CHAPTER IV
Environmental Consequences

A. Introduction

This chapter identifies potential impacts to the transportation, social, economic and biophysical environments that may result from construction of an upgraded I-70 highway within SIU 7. The chapter is intended to provide sufficient information on the environmental consequences – both beneficial and negative impacts – associated with each alternative to make a determination of a preferred alternative.

This chapter further addresses primary, direct positive and negative impacts and, where feasible, indirect impacts (including changes in the function or quality of a resource). Secondary and cumulative impacts are also addressed in this chapter, as are measures that could potentially be implemented to mitigate unavoidable negative impacts.

To facilitate the evaluation of the environmental impacts of each alternative, the corridor has been divided into 17 subsections with each subsection containing one to four alternatives. For detailed information regarding the extent of each alternative, refer to the descriptions provided in Chapter II. The analysis of impacts uses detailed data, and was approached to provide a worst-case comparative assessment of corridor impacts. Each alternative was analyzed using the same methodology and at the same level of detail. Results of this analysis are summarized in Table IV-1: Summary of Impacts by Alternative and in Section B of this chapter.

B. Overall Summary & Comparison of Environmental Impacts

In order to determine the environmental feasibility of improving I-70 within SIU 7, socioeconomic and environmental constraints and issues were inventoried, field checked and analyzed to assist in the determination of a preferred alternative for SIU 7. As defined in Chapter II, the alternatives carried forward for further study included 17 subsections and the No-Build alternative. Tables IV-1 and IV-2 provide English and metric summaries of each impact by alternative. Note that only those categories of data with specific impacts are listed on the table; those categories without impacts are discussed in the subsequent sections of this chapter however. Specific impacts are as follows:

- *Land Use* – SIU 7 is dominated by three main categories of land use: agricultural, residential and service/retail commercial uses. In the more rural western portion of the study corridor where agriculture predominates, land uses likely will not appreciably shift as a result of any alternative, since most of the preferred alternative is located within the existing right of way. In the more densely developed eastern portion of the study corridor, land uses may shift as access is changed, and in this portion of the study corridor, agricultural land uses are most notably impacted by the alternatives. However, it is unlikely that any alternative will have a disproportionate impact over any other.

Further, each alternative is compatible with the comprehensive planning efforts of the impacted cities and counties.

- *Residential and Neighborhood Impacts* – while community impacts are not expected to be substantial under any of the alternatives under consideration, within Alternatives 9A and 9B (at Jonesburg), 12 (at Wright City) and 17 (at Lake St. Louis Boulevard) care will be required during the interchange design phase to minimize impacts to the pedestrian nature of those communities.
- *Community Cohesion* – transportation improvements of this nature require that some homes and businesses be acquired. While preliminary engineering for this study has attempted to minimize these impacts, in only a few cases are the number of structures potentially acquired a factor in the determination of a preferred alternative.
- *Residential and Commercial Acquisitions* – the acquisition of individual structures is fairly evenly distributed within each alternative, and does not go up appreciably moving from west (less dense and more rural) to east (increased density and more suburban). Of notable exception is a trailer park that will be impacted in Alternative 9B and not impacted in Alternative 9A.
- *Existing Business Access* – travel patterns at most of the interchanges within SIU 7 will change under any of the alternatives being considered. In most cases, access management policies require some changes in access to existing businesses.
- *Floodplains, Wetlands, Ponds, Lakes, Rivers and Streams* – each has a nominal presence within SIU 7 and does not extensively influence the selection of the preferred alternative.
- *Habitat* – since land within the study corridor is already highly disturbed and developed, there is minimal habitat to support wildlife and aquatic fauna, and there is no evidence of the presence of threatened or endangered species.
- *Cultural Resources* – based on a corridor-wide survey of all parcels within the area of potential effects, 13 individual properties and four historic districts were identified as eligible for listing on the National Register of Historic Places. Alternatives 2A, 2B, and10A would each impact at least one of these properties. The Preferred Alternative would not adversely impact any of the eligible properties. An archaeological survey will be done on the preferred alternate for the FEIS.
- *Noise Impacts* – noise impacts on individual structures are also fairly evenly distributed within each alternative. However in this case, noise does influence a notably higher number of structures moving from west (less dense and more rural) to east (increased density and more suburban) within the study corridor.

C. Land Use Impacts

Land use impacts will vary by the intensity or degree of development that is impacted by the project. Generally, two types of improvements are considered with this proposed action. First there is the widening of the existing I-70 itself within SIU 7, along with the related replacement or relocation of frontage roads. Second is the reconstruction of each of the interchanges within the project limits.

Table IV-1: Summary of Impacts by Alternative (English Units)

Alternative	Consistency with Local Plans	Land Use Impacts: Suburban Residential AC	%	Rural Residential AC	%	Urban Residential AC	%	General Sales or Services (commercial) AC	%	Manufacturing and Construction AC	%	Transportation, Communication, & Utilities AC	%	Arts, Entertainment, & Recreation AC	%	Education, Public Administration, Health Care AC	%	Mining and Extraction AC	%	Agriculture, Forestry, Fishing & Hunting AC	%	Vacant Land AC	%	Total AC	Conservation Reserve Program Properties	Community Impact Assessment: Residential and Neighborhood Impacts	Total Residential Structures	Total Commercial Structures	Business Access	Natural and Cultural Features Impacts: Floodplains AC	Regulated Floodways AC	Wetlands AC	Ponds AC	Rivers & Streams FT	Cultural: Archaeological Resources	NRHP Eligible Property (within APE)	Section 4(f) (Adverse Effects)	Noise (total units impacted)	Wells	Right of Way Costs (Millions)	Design and Construction Costs (Millions)	Estimated Costs	Preferred Alternative
1	●	0.0	0.0%	22.7	28.3%	0.6	0.7%	27.3	34.2%	0.0	0.0%	0.4	0.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	14.8	18.4%	14.3	17.8%	80.0	0	○	3	4	11	1.2	0.0	0.15	0.7	4,579		0	0	0	1	$17.5	$31.4	$48.9	✔
2A	●	0.0	0.0%	15.4	12.9%	0.0	0.0%	18.7	15.6%	8.6	7.2%	0.8	0.7%	0.0	0.0%	7.9	6.6%	0.0	0.0%	66.6	55.7%	1.6	1.3%	119.6	0	○	5	1	0	0.0	0.0	0.00	0.6	1,275		2	1	4	2	$3.7	$46.9	$50.6	
2B	●	0.0	0.0%	1.9	1.6%	0.0	0.0%	5.0	4.3%	5.3	4.5%	0.1	0.1%	0.0	0.0%	5.0	4.3%	0.0	0.0%	98.7	84.5%	0.8	0.7%	116.9	0	○	5	2	0	0.4	0.0	0.08	0.0	994		2	2	1	0	$3.2	$46.3	$49.5	
2C	●	0.0	0.0%	15.3	12.6%	0.0	0.0%	18.1	14.9%	8.5	7.0%	0.8	0.7%	0.0	0.0%	8.6	7.1%	0.0	0.0%	68.5	56.4%	1.5	1.3%	121.4	0	○	6	0	0	0.0	0.0	0.01	0.0	2,886		2	0	1	2	$3.6	$46.9	$50.5	✔
3A	●	0.0	0.0%	4.8	5.9%	0.0	0.0%	14.9	18.1%	0.7	0.9%	0.0	0.0%	0.0	0.0%	0.1	0.1%	0.0	0.0%	44.8	54.5%	16.9	20.5%	82.2	2	○	9	8	1	0.0	0.0	0.00	0.4	6,447		1	0	33	0	$11.5	$29.4	$40.9	
3B	●	0.0	0.0%	3.8	6.9%	0.0	0.0%	15.8	28.9%	0.8	1.5%	1.2	2.2%	0.0	0.0%	0.1	0.2%	0.0	0.0%	27.2	49.6%	5.9	10.8%	54.9	0	○	11	9	0	0.0	0.0	0.00	0.3	1,416		0	0	33	0	$12.1	$24.6	$36.7	✔
4	●	0.0	0.0%	0.7	0.7%	0.0	0.0%	2.2	1.9%	4.1	3.7%	4.8	4.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	75.7	67.5%	24.6	21.9%	112.2	0	○	0	1	0	0.0	0.0	0.62	0.2	2,265		0	0	0	0	$1.6	$45.7	$47.3	✔
5A	●	0.0	0.0%	14.2	18.0%	0.0	0.0%	3.2	4.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.3	0.4%	0.0	0.0%	43.2	55.1%	17.6	22.4%	78.4	0	○	4	3	0	0.6	0.0	0.08	0.0	4,040		2	0	21	0	$4.3	$32.3	$36.6	✔
5B	●	0.0	0.0%	14.4	17.2%	0.0	0.0%	2.0	2.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.3	0.4%	0.0	0.0%	49.2	58.8%	17.6	21.1%	83.6	0	○	4	2	0	2.3	0.0	0.08	0.0	4,284		1	0	21	0	$3.9	$32.4	$36.3	
6	●	0.0	0.0%	11.5	5.9%	0.0	0.0%	3.9	2.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	174.9	89.3%	5.5	2.8%	195.8	0	○	8	2	0	0.0	0.0	0.14	0.0	4,851		0	0	5	1	$6.5	$71.8	$78.3	✔
7A	●	0.0	0.0%	23.2	21.7%	0.0	0.0%	10.2	9.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	5.5	5.2%	0.0	0.0%	45.3	42.5%	22.4	21.0%	106.6	0	○	3	3	0	2.1	0.2	0.69	0.0	9,379		0	0	14	0	$4.1	$45.2	$49.3	✔
7B	●	0.0	0.0%	18.2	17.7%	0.0	0.0%	14.9	14.4%	1.4	1.4%	0.0	0.0%	0.0	0.0%	2.1	2.0%	0.0	0.0%	43.7	42.4%	22.8	22.1%	103.1	0	○	4	11	0	2.8	1.9	1.33	0.3	2,526		0	0	13	0	$4.4	$42.7	$47.1	
8A	●	0.0	0.0%	6.0	14.2%	1.6	3.7%	8.4	19.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4.5	10.6%	21.9	51.7%	42.4	0	○	8	3	21	0.0	0.0	0.11	0.0	2,526		1	0	35	0	$7.5	$33.8	$41.3	
8B	●	0.0	0.0%	7.1	15.9%	1.9	4.2%	9.5	21.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.4	0.9%	0.0	0.0%	2.2	4.8%	23.9	53.1%	44.9	0	○	10	5	21	0.0	0.0	0.03	0.0	2,282		0	0	26	0	$8.1	$34.1	$42.2	
8C	●	0.0	0.0%	6.0	14.1%	1.7	4.0%	8.7	20.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4.4	10.3%	22.0	51.4%	42.8	0	○	8	3	21	0.0	0.0	0.11	0.0	2,549		0	0	35	0	$7.7	$30.0	$37.7	✔
8D	●	0.0	0.0%	7.1	15.9%	1.9	4.2%	9.5	21.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.4	0.9%	0.0	0.0%	2.2	4.8%	23.9	53.1%	44.9	0	○	10	5	21	0.0	0.0	0.50	0.0	2,282		0	0	26	0	$8.1	$30.3	$38.4	
9A	●	0.0	0.0%	0.3	0.9%	0.0	0.0%	4.7	15.5%	3.6	11.8%	0.0	0.0%	0.0	0.0%	4.2	13.9%	0.0	0.0%	16.1	53.1%	1.5	4.8%	30.3	0	⬓	0	3	0	0.0	0.4	0.48	0.0	1,181		0	0	33	0	$3.0	$22.6	$25.6	✔
9B	●	0.0	0.0%	2.9	8.2%	0.0	0.0%	3.6	10.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4.4	12.4%	0.0	0.0%	22.7	64.8%	1.5	4.4%	35.1	0	⬓	24	5	0	0.1	0.5	0.09	0.5	1,739		0	0	33	0	$3.3	$22.4	$25.7	
10A	●	0.0	0.0%	8.5	21.0%	0.0	0.0%	2.2	5.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	27.6	67.7%	2.4	5.9%	40.7	0	○	2	0	0	4.3	0.0	0.09	0.0	989		2	2	15	0	$0.8	$25.8	$26.6	
10B	●	0.0	0.0%	6.6	11.5%	0.0	0.0%	1.0	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	36.1	63.4%	13.2	23.2%	56.9	0	○	7	0	0	5.4	0.0	0.02	0.0	918		2	0	13	0	$1.5	$27.8	$29.3	
10C	●	0.0	0.0%	4.8	25.8%	0.0	0.0%	0.2	0.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	13.1	71.0%	0.4	2.3%	18.4	0	○	0	0	0	3.9	0.0	0.09	0.0	740		2	0	13	0	$0.3	$25.1	$25.4	✔
11A	●	0.0	0.0%	1.1	3.9%	0.0	0.0%	9.4	32.2%	0.0	0.0%	0.3	0.9%	0.0	0.0%	0.6	2.1%	0.0	0.0%	12.0	41.1%	5.8	19.9%	29.1	0	○	0	6	5	0.0	0.0	0.05	0.0	1,083		4	0	58	0	$7.1	$27.0	$34.1	✔
11B	●	0.5	0.8%	7.7	13.4%	0.0	0.0%	16.3	28.3%	3.4	5.8%	0.7	1.3%	0.0	0.0%	2.8	4.9%	0.0	0.0%	16.3	28.2%	9.9	17.2%	57.6	0	○	9	7	7	1.2	0.6	0.06	0.0	4,056		0	0	61	0	$15.2	$39.1	$54.3	
12	●	0.0	0.0%	16.9	23.9%	0.0	0.0%	19.4	27.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.8	4.0%	0.0	0.0%	22.4	31.6%	9.3	13.1%	70.9	0	⬓	19	9	0	0.0	0.0	0.02	0.0	1,790		1	0	59	1	$4.9	$43.0	$47.9	✔
13A	●	0.0	0.0%	7.3	8.7%	2.3	2.7%	13.7	16.4%	1.3	1.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	51.0	61.1%	8.0	9.5%	83.4	0	○	0	3	9	0.0	0.0	0.02	0.0	3,452		0	0	12	1	$11.7	$42.2	$53.9	✔
13B	●	0.0	0.0%	6.7	8.9%	2.1	2.8%	15.1	20.2%	1.4	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	41.9	56.0%	7.7	10.3%	74.8	0	○	0	5	9	0.0	0.0	0.05	0.0	3,261		0	0	12	1	$12.4	$47.8	$60.2	
13C	●	0.0	0.0%	6.8	7.0%	7.3	7.6%	29.7	30.9%	1.3	1.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	42.0	43.7%	9.1	9.4%	96.1	0	○	0	4	6	0.0	0.0	0.07	0.0	3,048		0	0	11	1	$12.5	$43.3	$55.8	
14	●	0.0	0.0%	9.5	19.4%	2.4	4.8%	9.4	19.2%	2.7	5.5%	0.0	0.0%	0.0	0.0%	2.4	4.8%	0.0	0.0%	11.9	24.3%	10.7	21.8%	49.0	0	○	4	4	0	0.0	0.0	0.04	0.0	1,036		1	0	31	1	$6.4	$47.7	$54.1	✔
15	●	0.1	0.2%	1.1	1.8%	0.0	0.0%	2.2	3.5%	5.7	9.2%	0.1	0.2%	2.1	3.4%	13.3	21.7%	0.0	0.0%	20.8	33.9%	16.1	26.1%	61.5	0	○	0	2	0	2.8	0.0	0.01	0.0	6,109		2	0	69	0	$11.0	$110.3	$121.3	✔
16A	●	0.0	0.0%	0.5	6.3%	0.0	0.0%	1.2	14.2%	0.0	0.0%	0.0	0.0%	0.1	1.4%	0.3	3.1%	0.0	0.0%	3.9	47.3%	2.3	27.7%	8.2	0	○	0	0	0	0.0	0.0	0.00	0.0	2,025		0	0	180	0	$0.7	$17.0	$17.7	✔
16B	●	0.0	0.0%	0.5	5.2%	0.0	0.0%	0.8	8.6%	0.0	0.0%	0.2	2.1%	0.1	0.8%	0.1	1.6%	0.0	0.0%	1.2	12.6%	6.4	69.1%	9.3	0	○	0	0	0	0.0	0.0	0.00	0.0	2,011		0	0	180	0	$0.3	$17.0	$17.3	
17	●	0.0	0.0%	0.0	0.0%	0.0	0.0%	3.1	29.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	7.2	70.1%	10.3	0	⬓	0	0	0	0.8	0.0	0.00	0.0	23		0	0	140	0	$0.9	$18.2	$19.1	✔
No Build	■	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0	○				0.0	0.0	0.00	0.0	0					0				
Minimum:		0.1		119.8		6.6		135.6		19.8		5.7		2.2		31.0		0.0		587.7		174.2		1,136.2	0		63	50	46	11.3	0.6	1.96	1.1	39,973		9	0	693	5	$101.3	$682.5	$780.5	
Maximum:		0.5		154.3		12.1		183.6		31.6		8.3		2.2		40.9		0.0		693.1		210.5		1,273.4	2		109	69	49	16.8	2.9	3.25	2.6	58,460		16	4	712	7	$114.5	$710.4	$823.7	

