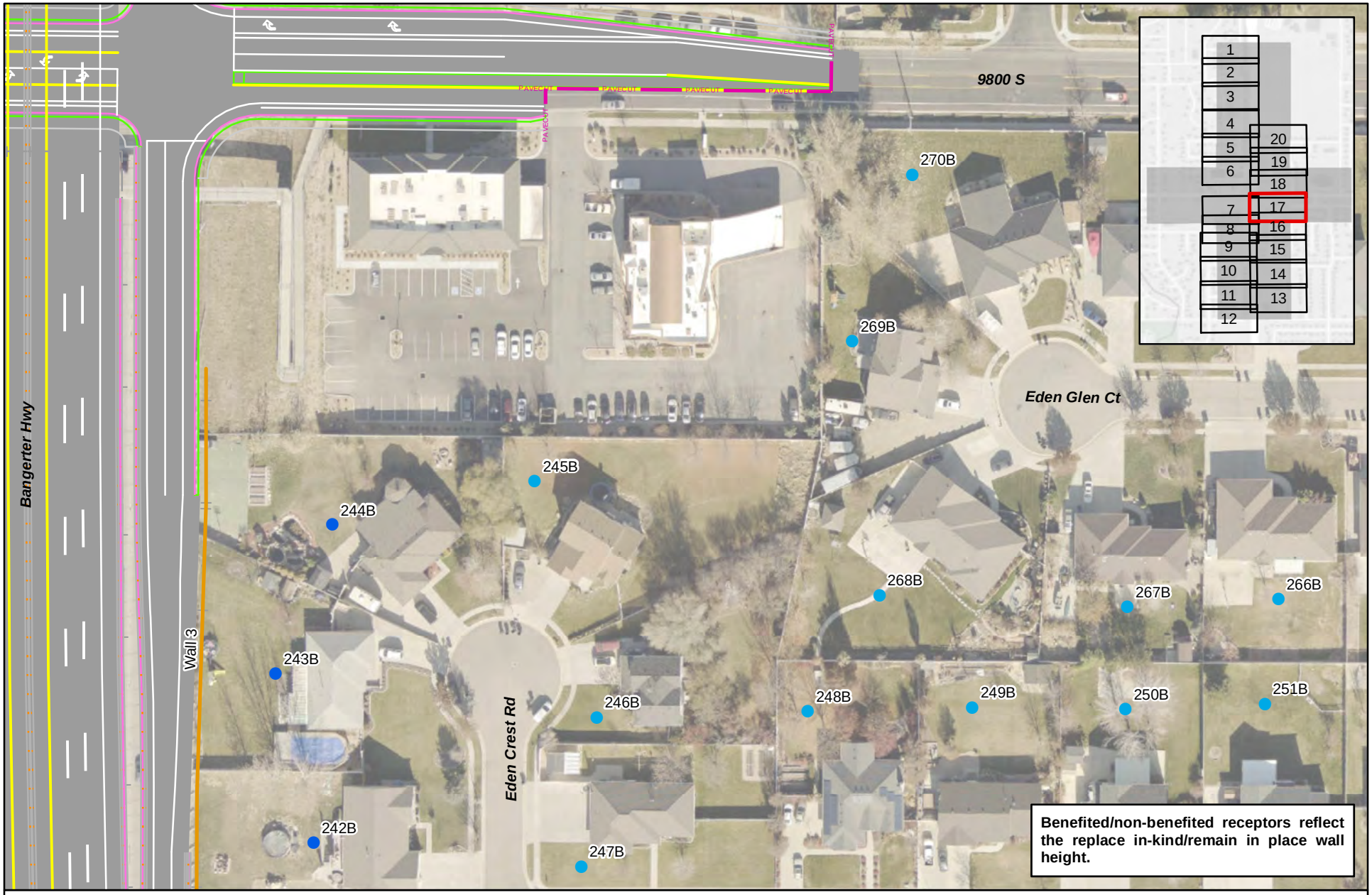

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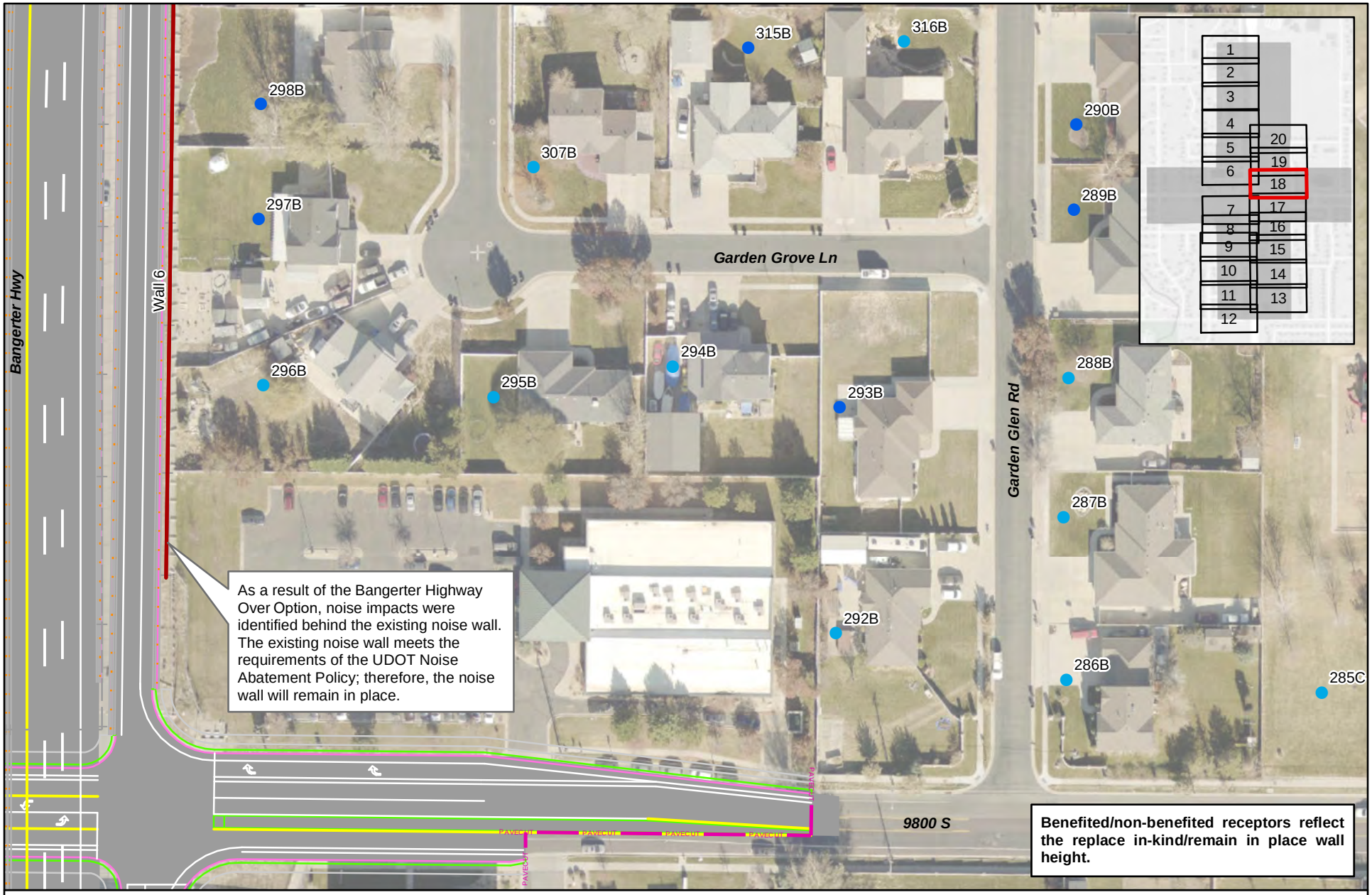

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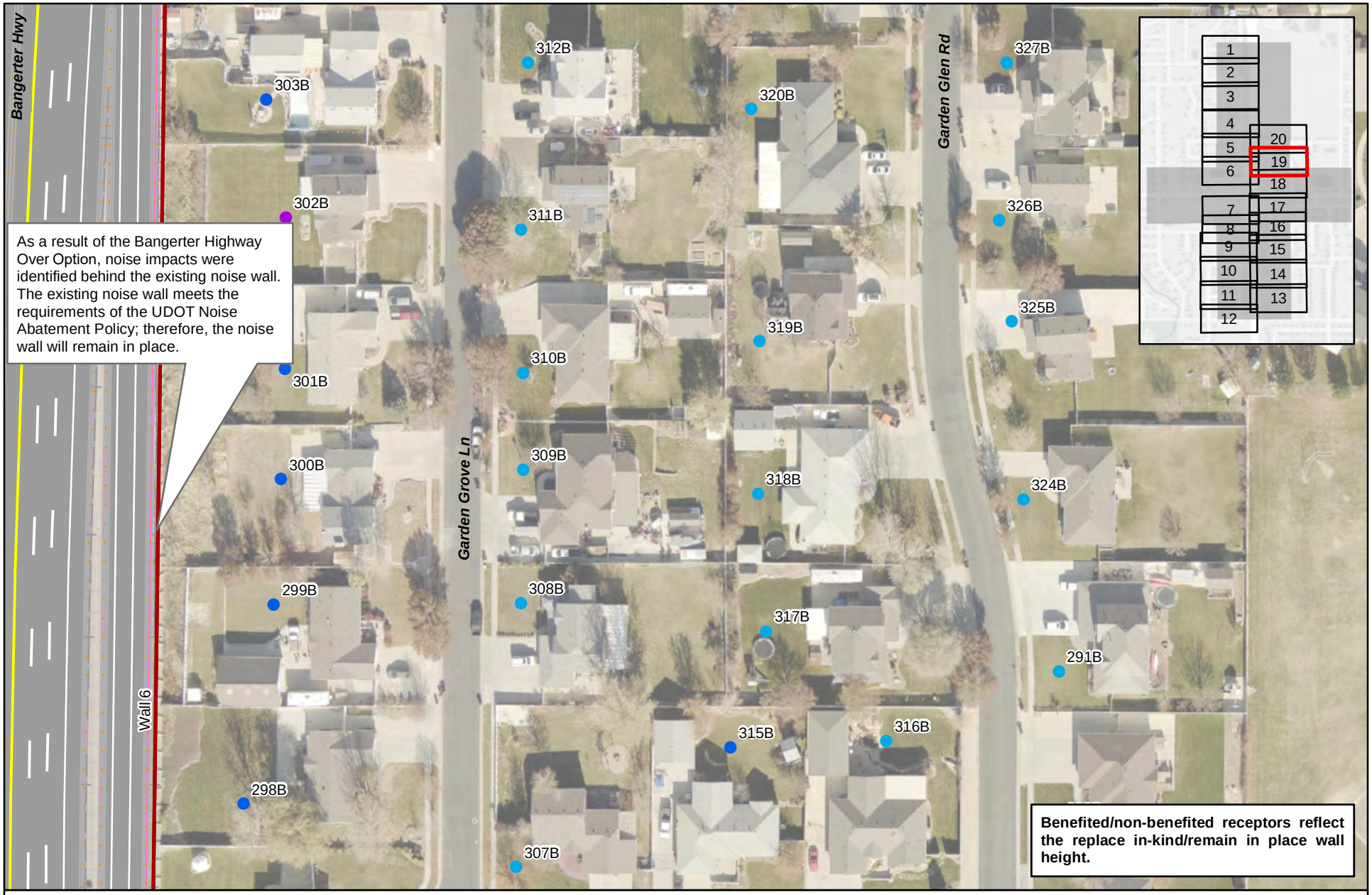

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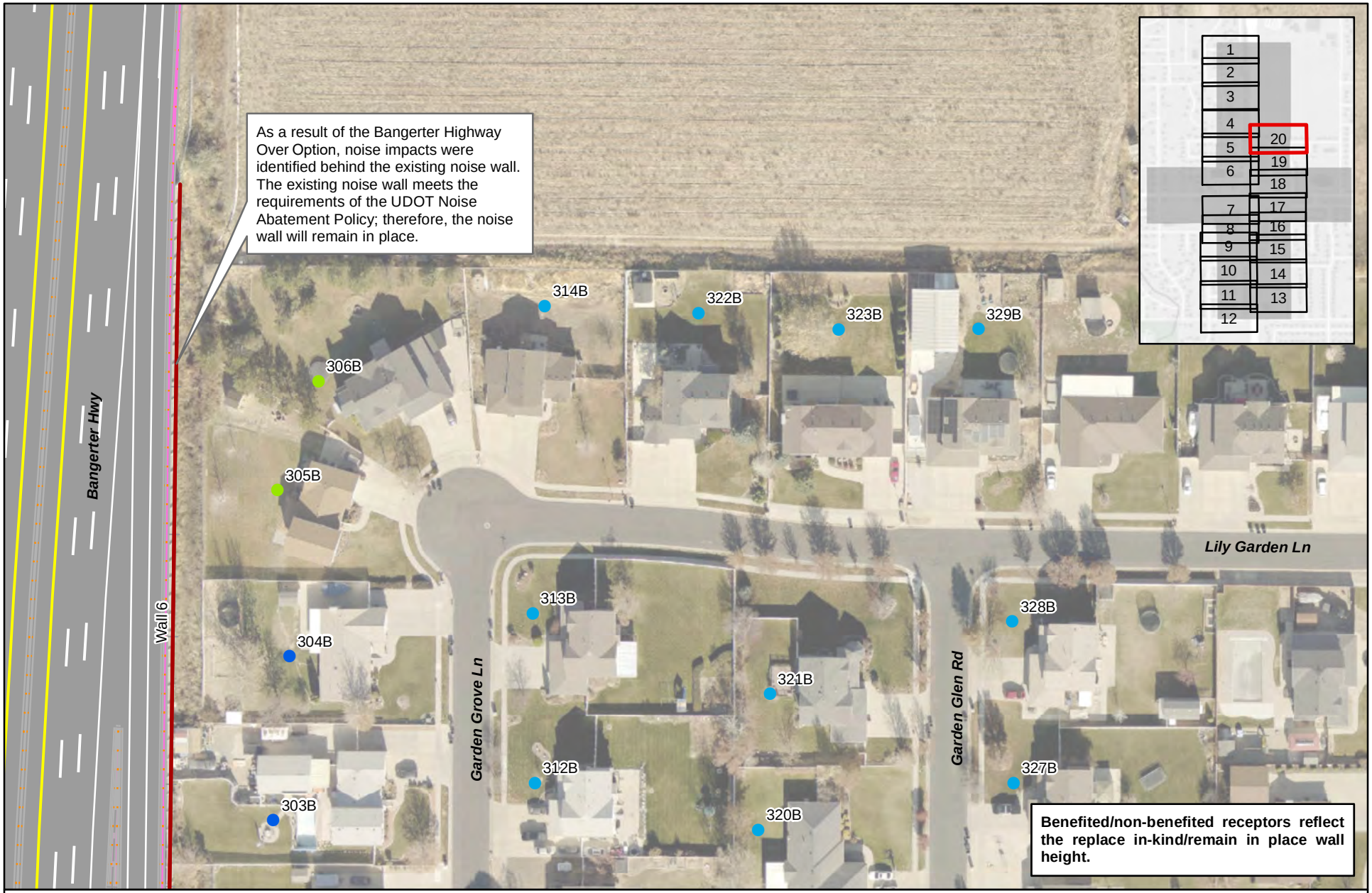

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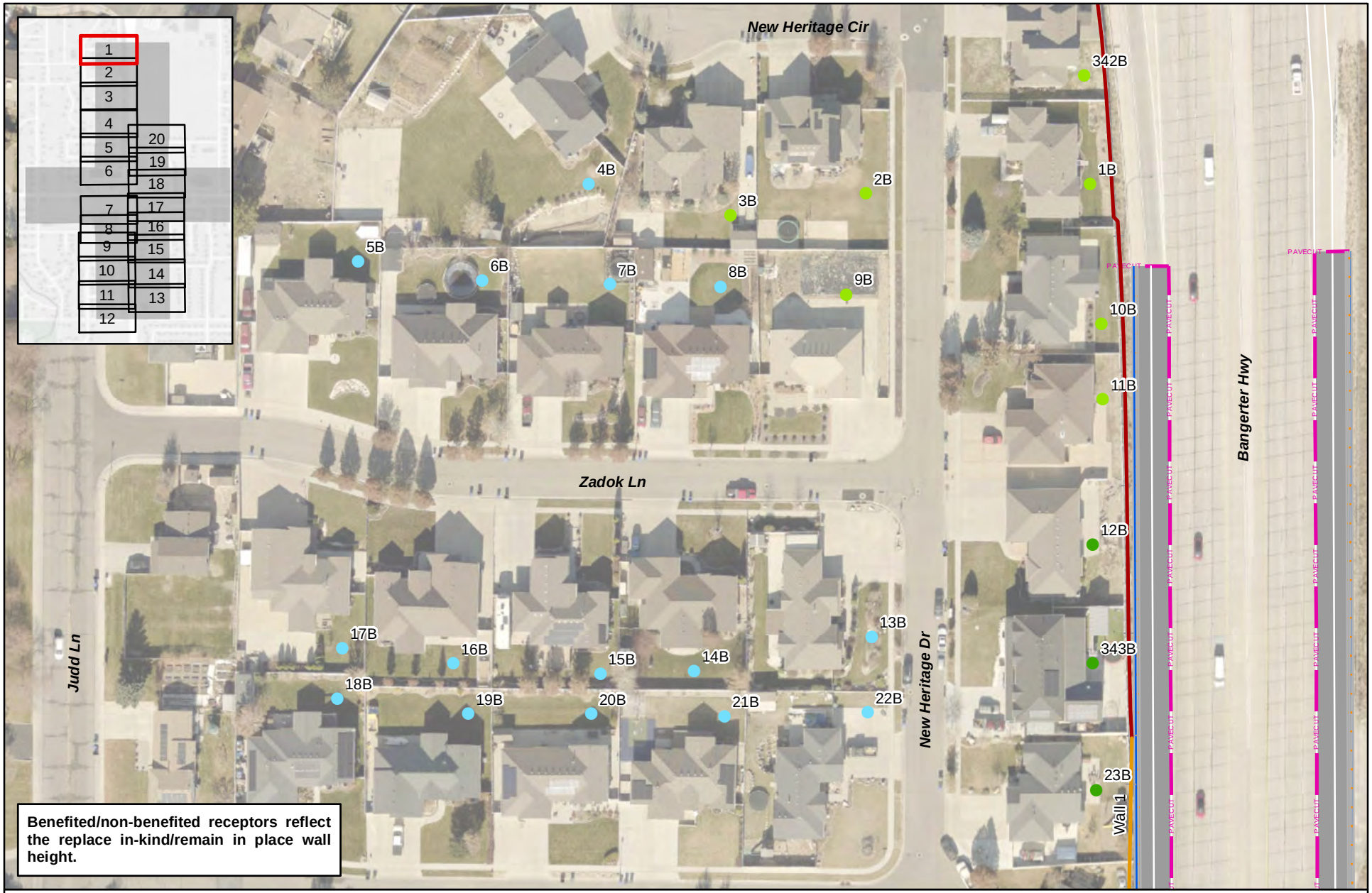