Key to Symbols

Positive — Neutral — Negative

● ◕ ◑ ◔ ○ ⬓ ⬓ ⬓ ■

Table IV-2: Summary of Impacts by Alternative (Metric Units)

Alternative	Consistency with Local Plans	Land Use Impacts																						Community Impact Assessment					Cultural										
		Suburban Residential		Rural Residential		Urban Residential		General Sales or Services (commercial)		Manufacturing and Construction		Transportation, Communication, & Utilities		Arts, Entertainment, & Recreation		Education, Public Administration, Health Care		Mining and Extraction		Agriculture, Forestry, Fishing & Hunting		Vacant Land		Total	Conservation Reserve Program Properties	Residential and Neighborhood Impacts	Total Residential Structures	Total Commercial Structures	Business Access	Floodplains	Regulated Floodways	Wetlands	Ponds	Rivers & Streams	Archaeological Resources	NRHP Eligible Property (within APE)	Section 4(f) (Adverse Effects)	Noise (total units impacted)	Wells	Right of Way Costs (Millions)	Design and Construction Costs (Millions)	Estimated Costs	Preferred Alternative
		HA	%	HA	%	HA	%	HA	%	HA	%	HA	%	HA	%	HA	%	HA	%	HA	%	HA	%	HA						HA	HA	HA	HA	M								
1	●	0.0	0.0%	9.2	28.3%	0.2	0.7%	11.1	34.2%	0.0	0.0%	0.2	0.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	6.0	18.4%	5.8	17.8%	32.4	0	○	3	4	11	0.5	0.0	0.06	0.3	1,396		0	0	0	1	$17.5	$31.4	$48.9	✓
2A	●	0.0	0.0%	6.2	12.9%	0.0	0.0%	7.6	15.6%	3.5	7.2%	0.3	0.7%	0.0	0.0%	3.2	6.6%	0.0	0.0%	27.0	55.7%	0.6	1.3%	48.4	0	○	5	1	0	0.0	0.0	0.00	0.2	389		2	1	4	2	$3.7	$46.9	$50.6	
2B	●	0.0	0.0%	0.8	1.6%	0.0	0.0%	2.0	4.3%	2.1	4.5%	0.0	0.1%	0.0	0.0%	2.0	4.3%	0.0	0.0%	39.9	84.5%	0.3	0.7%	47.3	0	○	5	2	0	0.1	0.0	0.03	1.0	303		2	2	1	0	$3.2	$46.3	$49.5	
2C	●	0.0	0.0%	6.2	12.6%	0.0	0.0%	7.3	14.9%	3.5	7.0%	0.3	0.7%	0.0	0.0%	3.5	7.1%	0.0	0.0%	27.7	56.4%	0.6	1.3%	49.1	0	○	6	0	0	0.0	0.0	0.00	0.0	880		2	0	1	2	$3.6	$46.9	$50.5	✓
3A	●	0.0	0.0%	2.0	5.9%	0.0	0.0%	6.0	18.1%	0.3	0.9%	0.0	0.0%	0.0	0.0%	0.0	0.1%	0.0	0.0%	18.1	54.5%	6.8	20.5%	33.3	2	○	9	8	1	0.0	0.0	0.00	0.2	1,965		1	0	33	0	$11.5	$29.4	$40.9	
3B	●	0.0	0.0%	1.5	6.9%	0.0	0.0%	6.4	28.9%	0.3	1.5%	0.5	2.2%	0.0	0.0%	0.0	0.2%	0.0	0.0%	11.0	49.6%	2.4	10.8%	22.2	0	○	11	9	0	0.0	0.0	0.00	0.1	432		0	0	33	0	$12.1	$24.6	$36.7	✓
4	●	0.0	0.0%	0.3	0.7%	0.0	0.0%	0.9	1.9%	1.7	3.7%	2.0	4.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	30.6	67.5%	10.0	21.9%	45.4	0	○	0	1	0	0.0	0.0	0.25	0.1	691		0	0	0	0	$1.6	$45.7	$47.3	✓
5A	●	0.0	0.0%	5.7	18.0%	0.0	0.0%	1.3	4.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	0.4%	0.0	0.0%	17.5	55.1%	7.1	22.4%	31.7	0	○	4	3	0	0.2	0.0	0.03	0.0	1,232		2	0	21	0	$4.3	$32.3	$36.6	✓
5B	●	0.0	0.0%	5.8	17.2%	0.0	0.0%	0.8	2.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	0.4%	0.0	0.0%	19.9	58.8%	7.1	21.1%	33.8	0	○	4	2	0	0.9	0.0	0.03	0.0	1,306		1	0	21	0	$3.9	$32.4	$36.3	
6	●	0.0	0.0%	4.6	5.9%	0.0	0.0%	1.6	2.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	70.8	89.3%	2.2	2.8%	79.2	0	○	8	2	0	0.0	0.0	0.06	0.0	1,479		0	0	5	1	$6.5	$71.8	$78.3	✓
7A	●	0.0	0.0%	9.4	21.7%	0.0	0.0%	4.1	9.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.2	5.2%	0.0	0.0%	18.3	42.5%	9.1	21.0%	43.1	0	○	3	3	0	0.8	0.1	0.28	0.0	2,859		0	0	14	0	$4.1	$45.2	$49.3	✓
7B	●	0.0	0.0%	7.4	17.7%	0.0	0.0%	6.0	14.4%	0.6	1.4%	0.0	0.0%	0.0	0.0%	0.8	2.0%	0.0	0.0%	17.7	42.4%	9.2	22.1%	41.7	0	○	4	11	0	1.1	0.8	0.54	0.1	770		0	0	13	0	$4.4	$42.7	$47.1	
8A	●	0.0	0.0%	2.4	14.2%	0.6	3.7%	3.4	19.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.8	10.6%	8.9	51.7%	17.2	0	○	8	3	21	0.0	0.0	0.04	0.0	770		1	0	35	0	$7.5	$33.8	$41.3	
8B	●	0.0	0.0%	2.9	15.9%	0.8	4.2%	3.8	21.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.2	0.9%	0.0	0.0%	0.9	4.8%	9.7	53.1%	18.2	0	○	10	5	21	0.0	0.0	0.01	0.0	696		0	0	26	0	$8.1	$34.1	$42.2	
8C	●	0.0	0.0%	2.4	14.1%	0.7	4.0%	3.5	20.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.8	10.3%	8.9	51.4%	17.3	0	○	8	3	21	0.0	0.0	0.04	0.0	777		0	0	35	0	$7.7	$30.0	$37.7	✓
8D	●	0.0	0.0%	2.9	15.9%	0.8	4.2%	3.8	21.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.2	0.9%	0.0	0.0%	0.9	4.8%	9.7	53.1%	18.2	0	○	10	5	21	0.0	0.0	0.20	0.0	696		0	0	26	0	$8.1	$30.3	$38.4	
9A	●	0.0	0.0%	0.1	0.9%	0.0	0.0%	1.9	15.5%	1.5	11.8%	0.0	0.0%	0.0	0.0%	1.7	13.9%	0.0	0.0%	6.5	53.1%	0.6	4.8%	12.3	0	◨	0	3	0	0.0	0.2	0.19	0.0	360		0	0	33	0	$3.0	$22.6	$25.6	✓
9B	●	0.0	0.0%	1.2	8.2%	0.0	0.0%	1.4	10.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.8	12.4%	0.0	0.0%	9.2	64.8%	0.6	4.4%	14.2	0	◨	24	5	0	0.0	0.2	0.04	0.2	530		0	0	33	0	$3.3	$22.4	$25.7	
10A	●	0.0	0.0%	3.5	21.0%	0.0	0.0%	0.9	5.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	11.1	67.7%	1.0	5.9%	16.5	0	○	2	0	0	1.7	0.0	0.04	0.0	301		2	2	15	0	$0.8	$25.8	$26.6	
10B	●	0.0	0.0%	2.7	11.5%	0.0	0.0%	0.4	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	14.6	63.4%	5.4	23.2%	23.0	0	○	7	0	0	2.2	0.0	0.01	0.0	280		2	0	13	0	$1.5	$27.8	$29.3	
10C	●	0.0	0.0%	1.9	25.8%	0.0	0.0%	0.1	0.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	5.3	71.0%	0.2	2.3%	7.4	0	○	0	0	0	1.6	0.0	0.03	0.0	226		2	0	13	0	$0.3	$25.1	$25.4	✓
11A	●	0.0	0.0%	0.5	3.9%	0.0	0.0%	3.8	32.2%	0.0	0.0%	0.1	0.9%	0.0	0.0%	0.2	2.1%	0.0	0.0%	4.8	41.1%	2.3	19.9%	11.8	0	○	0	6	5	0.0	0.0	0.02	0.0	330		4	0	58	0	$7.1	$27.0	$34.1	✓
11B	●	0.2	0.8%	3.1	13.4%	0.0	0.0%	6.6	28.3%	1.4	5.8%	0.3	1.3%	0.0	0.0%	1.1	4.9%	0.0	0.0%	6.6	28.2%	4.0	17.2%	23.3	0	○	9	7	7	0.5	0.2	0.02	0.0	1,237		0	0	61	0	$15.2	$39.1	$54.3	
12	●	0.0	0.0%	6.9	23.9%	0.0	0.0%	7.9	27.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.1	4.0%	0.0	0.0%	9.1	31.6%	3.8	13.1%	28.7	0	◨	19	9	0	0.0	0.0	0.01	0.0	546		1	0	59	1	$4.9	$43.0	$47.9	✓
13A	●	0.0	0.0%	2.9	8.7%	0.9	2.7%	5.5	16.4%	0.5	1.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	20.6	61.1%	3.2	9.5%	33.8	0	○	0	3	9	0.0	0.0	0.01	0.0	1,053		0	0	12	1	$11.7	$42.2	$53.9	✓
13B	●	0.0	0.0%	2.7	8.9%	0.9	2.8%	6.1	20.2%	0.5	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	16.9	56.0%	3.1	10.3%	30.3	0	○	0	5	9	0.0	0.0	0.02	0.0	994		0	0	12	1	$12.4	$47.8	$60.2	
13C	●	0.0	0.0%	2.7	7.0%	3.0	7.6%	12.0	30.9%	0.5	1.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	17.0	43.7%	3.7	9.4%	38.9	0	○	0	4	6	0.0	0.0	0.03	0.0	929		0	0	11	1	$12.5	$43.3	$55.8	
14	●	0.0	0.0%	3.8	19.4%	1.0	4.8%	3.8	19.2%	1.1	5.5%	0.0	0.0%	0.0	0.0%	1.0	4.8%	0.0	0.0%	4.8	24.3%	4.3	21.8%	19.8	0	○	4	4	0	0.0	0.0	0.02	0.0	316		1	0	31	1	$6.4	$47.7	$54.1	✓
15	●	0.0	0.2%	0.4	1.8%	0.0	0.0%	0.9	3.5%	2.3	9.2%	0.0	0.2%	0.8	3.4%	5.4	21.7%	0.0	0.0%	8.4	33.9%	6.5	26.1%	24.9	0	○	0	2	0	1.1	0.0	0.00	0.0	1,863		2	0	69	0	$11.0	$110.3	$121.3	✓
16A	●	0.0	0.0%	0.2	6.3%	0.0	0.0%	0.5	14.2%	0.0	0.0%	0.0	0.0%	0.0	1.4%	0.1	3.1%	0.0	0.0%	1.6	47.3%	0.9	27.7%	3.3	0	○	0	0	0	0.0	0.0	0.00	0.0	617		0	0	180	0	$0.7	$17.0	$17.7	✓
16B	●	0.0	0.0%	0.2	5.2%	0.0	0.0%	0.3	8.6%	0.0	0.0%	0.0	2.1%	0.0	0.8%	0.1	1.6%	0.0	0.0%	0.5	12.6%	2.6	69.1%	3.7	0	○	0	0	0	0.0	0.0	0.00	0.0	613		0	0	180	0	$0.3	$17.0	$17.3	
17	●	0.0	0.0%	0.0	0.0%	0.0	0.0%	1.2	29.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.9	70.1%	4.2	0	◨	0	0	0	0.3	0.0	0.00	0.0	7		0	0	140	0	$0.9	$18.2	$19.1	✓
No Build	■	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0	○				0.0	0.0	0.00	0.0	0				0				
Minimum:		0.0		48.5		2.7		54.9		8.0		2.3		0.9		12.5		0.0		237.8		70.5		459.8	0		63	50	46	4.6	0.2	0.79	0.5	12,187		9	0	693	5	$101.3	$682.5	$780.5	
Maximum:		0.2		62.4		4.9		74.3		12.8		3.3		0.9		16.6		0.0		280.5		85.2		515.2	2		109	69	49	6.8	1.2	1.32	1.1	17,823		16	4	712	7	$114.5	$710.4	$823.7	

Key to Symbols

Positive ● ● ● ● Neutral ○ ◨ ◨ ■ Negative

1. Build Alternatives

In the less intensely developed western portion of SIU 7, agricultural and vacant land is impacted more often by the alternatives. In the eastern portion of the study corridor, residential and commercial lands become the types commonly impacted. As agricultural land uses predominate throughout SIU 7, these uses are impacted to a great degree in the eastern portion as well. Table IV-3 is a summary of land use impacts by alternative. If a preferred alternative were to be selected that used the smallest amount of land, approximately 1,136 acres (460 ha) would be utilized. If a preferred alternative were to be selected that used the largest amount of land, approximately 1,273 acres (515 ha) would be utilized.

Other land uses will be affected under several of the different alternatives. These include the following (alternatives not discussed do not have an appreciable difference in land use):

- Alternative 2A would utilize less manufacturing and construction land than Alternative 2B or 2C.
- Alternative 2A or 2C would utilize considerably more rural residential land than Alternative 2B.
- Alternative 7A uses approximately four percent more rural residential land than Alternative 7B.
- Alternative 9A would utilize a considerably smaller percentage of rural residential land than Alternative 9B.
- Alternative 9A also impacts manufacturing and construction uses, whereas Alternative 9B does not.
- Alternative 11A would utilize appreciably more commercial and transportation-related land than Alternative 11B. However, Alternative 11B would use considerably more rural residential and manufacturing land than Alternative 11A.

The same development density patterns that allow for choice among the goods and services also provide the elements for the traffic congestion that is evident at many of the highly developed interchanges within SIU 7. Access management to adjacent land use, while potentially initially disruptive to established travel patterns and traffic flows, is expected to increase the efficiency of the interchange in handling both through trips and destination trips. Frontage roads between interchanges can reduce the number of trips made on I-70, which are of limited distance in nature. The frontage road also allows for some dispersion of the development that presently is located in the immediate vicinity of the interchange location. Cross traffic and return traffic turning movements can interrupt the traffic flow, lowering overall efficiency of the interchange to accommodate a variety of users. Unless the residence or business needs to be acquired for the reconstruction of the interchange itself, access will be maintained although it will likely be from the new or relocated frontage roads. In some areas that are highly developed, it will likely be more feasible to route the frontage road around the development, rather than removing the development to put in or improve a frontage road interchange connection.