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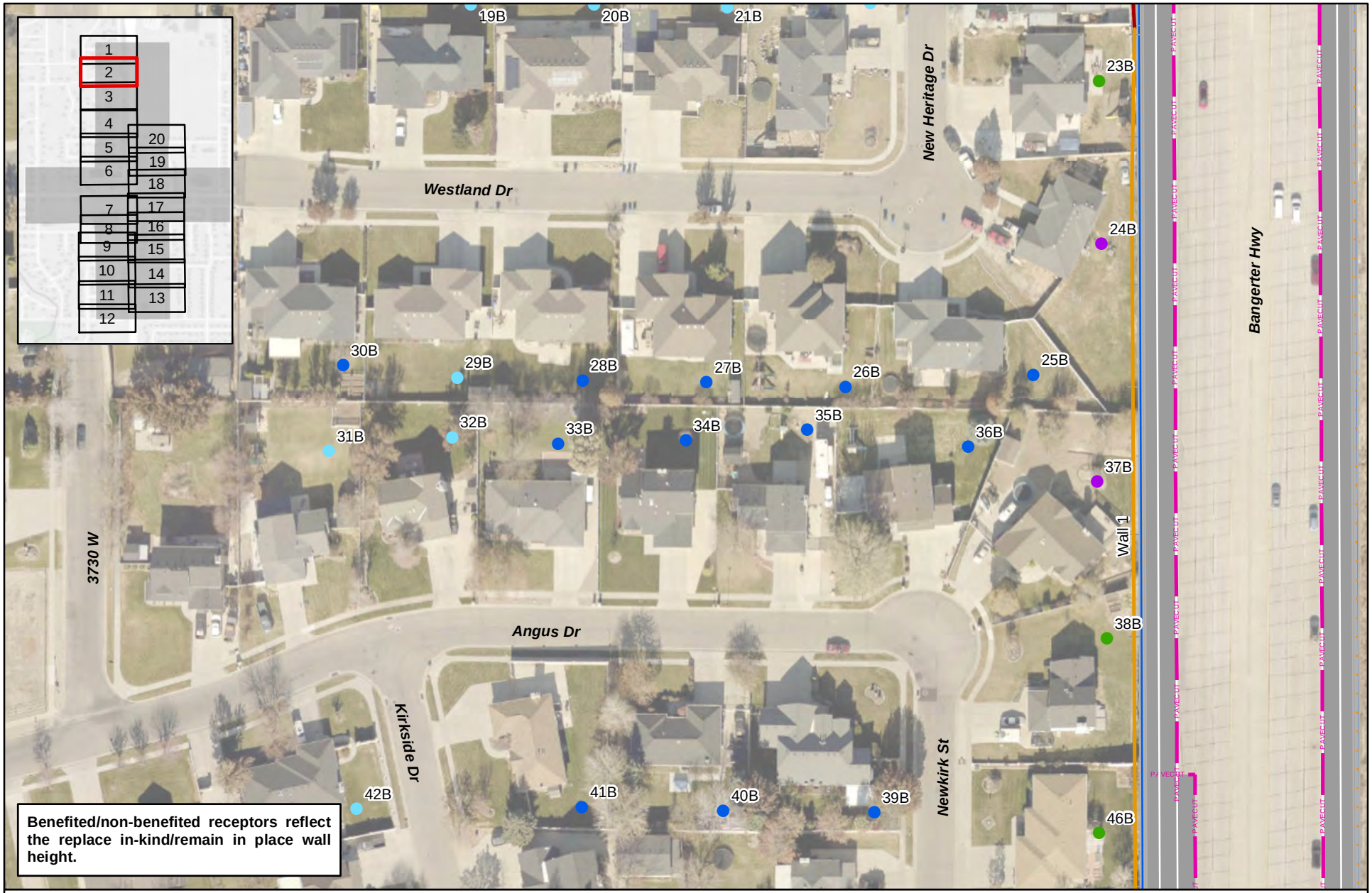

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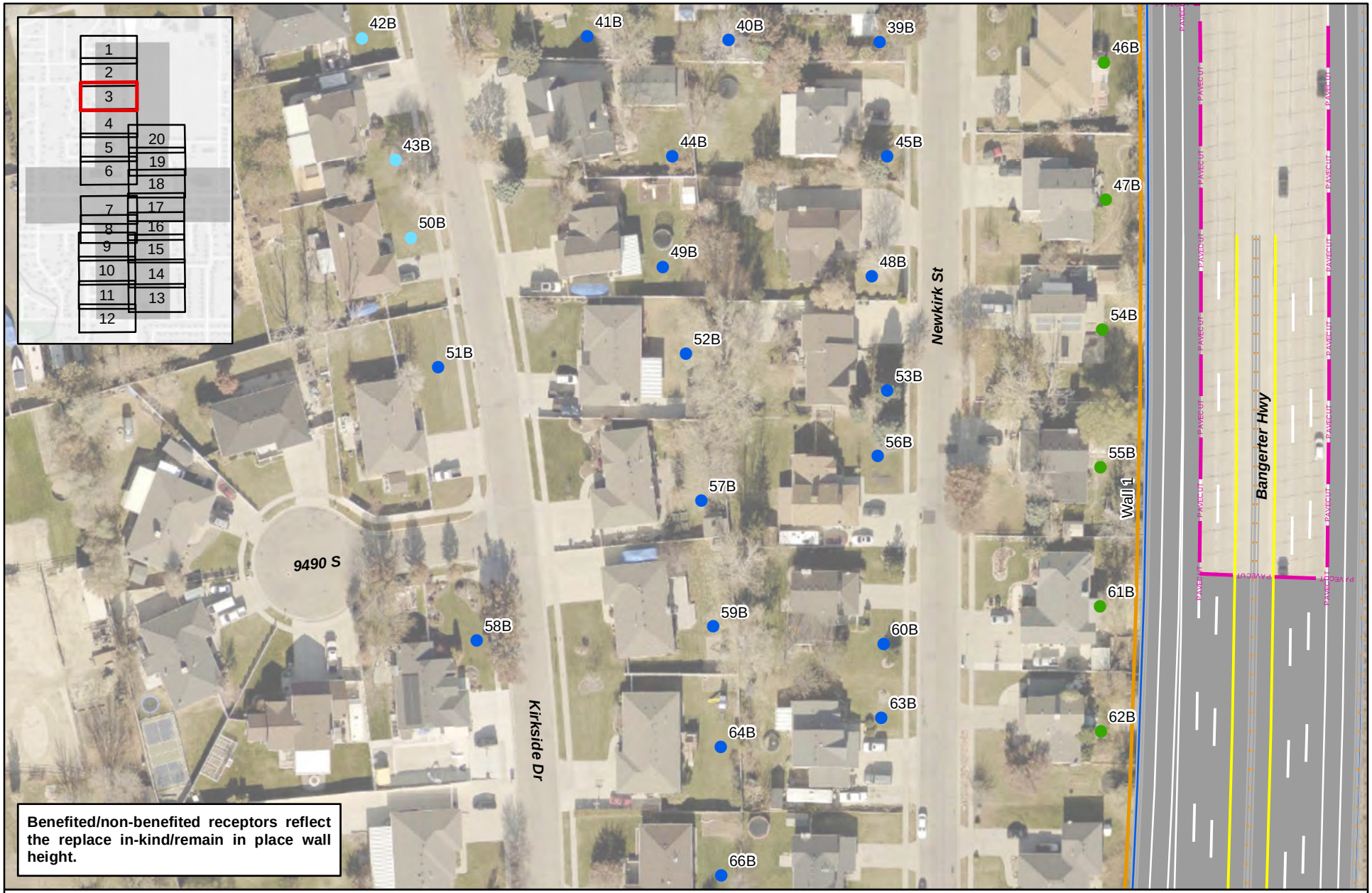

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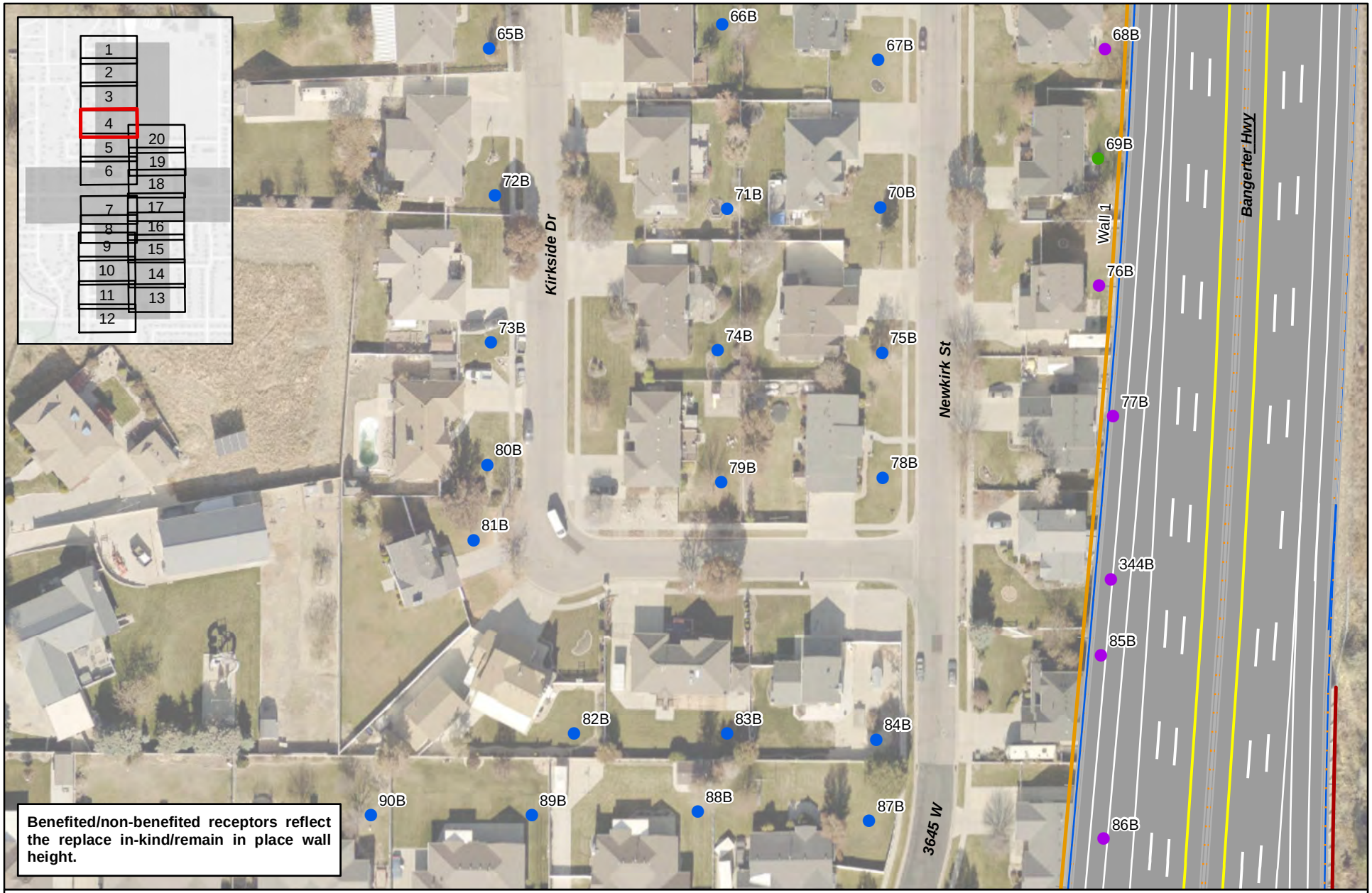

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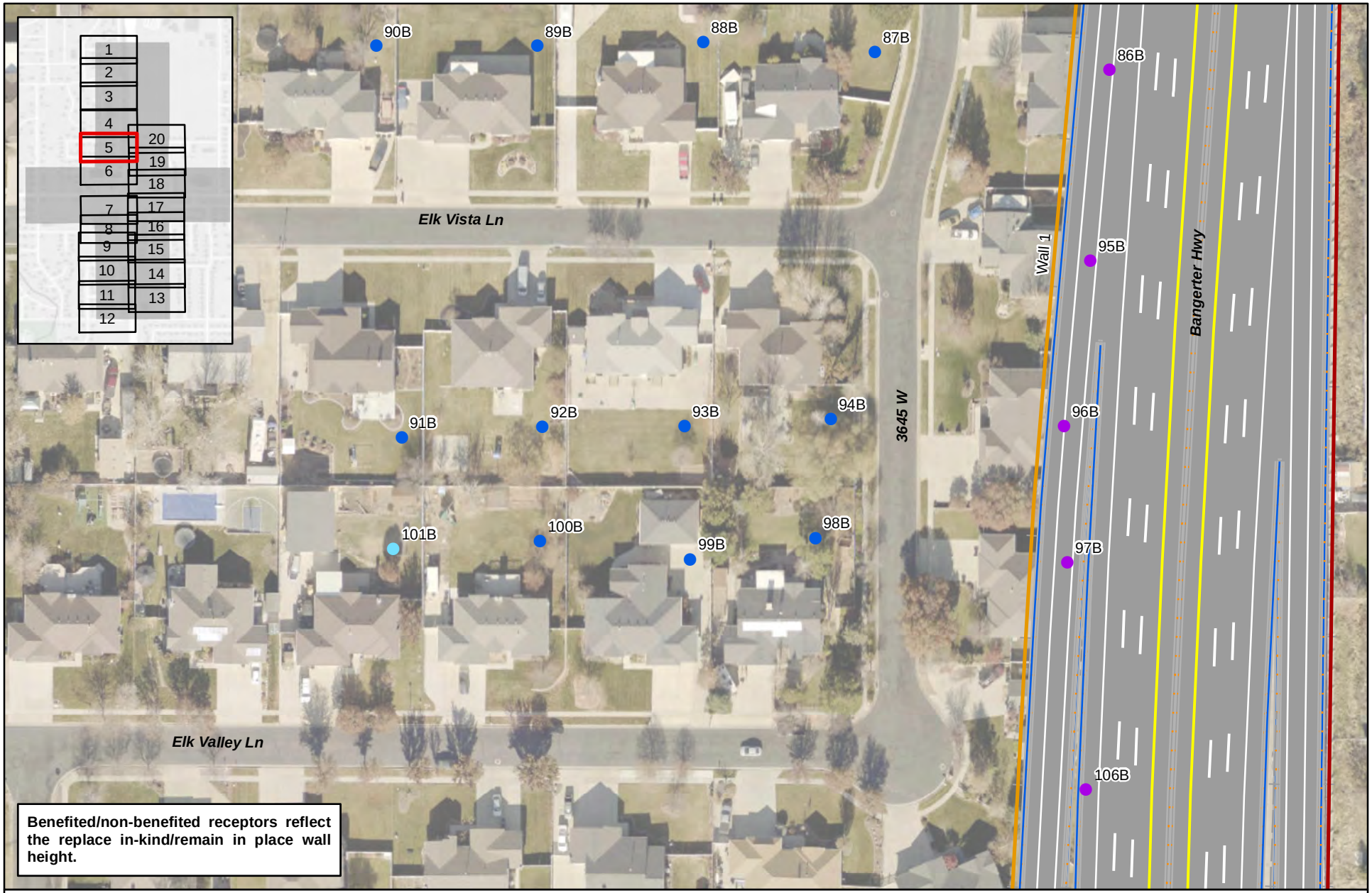

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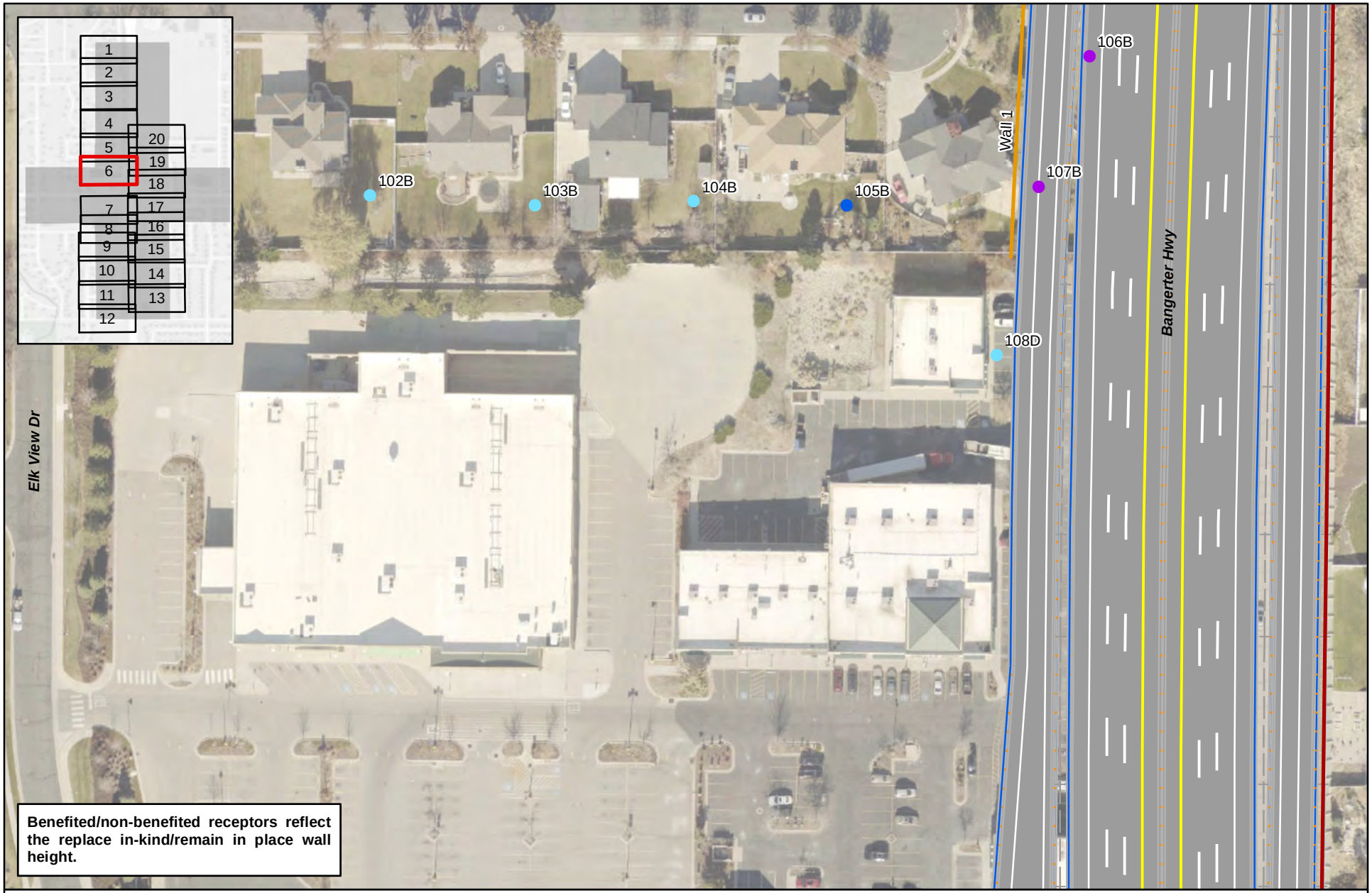

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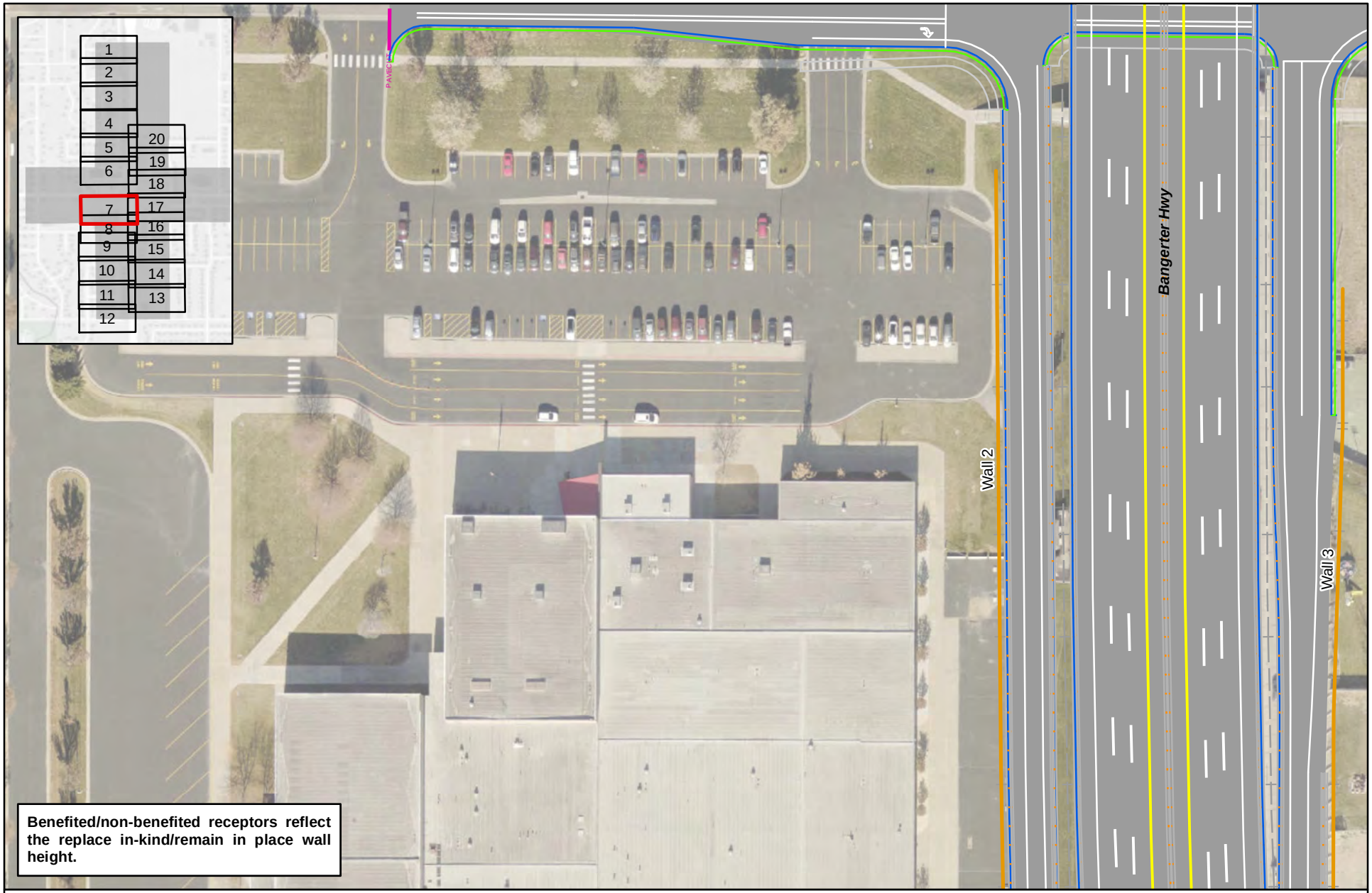

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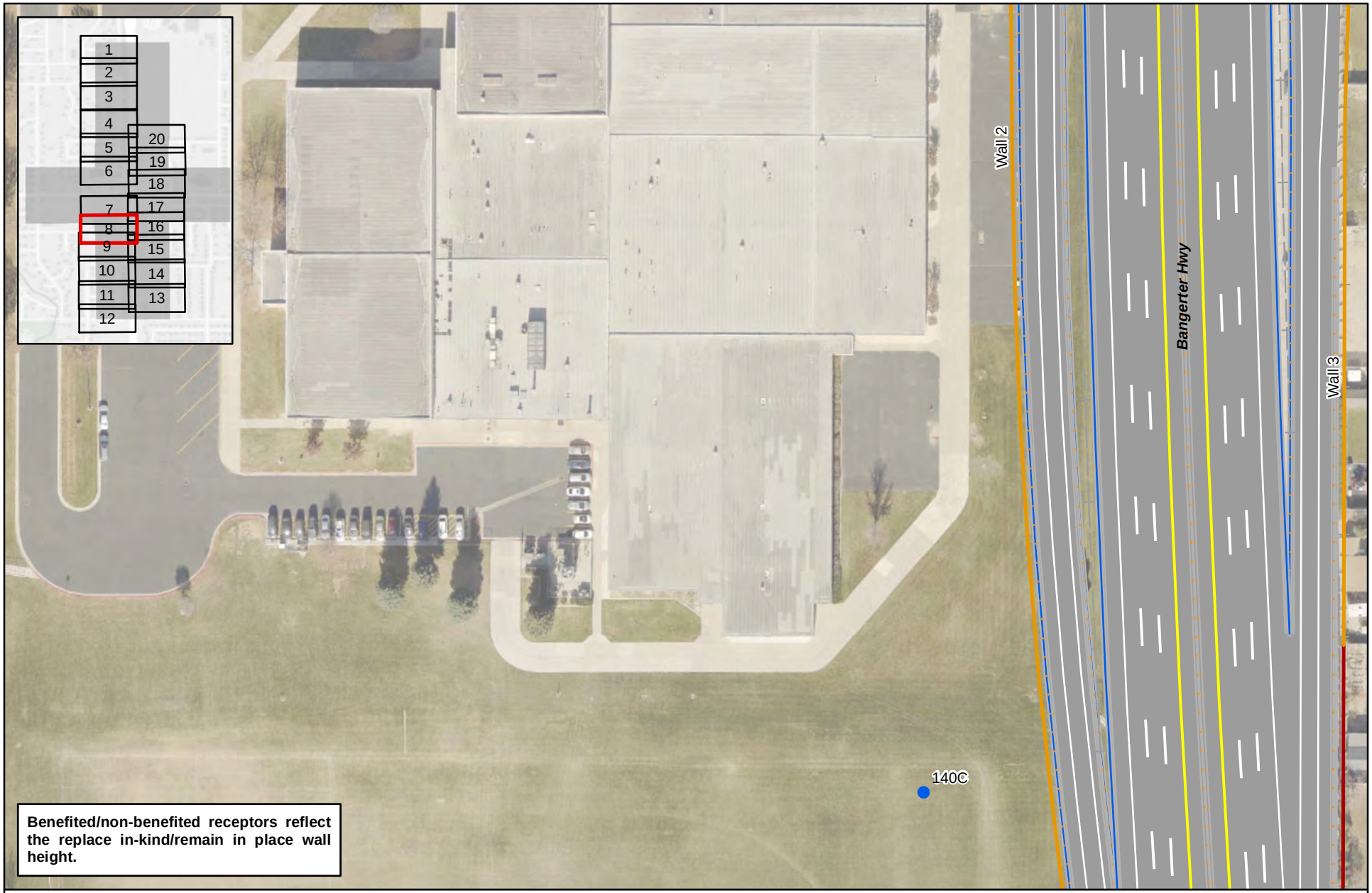

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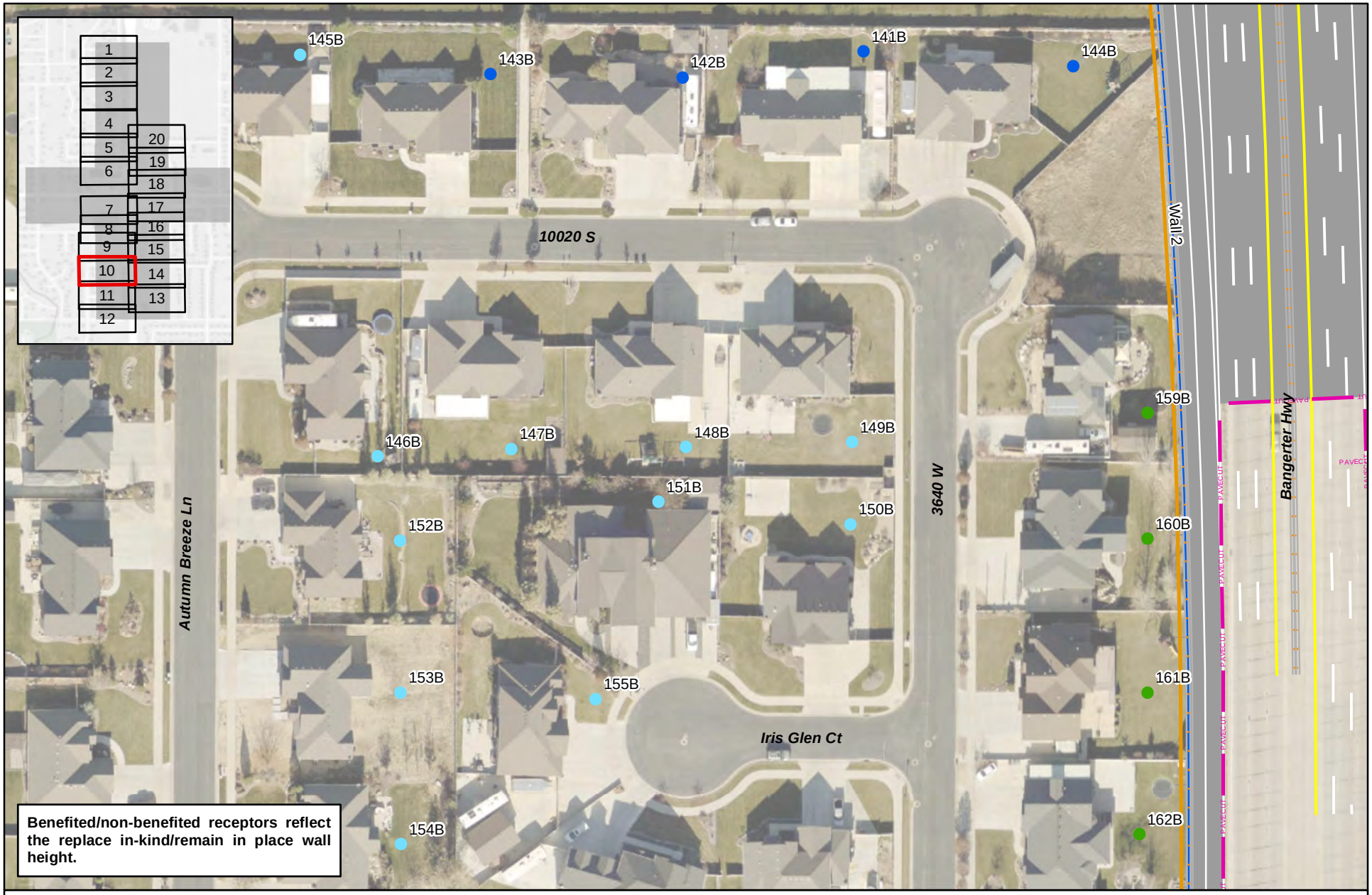

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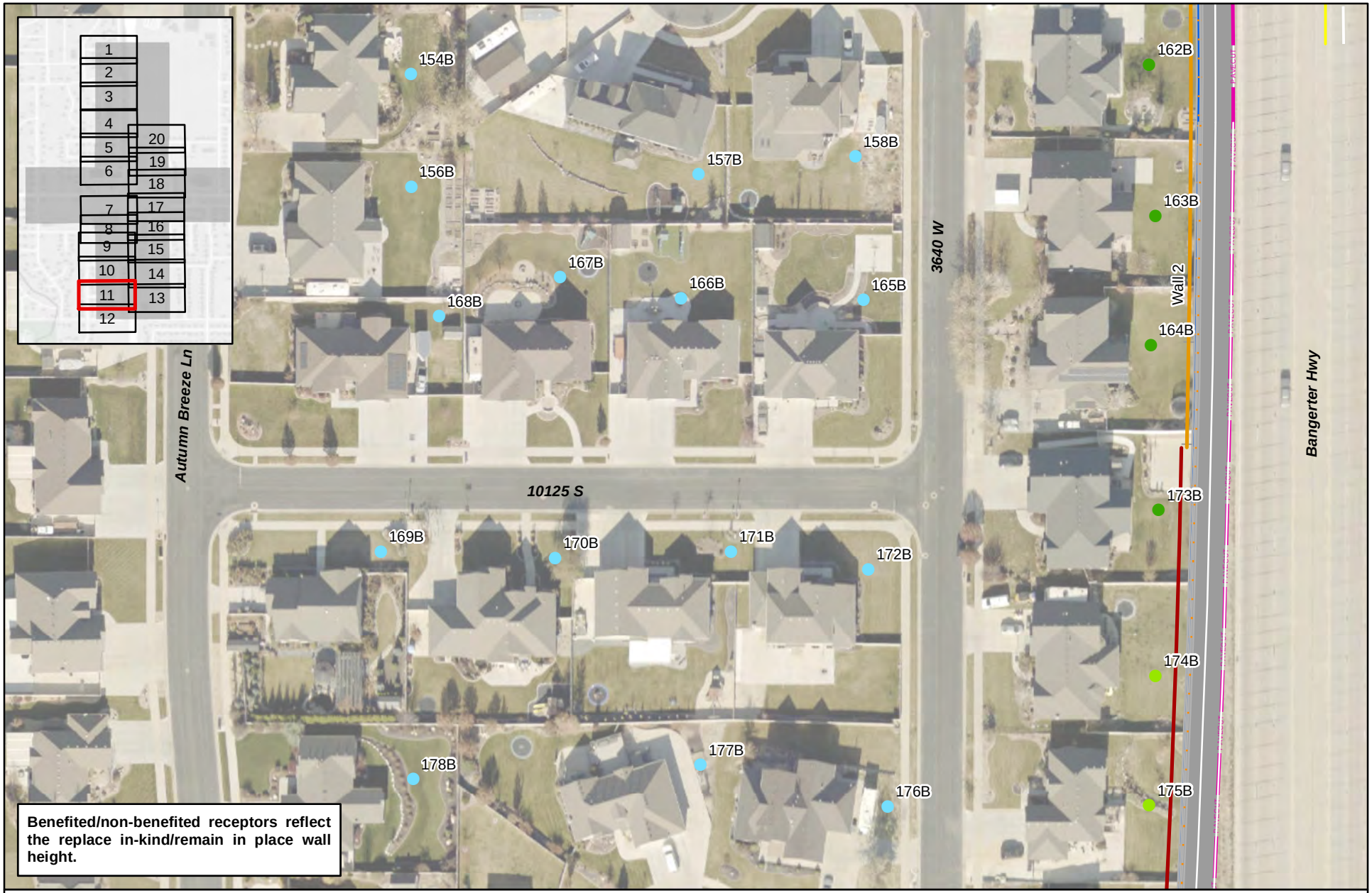