Further, the access management element of interchange reconstruction will require redirecting access from its existing points on the roadway. In some cases, a residence or business would be acquired, as it would be inside the rebuilt or relocated interchange and ramps. This is addressed in the relocations section of this chapter as well.

Note that agricultural land uses are discussed in a subsequent section.

2. No-Build Alternative

The No-Build Alternative would have some direct impacts on the existing land use patterns within SIU 7. Since agricultural lands are the dominant land uses in the western portion of the study corridor, the No-Build alternative will not impact existing agricultural land uses near existing I-70, beyond what is proposed in the State Transportation Improvement Program (discussed in Chapter II). In the eastern portion of the study corridor, development would continue at its present pace in the eastern portion of the study corridor and modifications to existing interchange access locations would likely continue as well in coordination with MoDOT's Access Management Policy. It is likely that other improvements in traffic and access control, would be required to maintain operational integrity and safety on the interstate highway.

3. Consistency with Local & County Land Use Plans & Zoning

Each city and county within the SIU 7 study corridor recognizes the importance of I-70, whether through the comprehensive planning process, a zoning ordinance or public policy. This section summarizes the extent to which the proposed action is consistent with these community's plans and policies.

Small, large and growing communities within the study corridor have become oriented to I-70 for access for residents and travelers alike. The interstate provides a conduit to allow easy access to goods and services by the traveling public as well as the residents of the area. I-70 also provides access to employment opportunities, as well as goods and services in nearby or distant locations within the corridor. In fact, most of the interchanges within SIU 7 have become commercial nodes for both the motoring public and local residents.

In rural locations where residential and commercial development has occurred along the existing frontage roads, variable amounts of setback are utilized. As the frontage road is moved, to allow for the I-70 widening, there will be residential and business relocations. However, the design of the frontage roads will be such that local trips and property access may be more efficiently accomplished by utilizing the frontage road system.

In the more urbanized eastern portion of the study corridor, land use along I-70 is a mixture of planned and unplanned, and zoned and unzoned areas, creating a variety of uses within this section. Throughout this portion of the study corridor, general commercial, highway commercial, residential, agricultural and industrial uses are scattered and intermixed along the north and south sides of the interstate. This portion of the study corridor also proves to be the most urban, with sprawling residential development occurring around Warrenton, Wright City and Wentzville at an increasing rate.

Without exception, each county and each community within SIU 7 regards I-70 as a prime source of its socioeconomic livelihood. This holds true whether the community has a comprehensive plan in place or not. As these communities continue to grow and develop, their desire is to channel this development to existing centers of commercial and residential activity – in this case I-70. Through their comprehensive planning efforts, development at each interchange has been, and continues to be, encouraged to maximize commercial development catering to residents and travelers along the interstate.

4. Agricultural Impacts

Between 25 and 45 percent of the land in St. Charles, Montgomery, and Warren counties is used for row and close-grown crops.[1] The remainder of the land is primarily cool-season grasslands and deciduous upland forest. Since this project will widen the existing I-70 right-of-way, little opportunity to avoid or minimize agricultural impacts exist. The local NRCS offices have been contacted to coordinate efforts on this project.

The Farmland Conversion Impact Rating Form AD1006, completed in part by the Natural Resource Conservation Service (NRCS), identified the total acreage of Prime and Unique, and Statewide and Local Important farmland within the construction limits. Quantities of farmland impacts were based on soil characteristics with no consideration of current land use (including existing I-70), and were based on a worst case or maximum impact scenario. The total conversion impact rating is below the 160-point threshold established for consideration of farmland protection.

Depending on the alternative selected, the proposed project would convert between 634 to 684 acres of Prime and Unique farmland and between 441 to 455 acres of Statewide and Local Important farmland to nonagricultural use. It is important to note that these calculations are based solely on NRCS soils data and are calculated based on the additional right of way, which would be utilized by each of the alternatives. Further, these calculations do not reflect the presence of development on a property or other prime farmland already out of production. These totals combine to approximately 0.001 percent of the total farmland in St. Charles County and 0.002 percent of the total farmland in Warren and Montgomery Counties. Approximately 42 percent of the farmland in St. Charles County and 43 percent of the farmland in Warren and Montgomery Counties qualifies as Prime or Statewide Important Farmland. Based on the NRCS soils data only, no significant difference in agricultural impacts exists between the various alternatives. The NRCS Rating for each alternative is: 1-127.5, 2A-153.5, 2B-155.6, 3A-128.6, 3B-145.7, 4-147.1, 5A-145.9, 5B-145.6, 6-147.9, 7A-138.3, 7B-140.3, 8A-116.2, 8B-116.4, 8C-117, 8D-116.2, 9A-132.3, 9B-131.7, 10A-141.8, 10B-142.2, 11A-152.2, 11B-158.1, 12-126.3, 13A-120.5, 13B-147, 13B-124.7, 14-136.8, 15-118.6, 16A-139.4, 16B-145.3, 17-127.1.

Land in current agricultural production (whether prime farmland soils or not) will be affected under several of the different alternatives. These include the following (alternatives not discussed do not have an appreciable difference in agricultural land use):

- Alternatives 2A or 2C would utilize approximately 20 percent less agricultural land than Alternative 2B.
- Alternative 3A would utilize approximately 15 percent more agricultural land than Alternative 3B.
- Alternative 7A would utilize approximately six percent less agricultural land than Alternative 7B.
- Alternatives 8A or 8C would utilize about twice as much agricultural land as Alternatives 8B or 8D.
- Alternative 11A would utilize approximately 11 percent more agricultural land than Alternative 11B.

[1] Missouri Watershed Information Network. *http://outreach .missouri.edu/mowin/counties2/warren.html.*

- Alternative 14A would utilize approximately four times more agricultural land than Alternative 14B.

The total affect on agriculture will be to reduce the acreage of farmable land adjacent to the existing I-70 alignment. However, the demand for farm-support services will not be affected, nor will the availability of farm-support services be diminished. Copies of the AD1006 Impact Rating forms are included in Appendix E.

a. Conservation Reserve Program

Two properties enrolled in the CRP would be impacted by Alternative 3A. Less than 0.01 acres would be impacted on each property. The current owner would be required to pay back all monies received on the acreage removed from CRP plus interest in order to remove these properties from the program.

b. Wetland Reserve Program

There are no WRP properties located within the SIU 7 study corridor

5. Measures to Mitigate Land Use Impacts

The proposed I-70 improvements within SIU 7 will be compatible with the general land use within the communities and counties within the study corridor.

D. Community Impact Assessment

Transportation projects can affect communities in a number of both positive and negative ways. On the positive side, major interstate improvements such as Improve I-70 can be designed to encourage revitalization of small town business districts, stimulate economic development, improve access to jobs, and enhance a community's character. On the negative side, transportation projects may be developed without attention to the surrounding area, thereby disrupting or dividing stable and cohesive neighborhoods, damaging community character, promoting urban sprawl or impeding pedestrian mobility. Chapter II summarizes right of way, acquisition and relocation costs within SIU 7.

This project will be in compliance with the Americans with Disabilities Act of 1990.

Table IV-3: Land Use Impacts by Alternative (ac/ha)

Alternative	Suburban Residential		Rural Residential		Urban Residential		Commercial		Industrial		Transportation, Communication, Utilities		Arts, Entertainment, & Recreation		Education, Public Admin., Health Care		Agriculture, Forestry, Fishing & Hunting		Vacant Land	
	AC	HA	AC	HA	AC	HA	AC	HA	AC	HA	AC	HA	AC	HA	AC	HA	AC	HA	AC	HA
1	0.0	0.0	22.7	9.2	0.6	0.2	27.3	11.1	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	14.8	6.0	14.3	5.8
2A	0.0	0.0	15.4	6.2	0.0	0.0	18.7	7.6	8.6	3.5	0.8	0.3	0.0	0.0	7.9	3.2	66.6	27.0	1.6	0.6
2B	0.0	0.0	1.9	0.8	0.0	0.0	5.0	2.0	5.3	2.1	0.1	0.0	0.0	0.0	5.0	2.0	98.7	39.9	0.8	0.3
2C	0.0	0.0	15.3	6.2	0.0	0.0	18.1	7.3	8.5	3.5	0.8	0.3	0.0	0.0	8.6	3.5	68.5	27.7	1.5	0.6
3A	0.0	0.0	4.8	2.0	0.0	0.0	14.9	6.0	0.7	0.3	0.0	0.0	0.0	0.0	0.1	0.0	44.8	18.1	16.9	6.8
3B	0.0	0.0	3.8	1.5	0.0	0.0	15.8	6.4	0.8	0.3	1.2	0.5	0.0	0.0	0.1	0.0	27.2	11.0	5.9	2.4
4	0.0	0.0	0.7	0.3	0.0	0.0	2.2	0.9	4.1	1.7	4.8	2.0	0.0	0.0	0.0	0.0	75.7	30.6	24.6	10.0
5A	0.0	0.0	14.2	5.7	0.0	0.0	3.2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	43.2	17.5	17.6	7.1
5B	0.0	0.0	14.4	5.8	0.0	0.0	2.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	49.2	19.9	17.6	7.1
6	0.0	0.0	11.5	4.6	0.0	0.0	3.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	174.9	70.8	5.5	2.2
7A	0.0	0.0	23.2	9.4	0.0	0.0	10.2	4.1	0.0	0.0	0.0	0.0	0.0	0.0	5.5	2.2	45.3	18.3	22.4	9.1
7B	0.0	0.0	18.2	7.4	0.0	0.0	14.9	6.0	1.4	0.6	0.0	0.0	0.0	0.0	2.1	0.8	43.7	17.7	22.8	9.2
8A	0.0	0.0	6.0	2.4	1.6	0.6	8.4	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	1.8	21.9	8.9
8B	0.0	0.0	7.1	2.9	1.9	0.8	9.5	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	2.2	0.9	23.9	9.7
8C	0.0	0.0	6.0	2.4	1.7	0.7	8.7	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	1.8	22.0	8.9
8D	0.0	0.0	7.1	2.9	1.9	0.8	9.5	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	2.2	0.9	23.9	9.7
9A	0.0	0.0	0.3	0.1	0.0	0.0	4.7	1.9	3.6	1.5	0.0	0.0	0.0	0.0	4.2	1.7	16.1	6.5	1.5	0.6
9B	0.0	0.0	2.9	1.2	0.0	0.0	3.6	1.4	0.0	0.0	0.0	0.0	0.0	0.0	4.4	1.8	22.7	9.2	1.5	0.6
10A	0.0	0.0	8.5	3.5	0.0	0.0	2.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.6	11.1	2.4	1.0
10B	0.0	0.0	6.6	2.7	0.0	0.0	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	14.6	13.2	5.4
10C	0.0	0.0	4.8	1.9	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1	5.3	0.4	0.2
11A	0.0	0.0	1.1	0.5	0.0	0.0	9.4	3.8	0.0	0.0	0.3	0.1	0.0	0.0	0.6	0.2	12.0	4.8	5.8	2.3
11B	0.5	0.2	7.7	3.1	0.0	0.0	16.3	6.6	3.4	1.4	0.7	0.3	0.0	0.0	2.8	1.1	16.3	6.6	9.9	4.0
12	0.0	0.0	16.9	6.9	0.0	0.0	19.4	7.9	0.0	0.0	0.0	0.0	0.0	0.0	2.8	1.1	22.4	9.1	9.3	3.8
13A	0.0	0.0	7.3	2.9	2.3	0.9	13.7	5.5	1.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	51.0	20.6	8.0	3.2
13B	0.0	0.0	6.7	2.7	2.1	0.9	15.1	6.1	1.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	41.9	16.9	7.7	3.1
13C	0.0	0.0	6.8	2.7	7.3	3.0	29.7	12.0	1.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	42.0	17.0	9.1	3.7
14	0.0	0.0	9.5	3.8	2.4	1.0	9.4	3.8	2.7	1.1	0.0	0.0	0.0	0.0	2.4	1.0	11.9	4.8	10.7	4.3
15	0.1	0.0	1.1	0.4	0.0	0.0	2.2	0.9	5.7	2.3	0.1	0.0	2.1	0.8	13.3	5.4	20.8	8.4	16.1	6.5
16A	0.0	0.0	0.5	0.2	0.0	0.0	1.2	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.1	3.9	1.6	2.3	0.9
16B	0.0	0.0	0.5	0.2	0.0	0.0	1,951.5	789.8	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	1.2	0.5	6.4	2.6
17	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Preferred:	0.1	0	138.9	56	7	2.8	152.6	61.8	26.7	10.9	7.6	3.1	2.2	0.8	38.1	15.3	605.2	244.8	167.9	67.9

Preferred alternative shaded in gray

Communities within the study corridor include:

- New Florence
- High Hill
- Jonesburg
- Warrenton
- Truesdale
- Wright City
- Foristell
- Wentzville
- Lake St. Louis
- O'Fallon

A community impact assessment (CIA) attempts to assure that transportation projects are developed with consideration of their impact on people and communities. Specifically, CIA addresses the following goals:

- Quality of Life: Promotes livable, sustainable communities by placing an emphasis on preserving community character, neighborhood cohesion, social interaction, safety, economic viability and quality of life.
- Responsiveness: Promotes responsive, community-sensitive decision-making in planning and developing transportation projects that embrace community concerns, seeks to minimize conflict, and works to help solve community problems.
- Coordination: Improves coordination among the agencies and jurisdictions involved in transportation, land use, environmental preservation, resource management and economic development.
- Environmental Justice: Makes certain that non-discrimination is achieved by drawing attention to specific populations and avoiding disproportionate adverse impacts on those populations.

The Public Involvement Plan developed for SIU 7 addresses many of these issues. Numerous public meetings of varying sizes, scale and scope have been held with residents, business leaders and public officials to review each alternative through each stage of the development process. Throughout the alternatives development process factors that might impact a community, such as neighborhood cohesion, walkability, bicycle and pedestrian activities, and disproportionate impacts to low income and minority populations were considered. Input from these individuals and groups were incorporated into the planning process where appropriate. Refer to Chapter V for detailed information about public involvement activities within SIU 7.

1. Residential & Neighborhood Impacts

Residential neighborhoods can be impacted by I-70 improvements in a variety of ways. The most direct impact would be the taking of homes to build the roadway. Other direct impacts include noise and other nuisances, changes in property values, changes in direct access to residences and business and pedestrian safety. Indirect impacts can also be either positive or negative and

may include impacts on the long-range attractiveness of areas for housing due to either to improved access or impacts associated with the roadways and their proximity to housing.

Potential impacts to planned future residential neighborhoods can be balanced by careful neighborhood planning before construction of either residential developments or the highway. This is particularly true in the eastern portion of the study corridor, where growth rates are expected to continue to climb. The potential for residential and neighborhood impacts was determined as follows:

- Consistency with land use plans and policies was assessed through review and comparison of the project alternatives to the adopted plans and policies of local cities and regional jurisdictions within the study area that have authorities for land use, transportation and other relevant infrastructure.
- Land use compatibility was assessed by identifying existing and planned land uses to proximate locations affected by project alternatives, and analyzing the relative sensitivity of these land uses to conditions arising from construction, operation or maintenance of the alternatives.

Using GIS, the study team reviewed the impacts of the proposed improvements on existing and proposed land use, direct impacts to community facilities, and changes in localized access. Refer to Chapter III for a discussion of community facilities within the three counties within the SIU 7 study corridor. None of the alternatives will have any direct impacts to community facilities within the study corridor.

Community access refers to the impacts of the proposed improvements on highway access to the communities within the study area. In general, alternatives that do not provide sufficient interchanges can adversely impact community access. Community access can also be impacted if the interchanges are located so far from the communities that they do not efficiently serve the local residents and businesses. Maintaining efficient access is an important criterion in evaluating alternative highway alignment impacts, and each alternative within SIU 7 has been developed to minimize negative impacts.