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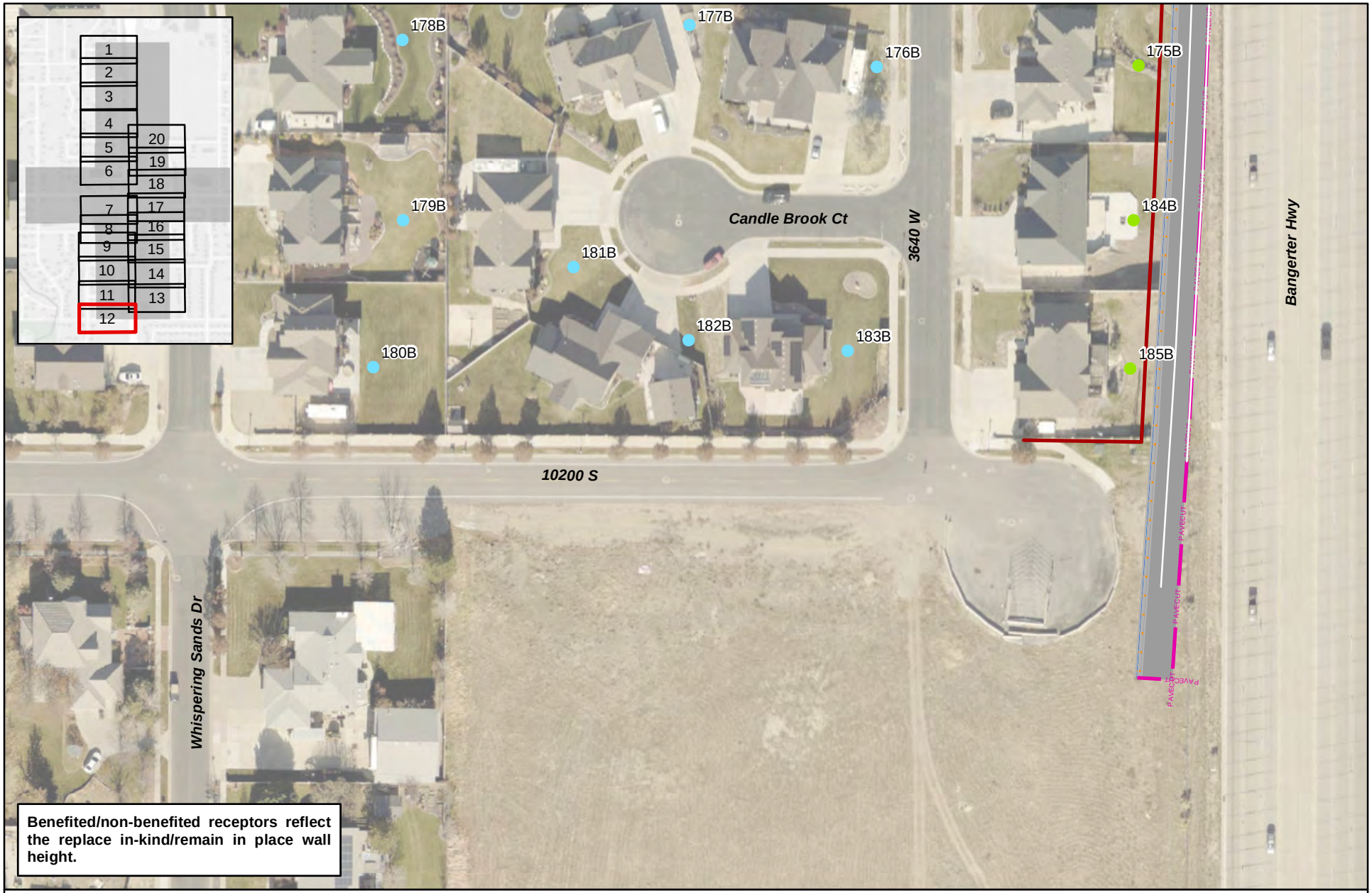

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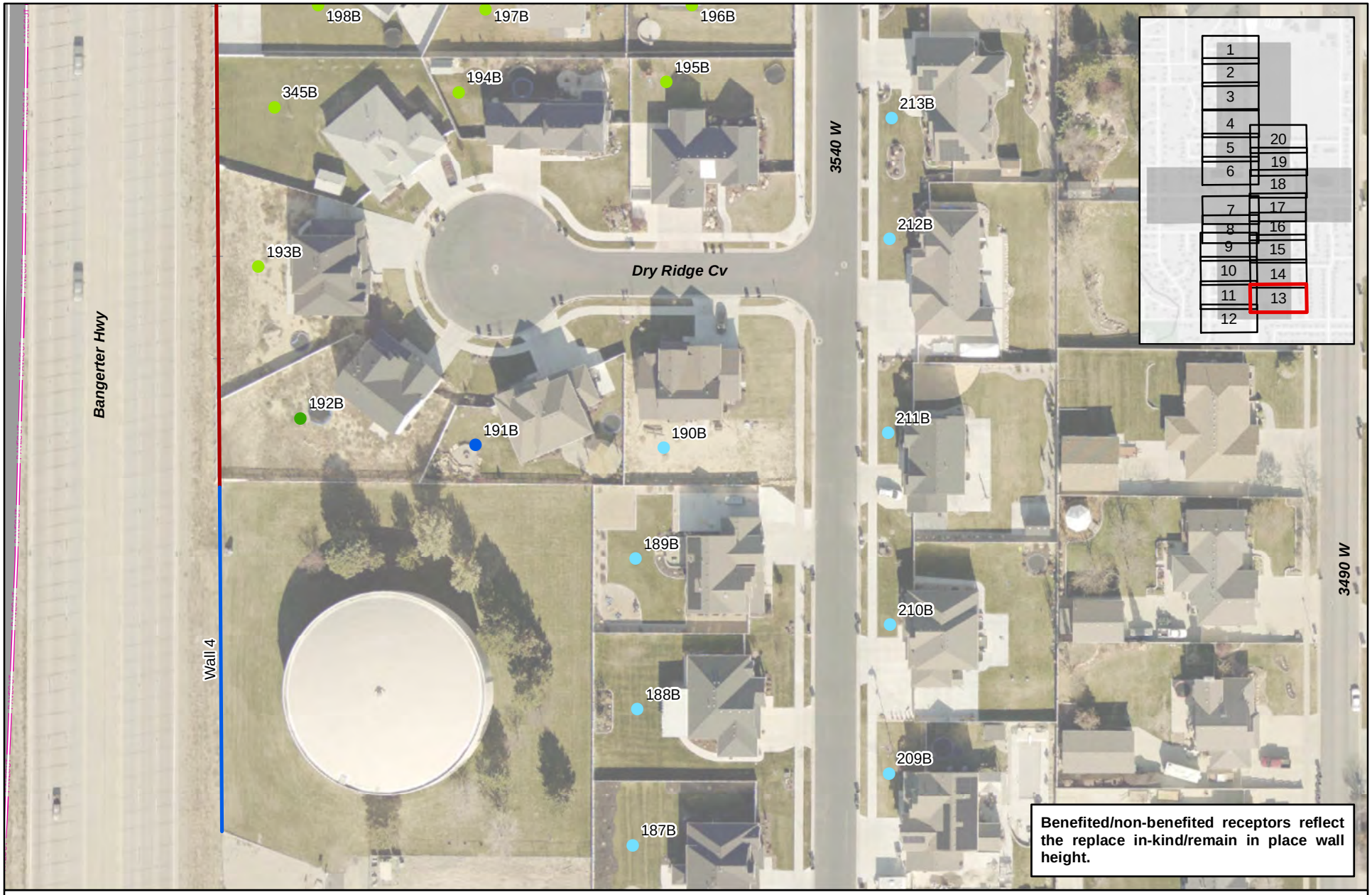

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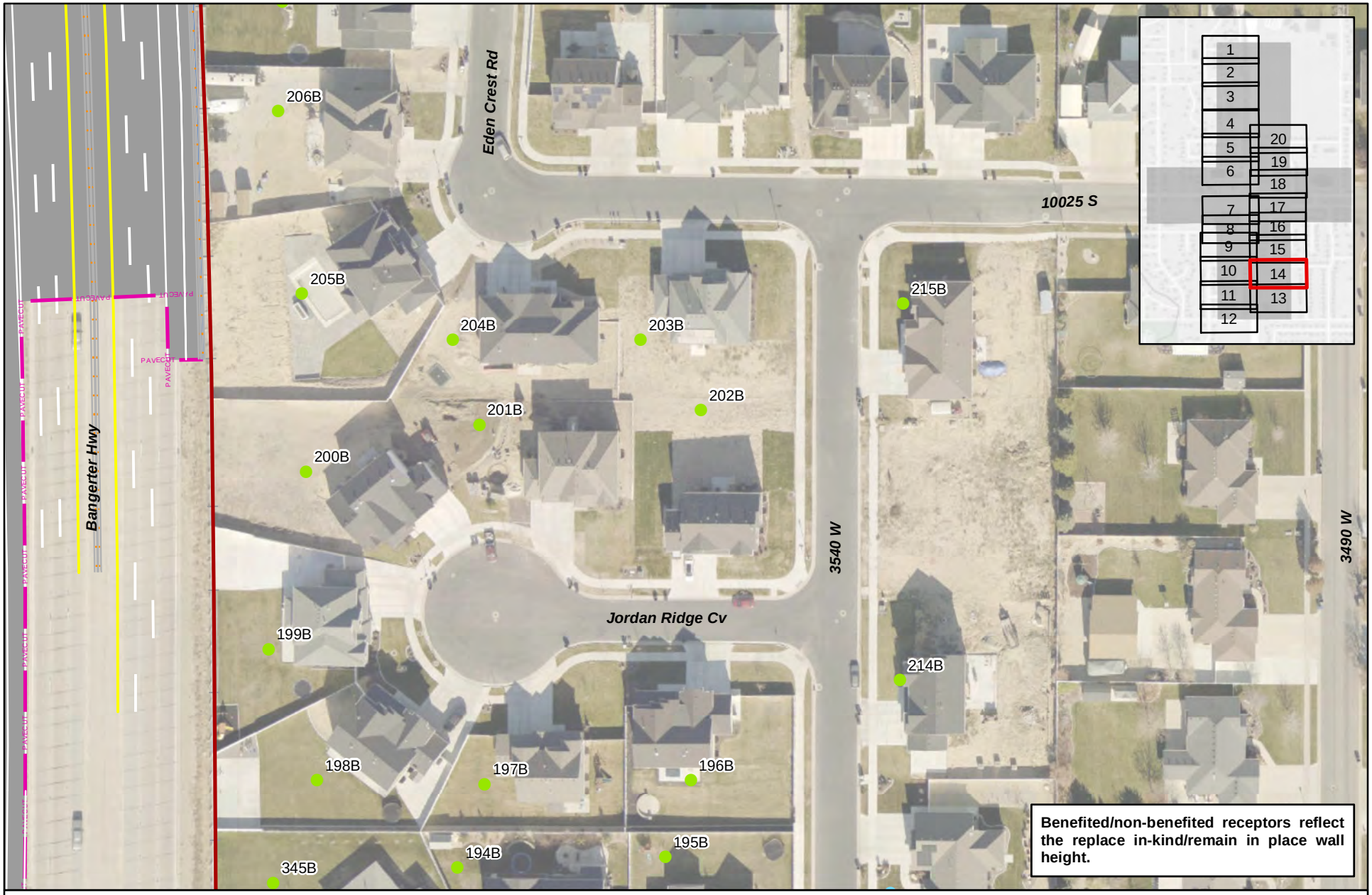
18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Under Option

Map 13 of 20



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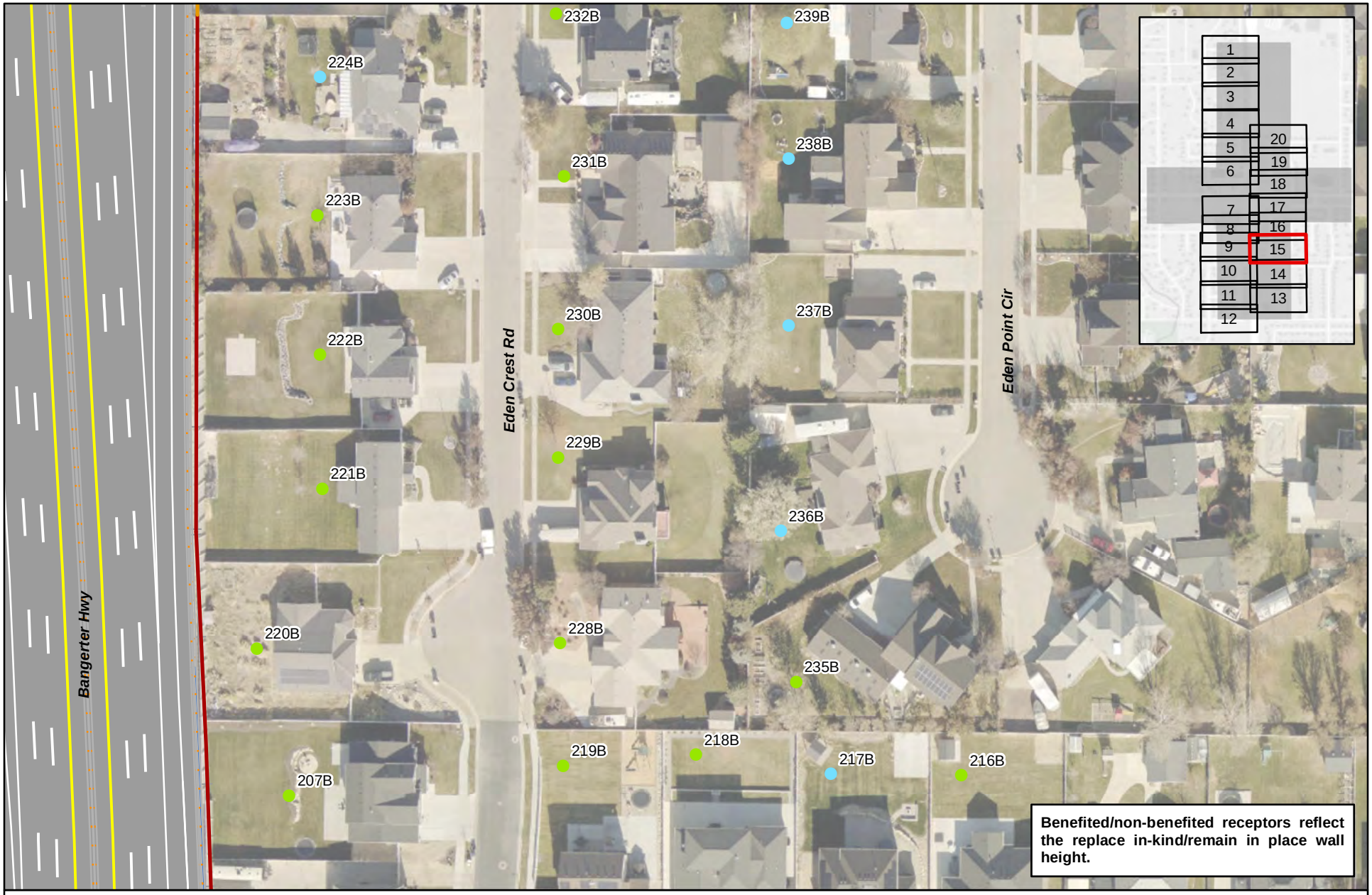

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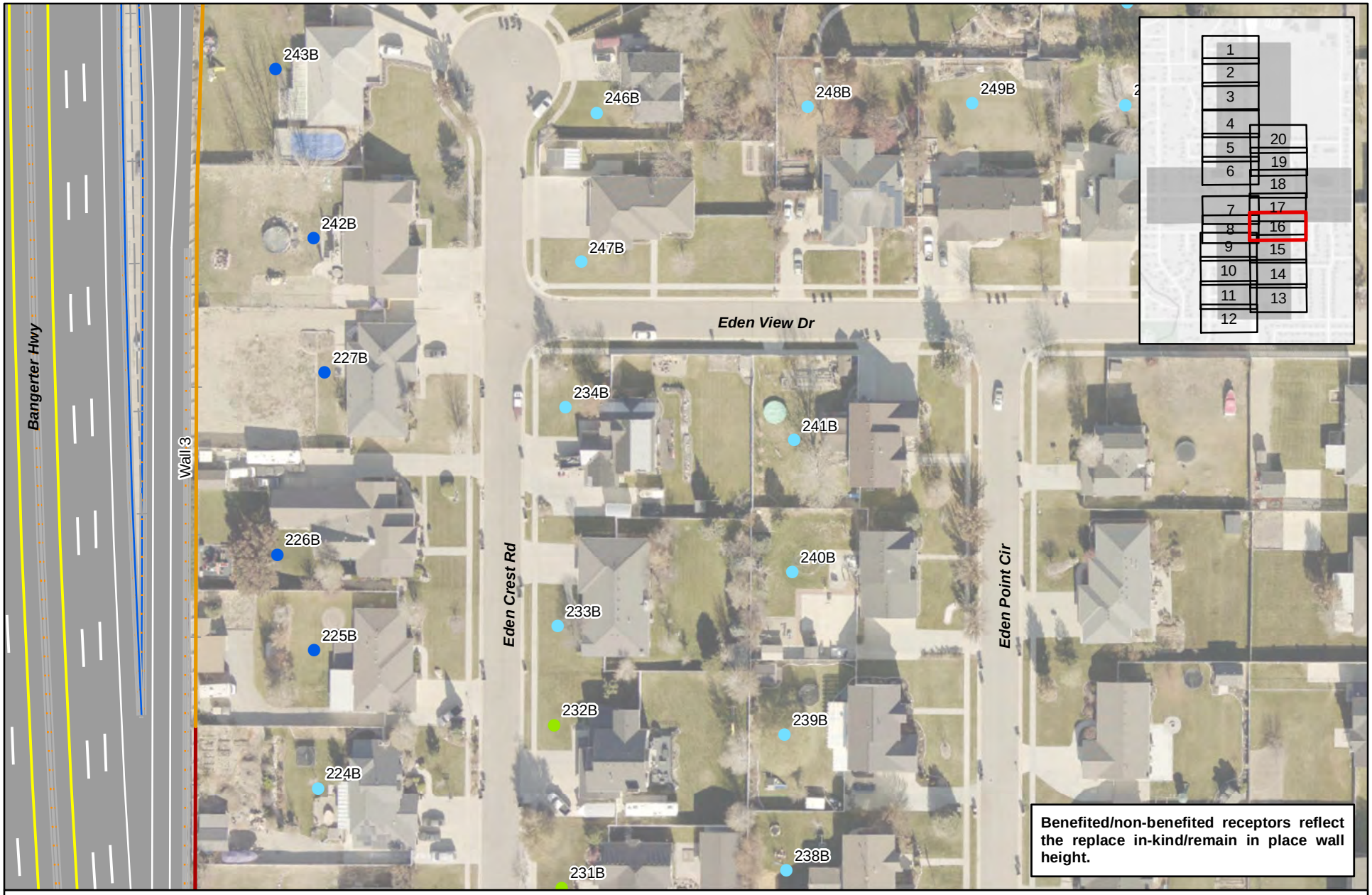