The area around most interchange locations is dominated by commercial and retail uses that primarily serve people arriving by auto. Though these uses do not generate much pedestrian or bicycle traffic, safe access across I-70 at each interchange will need to be provided. The following locations will likely see higher pedestrian and/or bicycle volumes that will need to be carefully planned for during the design of the interchange facilities.

- *Jonesburg* – The town of Jonesburg lies immediately adjacent to I-70 and includes a mix of residential, commercial and retail uses. Because of short distances between residential and retail areas, sidewalks have specifically been included in the plans for this interchange on the south side of I-70 to improve pedestrian access in the community.
- *Wright City* – The older residential areas of Wright City are located south of I-70 and there is a need to provide pedestrian access to the schools that are located on the north side of I-70. There is also a city park on the south side of I-70 that needs to be accessible to people living on the north side of I-70. Particular attention will need to be paid to this issue as the West Wright City interchange milepost (MP) 199 and the new overpass at the current interchange at MP 200 are designed.
- *Lake St. Louis Boulevard* – At this location there are plans for development of a large residential neighborhood just north of the railroad. If this occurs and Lake St. Louis Blvd. is extended north across the railroad, there is the potential for pedestrians and cyclists to

want to access the lake on the south side of I-70. Particular attention will need to be paid to this issue when the Lake St. Louis interchange is improved.

2. Community Cohesion

Community cohesion is generally defined as the degree to which residents have a sense of belonging to their neighborhood, their level of commitment to the community, or a strong attachment to neighbors, groups and institutions, usually as a result of continued association over time. The impacts to community cohesion and neighborhoods can therefore be examined as to changes to residents, businesses and parking availability due to displacements and partial acquisitions. In each community located directly along I-70, the highway itself serves as a barrier to community cohesion and it is expected that further disruption would be minimal.

Community cohesion is also affected by displacement and partial acquisitions of residential and nonresidential property. Non-residential properties might include retail trade, finance, insurance, services, government/non-profit and other types of non-residential property uses. Among the various impacts of the construction of a highway or other major transportation improvement project, the acquisition of real property, including residences and businesses, is the action that often incurs the most concern among those directly involved. A displacement involves the full acquisition of a property and is defined as an area within which occupants of residential and nonresidential units would be displaced by the project and would be expected to relocate. A partial acquisition is when a small area of a property is acquired, but full use of the property and dwelling structures, including multi-family units, would remain. Refer to Table IV-4 for a summary of potential property takings by alternatives. In an effort to make the property acquisition process as equitable as possible, laws including the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601) and MoDOT's relocation program and relocation advisory assistance program which satisfies the requirements of Title VI of the Civil Rights Act of 1964, have been developed to ensure adequate consideration and compensation for the persons whose property is required for the project. While preliminary engineering for each alternative has been designed to minimize impacts to existing homes and businesses, some property takings are inevitable.

Table IV-5 presents a summary of the structures potentially acquired by each alternative and structure type. Residential and commercial structures are shown on the exhibits in Appendix B.

- Alternative 7B would potentially take eight more structures than Alternative 7A. Most of these would be commercial properties.
- Alternative 8B or 8D would potentially take five more structures than Alternative 8A or 8C. The additional structures would consist of rural residential structures.
- Alternative 9B would take considerably more residential structures than Alternative 9A. This is due to the taking of a mobile home park.
- Alternative 11B would take considerably more structures than Alternative 11A. These increased impacts are shared by rural residential structures and commercial structures.

The communities within SIU 7 regard I-70 as a prime source of their economic livelihood. As these communities continue to grow and develop, their desire is to channel this development to existing centers of commercial and residential activity – in this case I-70. Through their comprehensive planning efforts, development at each interchange has been, and continues to be, encouraged to maximize commercial development to serve the needs of area residents and travelers along the interstate, and as such encourages community cohesion at these locations.

Table IV-4: Partial and Full Property Takings

Alternative	Suburban Residential		Rural Residential		Urban Residential		General Sales or Services (commercial)		Manufacturing and Construction		Transportation, Communication, & Utilities		Arts, Entertainment, & Recreation		Education, Public Administration, Health Care		Agriculture, Forestry, Fishing & Hunting		Vacant Land		Total Takings	
	Partial	Full	Partial	Full	Partial	Full	Partial	Full	Partial	Full	Partial	Full	Partial	Full	Partial	Full	Partial	Full	Partial	Full	Partial	Full
1	0	0	3	0	1	0	8	1	0	0	0	1	0	0	0	0	4	0	9	1	25	3
2A	0	0	4	0	0	0	2	0	1	1	0	1	0	0	2	0	12	0	2	1	23	3
2B	0	0	3	0	0	0	3	0	3	0	1	0	0	0	2	0	15	0	3	1	30	1
2C	0	0	4	0	0	0	2	0	1	1	0	1	0	0	2	0	12	0	1	1	22	3
3A	0	0	10	4	0	0	7	2	1	0	0	0	0	0	2	0	10	4	9	2	39	12
3B	0	0	9	6	0	0	7	2	1	0	1	0	0	0	2	0	6	4	8	3	34	15
4	0	0	1	0	0	0	1	0	3	0	3	1	0	0	0	0	14	0	3	1	25	2
5A	0	0	11	4	0	0	5	1	0	0	0	0	0	0	2	0	9	0	7	5	34	10
5B	0	0	12	3	0	0	5	0	0	0	0	0	0	0	2	0	10	0	6	4	35	7
6	0	0	7	0	0	0	2	1	0	0	0	0	0	0	0	0	20	2	1	0	30	3
7A	0	0	15	2	0	0	7	0	0	0	0	0	0	0	2	0	9	0	10	3	43	5
7B	0	0	7	4	0	0	7	2	1	0	0	0	0	0	1	0	6	1	6	3	28	10
8A	0	0	10	6	0	1	19	2	0	0	0	0	0	0	0	0	2	0	11	3	42	12
8B	0	0	7	11	3	1	22	2	0	0	0	0	0	0	1	0	2	0	11	7	46	21
8C	0	0	8	7	0	1	20	2	0	0	0	0	0	0	1	0	2	0	10	7	41	17
8D	0	0	6	12	3	1	23	2	0	0	0	0	0	0	1	0	2	0	12	7	47	22
9A	0	0	1	0	0	0	7	0	2	0	0	0	0	0	3	0	6	1	3	0	22	1
9B	0	0	2	1	0	0	6	0	0	0	0	0	0	0	3	0	8	1	4	1	23	3
10A	0	0	4	1	0	0	2	1	0	0	0	0	0	0	0	0	5	3	1	1	12	6
10B	0	0	3	1	0	0	2	0	0	0	0	0	0	0	0	0	9	2	6	0	20	3
10C	0	0	3	1	0	0	2	0	0	0	0	0	0	0	0	0	5	2	1	0	11	3
11A	0	0	2	0	0	0	10	0	0	0	1	0	0	0	1	0	3	0	4	0	21	0
11B	3	0	8	1	0	0	9	0	0	1	1	0	0	0	2	0	5	0	5	3	33	5
12	0	0	6	14	0	0	10	1	0	0	0	0	0	0	0	1	5	0	6	10	27	26
13A	0	0	3	0	1	0	8	1	1	0	0	0	0	0	0	0	16	4	8	2	37	7
13B	0	0	3	0	1	0	9	1	1	0	0	0	0	0	0	0	16	3	8	1	38	5
13C	0	0	3	0	1	0	10	0	1	0	0	0	0	0	0	0	18	1	7	2	40	3
14	0	0	26	5	1	0	17	3	5	0	0	0	0	0	3	0	5	0	14	1	71	9
15	1	0	8	1	0	0	2	1	1	0	0	0	1	0	3	1	5	0	10	3	31	6
16A	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	3	0	8	0
16B	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	6	0	10	0
17	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	6	1
Preferred:	1	0	108	40	3	1	116	14	14	1	5	3	1	0	19	2	123	13	98	37	488	111

Preferred alternative is shaded gray

Table IV-5: Structure Impacts

Alternative	Residential-Suburban	Residential-Urban	Residential-Rural	Farm Structure	Garage	Shed	Church	Public	Mobile Home	Commercial-Out Building	Commercial	Total
1	0	0	3	2	0	1	0	0	0	1	4	11
2A	0	0	5	4	2	1	0	3	0	0	1	16
2B	0	0	2	5	0	1	0	1	3	0	2	14
2C	0	0	5	4	2	1	0	0	1	0	0	13
3A	0	0	7	0	4	3	1	0	2	1	8	26
3B	0	0	9	1	4	4	1	0	2	11	9	41
4	0	0	0	0	0	0	0	0	0	0	1	1
5A	0	0	4	0	1	1	0	0	0	0	3	9
5B	0	0	4	0	0	0	0	0	0	0	2	6
6	0	0	8	6	0	1	0	0	0	0	2	17
7A	0	0	3	3	3	0	0	0	0	1	3	13
7B	0	0	4	4	4	0	1	0	0	0	11	24
8A	0	0	8	0	0	1	0	0	0	0	3	12
8B	0	0	10	0	0	1	0	0	0	0	5	16
8C	0	0	8	0	0	1	0	0	0	0	3	12
8D	0	0	10	0	0	1	0	0	0	0	5	16
9A	0	0	0	0	0	0	0	0	0	0	3	3
9B	0	0	2	0	1	0	0	0	22	0	5	30
10A	0	0	2	0	2	2	0	0	0	0	0	6
10B	0	0	6	0	1	1	0	0	1	0	0	9
10C	0	0	0	0	0	0	0	0	0	0	0	0
11A	0	0	0	0	0	0	0	0	0	0	6	6
11B	0	0	5	0	0	0	0	0	4	0	7	16
12	0	0	14	3	2	3	1	0	5	0	9	37
13A	0	0	0	0	0	0	0	0	0	0	3	3
13B	0	0	0	0	0	0	0	0	0	0	5	5
13C	0	0	0	0	0	0	0	0	0	0	4	4
14	0	2	11	0	2	0	0	0	0	0	4	19
15	0	0	2	0	0	0	1	0	2	0	2	7
16A	0	0	0	0	0	0	0	0	0	1	0	1
16B	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
Preferred:	0	2	64	20	12	12	3	1	12	14	54	194

Preferred alternative is shaded gray

3. Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* resulted from the recognition that some federal

actions could have or were having a disproportional adverse effect on certain designated population groups. This executive order was signed February 11, 1994 and since that time, federal agencies have developed guidelines and policy guidance to evaluate federal actions for compliance with the intent of EO 12898.

The intent of EO 12898 is to review proposed actions for disproportionate effects on minority populations and low-income populations. This is most readily accomplished by the review of the demographic baseline conditions within the project's area of effect and examination of social impacts to determine if a disproportionate impact is present. The initial review of low income and minority demographics within SIU 7 was presented in Chapter III. Since the 2000 Census, the racial composition and total population numbers for states, counties and places, is now available. This data was also reviewed at both the county and place levels.

Based on field reviews, analyses of census data, public comment and input from local officials, no concentrated areas of minority or low income populations have been identified that could be disproportionately impacted, either directly or indirectly, by the preferred alternative within the study corridor. Alternative 9B would impact a mobile home park, a potential location for low income and minority residents. The preferred alternative here however, is Alternative 9A, so this mobile home park will not be impacted.

4. Economic Impacts

Potential business displacements associated with the alternatives are shown in Table IV-6. The majority of these displacements would involve the acquisition of the business and partial acquisition of the property. Some business owners may choose to relocate on available land in the corridor, while some may be able to rebuild on the remaining property provided any new structures are in compliance with land use regulations.

Planning and zoning regulations exist for most of the SIU 7 corridor. Communities in the corridor have planned for continued commercial and industrial uses at the interchanges in the study area either through zoning regulations, future land use planning or both. Vacant land along I-70 and at the interchanges is available throughout the corridor, but is more abundant in Montgomery County and western St. Charles County. Sufficient vacant land is available in the SIU 7 corridor to provide for reestablishment of businesses that would be acquired for the new facility.

The acquisition of businesses would also cause impacts to employment levels in the study area. No major employers in the corridor would be displaced and job losses would be minimal and occur in stages rather than all at once. Based on the businesses that would be acquired under the Preferred Alternative, it is estimated that between 250 and 350 jobs would be directly impacted. These job losses would not occur at one time as land acquisition and construction would occur over several years depending on funding availability and scheduling. It is likely that job losses would be offset by business redevelopment in the corridor.

The acquisition of land and improvements for right of way associated with the Preferred Alternative would result in the direct loss of property that is subject to property taxes by local taxing districts. The reduction of assessed valuation for major taxing districts in Montgomery, Warren and St. Charles as a result of the Preferred Alternative is shown in Table IV-7.

Table IV-6: Potential Business Displacements

Alternative	Structure ID*	Business name
1	1	Service garage
	2	Lumberyard
	3	Lumberyard
	4	Bud's rental
2a	2	Lumberyard
	3	Lumberyard
	4	Bud's rental
	4a	MoDOT cold storage shed
	4b	MoDOT office building
	4c	MoDOT maintenance garage
	7	Baxter Farms and Nursery
2b	2	Lumberyard
	3	Lumberyard
	4	Bud's rental
	4a	MoDOT cold storage shed
	5	Rick's Auto Clinic
	6	Rick's Auto Clinic
2C	2	Lumberyard
	3	Lumberyard
	4	Bud's Rental
	4a	MoDOT cold storage shed
	7	Baxter Farms and Nursery
3a	8	Unknown commercial
	9	Unknown commercial
	10	Budget Motel
	11	Unknown commercial
	12	Unknown commercial
	13	Unknown commercial
	14	Vacant
	15	Colonial Inn
3b	8	Unknown commercial
	9	Unknown commercial
	10	Budget Motel
	12	Unknown commercial
	13	Unknown commercial
	14	Vacant
	15	Colonial Inn
4	16	Junkyard
5a	17	King & King Enterprises
	18	Kaminski's Home Furnishings, Inc.
5b	18	Kaminski's Home Furnishings, Inc.
6	19	Robidoux Beverage Company
	20	Robidoux Beverage Company
7a	26	Country Bloom Nurseries
	27	Unknown commercial
	28	Mike's Storage Center
	29	Unknown commercial
7b	22	Precision Metal Fab and Machine, Inc
	26	Country Bloom Nurseries
	30	Unknown commercial
8a	31	Sinclair
	32	Phillips 66
	33	Donna's Signs
	34	Unknown commercial
8b	31	Sinclair
	32	Phillips 66
	33	Donna's Signs
	34	Unknown commercial
8c	31	Sinclair
	33	Donna's Signs
	34	Unknown commercial
8d	31	Sinclair
	32	Phillips 66
	33	Donna's Signs
	34	Unknown commercial
9a	35	Pike County Concrete
	36	CJ Products, Inc.
9b	37	Super 8 Motel
	38	Continental Pump Company
	39	Unknown commercial
	40	North Wind Self Storage
	41	North Wind Self Storage
11a	42	Spring Sales Inc.
	43	Unknown commercial
	44	Progress Bank
	45	Missouri Truck Centers
11b	42	Spring Sales Inc.
	43	Unknown commercial
	45	Missouri Truck Centers
	46	Self Storage
	47	Unknown commercial
	48	Unknown commercial
	49	Unknown commercial
12	50	Unknown commercial
	51	J & T Landscaping and Nursery
	52	North Star Sales
	53	Double J Trailer Ranch
	54	Vacant
	55	Wright City Meat Company
	56	Rick's Towing
	57	Rick's Towing
	58	Jewelry Sales and Service
13a	60	Vacant
	61	Texaco/Zipstop
	62	Unknown commercial
13b	60	Vacant
	61	Texaco/Zipstop
	62	Unknown commercial
	63	Unknown commercial
	64	Unknown commercial
13c	60	Vacant
	61	Texaco/Zipstop
	62	Unknown commercial
	63	Unknown commercial
	64	Unknown commercial
14	65	Vacant
	66	Vacant
	67	Forklift City
	68	American Tire
15	69	Unknown commercial

(*) Structure ID corresponds to structures listed in Appendix B
Note – businesses may consist of more than one structure
Preferred alternative shaded in gray

Table IV-7: Potential Reduction of Assessed Value Associated with the Preferred Alternative

Taxing District	Total 2003 Assessed Value	Estimated Reduction of Assessed Value*	Percentage Reduction of Assessed Value
Montgomery County	$109,985,990	$4,408,346	4.0
Montgomery County Ambulance District	$95,857,282	$4,408,346	4.6
Montgomery County R-II School District	$62,197,190	$4,875256	7.8
New Florence Fire District	$11,499,403	$1,627,443	14.2
Jonesburg-High Hill Fire District	$22,987,027	$3,182,079	13.8
Warren County	$281,590,783	$5,547,008	1.9
Warren County Ambulance District	$226,546,655	$5,547,008	2.5
Warren County R-III School District	$135,454,145	$2,935,099	2.2
Wright City R-II School District	$107,254,470	$1,909,572	2.2
Warrenton Fire District	$125,768,477	$2,989,891	2.4
Wright City Fire District	$91,003,187	$1,950,090	2.1
St. Charles County	$4,073,295,290	$3,501,831	0.1
Wentzville R-IV School District	$650,805,510	$3,501,831	0.5
Wentzville Fire District	$496,035,900	$3,455,304	0.7

Source: County Assessors' offices in Montgomery, Warren and St. Charles Counties and Zambrana Engineering, Inc.
**The reduction in assessed value is estimated based on assumed unit costs for agricultural, residential and commercial properties in each county.*

Assessed value reductions would be less than five percent in the majority of taxing districts examined along the SIU 7 corridor, with the exception of the R-II School District and the New Florence and Jonesburg-High Hill Fire Districts in Montgomery County. Improvements in these taxing districts would include acquisition of several commercial properties at interchanges. The acquisition of high valued properties in smaller taxing districts results in a larger percentage reduction compared to the overall countywide taxing districts. These taxing districts have experienced large increases in assessed value due to new construction over the past five years. It is expected that this pace of new development will continue to occur in the future. Because land acquisition associated with this project is not expected to occur for several years depending on funding, the base assessed value will continue to increase, with a resulting decrease in the percentage reduction of assessed value.