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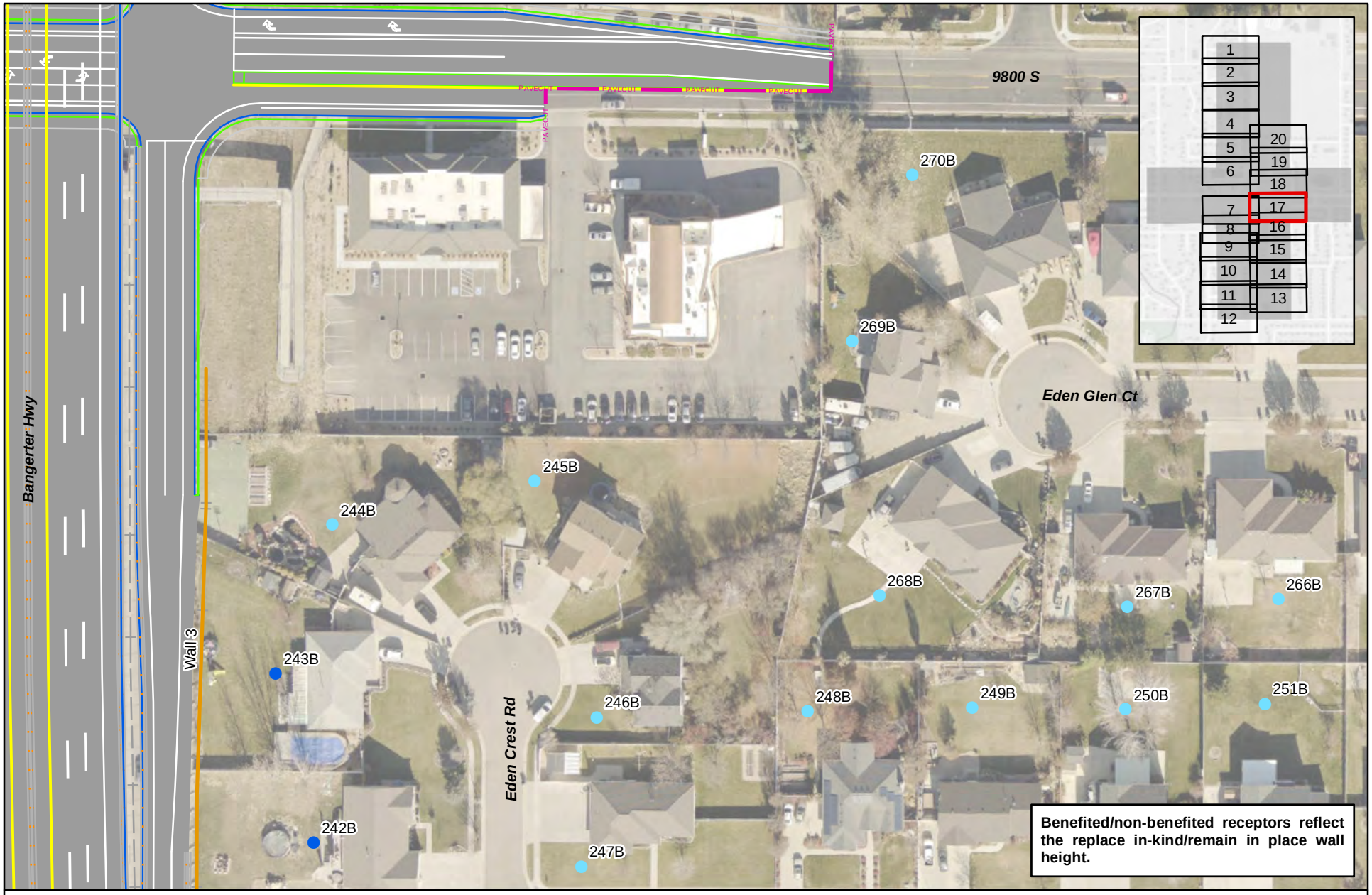
18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Under Option

Map 16 of 20



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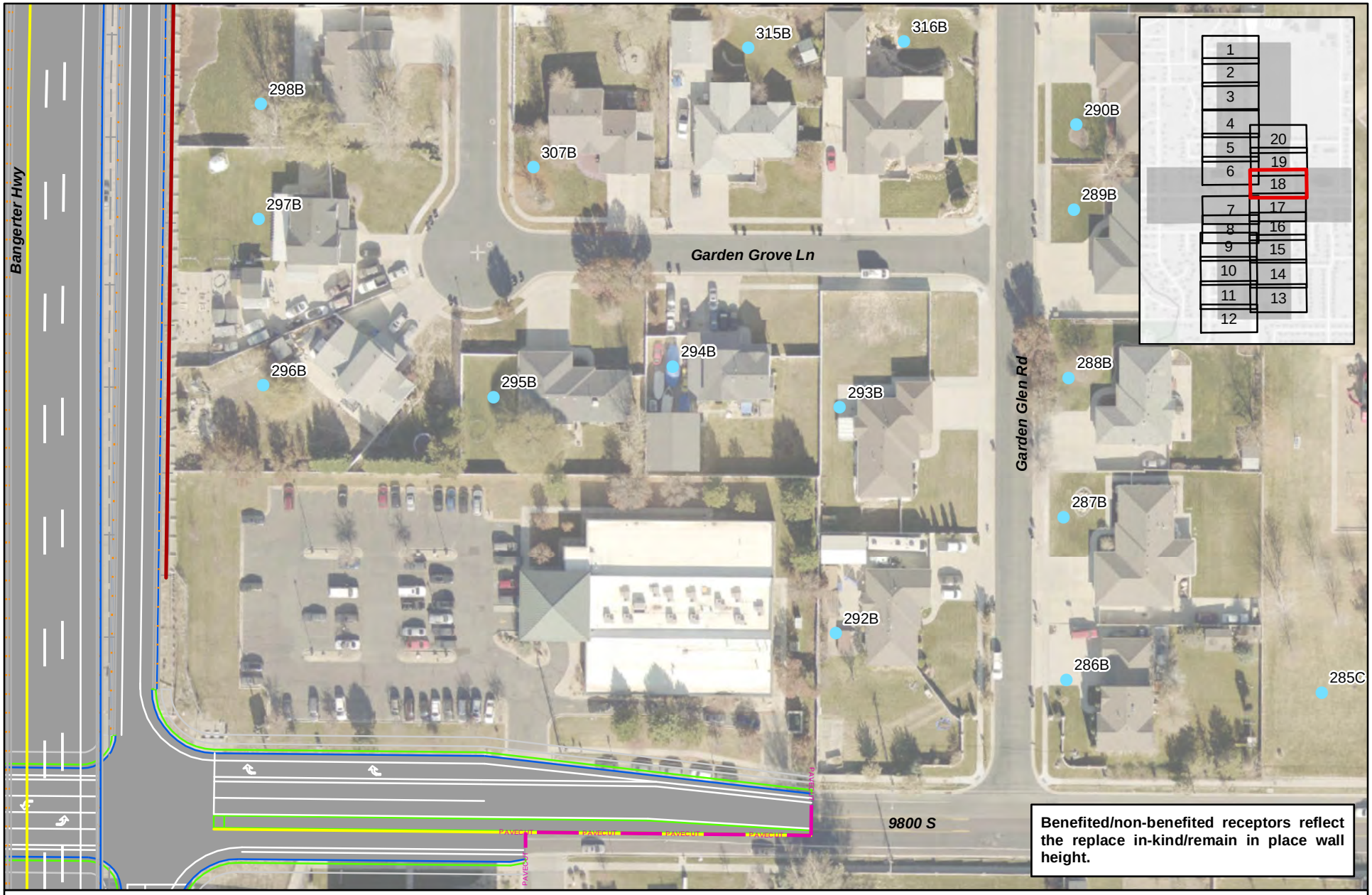
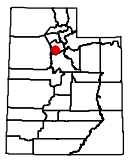
Noise Walls - Bangerter Highway Under Option

Map 17 of 20





N

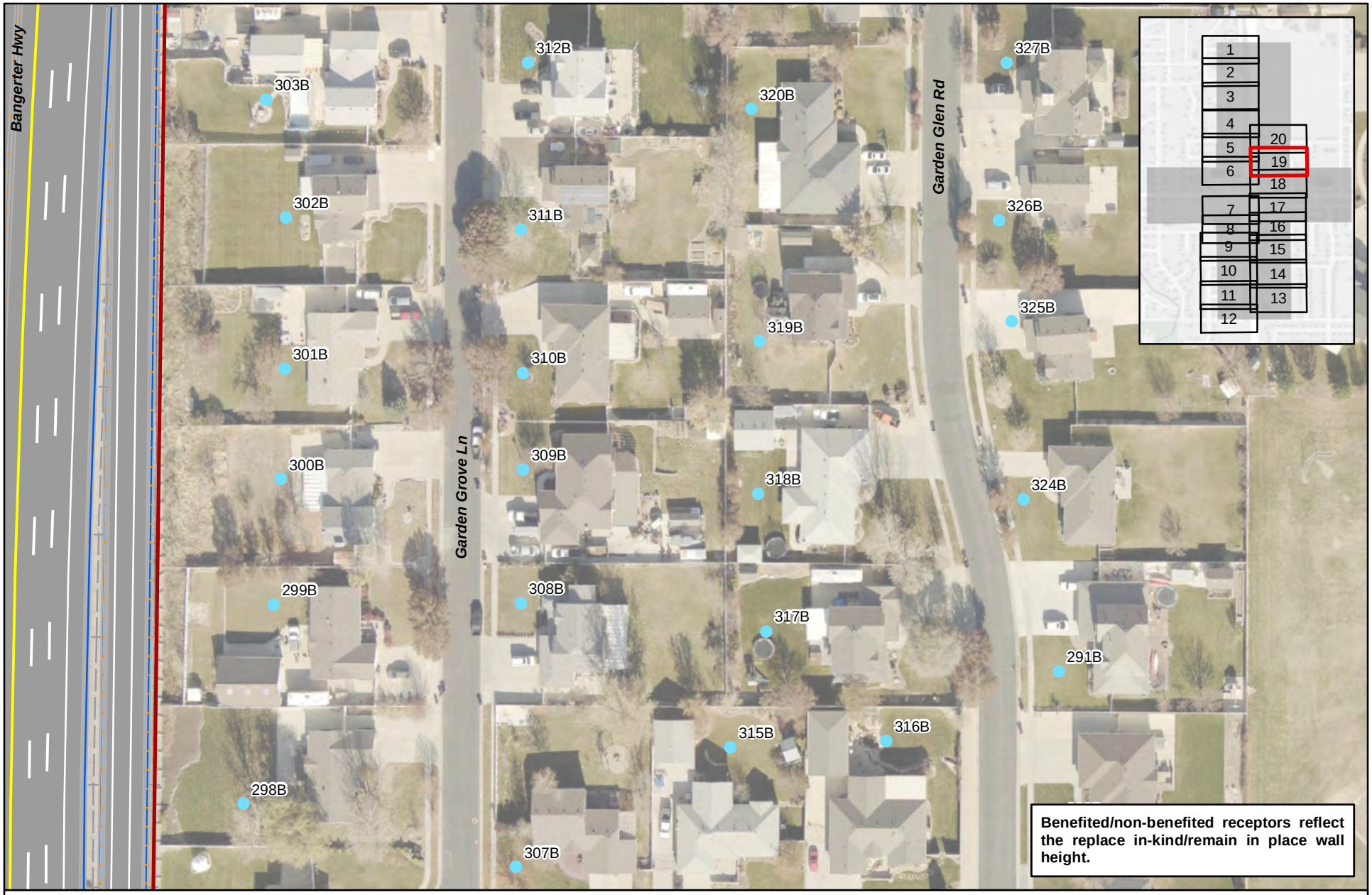
0 40 80

Feet

- Benefited, Impacted
- Benefited, Not Impacted
- Not Benefited, Impacted
- Not Benefited, Not Impacted
- Relocation
- Existing Noise Wall - Remain in Place
- Evaluated Noise Wall - Replace In-Kind
- Evaluated Noise Wall - Not Feasible and Reasonable

18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Under Option



N

0 40 80

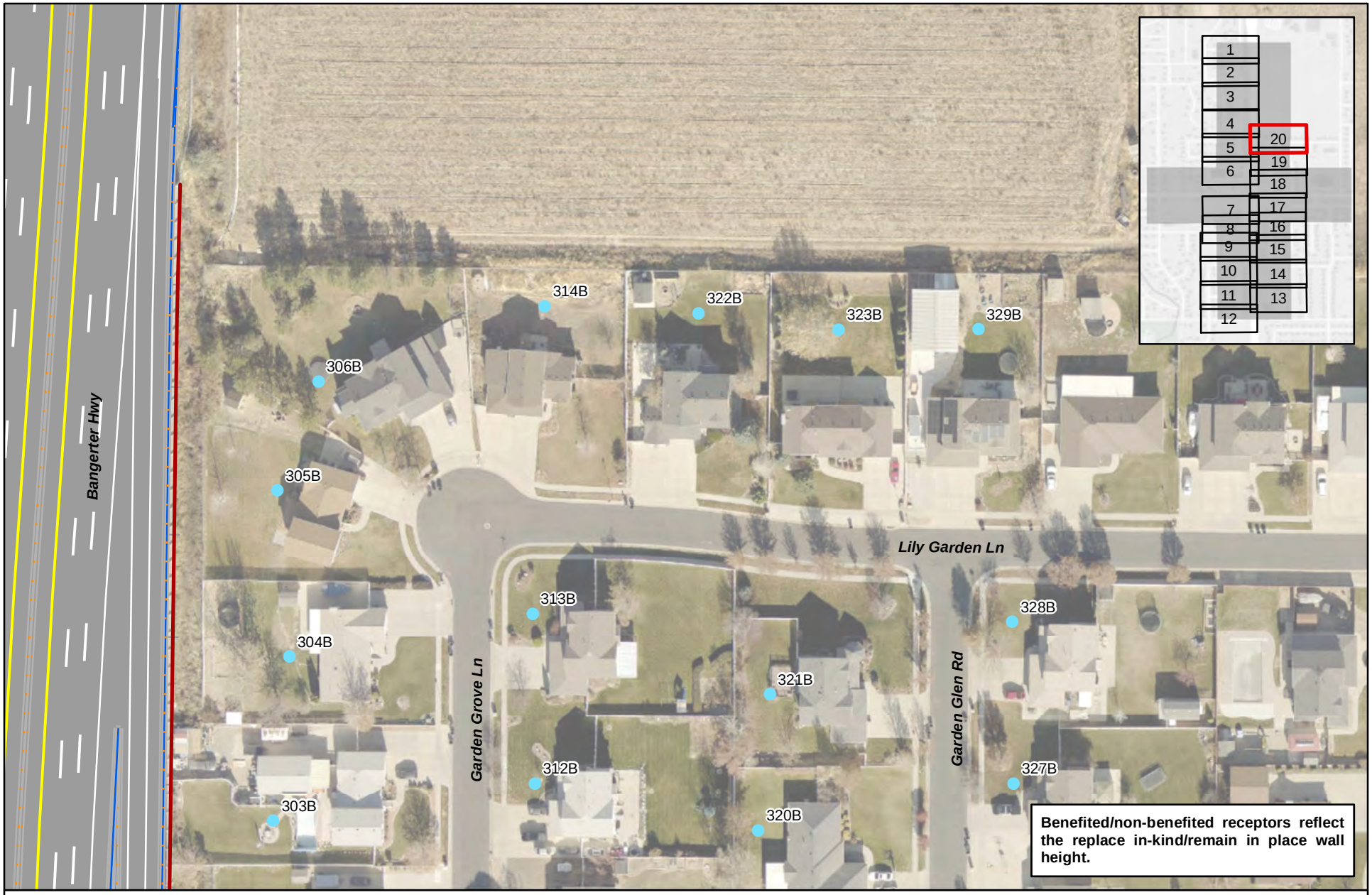
Feet

- Benefited, Impacted
- Benefited, Not Impacted
- Not Benefited, Impacted
- Not Benefited, Not Impacted
- Relocation
- Existing Noise Wall - Remain in Place
- Evaluated Noise Wall - Replace In-Kind
- Evaluated Noise Wall - Not Feasible and Reasonable

18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Under Option

Map 19 of 20



18808: Bangerter Highway at 9800 South

Noise Walls - Bangerter Highway Under Option

Map 20 of 20

APPENDIX D: BARRIER ANALYSIS WORKSHEETS

Wall 1 - Bangerter Over Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA)							
				6	8	10	12	14	16	18	20
12B	1	B		4	5	5	5	5	5	5	5
13B	1	B		1	1	1	1	1	1	1	1
14B	1	B		0	0	0	0	0	0	0	0
15B	1	B		1	1	1	1	1	1	1	1
16B	1	B		1	1	1	1	1	1	1	1
17B	1	B		1	1	1	1	1	1	1	1
18B	1	B		1	1	1	1	1	1	1	1
19B	1	B		0	0	0	0	0	0	0	0
20B	1	B		0	0	0	0	0	0	0	0
21B	1	B		0	0	0	0	0	0	0	0
22B	1	B		1	1	1	1	1	1	1	1
23B	1	B	x	0	1	2	4	4	4	4	5
25B	1	B	x	1	2	3	3	4	4	4	4
26B	1	B		1	1	2	2	2	2	2	2
27B	1	B		1	1	1	1	1	1	1	1
28B	1	B		1	1	1	1	1	1	1	1
29B	1	B		1	1	1	1	1	1	1	1
30B	1	B		1	1	1	1	1	1	1	1
31B	1	B		1	1	1	1	1	1	1	1
32B	1	B		1	1	1	1	1	1	1	1
33B	1	B		1	1	1	1	1	1	1	1
34B	1	B		1	1	1	1	1	2	2	2
35B	1	B		1	1	2	2	2	2	2	2
36B	1	B		2	3	3	3	4	4	4	4
38B	1	B	x	0	1	4	4	5	5	5	5
39B	1	B		0	1	1	1	2	2	2	2
40B	1	B		0	0	1	1	1	1	1	2
41B	1	B		0	0	1	1	1	1	1	2
42B	1	B		1	0	1	1	1	1	1	1
43B	1	B		1	0	1	1	1	1	1	1
44B	1	B		1	1	1	1	1	2	2	2
45B	1	B		0	1	1	1	1	2	2	2
46B	1	B	x	0	1	3	4	4	5	5	5
47B	1	B	x	0	1	3	4	5	5	5	5
48B	1	B		0	0	1	1	1	2	2	2
49B	1	B		1	1	1	1	1	2	2	2
50B	1	B		0	0	1	1	1	1	1	1
51B	1	B		0	0	1	1	1	1	1	1
52B	1	B		1	1	1	1	1	1	2	2
53B	1	B		0	0	0	1	1	1	1	2
54B	1	B	x	0	2	4	4	5	5	5	5
55B	1	B	x	0	1	3	4	5	5	5	5
56B	1	B		0	0	1	1	1	1	1	2
57B	1	B		1	1	1	1	1	2	2	2
58B	1	B		0	0	1	1	1	1	1	1
59B	1	B		1	1	1	1	1	2	2	2
60B	1	B		0	0	1	1	1	1	2	2
61B	1	B	x	0	1	3	4	5	5	5	5
62B	1	B	x	0	2	4	4	5	5	5	5
63B	1	B		0	0	1	1	1	2	2	2
64B	1	B		1	1	1	1	2	2	2	2
65B	1	B		0	0	1	1	1	1	1	1
66B	1	B		1	1	1	1	2	2	2	2
67B	1	B	x	1	1	1	2	2	2	2	2
69B	1	B	x	0	0	3	5	5	5	5	5
70B	1	B		1	2	2	2	3	3	3	3
71B	1	B		1	1	1	2	2	2	2	2
72B	1	B		1	1	1	1	1	1	2	2
73B	1	B		1	1	1	1	1	1	2	2
74B	1	B		1	1	1	2	2	2	2	2
75B	1	B	x	2	2	3	3	3	3	3	4
78B	1	B	x	2	2	3	3	3	3	3	3
79B	1	B		1	1	2	2	2	2	3	3
80B	1	B		1	1	1	1	2	2	2	2
81B	1	B		1	1	1	1	2	2	2	2