Tax revenue loss in the study area as a result of converting taxable land into tax exempt is expected to be short-term as most displaced residents and businesses would likely relocate within the county or region or at improved interchanges along I-70. Communities within the SIU 7 corridor use their location on I-70 to promote local economic development. New development has occurred in recent years at several rural interchanges including New Florence, Jonesburg and Route A/B at Warrenton. The availability of utilities and services in these areas has increased the attractiveness for new development. Between 1998 and 2003, Warrenton and Wright City experienced sales tax increases of 24 percent and 44 percent respectively.[2] These increases are due in part to business activity along the interstate. Existing commercial land and commercial zoning along the interstate and at interchanges provides opportunities for future development which would offset the initial reduction in assessed value of taxing districts resulting from property acquisition for I-70 improvements.

[2] Only data available.

During construction, any loss of business caused by the construction would be mitigated by the temporary nature of the impacts and the fact that directional signage and access would be maintained. However, in the urban areas such as Warrenton, Wright City and Wentzville, these impacts may be more noticeable given the higher amount of local patronage and nearby business competition that would not be impacted by the construction. From a long-term perspective, case studies have suggested that population centers of 2,000 persons or more typically do not experience long-term losses of business due to improvements. Regardless of the degree of impact, the preferred alternative would have the additional benefit of promoting the growth of existing I-70 businesses through higher traffic volumes and improved access, at least for those businesses that would not be displaced by the improvements.

a. Business Access

Although each alternative was planned with the intent to minimize impacts to existing businesses, access management requires that a number of existing businesses within SIU 7 will have their existing access points changed by an alternative. Table IV-8 is a list of all of the existing businesses for which a change in the location of their access points to public roads will be required, grouped by interchange alternative. In all cases, the businesses will still have adequate access to public roads. Those interchanges not listed in the table will have no changes to existing access points. Note that no alternative at a particular interchange has a substantially greater impact on existing business access than any other, since all alternatives attempted to follow the access management guidelines to the greatest extent practicable.

b. Billboards

Widening of I-70 will typically result in the need to acquire and remove existing billboards located where new right of way is required. Under current state and federal law, some of the billboards that are removed may be able to be replaced on other land adjacent to the new right of way limits. Minimum spacing and other requirements are likely to prevent other billboards from being replaced. The cost estimates assume that a greater cost will have to be paid for billboards that cannot be replaced, than for those which are able to be set back and replaced at their approximate original milepost location. These estimated costs are roughly approximate, due to uncertainties in the variables of time, potential changes in billboard laws and valuation, plus the unique circumstances that affect the value of each current billboard.

Within SIU 7, it is estimated that construction of a build alternative would require the removal of approximately 115 to 126 existing billboards, depending on the alignment of the build alternative selected. A substantial number of these large billboards would be able to be set back and rebuilt at their same approximate milepost location under current law.

Under the No-Build Alternative, the existing billboard structures would not be affected.

5. Pedestrian and Bicycle Considerations

Throughout initial stages of the I-70 Second Tier Studies, stakeholders have continued to include non-motorized needs in the project discussions. The Study Management Group and the Corridor Enhancement and Mineola Hill Subcommittees have included such needs in their discussions of the project.

Table IV-8: Business Access Impacts by Alternative

Alternative	Business
1	Shell
	Super 8 Motel
	McDonald's
	Maggio's Café
	Gene Devlin Used Cars
	Phillips 66
	CC Motors
	Days Inn
	Best Inn & Suites
	Amoco/Hardee's
	Finders Keepers
8A	Wal-Mart
	School House Books
	Dr. Osmonson Chiropractor
	Waffle House
	McDonald's
	Phillips 66
	Citgo
	Jack in the Box
	Subway
	1st Wok Chinese Restaurant
	Donut Tyme
	Burger King
	Dairy Queen
	Phillips 66
	Pizza Hut
	Amoco
	Phillips 66
	Automatics Car Wash
	Texaco
	Hardee's
	Taco Bell
8B	Wal-Mart
	School House Books
	Dr. Osmonson Chiropractor
	Waffle House
	McDonald's
	Phillips 66
	Citgo
	Jack in the Box
	Subway
	1st Wok Chinese Restaurant
	Donut Tyme
	Burger King
	Dairy Queen
	Phillips 66
	Pizza Hut
	Amoco

Alternative	Business
	Automatics Car Wash
	Texaco
	Hardee's
	Taco Bell
8C	Wal-Mart
	School House Books
	Dr. Osmonson Chiropractor
	Waffle House
	McDonald's
	Phillips 66
	Citgo
	Jack in the Box
	Subway
	1st Wok Chinese Restaurant
	Donut Tyme
	Burger King
	Dairy Queen
	Phillips 66
	Pizza Hut
	Amoco
	Phillips 66
	Automatics Car Wash
	Texaco
	Hardee's
	Taco Bell
8D	Wal-Mart
	School House Books
	Dr. Osmonson Chiropractor
	Waffle House
	McDonald's
	Citgo
	Jack in the Box
	Subway
	1st Wok Chinese Restaurant
	Donut Tyme
	Burger King
	Dairy Queen
	Phillips 66
	Pizza Hut
	Amoco
	Phillips 66
	Automatics Car Wash
	Texaco
	Hardee's
	Taco Bell
11A	Patriot Homes
	D & D Feed & Seed
	Shell/McDonald's

Alternative	Business
	S & W Auto Sales
	Mike's Corvettes
11B	Patriot Homes
	D & D Feed & Seed
	Shell/McDonald's
	Mike's Corvettes
	Missouri Truck Centers
	Quality Trailer Sales
	Dave Porter Truck Sales
13A	Mr. Fuel
	TA Travel Center
	Cheap Cigarettes
	Hoods
	Texaco
	Marlen Gas Company
	ERB Equipment Company
	Skyline Motors Inc.
	A B & A Tire Sales
13B	Mr. Fuel
	Best Western - West 70 Inn
	TA Travel Center
	Cheap Cigarettes
	Texaco
	Marlen Gas Company
	ERB Equipment Company
	Skyline Motors Inc.
	A B & A Tire Sales
13C	Mr. Fuel
	Best Western - West 70 Inn
	TA Travel Center
	Cheap Cigarettes
	Skyline Motors Inc.
	A B & A Tire Sales

1 *Preferred alternative shaded in gray*

Coordination with other efforts in the study area is important and continues. According to the Missouri Department of Transportation's Bicycle and Pedestrian Program's website (www.modot.org), Missouri is a crossroads for three national bicycle trails: Mississippi River Trail, Lewis and Clark Trail and the TransAmerica Trail. Further, the East-West Gateway Council of Government's Bicycle Pedestrian Advisory Committee's website (www.ewgateway.org), updating the Council's 1994 St. Louis Region Bicycle Facilities Plan is currently underway. The existing 1994 plan mentions a proposed St. Charles County Bikeway; connecting the communities of Wentzville, Lake St. Louis, O'Fallon, St. Peters, St. Charles and the KATY Trail. Once the plan is updated, further information on the St. Charles County Bikeway is expected. Additionally, the Boonslick Regional Planning Commission's website (www.boonslick.org) had no indication of potentially planned bicycle and/or pedestrian facilities within Montgomery and Warren counties.

In addition, according to the I-70 Corridor Enhancement Plan's, Bicycle and Pedestrian Trail exhibit, no existing or planned bicycle/pedestrian facilities will be impacted in SIU7. Coordination efforts will continue with the previously-mentioned entities to maintain up-to-date information regarding existing and planned bicycle/pedestrian facilities within the study area of SIU 7.

6. Consequences of the No-Build Alternative

The No-Build alternative may have a negative impact on the communities within the SIU 7 corridor as traffic volumes continue to increase and the capacity of the interchanges to carry the additional traffic is not increased correspondingly. As this condition continues, safety concerns for local motorists, pedestrians and cyclists will continue to worsen. Further, delays in local travel time would be expected.

Under this alternative, existing I-70 in the urban communities would become more congested than today. This congestion would cause hardship to local mobility, limiting the public's access to businesses, schools and other parts of the community. As development occurs in and around the corridor, the existing freeway would not be able to accommodate growing traffic. Ultimately, I-70 would cease to function effectively as a regional highway, and local traffic would increasingly use less congested local and county roads. The utility of I-70 for transporting goods to regional, statewide and national destinations would also decline. The No-Build Alternative, while having fewer environmental impacts such as land acquisition and relocations, would not be consistent with the conclusions of the FTEIS and its intended highway function as a route of national, state, regional and local importance.

The No-Build Alternative does not meet the purpose and need requirements of this project. It is carried forward as a detailed study alternative to serve as a baseline for comparison of Build Alternatives and for evaluation of their environmental impacts.

7. Measures to Mitigate Community Impacts

Although a number of the communities with SIU 7 have existed for over 100 years, as these formerly rural small towns have begun to suburbanize, they have come to view I-70 as their town's "Main Street." Improving I-70 and its interchanges will allow these communities to continue their growth and attract additional freeway-oriented businesses.

The future design of SIU 7 will look at avoidance and minimization of losses of cultivated and developed land, and will develop design alternatives to maintain the cohesiveness of each community within the study corridor. Further, each alternative was developed to minimize the

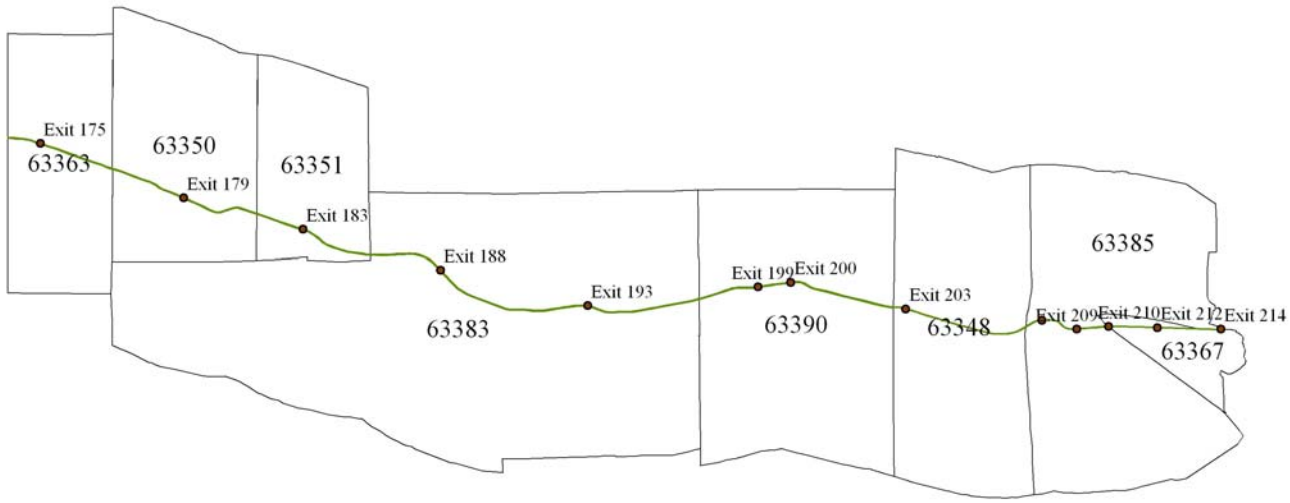
taking of existing homes and businesses. When properties must be impacted or additional right of way must be acquired to accommodate highway construction, impacts to property would be minimized to the greatest extent practicable. Landowners will be compensated at fair market value for any property and/or structures and property owners will be assisted with relocation costs for homes and businesses that are displaced.

In communities such as Jonesburg, where pedestrian-scale development continues, the alternatives have included sidewalks and curbs.

a. Availability of Housing

The real estate market in the western St. Louis suburbs is dynamic as the region transitions from rural to suburban in character. Housing prices vary from small starter homes to large homes on equally large tracts of land. Further, land is still available in abundance both for farming and for future subdivisions. However, the availability of housing can only present a picture of the real estate market at one specific time. The data for this analysis was collected in April 2004. Figure IV-1 shows the locations of the zip codes studied for this analysis.

Figure IV-1: Zip Codes



The following table summarizes the available land and housing within SIU 7. The table clearly shows that a variety of housing and land is available within the study corridor.

Table IV-9: Available Housing (April 2004)

	Land					Residential				
Zip Code	Total Properties	Low	Median	Mean	High	Total Properties	Low	Median	Mean	High
63348	89	$5,000	$33,000	$273,419	$5,079,600	57	$46,500	$237,500	$239,286	$490,000
63350	No land available					7	$35,000	$64,500	$62,057	$95,000
63351	39	$18,900	$22,000	$91,933	$1,745,600	12	$39,900	$122,900	$133,083	$325,000
63363	9	$12,000	$57,335	$199,737	$649,700	6	$57,335	$79,200	$88,689	$159,000
63367	1	$375,000	$375,000	$375,000	$375,000	232	$69,900	$234,818	$276,959	$949,000
63383	114	$17,000	$42,000	$105,760	$1,649,000	124	$74,900	$137,900	$181,764	$1,530,000
63385	20	$45,000	$112,500	$199,014	$733,356	430	$110,000	$194,900	$214,320	$929,900
63390	70	$17,000	$64,700	$94,289	$404,672	104	$45,500	$147,400	$200,912	$749,900

b. Relocation Assistance

The Missouri Department of Transportation's right of way acquisition and relocation program is carried out in compliance with the Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970 (Uniform Act), as amended in 1987 (42 U.S.C. 4601). The Uniform Act, as well as Missouri law, requires that just compensation be paid to the owners of private property taken for public use. An appraisal of fair market value is the basis for determining just compensation to be offered the owner for the property to be acquired. The Uniform Act defines an appraisal as a written statement independently and impartially prepared by a qualified appraiser setting forth an opinion of defined value of an adequately described property as of a specific date, supported by the presentation and analysis of relevant market information.

The Missouri Department of Transportation's right of way acquisition and relocation program is designed to provide uniform and equitable treatment for those persons who are displaced from their residences, businesses or farms. The program is carried out without discrimination and in compliance with Title VI, the President's Executive Order on Environmental Justice, Limited English Proficiency and the ADA. It provides advisory assistance to owners and tenants who are displaced and relocation assistance payments designed to compensate displaced persons for costs which have been imposed on them by a MoDOT highway project. Relocation assistance under this program is made available to all affected parties without discrimination.

Any displaced owner-occupant or tenant (of a dwelling) who qualifies as a displaced person is entitled to payment of his or her actual moving and related expenses, as MoDOT determines to be reasonable and necessary. A displaced owner-occupant who has occupied an affected dwelling for at least 180 days is also eligible to receive up to $22,500 for a replacement housing payment, which includes the amount by which the cost of a replacement dwelling exceeds the acquisition cost of the affected dwelling, increased interest costs and incidental costs. A displaced owner-occupant who has occupied an affected dwelling for at least 90 days but less than 180 days or a tenant who has occupied an affected dwelling for at least 90 days is entitled to a payment not to exceed $5,250 for either a rental or down payment assistance.

Any displaced business, farm operation or nonprofit organization which qualifies as a displaced person is entitled to payment of actual moving and related expenses, as MoDOT determines to be reasonable and necessary. In addition, a business, farm or nonprofit organization may be eligible to receive a payment, not to exceed $10,000, for expenses incurred in reestablishing the business, farm operation or nonprofit organization at a replacement site.

A displaced business may be eligible to choose to receive a fixed payment in lieu of the payments for actual moving and related expenses and actual and reasonable reestablishment expenses. The payment amount for this entitlement alternative is based on the average net earnings of the business. This fixed payment amount cannot be less than $1,000 or more than $20,000.

The Uniform Act requires that comparable, decent, safe and sanitary replacement housing within a person's financial means be made available before the person may be displaced. Should this project include persons who cannot readily be moved using the regular relocation program benefits and procedures (i.e., when there is a unique housing need or when the cost of available comparable housing would result in payments in excess of the $22,500 or $5,250 statutory payment limits), MoDOT's relocation policy commits to utilizing housing of last resort. Housing of last resort involves the use of payments in excess of statutory maximums or the use of other unusual methods of providing comparable housing. The Missouri Department of Transportation will utilize housing of last resort as needed on a case-by-case basis.

The Missouri Department of Transportation relocation program is designed to ease the property transition for the property owner or renter who is displaced. The Missouri Department of Transportation's relocation agents work closely with relocates, as needed or requested, and provide the needed guidance to relocate any eligible party. Housing of last resort will be provided as needed but the local residential and commercial property market is expected to more than absorb the displacements associated with this project.

E. Natural & Cultural Features Impacts

This section provides a description of the detailed data describing the natural and human-made resources that would be potentially impacted by the alternatives analyzed in this DEIS.

1. Geology

The following assessment of the impacts of implementation of the project to the existing geology and vice versa applies to the proposed corridor and all the alternate interchanges. Modification to the surface geology and topography from the construction of the proposed project will have impacts to the area's ecology.

a. Bedrock & Structural Geology

There are no records of any coal or other surface mining in the area of study. Therefore, the possibility of surface subsidence from mine collapse is non-existent. Modifications to the bedrock as a result of the proposed project are not anticipated. Consequently, there would not be impacts to bedrock dependent factors such as groundwater quantity and quality.

b. Topography, Surficial Geology & Soils

The proposed improvements are entirely along the alignment of existing I-70 and will require significant cut and fill operations especially for the peripheral roads, ramps and filling of existing drainage ways. Construction will result in disturbance of surface and near-surface material.

As discussed previously, the top five to 10 feet (1.5 to 3 m) of the surficial material may have engineering limitations. The high to moderate shrink-swell potential could cause damage to the foundations of light structures and roadway pavement. Foundations and footings should be

adequately reinforced to prevent structural damage. Drainage systems should be installed around footings and along the roadway to prevent damage from excessive wetness. This soil does not have sufficient strength to support vehicular traffic, but this can be overcome by strengthening the base material with crushed rock or other suitable material. Side ditches and culverts can provide proper drainage to help prevent damage from frost action and shrinking and swelling.

c. Mineral Resources

Existing mineral resources within the immediate study corridor will not be excluded from future development by the proposed project.

d. Seismic Risk

Seismic activity has a low potential to damage the proposed roadway structures. Seismic effects should be considered in the design criteria of the structures within the study area. The surficial cohesive material overlying the bedrock in the study area is not considered to be susceptible to liquefaction.

e. Groundwater Resources

Construction activities will not have an adverse impact on the recharge zones for the Cambrian-Ordovician aquifer, the Mississippian aquifer and the alluvial aquifer since the aquifer materials will remain on-site after construction operations.

Since sizeable dewatering or depressurizing activities are not anticipated during construction, temporary impacts on the groundwater system are not expected or will be minimal in isolated locations such as creeks/stream beds and other low lying areas. No noteworthy changes in chemical characteristics of the surface material are anticipated and no degradation of water quality entering the aquifer is expected.

2. Floodplains

Detailed design of the preferred alignment would be in compliance with all federal, state and local regulations regarding the regulatory floodway, floodway fringe and the floodplain of any stream crossings within the study corridor, or mitigated in accordance with applicable regulations. As appropriate, regulatory floodways, where crossed, would be spanned. Modification to the regulatory floodway, floodway fringe, and to a lesser extent, the 100-year floodplain, would result in a limited change in their capacity to carry and store floodwater. Design features will be incorporated into the preferred alternative to avoid causing a rise in flood elevation of each of the water bodies affected in order to obtain a No-Rise Certification permit from SEMA. Similarly, FEMA and SEMA require that any development in the regulatory floodway should not cause a rise in flood elevation.

FEMA and FHWA guidelines 23 CFR 650 have identified the base (100-year) flood as the flood having a one-percent probability of being equaled or exceeded in any given year. The base floodplain is the area of 100-year flood hazard within a county or community. The regulatory floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood discharge can be conveyed without increasing the base flood elevation more than a specified amount. FEMA has mandated that projects can cause no rise in the regulatory floodway, and a one-foot cumulative rise for all projects in the base (100-year) floodplain. For projects that involve the State of Missouri, the SEMA issues

floodplain development permits. In the case of projects proposed within regulatory floodways, a "no-rise" certificate, if applicable, should be obtained prior to issuance of a permit." Any development associated with this project located within the special flood hazard area as identified by FEMA and SEMA must meet the requirements of 23 CFR 650.111, Executive Order 11988 Floodplain Management and the State of Missouri Executive Order 97-09. State of Missouri Executive Order 97-09 would require obtaining a floodplain development permit for the project. Coordination would occur with local community National Flood Insurance Program (NFIP) officials in addition to SEMA NFIP coordinators.

Secondary impacts due to highway related development within floodplains are not likely to occur. Development projects within the floodplain are regulated locally. The following table presents the impacts to the 100-year floodplain and floodway for each alternative. No impacts were present for alternatives not listed.

Table IV-10: 100-Year Floodplain and Floodway Impacts

		Area of 100-Year Floodplain Impacted		Area of Regulated Floodway Impacted		
Alternative	**Zone**	**Acres**	**Hectares**	**Acres**	**Hectares**	**Stream Name**
1	A	1.17	0.47	-	-	Smith Branch of the Clear Fork of the Loutre River
2B	A	0.35	0.14	-	-	Unnamed tributary of Elkhorn Creek
5A	A	0.57	0.23	-	-	Unnamed tributary of Little Bear Creek
5B	A	2.28	0.92	-	-	Unnamed tributary of Little Bear Creek
7A	AE	2.06	0.83	0.16	0.06	Big Creek
7B	AE	2.8	1.13	1.88	0.76	Big Creek
9A	AE	-	-	0.42	0.17	Hickory Lick Creek
9B	AE	0.07	0.03	0.46	0.19	Hickory Lick Creek
10A	A	4.29	1.74	-	-	Unnamed tributary of Indian Camp Creek
10B	A	5.38	2.18	-	-	Unnamed tributary of Indian Camp Creek
10C	A	3.89	1.57	-	-	Unnamed tributary of Indian Camp Creek
11B	AE	1.2	0.49	0.56	0.23	Unnamed tributary of Peruque Creek
15	A	2.78	1.13	-	-	Unnamed tributary of Peruque Creek
17	A	0.81	0.33	0.03	0.01	Peruque Creek
Preferred:		11.28	4.56	0.61	0.24	

Zone = FEMA Flood Zone
Preferred alternative shaded in gray

3. Wetlands

a. Method

GIS was used to spatially overlay the alignments on the NWI-mapped and field-delineated wetlands, which then calculated the impacts.

b. Direct/Construction Impacts

Table IV-11 summarizes wetland impacts including the wetland location, type, NWI designation, total area, preliminary jurisdictional determination and area impacted. Throughout the project area, a number of roadside ditches exhibited wetland characteristics. In general, these roadside ditches were not considered wetlands unless a jurisdictional "Water of the U.S." passed through the ditch (those cut in upland areas). Ditches that received runoff solely from the road were not evaluated as wetlands. The name (Wetland ID) of the impacted wetland refers to names given to the wetlands in the Waters of The U.S. And Preliminary Jurisdictional Wetland Determination Summary Report for the project prepared under separate cover.

Alternative 7B has the most wetland impact of all the alternatives. However, the total acreage (1.61 ac / 0.65 ha) is minimal compared to the size of this alternative. By contrast, alternative 7A will affect 0.93 acres (0.38 ha) of wetland. In general, the remaining alternatives have wetland impacts of less than 0.5 acre (0.20 ha). The majority of the alternatives have less than 0.1 acre (0.04 ha) of wetland impacts. Alternatives 4 and 17 have no wetland impacts.

Table IV-11: Wetland Impacts by Alternative

						Total Area		Area Impacted		Total Jurisdictional Area Impacted	
Alternative	Wetland ID	Location	Preliminary Jurisdiction Determination	Wetland Type	NWI Designation	AC	HA	AC	HA	AC	HA
1	sw-22	North	Exempt. Stormwater Collection.	Emergent	None	0.02	0.01	0.02	0.01	**0.17**	**0.07**
	sw-55	North	Isolated. Non-jurisdictional.	Emergent	PEMFh	0.10	0.04	0.10	0.04		
	sw-44	North		Emergent	None	0.15	0.06	0.15	0.06		
2A	sw-58	North		Emergent	None	0.08	0.03	0.01	0.00	**0.01**	**0.00**
2B	sw-59	North		Forested	PFO1Ah	0.70	0.29	0.07	0.03	**0.13**	**0.05**
	sw-58	North		Emergent	None	0.08	0.03	0.06	0.02		
2C	sw-58	North		Emergent	None	0.08	0.03	0.01	0.00	**0.01**	**0.00**
3A	sw-45	North	Isolated. Non-jurisdictional	Scrub-shrub	None	0.37	0.15	0.34	0.14	**0.00**	**0.00**
3B	sw-45	North	Isolated. Non-jurisdictional	Scrub-shrub	None	0.37	0.15	0.36	0.15	**0.00**	**0.00**
4	No Wetlands										
5A	sw-15	North		Emergent	None	0.10	0.04	0.02	0.01	**0.02**	**0.01**
	sw-14	North		Emergent	None	0.05	0.02	0.05	0.02		
5B	sw-15	North		Emergent	None	0.10	0.04	0.02	0.01	**0.02**	**0.01**
	sw-14	North		Emergent	None	0.05	0.02	0.05	0.02		
6	sw-50	North		Emergent	None	0.11	0.05	0.11	0.04	**0.19**	**0.08**
	sw-29	North		Emergent	None	0.01	0.01	0.01	0.01		
	sw-65	North		Emergent	None	0.07	0.03	0.07	0.03		
7A	sw-80	South		Scrub-shrub	None	0.15	0.06	0.05	0.02	**0.93**	**0.38**
	sw-81	South		Emergent	None	0.72	0.29	0.00	0.00		
	sw-13	North		Emergent	None	0.09	0.04	0.09	0.03		
	sw-36	North		Forested	PFO1A	0.60	0.24	0.50	0.20		
	sw-37	North		Scrub-shrub	None	0.18	0.07	0.18	0.07		
	sw-102	South		Emergent	None	0.12	0.05	0.02	0.01		
	sw-19	South		Emergent	None	0.12	0.05	0.10	0.04		
7B	sw-80	South		Scrub-shrub	None	0.15	0.06	0.13	0.05	**1.61**	**0.65**
	sw-81	South		Emergent	None	0.72	0.29	0.72	0.29		
	sw-79	South		Emergent	None	0.03	0.01	0.03	0.01		
	sw-13	North		Emergent	None	0.09	0.04	0.07	0.03		
	sw-36	North		Forested	PFO1A	0.60	0.24	0.14	0.06		
	sw-37	North		Scrub-shrub	None	0.18	0.07	0.18	0.07		
	sw-74	North		Emergent	None	0.21	0.08	0.21	0.08		
	sw-102	South		Emergent	None	0.12	0.05	0.02	0.01		
	sw-19	South		Emergent	None	0.12	0.05	0.10	0.04		
8A	sw-82	South		Emergent	None	0.14	0.06	0.01	0.00	**0.01**	**0.00**

Alternative	Wetland ID	Location	Preliminary Jurisdiction Determination	Wetland Type	NWI Designation	Total Area AC	Total Area HA	Area Impacted AC	Area Impacted HA	Total Jurisdictional Area Impacted AC	Total Jurisdictional Area Impacted HA
8B	sw-82	South		Emergent	None	0.14	0.06	0.04	0.01	**0.04**	**0.01**
8C	sw-82	South		Emergent	None	0.14	0.06	0.04	0.02	**0.04**	**0.02**
8D	sw-82	South		Emergent	None	0.14	0.06	0.04	0.01	**0.04**	**0.01**
9A	sw-85	South		Emergent	None	0.02	0.01	0.02	0.01	**0.58**	**0.24**
	sw-84	South		Scrub-shrub	None	0.05	0.02	0.01	0.00		
	sw-87	South		Scrub-shrub	None	0.03	0.01	0.03	0.01		
	sw-88	South		Forested	None	0.62	0.25	0.52	0.21		
9B	sw-85	South		Emergent	None	0.02	0.01	0.01	0.01	**0.56**	**0.22**
	sw-84	South		Scrub-shrub	None	0.05	0.02	0.01	0.00		
	sw-87	South		Scrub-shrub	None	0.03	0.01	0.03	0.01		
	sw-88	South		Forested	None	0.62	0.25	0.50	0.20		
10A	sw-89	South		Scrub-shrub	None	0.09	0.04	0.09	0.04	**0.09**	**0.04**
10B	sw-89	South		Scrub-shrub	None	0.09	0.04	0.09	0.04	**0.09**	**0.04**
10C	sw-89	South		Scrub-shrub	None	0.09	0.04	0.09	0.03	**0.09**	**0.03**
11A	sw-78	North		Emergent	None	0.08	0.03	0.03	0.01	**0.03**	**0.01**
11B	sw-78	North		Emergent	None	0.08	0.03	0.02	0.01	**0.09**	**0.04**
	sw-2	North		Emergent	None	0.08	0.03	0.07	0.03		
12	sw-27	North		Emergent	None	0.06	0.03	0.06	0.03	**0.06**	**0.03**
13A	sw-8	North		Emergent	None	0.02	0.01	0.02	0.01	**0.07**	**0.03**
	sw-7	North		Emergent	None	0.28	0.12	0.04	0.02		
13B	sw-8	North		Emergent	None	0.02	0.01	0.02	0.01	**0.07**	**0.03**
	sw-7	North		Emergent	None	0.28	0.12	0.04	0.02		
13C	sw-8	North		Emergent	None	0.02	0.01	0.02	0.01	**0.07**	**0.03**
	sw-7	North		Emergent	None	0.28	0.12	0.04	0.02		
14	sw-94	South		Emergent	None	0.29	0.12	0.06	0.03	**0.07**	**0.03**
	sw-76	North		Scrub-shrub	None	0.10	0.04	0.00	0.00		
15	sw-99	North		Emergent	None	0.04	0.01	0.04	0.01	**0.04**	**0.01**
16A	sw-91	North		Emergent	None	0.13	0.05	0.13	0.05	**0.13**	**0.05**
16B	sw-91	North		Emergent	None	0.13	0.05	0.13	0.05	**0.13**	**0.05**
	sw-92	North		Emergent	None	0.27	0.11	0.01	0.00	**0.01**	**0.00**
17	No Wetlands										
								Preferred:		**2.43**	**0.99**

Preferred alternative shaded in gray

Jurisdictional wetland and pond (PUB) impacts are also summarized by Cowardin Classification System in Table IV-12. Alternative 7B has the greatest impact to Palustrine Emergent. Alternative 3B has the greatest impact to Palustrine Shrub-shrub. Alternative 4 has the greatest impact to Palustrine Forested, and Alternative 1 has the greatest impact to Palustrine Unconsolidated Bottom ponds.