Wall 1 - Bangerter Over Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
82B	1	B		1	1	1	2	2	2	2	2
83B	1	B		1	2	2	2	2	2	2	2
84B	1	B	x	2	2	2	3	3	3	3	3
87B	1	B	x	2	2	2	3	3	3	3	3
88B	1	B		1	2	2	2	2	3	3	3
89B	1	B		1	1	1	2	2	2	2	2
90B	1	B		1	1	1	1	1	1	2	2
91B	1	B		1	1	1	1	1	1	1	1
92B	1	B		0	1	1	1	1	1	1	1
93B	1	B		0	1	1	1	1	1	1	1
94B	1	B	x	1	1	1	1	1	1	1	1
98B	1	B	x	1	1	1	1	1	1	1	1
99B	1	B		1	1	1	1	1	1	1	1
100B	1	B		1	1	1	1	1	1	1	1
101B	1	B		1	1	1	1	1	1	1	1
102B	1	B		0	0	0	0	0	0	0	0
103B	1	B		0	0	0	0	0	0	0	0
104B	1	B		0	0	0	0	0	0	0	0
105B	1	B	x	0	0	0	0	0	0	0	0
343B	1	B	x	4	5	5	5	5	5	5	5

Input Data

Total Wall Length:	2,258	
Length of Activity Category A/C/D/E Land Use:	0	
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	19	

Feasibility Factors

No. of 1st row 5 dBA reduction:	0	1	1	2	8	9	9	10
%. of 1st row 5 dBA reduction:	0%	5%	5%	11%	42%	47%	47%	53%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**Yes**

Reasonableness Factors

No. of 1st row Design Goal:	0	0	0	0	0	0	0	0
%. of 1st row Design Goal:	0%	0%	0%	0%	0%	0%	0%	0%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Cost Analysis								
No. of Benefited (Category B):	0	2	2	3	9	10	10	11
Cost of Noise Wall (L x H x $/sq ft):	$270,960	$361,280	$451,600	$541,920	$632,240	$722,560	$812,880	$903,200
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$270,960	$361,280	$451,600	$541,920	$632,240	$722,560	$812,880	$903,200
Activity Category B Allowable Cost ($30k/benefited receptor):	$0	$60,000	$60,000	$90,000	$270,000	$300,000	$300,000	$330,000
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$0	$60,000	$60,000	$90,000	$270,000	$300,000	$300,000	$330,000
Allowable - Anticipated Cost:	-$270,960	-$301,280	-$391,600	-$451,920	-$362,240	-$422,560	-$512,880	-$573,200
Cost Effective (Anticipated < Allowable):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Feasible and Reasonable:	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Wall 2 - Bangerter Over Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
140C	1	C	x	1	1	1	1	1	1	1	1
141B	1	B		1	2	2	2	3	3	3	3
142B	1	B		1	1	1	2	2	2	2	2
143B	1	B		1	1	1	1	2	2	2	2
144B	1	B	x	2	3	4	4	4	4	5	5
159B	1	B	x	2	5	6	6	6	6	7	7
160B	1	B	x	2	5	6	6	7	7	7	7
161B	1	B	x	2	5	7	8	8	9	9	9
162B	1	B	x	1	5	7	9	10	11	11	12
163B	1	B	x	1	3	7	10	11	12	13	13
164B	1	B	x	1	3	7	10	11	12	13	13
173B	1	B	x	10	11	12	14	14	15	15	15

Input Data

Total Wall Length:	2,003	
Length of Activity Category A/C/D/E Land Use:	0	Not applied as Activity Category C receptor is not benefited
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	9	

Feasibility Factors

No. of 1st row 5 dBA reduction:	1	5	7	7	7	7	8	8
%. of 1st row 5 dBA reduction:	11%	56%	78%	78%	78%	78%	89%	89%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Reasonableness Factors

No. of 1st row Design Goal:	1	1	5	5	6	6	7	7
%. of 1st row Design Goal:	11%	11%	56%	56%	67%	67%	78%	78%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Cost Analysis								
No. of Benefited (Category B):	1	5	7	7	7	7	8	8
Cost of Noise Wall (L x H x $/sq ft):	$240,360	$320,480	$400,600	$480,720	$560,840	$640,960	$721,080	$801,200
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$240,360	$320,480	$400,600	$480,720	$560,840	$640,960	$721,080	$801,200
Activity Category B Allowable Cost ($30k/benefited receptor):	$30,000	$150,000	$210,000	$210,000	$210,000	$210,000	$240,000	$240,000
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$30,000	$150,000	$210,000	$210,000	$210,000	$210,000	$240,000	$240,000
Allowable - Anticipated Cost:	-$210,360	-$170,480	-$190,600	-$270,720	-$350,840	-$430,960	-$481,080	-$561,200
Cost Effective (Anticipated < Allowable):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Feasible and Reasonable:	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Wall 3 - Bangerter Over Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
225B	1	B	x	2	2	2	2	2	2	2	2
226B	1	B	x	1	1	1	1	1	1	1	1
227B	1	B	x	1	1	1	1	1	1	1	1
233B	1	B		2	2	2	2	2	2	2	2
234B	1	B		1	1	1	1	1	1	1	1
240B	1	B		1	1	1	1	1	1	1	1
241B	1	B		1	1	1	1	1	1	1	1
242B	1	B	x	1	1	1	1	1	1	1	1
243B	1	B	x	1	1	1	1	1	1	1	1
244B	1	B	x	1	1	1	1	1	1	1	1
245B	1	B		0	0	0	0	0	0	0	0
246B	1	B		1	1	1	1	1	1	1	1
247B	1	B		1	1	1	1	1	1	1	1

Input Data

Total Wall Length:	647	
Length of Activity Category A/C/D/E Land Use:	0	
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	6	

	6	8	10	12	14	16	18	20
Feasibility Factors								
No. of 1st row 5 dBA reduction:	0	0	0	0	0	0	0	0
%. of 1st row 5 dBA reduction:	0%	0%	0%	0%	0%	0%	0%	0%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Reasonableness Factors								
No. of 1st row Design Goal:	0	0	0	0	0	0	0	0
%. of 1st row Design Goal:	0%	0%	0%	0%	0%	0%	0%	0%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Cost Analysis								
No. of Benefited (Category B):	0	0	0	0	0	0	0	0
Cost of Noise Wall (L x H x $/sq ft):	$77,640	$103,520	$129,400	$155,280	$181,160	$207,040	$232,920	$258,800
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$77,640	$103,520	$129,400	$155,280	$181,160	$207,040	$232,920	$258,800
Activity Category B Allowable Cost ($30k/benefited receptor):	$0	$0	$0	$0	$0	$0	$0	$0
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$0	$0	$0	$0	$0	$0	$0	$0
Allowable - Anticipated Cost:	-$77,640	-$103,520	-$129,400	-$155,280	-$181,160	-$207,040	-$232,920	-$258,800
Cost Effective (Anticipated < Allowable):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Feasible and Reasonable:	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Wall 4 - Bangerter Over Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
186B	1	B	x	1	1	1	2	2	2	2	2
187B	1	B	x	1	2	2	2	3	3	3	3
188B	1	B	x	2	3	3	4	4	4	5	5
189B	1	B	x	3	3	4	4	4	5	5	5
190B	1	B		3	3	4	4	5	5	5	5
191B	1	B		4	5	6	7	7	8	8	8
192B	1	B	x	9	10	11	11	12	12	12	13

Input Data

Total Wall Length:	236	
Length of Activity Category A/C/D/E Land Use:	0	
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	5	

Feasibility Factors

No. of 1st row 5 dBA reduction:	1	1	1	1	1	2	3	3
%. of 1st row 5 dBA reduction:	20%	20%	20%	20%	20%	40%	60%	60%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**Yes**	**Yes**

Reasonableness Factors

No. of 1st row Design Goal:	1	1	1	1	1	1	1	1
%. of 1st row Design Goal:	20%	20%	20%	20%	20%	20%	20%	20%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Cost Analysis								
No. of Benefited (Category B):	1	2	2	2	3	4	5	5
Cost of Noise Wall (L x H x $/sq ft):	$28,320	$37,760	$47,200	$56,640	$66,080	$75,520	$84,960	$94,400
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$28,320	$37,760	$47,200	$56,640	$66,080	$75,520	$84,960	$94,400
Activity Category B Allowable Cost ($30k/benefited receptor):	$30,000	$60,000	$60,000	$60,000	$90,000	$120,000	$150,000	$150,000
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$30,000	$60,000	$60,000	$60,000	$90,000	$120,000	$150,000	$150,000
Allowable - Anticipated Cost:	$1,680	$22,240	$12,800	$3,360	$23,920	$44,480	$65,040	$55,600
Cost Effective (Anticipated < Allowable):	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Feasible and Reasonable:	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Wall 5 (Existing Wall) - Bangerter Over Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 14
191B	1	B		2
192B	1	B	x	6
193B	1	B	x	13
194B	1	B		9
195B	1	B		6
196B	1	B		6
197B	1	B		8
198B	1	B	x	11
199B	1	B	x	13
200B	1	B	x	12
201B	1	B		9
202B	1	B		6
203B	1	B		6
204B	1	B		10
205B	1	B	x	12
206B	1	B	x	11
207B	1	B	x	9
211B	1	B		2
212B	1	B		3
213B	1	B		3
214B	1	B		3
215B	1	B		3
216B	1	B		3
217B	1	B		2
218B	1	B		4
219B	1	B		4
220B	1	B	x	9
221B	1	B	x	5
222B	1	B	x	4
223B	1	B	x	5
224B	1	B	x	5
228B	1	B		4
229B	1	B		3
230B	1	B		3
231B	1	B		2
232B	1	B		2
233B	1	B		2
235B	1	B		2
236B	1	B		2

Wall 5 (Existing Wall) - Bangerter Over Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 14
237B	1	B		1
238B	1	B		1
239B	1	B		1
240B	1	B		1
345B	1	B	x	13

Input Data

Total Wall Length:	1,359
Length of Activity Category A/C/D/E Land Use:	0
No. of 1st row receptors:	14

Feasibility Factors

No. of 1st row 5 dBA reduction:	13
%. of 1st row 5 dBA reduction:	93%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**Yes**

Reasonableness Factors

No. of 1st row Design Goal:	9
%. of 1st row Design Goal:	64%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**Yes**
Feasible and Reasonable:	**Yes**

Wall 6 (Existing Wall) - Bangerter Over Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 14	15	16	17	18	19	20
286B	1	B		0	0	0	0	0	0	0
287B	1	B		0	0	0	0	0	0	0
288B	1	B		0	0	0	0	0	0	0
289B	1	B		0	0	0	0	0	0	0
290B	1	B		0	0	0	0	0	0	0
291B	1	B		0	0	0	0	0	0	0
292B	1	B		0	0	0	0	0	0	0
293B	1	B		0	0	0	0	0	0	0
294B	1	B		0	0	0	0	0	0	0
295B	1	B		0	0	0	0	0	0	0
296B	1	B	x	1	1	1	1	1	1	1
297B	1	B	x	1	1	1	1	1	1	1
298B	1	B	x	1	1	2	2	2	2	2
299B	1	B	x	1	1	1	1	1	1	1
300B	1	B	x	1	1	1	1	1	1	1
301B	1	B	x	1	1	1	1	1	1	1
303B	1	B	x	2	2	2	2	2	2	2
304B	1	B	x	3	3	3	3	3	3	3
305B	1	B	x	6	6	6	6	6	7	7
306B	1	B	x	5	5	5	5	5	5	5
307B	1	B		0	0	0	0	0	0	0
308B	1	B		0	0	0	0	0	0	0
309B	1	B		0	0	0	0	1	1	1
310B	1	B		1	1	1	1	1	1	1
311B	1	B		1	1	1	1	1	1	1
312B	1	B		1	1	1	1	1	1	1
313B	1	B		2	2	2	2	2	2	2
314B	1	B		2	2	2	2	2	2	2
315B	1	B		0	0	0	0	0	0	0
316B	1	B		0	0	0	0	0	0	0
317B	1	B		0	0	0	0	0	0	0
318B	1	B		0	0	0	0	0	0	0
319B	1	B		0	0	0	0	1	1	1
320B	1	B		1	1	1	1	1	1	1
321B	1	B		1	1	1	1	1	1	1
322B	1	B		1	1	1	1	1	1	1
323B	1	B		1	1	1	1	1	1	1
324B	1	B		0	0	0	0	0	0	0
325B	1	B		0	0	0	0	0	0	0
326B	1	B		1	1	1	1	1	1	1
327B	1	B		1	1	1	1	1	1	1
328B	1	B		1	1	1	1	1	1	1
329B	1	B		1	1	1	1	1	1	1

Input Data

Total Wall Length:	1,217	
Length of Activity Category A/C/D/E Land Use:	0	
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	10	

Feasibility Factors

No. of 1st row 5 dBA reduction:	2	2	2	2	2	2	2
%. of 1st row 5 dBA reduction:	20%	20%	20%	20%	20%	20%	20%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Reasonableness Factors

No. of 1st row Design Goal:	0	0	0	0	0	1	1
%. of 1st row Design Goal:	0%	0%	0%	0%	0%	10%	10%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Cost Analysis							
No. of Benefited (Category B):	2	2	2	2	2	2	2
Cost of Noise Wall (L x H x $/sq ft):	$340,760	$365,100	$389,440	$413,780	$438,120	$462,460	$486,800
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$340,760	$365,100	$389,440	$413,780	$438,120	$462,460	$486,800
Activity Category B Allowable Cost ($30k/benefited receptor):	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000
Allowable - Anticipated Cost:	-$280,760	-$305,100	-$329,440	-$353,780	-$378,120	-$402,460	-$426,800
Cost Effective (Anticipated < Allowable):	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Feasible and Reasonable:	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Wall 1 - Bangerter Under Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
12B	1	B		10	11	11	11	11	11	11	11
13B	1	B		3	3	3	3	3	3	3	3
14B	1	B		1	1	1	1	1	1	1	1
15B	1	B		1	1	1	1	1	1	1	1
16B	1	B		1	1	1	1	1	2	2	2
17B	1	B		1	1	1	1	1	1	1	1
18B	1	B		1	1	1	1	1	1	1	1
19B	1	B		1	1	1	1	1	1	1	1
20B	1	B		1	1	1	1	1	1	1	1
21B	1	B		1	1	1	1	1	1	1	1
22B	1	B		2	2	2	2	2	2	2	2
23B	1	B	x	1	2	4	4	5	5	5	5
25B	1	B	x	3	3	4	4	4	4	4	4
26B	1	B		2	2	2	2	2	2	2	2
27B	1	B		1	1	1	1	2	2	2	2
28B	1	B		1	1	1	1	1	1	1	1
29B	1	B		1	1	1	1	1	1	1	1
30B	1	B		1	1	1	1	1	1	1	1
31B	1	B		1	1	1	1	1	1	1	1
32B	1	B		1	1	1	1	1	1	1	1
33B	1	B		1	1	1	1	1	2	2	2
34B	1	B		1	1	1	2	2	2	2	2
35B	1	B		2	2	2	2	2	2	2	2
36B	1	B		3	3	3	4	4	4	4	4
38B	1	B	x	3	4	5	5	5	5	5	5
39B	1	B		1	1	1	2	2	2	2	2
40B	1	B		0	1	1	1	1	1	1	1
41B	1	B		0	1	1	1	1	2	2	2
42B	1	B		1	1	1	1	1	1	2	2
43B	1	B		1	1	1	1	1	2	2	2
44B	1	B		1	1	1	1	2	2	2	2
45B	1	B		1	1	1	2	2	2	2	2
46B	1	B	x	2	4	4	5	5	5	5	5
47B	1	B	x	2	4	4	5	5	5	5	5
48B	1	B		1	1	1	1	2	2	2	2
49B	1	B		1	1	1	1	2	2	2	2
50B	1	B		1	1	1	1	1	1	2	2
51B	1	B		1	1	1	1	1	1	2	2
52B	1	B		1	1	1	1	2	2	2	2
53B	1	B		0	1	1	1	1	1	2	2
54B	1	B	x	3	4	5	5	5	5	5	5
55B	1	B	x	3	4	4	5	5	5	5	5
56B	1	B		1	1	1	1	1	2	2	2
57B	1	B		1	1	1	2	2	2	2	2
58B	1	B		1	1	1	1	1	2	2	2
59B	1	B		1	1	1	2	2	2	2	2
60B	1	B		1	1	1	1	1	2	2	2
61B	1	B	x	3	4	5	5	5	5	5	5
62B	1	B	x	3	4	5	5	5	5	5	5
63B	1	B		1	1	1	1	2	2	2	2
64B	1	B		1	1	1	2	2	2	2	2
65B	1	B		1	1	1	1	1	2	2	2
66B	1	B		1	1	1	2	2	2	2	2
67B	1	B	x	1	2	2	2	2	2	2	2
69B	1	B	x	3	4	5	5	5	5	5	5
70B	1	B		2	2	3	3	3	3	3	3
71B	1	B		2	2	2	2	3	3	3	3
72B	1	B		1	1	1	1	1	2	2	2
73B	1	B		1	1	1	1	2	2	2	2
74B	1	B		1	2	2	2	2	3	3	3
75B	1	B	x	3	3	3	3	4	4	4	4
78B	1	B	x	3	3	3	3	4	4	4	4
79B	1	B		2	2	2	3	3	3	3	3
80B	1	B		1	1	2	2	2	2	2	2
81B	1	B		1	2	2	2	2	2	2	2