Table IV-12: Jurisdictional Wetland and Pond Impacts by Cowardin Classification System

	Palustrine Emergent		Palustrine Unconsolidated Bottom		Palustrine Forested		Palustrine Scrub -Shrub		Lacustine	
Alternative	AC	HA	AC	HA	AC	HA	AC	HA	AC	HA
1	0.17	0.07	0.87	0.35	0.00	0.00	0.00	0.00	0.00	0.00
2A	0.01	0.00	0.80	0.33	0.00	0.00	0.00	0.00	0.00	0.00
2B	0.06	0.02	0.22	0.09	0.07	0.03	0.00	0.00	0.00	0.00
2C	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3A	0.00	0.00	0.48	0.19	0.00	0.00	0.00	0.00	0.00	0.00
3B	0.00	0.00	0.36	0.14	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.10	0.04	0.62	0.25	0.00	0.00	0.22	0.09
5A	0.07	0.03	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00
5B	0.07	0.03	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00
6	0.19	0.08	0.95	0.38	0.00	0.00	0.00	0.00	0.00	0.00
7A	0.21	0.08	0.18	0.07	0.50	0.20	0.22	0.09	0.00	0.00
7B	1.15	0.47	0.67	0.27	0.14	0.06	0.31	0.13	0.00	0.00
8A	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8B	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8C	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8D	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9A	0.02	0.01	0.09	0.04	0.52	0.21	0.04	0.02	0.00	0.00
9B	0.01	0.01	0.58	0.23	0.50	0.20	0.04	0.01	0.00	0.00
10A	0.00	0.00	0.33	0.13	0.00	0.00	0.09	0.04	0.00	0.00
10B	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.04	0.00	0.00
10C	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.03	0.00	0.00
11A	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11B	0.09	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.06	0.03	0.20	0.08	0.00	0.00	0.00	0.00	0.00	0.00
13A	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13B	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13C	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16A	0.13	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16B	0.14	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Preferred:	1.10	0.45	2.80	1.11	1.64	0.66	0.35	0.14	0.22	0.09

Note: As described by Cowardin (et al., 1979)
Preferred alternative shaded in gray

Impacts to ponds are summarized in Table IV-13. This table summarizes, by alternative, the pond location, type, NWI designation, total area, preliminary jurisdictional determination, and area impacted. If ponds were determined to be exempt or isolated from other "Waters of the U.S.," not in a floodplain, and/or not adjacent to a "Water of the U.S.," they were considered to be non-jurisdictional. Impacts for these isolated ponds were not added to the total jurisdictional impacts presented on this table. In general, impacts to ponds will be minimal between the different alternatives. Alternatives 8A, 8B, 8C, 8D, 10B, 10C, 11A, 11B, 16A, 16B, and 17 did not have any ponds identified within the construction limits. The greatest impact to jurisdictional

ponds is within Alternative 1 with 0.85 acres (0.35 ha). Impacts to jurisdictional ponds in the remaining alignments ranged from 0.02 acres to 0.62 acres (0.01 to 0.25 ha).

On January 9, 2001 the U.S. Supreme Court ruled that federal authority under the Clean Water Act does not extend to "isolated," intrastate waters. The decision known as the SWANCC ruling, does not allow the USACE to us it's "migratory bird rule" to extend its jurisiction over these waters (including isolated wetlands). The "migratory bird rule" asserted that section 404 of the Clean Water Act covers isolated waters that could be used as habitat by migratory birds that cross state lines. In general, a water/wetland is considered isolated if it is not adjacent to another water of the U.S., not located within a floodplain, or otherwise not hydrologically connected to a water of the U.S. Waters (including wetlands) that were not determined to be isolated are considered "jurisictional" and subject to Section 404 of the Clean Water Act.

Wetlands and ponds that are shown as isolated or exempt are considered to be non-jurisdictional under Section 404 of the Clean Water Act. These areas will still be impacted, but are not subject to the Clean Water Act.

Depending on the alternative approved, construction impacts would directly result in the loss of the amount of wetlands identified in the Table IV-11. The implementation of any combination of the alternatives to complete the project, excluding the No-Build Alternative, would result in wetland losses that cannot be reasonably avoided. Mitigation for these wetlands would ensure that wetland acreage and functional value would not be decreased.

The majority of wetlands impacted are small, poor quality wetlands. These wetlands provide limited wildlife and fish habitat. These wetlands provide limited groundwater recharge and little aesthetic value. The most prevalent wetland function lost due to destruction of these wetlands would be sediment/nutrient retention and flood storage (water detention/retention).

4. Lakes, Rivers, & Streams

a. Methods

GIS was used to spatially overlay the alignments on the USGS blue-line and field-delineated streams and channels, which then calculated the impacts. In general, any channel with an ordinary high-water mark (OHWM) was considered a jurisdictional "Water of the U.S.," whether or not the channel carried flow on a perennial or intermittent basis. To calculate the impacts to individual streams, the OHWM was located and an average width was determined. The length of the impact was then determined using GIS. Other characteristics such as channel, bank and adjacent vegetation descriptions were also recorded for use in the Wetland Technical Report.

b. Impacts

No perennial streams were observed within any of the alternatives. Streams impacted by alternatives include USGS blue-line perennial and intermittent streams and other intermittent streams identified during field investigations.

Stream impacts are summarized in the Table IV-14 located at the end of this section. This table summarizes the streams by alternative, location, USGS designation, OHWM width, OHWM depth, impacted length and impacted area. Stream impacts were calculated based on the amount of channel impacted by construction and separated by impacts to natural and artificial channels. Natural channels included any channels with natural materials in the substrate

including streams that have been re-channelized by the current alignment. Concrete lined channels were considered artificial. Existing channels currently in culverts were not included in calculating stream impacts. Virtually all streams in the study area have been impacted to some extent by the existing interstate or the surrounding development. The total stream acreage impacted by any one alternative was not greater than one acre. Note that these calculations were based on right of way impacts, as opposed to construction limits. The FEIS and the wetland technical report will calculate stream impacts based on construction limits. None of the five lakes listed in the Affected Environment were impacted by any of the proposed alignments.

c. Water Quality Impacts

In compliance with the Missouri Clean Water Law, MoDOT has obtained a Missouri State Operating Permit MO-R100007, authorizing the discharge of storm water and certain non-storm water discharges from land disturbance sites associated with I-70 Improvement. The permit contains requirements and guidelines that stipulate conformance to state and DNR-approved city and county water pollution control programs. The permit requires good housekeeping practices in land disturbance areas to prevent solid waste from entry into waters of the state. The permit requires adherence to federal and state regulations concerning transport, use and storage of fuel and other substances regulated by federal law, in order to prevent pollution of storm water, waters of the state and groundwater. The permit further requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) to ensure the design, implementation, management and maintenance of Best Management Practices in order to reduce the amount of sediment and other pollutants in storm water discharges associated with the land disturbance activities, and to comply with the Missouri Water Quality Standards. The Best Management Practices shall conform to concepts and methods provided in Environmental Protection Agency (EPA) and Missouri Department of Natural Resources (MoDNR) published guidelines.

The control of water pollution is to be accomplished by the use of MoDOT's Pollution Prevention Plan, which specifies berms, slope drains, ditch creeks, sediment basins, silt fences, rapid seeding and mulching, and other erosion control devices or methods as needed.

Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into "Waters of the U.S." unless exempted or authorized by the U.S. Army Corps of Engineers (USACE). Section 404 is the primary Federal statute that implements federal regulatory policies concerning the protection of wetlands and other waters of the U.S. as specified in various orders and regulations. The Kansas City District USACE maintains jurisdiction over the water resources in the area in which the I-70 corridor is located.

In order for the Section 404 permit to be valid, it must meet the criteria of the Section 401 water quality certification program in Missouri. Section 401 of the Clean Water Act requires all permits issued by the federal government for activities affecting Waters of the U.S. to be certified by the state in which the discharge is to occur to insure that the activity will comply with the water quality standards of Missouri. The MoDNR is the state agency that sets water quality standards in Missouri.

For this project, the merged NEPA/404 process is being employed. This process brings key decision-makers from MoDOT, the Corps and MoDNR together at several concurrence points throughout the project development process, from the very outset of the study through final approval of the NEPA document and the required permits. In this merged process, the agencies concur on the project purpose and need and on the alternatives carried forward for detailed analysis. A joint public hearing on the NEPA document and the Section 404 permit is held, and the agencies concur again on the selection of a preferred alternative and on impact minimization strategies. The vehicle for this concurrence in the Improve I-70 study has been the Study Management Group, which include representatives of all of the concerned agencies.

Table IV-13: Ponds Impacted

					Total Area		Area Impacted		Total Jurisictional Area Impacted	
Alternative	Wetland ID	Location	Preliminary Jurisdiction Determination	NWI Designation	AC	HA	AC	HA	AC	HA
1	sw-53	South	Isolated. Non-jurisdictional.	PUBGh	0.38	0.15	0.01	0.01	**0.85**	**0.35**
	sw-54	South		PUBGh	3.80	1.54	0.85	0.35		
2A	sw-51	South		PUBGh	0.62	0.25	0.62	0.25	**0.62**	**0.25**
	sw-52	South	Isolated. Non-jurisdictional	PUBGh	0.30	0.12	0.18	0.07		
2B	sw-51	South		PUBGh	0.62	0.25	0.22	0.09	**0.22**	**0.09**
2C	sw-52	South	Isolated. Non-jurisdictional	PUBGh	0.30	0.12	0.18	0.07	**0.00**	**0.00**
3A	sw-46	South		PUBGh	0.46	0.19	0.12	0.05	**0.46**	**0.19**
	sw-61	South	Isolated. Non-jurisdictional	PUBGh	0.14	0.05	0.01	0.01		
	sw-47	South		PUBGh	0.25	0.10	0.25	0.10		
	sw-48	South		PUBGh	0.09	0.04	0.09	0.04		
	sw-57	South		PUBGh	0.71	0.29	0.00	0.00		
3B	sw-48	South		PUBGh	0.09	0.04	0.09	0.04	**0.33**	**0.13**
	sw-47	South		PUBGh	0.25	0.10	0.24	0.10		
	sw-56	South	Isolated. Non-jurisdictional	PUBGx	0.14	0.06	0.02	0.01		
4	sw-33	North		L1UBHh	1.62	0.66	0.22	0.09	**0.22**	**0.09**
	sw-28	North	Isolated. Non-jurisdictional	PUBGh	0.32	0.13	0.09	0.040		
5A	sw-17	South	Isolated. Non-jurisdictional	PUBGh	0.21	0.09	0.03	0.01	**0.00**	**0.00**
	sw-63	North		PUBGh	0.21	0.08	0.00	0.00		
5B	sw-17	South	Isolated. Non-jurisdictional	PUBGh	0.21	0.09	0.03	0.01	**0.00**	**0.00**
6	sw-49	South	Isolated. Non-jurisdictional	PUBGh	0.25	0.10	0.15	0.06	**0.02**	**0.01**
	sw-67	North	Isolated. Non-jurisdictional	PUBGh	0.22	0.09	0.08	0.03		
	sw-69	North		PUBGh	0.31	0.12	0.02	0.01		
	sw-35	North	Isolated. Non-jurisdictional	PUBGh	0.93	0.38	0.21	0.08		
	sw-30	North	Isolated. Non-jurisdictional	PUBGh	0.45	0.18	0.40	0.16		
	sw-66	North	Isolated. Non-jurisdictional	PUBFh	0.07	0.03	0.07	0.03		
7A	sw-12	North	Isolated. Non-jurisdictional	PUBGh	0.51	0.20	0.11	0.04	**0.00**	**0.00**
	sw-72	North	Isolated. Non-jurisdictional	PUBGh	0.09	0.04	0.06	0.02		
7B	sw-101	North	Isolated. Non-jurisdictional	None	0.35	0.14	0.34	0.14	**0.32**	**0.13**
	sw-73	North		PUBGh	0.32	0.13	0.32	0.13		
8A	**No Ponds**									
8B	**No Ponds**									
8C	**No Ponds**									
8D	**No Ponds**									
9A	sw-75	North		PUBGh	1.26	0.51	0.09	0.04	**0.09**	**0.04**
9B	sw-75	North		PUBGh	1.26	0.51	0.58	0.23	**0.58**	**0.23**
10A	sw-11	North	Isolated. Non-jurisdictional	PUBGh	0.43	0.17	0.32	0.13	**0.00**	**0.00**
10B	**No Ponds**									
10C	**No Ponds**									
11A	**No Ponds**									
11B	**No Ponds**									
12	ex-3	North	Exempt. Sewage pond	PUBGh	0.35	0.14	0.00	0.00	**0.00**	**0.00**
13A	ex-6	South	Exempt. Sewage pond.	None	0.03	0.01	0.00	0.00	**0.00**	**0.00**
13B	ex-6	South	Exempt. Sewage pond.	None	0.03	0.01	0.00	0.00	**0.00**	**0.00**
13C	ex-6	South	Exempt. Sewage pond.	None	0.03	0.01	0.00	0.00	**0.00**	**0.00**
14	sw-1	North	Isolated. Non-jurisdictional	PUBGh	1.00	0.41	0.03	0.01	**0.00**	**0.00**
15	ex-1	South	Exempt. Stomwater detention pond.	None	0.08	0.03	0.00	0.00	**0.00**	**0.00**
16A	**No Ponds**									
16B	**No Ponds**									
17	**No Ponds**									
							Preferred:		**1.51**	**0.62**

Preferred alternative shaded in gray

d. Operational & Secondary Impacts

Applying Best Management Practices could minimize these impacts. For example, proper installation and maintenance of siltation barriers down gradient of any proposed excavation or clearing can minimize these impacts.

Operational impacts to wetlands include impacts resulting from de-icing salts, roadway runoff, highway maintenance activities and generalized motorist use. These impacts currently exist to wetlands within the study area. Other operational impacts would be minimal in comparison to conditions already existing within the study corridor. Once the areas disturbed during construction re-establish vegetative ground cover, siltation barriers may be removed and no further construction-related impacts are expected.

Secondary impacts are not easily quantified. These impacts are usually associated with, but not the direct result of, the proposed project. Secondary impacts can be associated with change of land use or activity near the wetlands, but not the result of direct filling or draining of these areas. Alternatives constructed along the existing alignment may have both direct impacts (siltation) and indirect impacts (increased adjacent construction which may cause wetlands and ponds to be drained or filled). Intersection alternatives that do not follow the existing roadway alignment have a greater potential to alter the local hydrology and may create secondary impacts to the existing wetlands.