Wall 1 - Bangerter Under Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
82B	1	B		1	2	2	2	2	2	2	2
83B	1	B		2	2	2	3	3	3	3	3
84B	1	B	x	2	3	3	3	3	3	3	3
87B	1	B	x	2	3	3	3	3	3	3	3
88B	1	B		2	2	2	3	3	3	3	3
89B	1	B		1	2	2	2	2	2	2	2
90B	1	B		1	1	1	2	2	2	2	2
91B	1	B		1	1	1	1	1	1	1	1
92B	1	B		1	1	1	1	1	1	1	1
93B	1	B		1	1	1	1	1	1	1	1
94B	1	B	x	1	1	1	1	1	1	1	1
98B	1	B	x	1	1	1	1	1	1	1	1
99B	1	B		1	1	1	1	1	1	1	1
100B	1	B		1	1	1	1	1	1	1	1
101B	1	B		1	1	1	1	1	1	1	1
102B	1	B		0	0	0	0	0	0	0	0
103B	1	B		0	0	0	1	1	1	1	1
104B	1	B		0	0	0	0	0	0	0	1
105B	1	B	x	0	0	0	0	0	0	0	0
343B	1	B	x	9	10	10	10	10	11	11	11

Input Data

Total Wall Length:	2,258	
Length of Activity Category A/C/D/E Land Use:	0	
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	19	

Feasibility Factors

	6	8	10	12	14	16	18	20
No. of 1st row 5 dBA reduction:	1	1	6	9	10	10	10	10
%. of 1st row 5 dBA reduction:	5%	5%	32%	47%	53%	53%	53%	53%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	No	No	No	No	Yes	Yes	Yes	Yes

Reasonableness Factors

	6	8	10	12	14	16	18	20
No. of 1st row Design Goal:	1	1	1	1	1	1	1	1
%. of 1st row Design Goal:	5%	5%	5%	5%	5%	5%	5%	5%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	No	No	No	No	No	No	No	No
Cost Analysis								
No. of Benefited (Category B):	2	2	7	10	11	11	11	11
Cost of Noise Wall (L x H x $/sq ft):	$270,960	$361,280	$451,600	$541,920	$632,240	$722,560	$812,880	$903,200
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$270,960	$361,280	$451,600	$541,920	$632,240	$722,560	$812,880	$903,200
Activity Category B Allowable Cost ($30k/benefited receptor):	$60,000	$60,000	$210,000	$300,000	$330,000	$330,000	$330,000	$330,000
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$60,000	$60,000	$210,000	$300,000	$330,000	$330,000	$330,000	$330,000
Allowable - Anticipated Cost:	-$210,960	-$301,280	-$241,600	-$241,920	-$302,240	-$392,560	-$482,880	-$573,200
Cost Effective (Anticipated < Allowable):	No	No	No	No	No	No	No	No
Feasible and Reasonable:	No	No	No	No	No	No	No	No

Wall 2 - Bangerter Under Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
140C	1	C	x	1	1	1	1	1	1	1	1
141B	1	B		1	2	2	2	3	3	3	3
142B	1	B		1	1	1	2	2	2	2	2
143B	1	B		1	1	1	1	2	2	2	2
144B	1	B	x	2	3	4	4	4	4	5	5
159B	1	B	x	2	5	6	6	6	6	7	7
160B	1	B	x	2	5	6	6	7	7	7	7
161B	1	B	x	2	5	7	8	8	9	9	9
162B	1	B	x	1	5	7	9	10	11	11	12
163B	1	B	x	1	3	7	10	11	12	13	13
164B	1	B	x	1	3	7	10	11	12	13	13
173B	1	B	x	10	11	12	14	14	15	15	15

Input Data

Total Wall Length:	2,003	
Length of Activity Category A/C/D/E Land Use:	0	Not applied as Activity Category C receptor is not benefited
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	9	

Feasibility Factors

No. of 1st row 5 dBA reduction:	1	5	7	7	7	7	8	8
%. of 1st row 5 dBA reduction:	11%	56%	78%	78%	78%	78%	89%	89%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Reasonableness Factors

No. of 1st row Design Goal:	1	1	5	5	6	6	7	7
%. of 1st row Design Goal:	11%	11%	56%	56%	67%	67%	78%	78%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Cost Analysis								
No. of Benefited (Category B):	1	5	7	7	7	7	8	8
Cost of Noise Wall (L x H x $/sq ft):	$240,360	$320,480	$400,600	$480,720	$560,840	$640,960	$721,080	$801,200
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$240,360	$320,480	$400,600	$480,720	$560,840	$640,960	$721,080	$801,200
Activity Category B Allowable Cost ($30k/benefited receptor):	$30,000	$150,000	$210,000	$210,000	$210,000	$210,000	$240,000	$240,000
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$30,000	$150,000	$210,000	$210,000	$210,000	$210,000	$240,000	$240,000
Allowable - Anticipated Cost:	-$210,360	-$170,480	-$190,600	-$270,720	-$350,840	-$430,960	-$481,080	-$561,200
Cost Effective (Anticipated < Allowable):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Feasible and Reasonable:	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Wall 3 - Bangerter Under Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
225B	1	B	x	1	1	1	1	1	1	1	1
226B	1	B	x	1	1	1	1	1	1	1	1
227B	1	B	x	0	1	1	1	1	1	1	1
233B	1	B		2	2	2	2	2	2	2	2
234B	1	B		1	1	1	1	1	1	1	1
240B	1	B		2	2	2	2	2	3	3	3
241B	1	B		2	2	2	2	2	2	2	2
242B	1	B	x	0	0	1	1	1	1	1	1
243B	1	B	x	1	1	1	2	2	2	2	2
244B	1	B	x	1	1	1	2	2	2	2	2
245B	1	B		1	1	1	1	1	1	1	1
246B	1	B		1	1	1	1	1	1	1	1
247B	1	B		1	1	1	1	1	1	1	1

Input Data

Total Wall Length:	647	
Length of Activity Category A/C/D/E Land Use:	0	
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	6	

Feasibility Factors

No. of 1st row 5 dBA reduction:	0	0	0	0	0	0	0	0
%. of 1st row 5 dBA reduction:	0%	0%	0%	0%	0%	0%	0%	0%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Reasonableness Factors

No. of 1st row Design Goal:	0	0	0	0	0	0	0	0
%. of 1st row Design Goal:	0%	0%	0%	0%	0%	0%	0%	0%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Cost Analysis								
No. of Benefited (Category B):	0	0	0	0	0	0	0	0
Cost of Noise Wall (L x H x $/sq ft):	$77,640	$103,520	$129,400	$155,280	$181,160	$207,040	$232,920	$258,800
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$77,640	$103,520	$129,400	$155,280	$181,160	$207,040	$232,920	$258,800
Activity Category B Allowable Cost ($30k/benefited receptor):	$0	$0	$0	$0	$0	$0	$0	$0
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$0	$0	$0	$0	$0	$0	$0	$0
Allowable - Anticipated Cost:	-$77,640	-$103,520	-$129,400	-$155,280	-$181,160	-$207,040	-$232,920	-$258,800
Cost Effective (Anticipated < Allowable):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Feasible and Reasonable:	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Wall 4 - Bangerter Under Option

Receptor Name	No. of DU	Activity Category	1st Row Receptor	Wall Height (ft) Noise Reduction Values (dBA) 6	8	10	12	14	16	18	20
186B	1	B	x	1	1	1	2	2	2	2	2
187B	1	B	x	1	2	2	2	2	3	3	3
188B	1	B	x	3	3	3	4	4	4	4	5
189B	1	B	x	3	3	4	4	5	5	5	5
190B	1	B		3	3	4	4	5	5	5	5
191B	1	B		4	5	6	7	7	8	8	8
192B	1	B	x	9	10	11	12	12	12	13	13

Input Data

Total Wall Length:	236	
Length of Activity Category A/C/D/E Land Use:	0	
Length of Safety Barrier	0	
Wall Cost per sq ft:	$20	
Cost of items critical to safety (snow storage):	$0	per linear foot
Cost of items critical to safety (safety barrier):	$0	per linear foot
No. of 1st row receptors:	5	

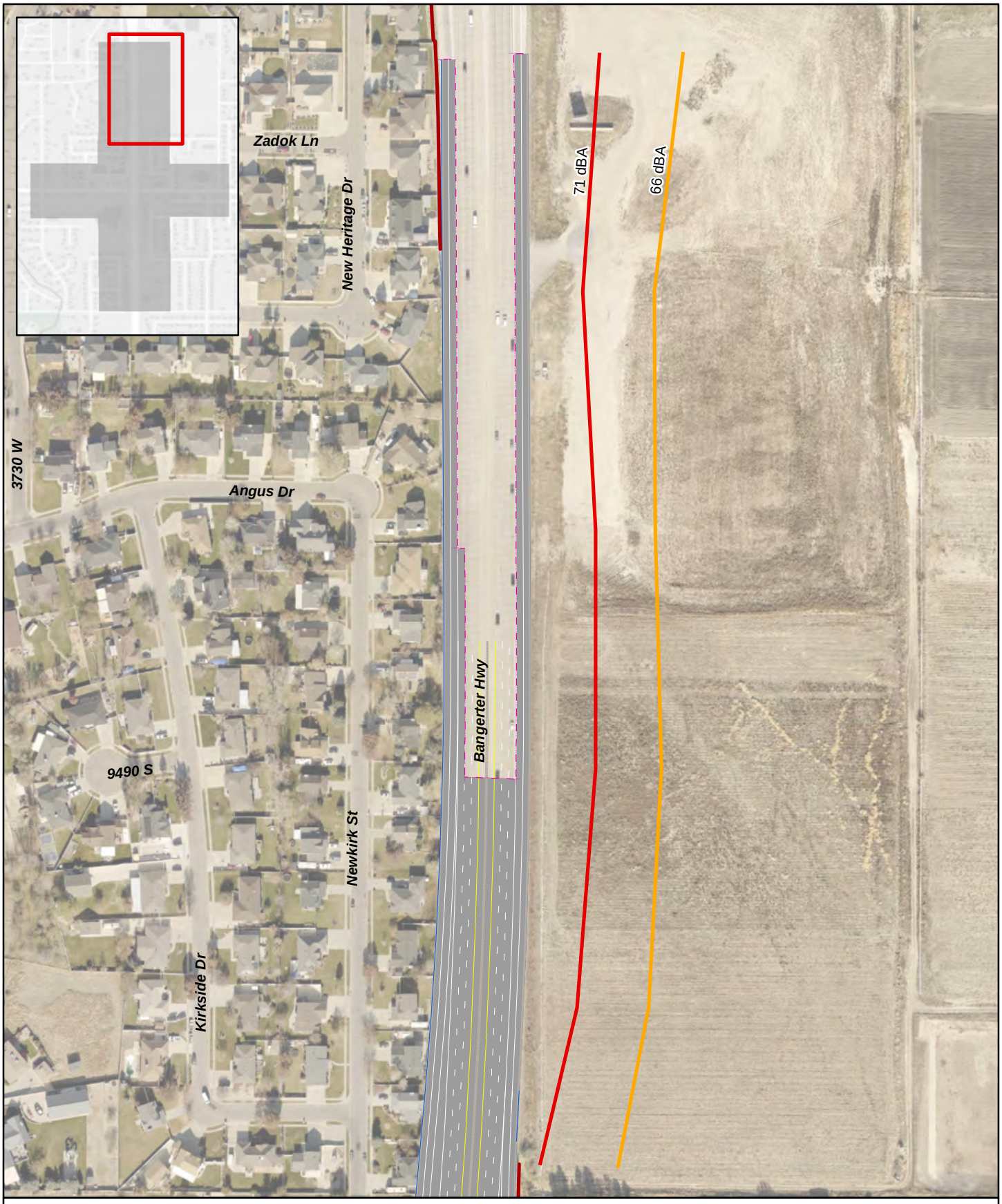
Feasibility Factors

No. of 1st row 5 dBA reduction:	1	1	1	1	2	2	2	3
%. of 1st row 5 dBA reduction:	20%	20%	20%	20%	40%	40%	40%	60%
Acoustic Feasibility (5 dBA reduction for 50% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**Yes**

Reasonableness Factors

No. of 1st row Design Goal:	1	1	1	1	1	1	1	1
%. of 1st row Design Goal:	20%	20%	20%	20%	20%	20%	20%	20%
Noise Abatement Design Goal (7 dBA reduction for 35% of 1st row):	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Cost Analysis								
No. of Benefited (Category B):	1	2	2	2	4	4	4	5
Cost of Noise Wall (L x H x $/sq ft):	$28,320	$37,760	$47,200	$56,640	$66,080	$75,520	$84,960	$94,400
Cost of item critical to safety (snow storage):	$0	$0	$0	$0	$0	$0	$0	$0
Cost of item critical to safety (safety barrier):	$0	$0	$0	$0	$0	$0	$0	$0
Anticipated Cost of Noise Abatement:	$28,320	$37,760	$47,200	$56,640	$66,080	$75,520	$84,960	$94,400
Activity Category B Allowable Cost ($30k/benefited receptor):	$30,000	$60,000	$60,000	$60,000	$120,000	$120,000	$120,000	$150,000
Activity Category A/C/D/E Allowable Cost ($360/linear ft):	$0	$0	$0	$0	$0	$0	$0	$0
Total Allowable Cost:	$30,000	$60,000	$60,000	$60,000	$120,000	$120,000	$120,000	$150,000
Allowable - Anticipated Cost:	$1,680	$22,240	$12,800	$3,360	$53,920	$44,480	$35,040	$55,600
Cost Effective (Anticipated < Allowable):	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Feasible and Reasonable:	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

APPENDIX E: NOISE LEVELS ON UNDEVELOPED LAND



N

0 125 250

Feet

66 dBA

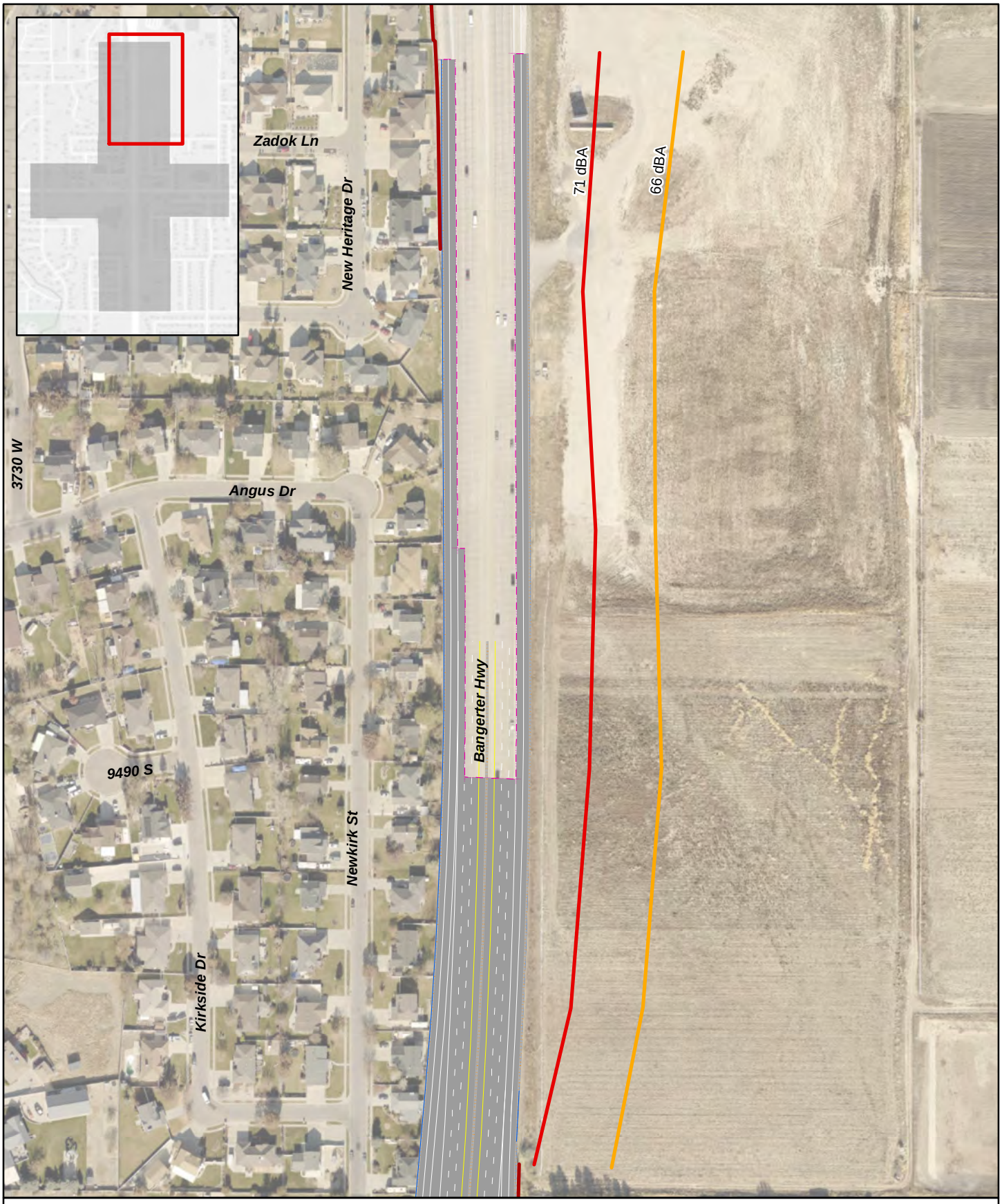
71 dBA

Existing Noise Wall

18808: Bangerter Highway at 9800 South

Undeveloped Land - Bangerter Highway Over Option

Map 1 of 1



18808: Bangerter Highway at 9800 South

Undeveloped Land - Bangerter Highway Under Option

Map 1 of 1

Appendix D: Environmental Resources

Hazardous Materials Memo

HORROCKS ENGINEERS

MEMORANDUM

TO: Project File

FROM: Jansen Howe, Horrocks Engineers

DATE: November 2, 2021

SUBJECT: **Evaluation of Hazardous Sites for the Bangerter Highway 9800 South Interchange Environmental Study**

INTRODUCTION

Horrocks Engineers has prepared this evaluation in support of the Utah Department of Transportation's (UDOT) proposal to construct a grade-separated interchange at the intersection of Bangerter Highway and 9800 South in South Jordan, UT.

HAZARDOUS MATERIALS

Hazardous materials include any solid, liquid, or gaseous materials that, if improperly managed or disposed of, may pose substantial hazards to human health and the environment. A material is considered hazardous if it exhibits one or more of the following characteristics: ignitability, corrosivity, reactivity, and toxicity.

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to regulate the safe management of hazardous and non-hazardous solid waste (i.e. garbage) and underground storage tanks (USTs) that hold petroleum products or certain chemicals, including leaking underground storage tanks (LUSTs). Under RCRA, hazardous wastes are tracked from the time they are generated until the time they are ultimately disposed of or recycled.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted in 1980. CERCLA provides for the cleanup and remediation of closed and abandoned hazardous waste sites where hazardous waste has been abandoned, accidentally spilled, or illegally dumped and also created a "Superfund" to help pay for cleanup costs.

AFFECTED ENVIRONMENT

Hazardous materials and waste sites were evaluated by reviewing records from the Utah Department of Environmental Quality (UDEQ). These sites included National Priorities list (NPL) sites; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) sites; Toxic Release Inventory (TRI); Used Oil Facilities; Enforceable Written Assurances (EWAs), Brownfields, USTs and LUSTs, and Environmental Incidents. Sites were reviewed for the potential to be affected by the Proposed Action based on standard radius distances as shown in Table 1.

Table 1: Description of Hazardous Materials Sites and Search Radius

Site Type	Search Radius Beyond Study Area	Description
NPL	1 mile	NPL sites are those containing listed chemicals under CERCLA and have been identified as priorities for cleanup.
CERCLIS	0.5 miles	CERCLIS sites contain listed chemicals under CERCLA but have not been categorized as NPL sites.
TRI	0.5 miles	TRI are sites such as manufacturing or mining facilities that manufacture or process listed chemicals.
Used Oil Facility	Study Area or Adjacent Property	Used oil facilities are sites that store, transport, or recycle used oil.
EWA	0.5 miles	EWA sites are properties where the owner has come to an agreement with the UDEQ on obligations associated with hazardous materials or waste of the site.
Brownfield	0.5 miles	Brownfields are former industrial areas.
UST	Study Area or Adjacent Property	USTs are sites where underground storage tanks are currently being used or have been used to store petroleum products such as gasoline or diesel fuel.
LUST	0.5 miles	LUSTs are UST sites where a leak has been detected.
Environmental Incident	Study Area or Adjacent Property	Environmental incidents are locations where a spill or other incident regarding hazardous materials has been reported.

National Priorities List (NPL)

No NPL sites occur within 1 mile of the study area.

CERCLIS Sites

No CERCLIS sites occur within 0.5 miles of the study area.

Toxic Release Inventory (TRI)

One TRI site is located within 0.5 miles of the study area. The site, Fairchild Semiconductor at 3333 West 900 South in South Jordan, is approximately 0.2 miles from the study area boundary. See Table 2 for a listing of TRI facilities and the attached figure for the location.

Hazardous Waste and Used Oil Facilities

One used oil facility site is located within a parcel adjacent to the study area. The site, Walmart Neighborhood Market #5120, located at 3706 West 9800 South in South Jordan, is located approximately 180 feet from the study area boundary. See Table 2 for a listing of Used Oil Facilities and the attached figure for the location.

Enforceable Written Assurances (EWA)

No EWA sites occur within 0.5 miles of the study area.

Brownfield

No Brownfield Sites occur within 0.5 miles of the study area.

Underground Storage Tanks (UST) and Leaking Underground Storage Tanks (LUST)

No UST sites occur within the study area or an adjacent property. One LUST site is located within 0.5 miles of the study area. The site, Costco Gasoline #1019, located at 3571 West 10400 South in South

Jordan, is located approximately 0.3 miles from the study area boundary. See Table 2 for a listing of LUST facilities and the attached figure for the location.

Environmental Incident

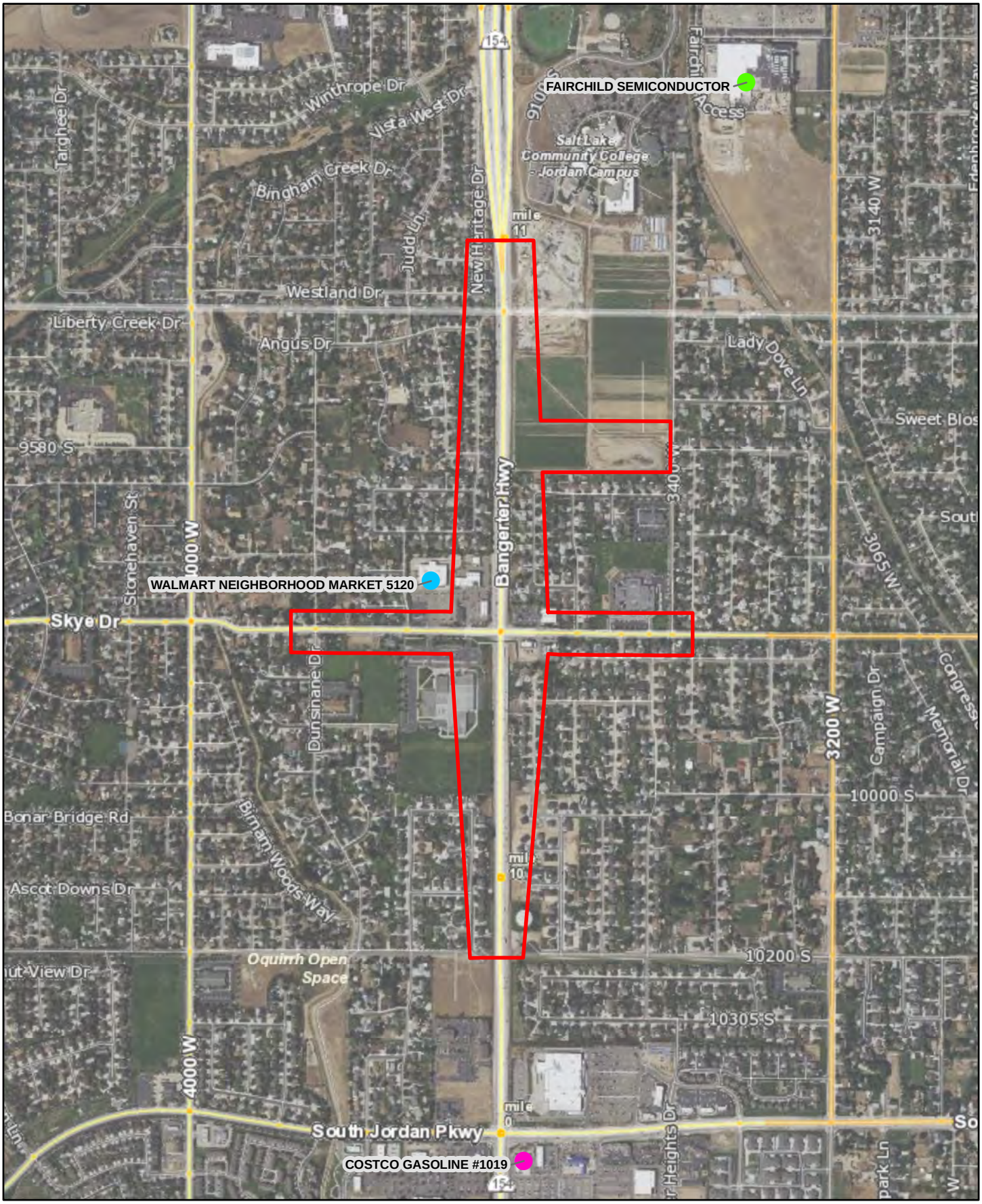
No Environmental Incidents have occurred within the study area or an adjacent property.

Table 2: Hazardous Material Sites in the Study Area

Name	Address	Site Type	UDEQ ID
Fairchild Semiconductor	3333 West 9000 South South Jordan, UT	TRI	84088NTNLS3333W
Walmart Neighborhood Market #5120	3706 West 9800 South South Jordan, UT	Used Oil Facility	UTR000007427
Costco Gasoline #1019	3571 West 10400 South South Jordan, UT	LUST	4002500

ENVIRONMENTAL CONSEQUENCES

No hazardous materials sites occurred within the project study area. One TRI site was identified approximately 0.2 miles from the study area boundary, one used oil facility was identified on a property adjacent to the study area, and one LUST site was identified approximately 0.3 miles from the study area boundary. Properties outside the study area that have been closed by the UDEQ with no evidence of contamination extending beyond the property boundary were not included because they have no potential to affect the Proposed Action. Any contamination encountered during project activities will be handled in accordance with the UDOT 2022 Standard Specification 01355 regarding the treatment and disposal of hazardous materials.



Bangerter Highway; 9800 South Interchange

Hazardous Materials

Map 1 of 1

0 0.25 0.5 Miles

N

- Leaking Underground Storage Tank
- Toxic Release Inventory
- Used Oil Facility
- Study Area

Appendix D: Environmental Resources

Air Quality Summary

Air Quality Summary

Bangerter Highway at 9800 South Intersection Improvements

Project No. S-0154(92)0; PIN 18808

Lead Agency: Utah Department of Transportation

December 2021

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Abbreviations and Acronyms

CAAA	Clean Air Act Amendments
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
EPA	Environmental Protection Agency
LOS	Level of Service
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
O_3	ozone
Pb	lead
$PM_{2.5}$	particulate matter with a diameter of 2.5 micrometers or less
PM_{10}	particulate matter with a diameter of 10 micrometers or less
PPB	parts per billion
PPM	parts per million
RTP	Regional Transportation Plan
SIP	State Implementation Plan
SO_2	sulfur dioxide
WFRC	Wasatch Front Regional Council
UDOT	Utah Department of Transportation
$\mu g/m^3$	micrograms per cubic meter of air

1.0 Introduction

The Utah Department of Transportation (UDOT) is conducting a State Environmental Study to evaluate a potential freeway-style interchange at Bangerter Highway and 9800 South in South Jordan, Utah in order to reduce congestion and improve safety. Improvements to mobility and a reduction in congestion are anticipated to occur as part of the Proposed Action, which is expected to result in decreased levels of transportation-related criteria pollutants in the study area and in surrounding areas.

1.1 Project Study Area

The Proposed Action is located in South Jordan, Utah. The study area along Bangerter Highway measures approximately 1.1 miles north-south between mileposts 9.9 and 11.0. The study area along 9800 South measures approximately 0.6 miles east-west from approximately 3400 West to Dunsinane Drive.

1.2 Proposed Action

The following improvements are proposed (see attached map):

- construction of a new grade-separated interchange configuration
- relocation and/or replacement of existing utilities
- installation of new and/or modification of existing storm drainage systems
- reconstruction of existing roadways to facilitate transitions to the proposed interchange.

The project will also include: modification and/or replacement of sidewalks/bike lanes and pedestrian ramps; the relocation and/or replacement of existing noise walls; installation/update of roadway signage; and replacement of pavement markings. Acquisition of right-of-way (ROW) and relocation of residences are anticipated in order to facilitate construction of the proposed interchange.

2.0 Purpose and Need

The purpose of this project is to:

- Reduce current and future delay at the Bangerter Highway and 9800 South intersection
- Improve traffic operations and mobility on Bangerter Highway at the 9800 South intersection
- Minimize congestion on the local street network

The needs of the proposed action are:

- Current failing conditions (Level of Service (LOS) E) at the Bangerter Highway and 9800 South intersection
- Future failing conditions (LOS F) at the Bangerter Highway and 9800 South intersection
- Unsafe conditions due to the traffic signal leading to stop conditions and queue lengths
- Future congestion throughout the local street network due to bottlenecking at Bangerter Highway and 9800 South

3.0 Attainment Status for the Project Area

3.1 Background on National Ambient Air Quality Standards

The Clean Air Act Amendments (CAAA) of 1990 (42 USC 7401 et seq.) established the National Ambient Air Quality Standards (NAAQS) for airborne pollutants. The current NAAQS for criteria pollutants are shown in Table 1.

Table 1. National Ambient Air Quality Standards for Criteria Pollutants

POLLUTANT	PRIMARY/ SECONDARY	AVERAGING TIME	LEVEL	VIOLATION DETERMINATION
Carbon Monoxide (CO)	Primary	8-hours	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
Lead (Pb)	Primary and Secondary	Rolling 3 month average	0.15 µg/m^3	Not to be exceeded
Nitrogen Dioxide (NO_2)	Primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Primary/ Secondary	1-hour	53 ppb (0.053 ppm)	Annual mean
Ozone (O_3)	Primary and Secondary	8-hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particulate Matter ($PM_{2.5}$)	Primary	1-year	12.0 µg/m^3	Annual mean, averaged over 3 years
	Secondary	1-year	15.0 µg/m^3	Annual mean, averaged over 3 years
	Primary and Secondary	24-hours	35 µg/m^3	98th percentile, averaged over 3 years
Particulate Matter (PM_{10})	Primary and Secondary	24-hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)	Primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

*Source: Environmental Protection Agency - as of August 20, 2021 (*https://www.epa.gov/criteria-air-pollutants/naaqs-table*)*

Note: Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb), and micrograms per cubic meter of air (µg/m3). Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

NAAQS are monitored by geographic area. When NAAQS levels are exceeded in a geographic area, the area is designated as a nonattainment area and the development of a State Implementation Plan (SIP) is required. The SIP sets allowable emissions levels to be met and identifies control strategies to meet the

NAAQS for those specific criteria pollutants with exceedances. All regionally significant highway projects are required to be included in a transportation plan that conforms to the SIP.

An individual project is said to conform to the SIP if, both by itself and in combination with the other planned transportation projects, it would not result in any of the following conditions (see 42 USC Section 7506(c)):

- New violations of the NAAQS
- Increases in the frequency or severity of existing violations of the NAAQS
- Delays in attaining the NAAQS

3.2 Attainment Status of the Project Area

The Proposed Action is located in Salt Lake County, Utah and is within the following nonattainment and/or maintenance areas:

- Salt Lake City, Utah $PM_{2.5}$ Nonattainment Area
- Salt Lake County, PM_{10} Maintenance Area
- Sulfur Dioxide (SO_2) Nonattainment Area
- Northern Wasatch Front Ozone (O_3) Nonattainment Area

This proposed project is included in the Wasatch Front Regional Council (WFRC) 2019-2050 Regional Transportation Plan (RTP). The air quality conformity report published on June 17, 2019 found that the 2050 RTP conforms to state air quality goals and objectives. The proposed project is consistent with the description of the project provided in the RTP.

Improvements to mobility and a reduction in congestion are anticipated to occur as part of the proposed action, which is expected to result in decreased levels of criteria pollutants in the study area and surrounding areas.

What are Attainment, Nonattainment, and Maintenance Areas?

An **attainment area** is an area that meets (or "attains") the NAAQS for a given air pollutant.

A **nonattainment area** is an area that does not meet the NAAQS for a given air pollutant.

A **maintenance area** is an area previously designated as a nonattainment area that has been redesignated to attainment status and is required to have a maintenance plan.

The study area is in a nonattainment area for $PM_{2.5}$, SO_2, and O_3, and a maintenance area for PM_{10}. The Proposed Action would reduce congestion and idling along Bangerter Highway and 9800 South, which would result in decreased emissions of both $PM_{2.5}$ and PM_{10} in the project area as it would allow for unimpeded traffic flow along Bangerter Highway. SO_2 is primarily produced by sources other than roadway vehicles; therefore, there is no reason to believe that this project will affect concentrations of this pollutant in the proejct area. Vehicle exhaust, industrial emissions, and gasoline vapors are major contributors to the production of O_3. Although meteorological conditions combined with changes in the regional land use and transportation patterns could affect O_3 on a regional level, the effects that could result from any one project alone are presumably minimal and uncertain. The project is not predicted to cause a new exceedance of the NAAQS, worsen an existing exceedance, or cause delay in attaining NAAQS.

4.0 Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, the Environmental Protection Agency (EPA) also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., locomotives, construction equipment, and airplanes) and stationary sources (e.g., factories or refineries). Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act. MSATs are compounds emitted from highway vehicles and non-road equipment.

Based on FHWA's analysis using MOVES2014a, diesel particulate matter (diesel PM) remains the dominant MSAT of concern for highway projects. For the No Build and Proposed Action, the amount of MSATs that are expected to be emitted would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same for each option. The VMT estimated for each option should be equal given that the Proposed Action is not adding capacity. Although VMT is anticipated to increase by 2050 for both the No Build and Proposed Action, the increase for the Proposed Action would be offset somewhat by lower MSAT emission rates as a result of decreased travel times and increased speeds. According to EPA's MOVES2014 model, emissions of all of the priority MSATs decrease as speed increases. Additionally, on a regional basis the EPA's vehicle and fuel regulations, coupled with fleet turnover, would over time cause reductions that, in almost all cases, will result in region-wide MSAT levels that are lower than today.

5.0 Greenhouse Gas (GHG)

Greenhouse gases (GHG) trap heat and make the planet warmer. Human activities are responsible for almost all of the increase in greenhouse gases in the atmosphere over the last 150 years. The largest source of GHG emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation. Carbon dioxide ($CO_{2)}$ released through the consumption of gasoline and diesel is primarily related to VMT and is often used to estimate GHG emissions. VMT is anticipated to increase by 2050. However, this increase would occur under the No Build and Build conditions.

6.0 Conclusions

The Proposed Action is identified as a Phase 1 project in WFRC's 2019–2050 RTP and is also identified in WFRC's conforming 2021–2026 TIP and therefore conforms to the SIP. For this reason, UDOT does not expect the Proposed Action to adversely affect local compliance with the NAAQS. Atmospheric CO_2 emissions are projected to increase in 2050 due to the greater number of vehicles and increased VMT in 2050. This increase would occur with or without the Proposed Action. The amounts of all other pollutants are projected to decrease in future years due to improved fuel and emissions standards.

7.0 References

Environmental Protection Agency (2021). NAAQS Table. Electronic document https://www.epa.gov/criteria-air-pollutants/naaqs-table, accessed August 20, 2021.

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Utah Department of Environmental Quality (DEQ) (2021). Interactive Map. Electronic document, https://utahdeq.maps.arcgis.com/apps/webappviewer/index.html?id=dcc4eacb53a942f2a4b74a36ae5ea118, accessed August 20, 2021.

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