5. Wetland and Stream Mitigation

To the extent possible with a project that consists principally of widening an existing facility, efforts have been made to avoid impacts to wetlands and other 'Waters of the U.S.' Unavoidable impacts to wetlands and streams will require mitigation, and development of mitigation strategies will be determined through the merged NEPA/404 permitting process with the USACE and the MoDNR. Rather than creating several small wetland mitigation areas along the I-70 corridor, MoDOT will propose to consolidate wetland mitigation at one or more large sites, which can be more successful, more economical and more beneficial to wildlife. Any unavoidable stream relocations will be mitigated for by restoring a channel of similar length adjacent to the proposed limits of construction, where possible, or through the use of grade control structures and/or stream mitigation at other locations.

A meeting was held on June 24, 2004 to discuss these potential sites and other mitigation options, and to gather feedback and comments regarding wetland mitigation preferences. The following agencies were represented: MoDNR, Missouri Department of Conservation (MDC), NRCS, USACE, FHWA and MoDOT. A memo was handed out that discussed the following three mitigation options:

- On-Site Mitigation – Concentrated (occurring at one site) or dispersed (occurring at several sites)
- Off-Site Mitigation – Mitigation being handled through the use of a wetlands bank. This could be the use of an existing MoDOT wetlands mitigation bank or at a privately owned mitigation bank.
- Off-System Mitigation – MoDOT would fund the development of wetlands at a site or sites identified by another agency that have been designated as a very high priority for acquisition and development as wetlands, or to develop wetlands on an agency owned site that is currently lacking funding.

MoDOT prefers to concentrate wetland mitigation in a large area, however, based on the discussion and preferences expressed by the resource agencies, it may be more realistic to utilize more than one site or option within the corridor. Although most of the agencies prefer on-site mitigation, or mitigation within the same watershed, they also realized that it may be more practical to develop a few larger, concentrated sites rather than several small dispersed sites for a long linear project such as this.

6. Habitat & Wildlife

a. Vegetation

Effects to the upland vegetation habitat would be directly proportional to the amount of vegetation cleared during construction of any of the alternatives. All construction activities should be designed to minimize the amount of clearing required. Since the alternatives generally follow the existing right of way for I-70, no major areas of previously undisturbed vegetation will be impacted.

b. Wildlife & Aquatic Fauna

All the species that occur within the habitats found in the study area will be affected proportional to the amount of habitat displaced. The relatively slight acreage variation among the alternative alignments is unlikely to result in a significant variance in impacts to wildlife and aquatic fauna.

Additional habitat fragmentation would be minimal due to the alignments being built along the existing right of way

Highway improvements may include use of elevated lighting structures for traffic safety/visibility concerns or as part of the overall I-70 Corridor Enhancement Plan. These lighting structures may inadvertently illuminate areas other than the roadway corridor. Since the highway is currently lighted for considerable portions, it is unlikely that there would be any new adverse impact to birds or other wildlife.

Impacts to aquatic species will also be minimal in part because the majority of streams in the study area are intermittent. In general, the wetland areas that will be impacted during construction are of poor quality and provide little habitat. Wetland mitigation will replace the lost wetland habitat, further minimizing habitat loss.

c. Measures to Mitigate Impacts to Habitat and Wildlife

The MoDOT Tree Replacement Program requires the planting of two trees for every tree of six-inch or larger diameter at breast height (dbh) lost during clearing activities. New trees would be planted as close as feasible to the affected area. Tree species would be selected to restore or improve the appearance of the affected areas.

To minimize potential impacts to aquatic species, best management practices for maintaining water quality will be observed during project design and construction. These practices would include the following:

- No channel modification or stream relocation would occur unless conditions of the State Channel Modification Guidelines are met.
- Grading and seeding of disturbed areas will be done as soon as possible to minimize erosion.

Table IV-14: Stream Impacts by Alternative

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
1	South	Bln-I	unnamed tributary of Clear Creek	1.00	0.30	1.00	0.30	76.11	23.20	0.00	0.00	76.11	7.07	0.00	0.00
1	North	Bln-I	Smith Branch of the Clear Fork of the Loutre River	20.00	6.10	6.00	1.83	84.48	25.76	0.00	0.00	1,689.65	157.01	0.04	0.02
1	North	none	unnamed tributary of the Smith Branch of the Clear Fork of the Loutre River	1.00	0.30	1.00	0.30	251.33	76.63	0.00	0.00	251.33	23.36	0.01	0.00
1	North	Bln-I	Smith Branch of the Clear Fork of the Loutre River	15.00	4.57	4.00	1.22	258.44	78.79	0.00	0.00	3,876.64	360.24	0.09	0.04
1	South	none	unnamed tributary of Clear Creek	5.00	1.52	2.00	0.61	296.28	90.33	0.00	0.00	1,481.41	137.66	0.03	0.01
1	South	Bln-I	Smith Branch of the Clear Fork of the Loutre River	12.00	3.66	4.00	1.22	313.30	95.52	0.00	0.00	3,759.64	349.37	0.09	0.03
1	South	none	unnamed tributary of Clear Creek	6.00	1.83	3.00	0.91	426.44	130.01	0.00	0.00	2,558.62	237.76	0.06	0.02
1	South	none	unnamed tributary of Clear Creek	5.00	1.52	2.00	0.61	462.94	141.14	0.00	0.00	2,314.68	215.10	0.05	0.02
1	South	none	unnamed tributary of Clear Creek	3.00	0.91	1.00	0.30	581.34	177.24	0.00	0.00	1,744.01	162.06	0.04	0.02
1	South	Bln-I	unnamed tributary of Clear Creek	5.00	1.52	2.00	0.61	1,828.16	557.37	0.00	0.00	9,140.82	849.43	0.21	0.08
Total								**4,578.83**	**1,395.98**	**0.00**	**0.00**	**26,892.91**	**2,499.07**	**0.62**	**0.25**
2A	North	none	unnamed tributary of Bear Creek	4.00	1.22	1.50	0.46	6.51	1.99	0.00	0.00	26.05	2.42	0.00	0.00
2A	North/south	none	unnamed tributary of Elkhorn Creek	3.00	0.91	0.50	0.15	57.10	17.41	80.03	24.40	411.40	38.23	0.01	0.00
2A	North	none	unnamed tributary of Elkhorn Creek	7.00	2.13	2.00	0.61	58.92	17.96	0.00	0.00	412.41	38.32	0.01	0.00
2A	North	none	unnamed tributary of Elkhorn Creek	3.00	0.91	2.00	0.61	60.60	18.48	0.00	0.00	181.80	16.89	0.00	0.00
2A	North	none	unnamed tributary of Bear Creek	1.00	0.30	0.50	0.15	65.48	19.96	0.00	0.00	65.48	6.08	0.00	0.00
2A	North	Bln-I	unnamed tributary of Elkhorn Creek	10.00	3.05	2.50	0.76	69.35	21.14	0.00	0.00	693.47	64.44	0.02	0.01
2A	South	Bln-I	unnamed tributary of Elkhorn Creek	4.00	1.22	1.00	0.30	116.44	35.50	0.00	0.00	465.76	43.28	0.01	0.00
2A	South	Bln-I	unnamed tributary of Elkhorn Creek	3.00	0.91	1.00	0.30	238.80	72.81	150.88	46.00	1,169.05	108.64	0.03	0.01
2A	South	none	unnamed tributary of Elkhorn Creek	2.00	0.61	1.00	0.30	371.13	113.15	0.00	0.00	742.25	68.98	0.02	0.01
Total								**1,044.33**	**318.39**	**230.91**	**70.40**	**4,167.68**	**387.29**	**0.10**	**0.04**
2B	South	Bln-I	unnamed tributary of Elkhorn Creek	4.00	1.22	1.00	0.30	27.43	8.36	0.00	0.00	109.74	10.20	0.00	0.00
2B	South	Bln-I	unnamed tributary of Elkhorn Creek	3.00	0.91	1.00	0.30	33.74	10.29	150.88	46.00	553.87	51.47	0.01	0.01
2B	North/south	none	unnamed tributary of Elkhorn Creek	3.00	0.91	0.50	0.15	57.10	17.41	80.03	24.40	411.40	38.23	0.01	0.00
2B	North	none	unnamed tributary of Elkhorn Creek	7.00	2.13	2.00	0.61	58.92	17.96	0.00	0.00	412.41	38.32	0.01	0.00
2B	North	none	unnamed tributary of Elkhorn Creek	3.00	0.91	2.00	0.61	73.78	22.49	0.00	0.00	221.35	20.57	0.01	0.00
2B	North	Bln-I	unnamed tributary of Elkhorn Creek	10.00	3.05	2.50	0.76	95.59	29.14	0.00	0.00	955.86	88.82	0.02	0.01
2B	North	none	unnamed tributary of Bear Creek	1.00	0.30	0.50	0.15	113.66	34.65	0.00	0.00	113.66	10.56	0.00	0.00
2B	North	none	unnamed tributary of Bear Creek	4.00	1.22	1.50	0.46	119.78	36.52	0.00	0.00	479.12	44.52	0.01	0.00
2B	South	none	unnamed tributary of Elkhorn Creek	2.00	0.61	1.00	0.30	182.64	55.68	0.00	0.00	365.28	33.94	0.01	0.00
Total								**762.65**	**232.51**	**230.91**	**70.40**	**3,622.69**	**336.65**	**0.08**	**0.03**
2C	North	none	unnamed tributary of Bear Creek	4.00	1.22	1.50	0.46	0.15	0.05	0.00	0.00	0.61	0.06	0.00	0.00
2C	North	none	unnamed tributary of Bear Creek	1.00	0.30	0.50	0.15	59.46	18.13	0.00	0.00	59.46	5.53	0.00	0.00
2C	South	none	unnamed tributary of Elkhorn Creek	2.00	0.61	1.00	0.30	380.34	115.96	0.00	0.00	760.68	70.69	0.02	0.01
2C	North/south	none	unnamed tributary of Elkhorn Creek	3.00	0.91	0.50	0.15	196.05	59.77	787.51	240.10	1,544.10	143.49	0.04	0.01
2C	South	Bln-I	unnamed tributary of Elkhorn Creek	3.00	0.91	1.00	0.30	349.72	106.62	989.77	301.76	2,070.88	192.44	0.05	0.02
2C	North	Bln-I	unnamed tributary of Elkhorn Creek	10.00	3.05	2.50	0.76	66.01	20.12	0.00	0.00	660.05	61.34	0.02	0.01
2C	North	none	unnamed tributary of Elkhorn Creek	3.00	0.91	2.00	0.61	57.33	17.48	0.00	0.00	172.00	15.98	0.00	0.00
Total								**1,109.06**	**338.13**	**1,777.29**	**541.86**	**5,267.78**	**489.52**	**0.12**	**0.05**

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
3A	North	none	unnamed tributary of Bear Creek	1.00	0.30	0.25	0.08	0.00	0.00	43.20	13.17	43.20	4.01	0.00	0.00
3A	South	none	unnamed tributary of Bear Creek	4.00	1.22	2.00	0.61	17.30	5.28	0.00	0.00	69.21	6.43	0.00	0.00
3A	South	none	unnamed tributary of Bear Creek	3.00	0.91	1.00	0.30	21.41	6.53	0.00	0.00	64.23	5.97	0.00	0.00
3A	South	none	unnamed tributary of Bear Creek	2.00	0.61	1.00	0.30	29.79	9.08	0.00	0.00	59.58	5.54	0.00	0.00
3A	South	none	unnamed tributary of Bear Creek	3.00	0.91	1.00	0.30	35.80	10.92	0.00	0.00	107.41	9.98	0.00	0.00
3A	North	none	unnamed tributary of Bear Creek	4.00	1.22	1.00	0.30	46.19	14.08	0.00	0.00	184.77	17.17	0.00	0.00
3A	South	none	unnamed tributary of Bear Creek	2.00	0.61	1.00	0.30	78.40	23.90	0.00	0.00	156.81	14.57	0.00	0.00
3A	South	none	unnamed tributary of Bear Creek	2.00	0.61	1.00	0.30	87.13	26.56	0.00	0.00	174.25	16.19	0.00	0.00
3A	South	none	unnamed tributary of Bear Creek	4.00	1.22	2.00	0.61	118.29	36.06	0.00	0.00	473.15	43.97	0.01	0.00
3A	South	none	unnamed tributary of Bear Creek	2.50	0.76	1.00	0.30	119.45	36.42	0.00	0.00	298.63	27.75	0.01	0.00
3A	South	none	unnamed tributary of Bear Creek	2.00	0.61	1.00	0.30	121.66	37.09	0.00	0.00	243.31	22.61	0.01	0.00
3A	South	none	unnamed tributary of Bear Creek	3.00	0.91	1.00	0.30	147.31	44.91	0.00	0.00	441.94	41.07	0.01	0.00
3A	South	none	unnamed tributary of Bear Creek	2.00	0.61	1.00	0.30	147.36	44.93	0.00	0.00	294.73	27.39	0.01	0.00
3A	South	none	unnamed tributary of Bear Creek	1.00	0.30	1.00	0.30	157.21	47.93	0.00	0.00	157.21	14.61	0.00	0.00
3A	South	none	unnamed tributary of Bear Creek	4.00	1.22	2.00	0.61	170.18	51.89	0.00	0.00	680.74	63.26	0.02	0.01
3A	South	none	unnamed tributary of Bear Creek	4.00	1.22	1.50	0.46	195.44	59.58	0.00	0.00	781.75	72.65	0.02	0.01
3A	South	none	unnamed tributary of Bear Creek	6.00	1.83	2.50	0.76	201.51	61.44	0.00	0.00	1,209.07	112.36	0.03	0.01
3A	South	none	unnamed tributary of Bear Creek	10.00	3.05	1.00	0.30	288.42	87.93	0.00	0.00	2,884.18	268.02	0.07	0.03
3A	North	none	unnamed tributary of Bear Creek	1.50	0.46	1.00	0.30	370.79	113.05	0.00	0.00	556.19	51.68	0.01	0.01
3A	South	none	unnamed tributary of Bear Creek	4.00	1.22	1.50	0.46	413.00	125.92	0.00	0.00	1,652.01	153.52	0.04	0.02
3A	South	none	unnamed tributary of Bear Creek	10.00	3.05	4.00	1.22	445.22	135.74	0.00	0.00	4,452.17	413.73	0.10	0.04
3A	South	none	unnamed tributary of Bear Creek	9.00	2.74	3.00	0.91	544.33	165.95	0.00	0.00	4,898.93	455.24	0.11	0.05
3A	South	none	unnamed tributary of Bear Creek	3.00	0.91	1.00	0.30	740.61	225.80	0.00	0.00	2,221.84	206.47	0.05	0.02
3A	South	Bln-I	unnamed tributary of Bear Creek	6.00	1.83	2.00	0.61	765.70	233.44	0.00	0.00	4,594.18	426.92	0.11	0.04
3A	South	none	unnamed tributary of Bear Creek	5.00	1.52	2.00	0.61	1,140.94	347.85	0.00	0.00	5,704.70	530.12	0.13	0.05
Total								**6,403.44**	**1,952.27**	**43.20**	**13.17**	**32,404.18**	**3,011.22**	**0.74**	**0.30**
3B	North	none	unnamed tributary of Bear Creek	1.00	0.30	0.25	0.08	0.00	0.00	49.90	15.21	49.90	4.64	0.00	0.00
3B	North	none	unnamed tributary of Bear Creek	4.00	1.22	1.00	0.30	45.95	14.01	0.00	0.00	183.79	17.08	0.00	0.00
3B	South	none	unnamed tributary of Bear Creek	5.00	1.52	2.00	0.61	123.61	37.68	0.00	0.00	618.03	57.43	0.01	0.01
3B	South	none	unnamed tributary of Bear Creek	6.00	1.83	2.50	0.76	201.51	61.44	0.00	0.00	1,209.07	112.36	0.03	0.01
3B	South	none	unnamed tributary of Bear Creek	2.00	0.61	1.00	0.30	244.45	74.53	0.00	0.00	488.89	45.43	0.01	0.00
3B	South	none	unnamed tributary of Bear Creek	2.00	0.61	1.00	0.30	331.23	100.98	0.00	0.00	662.46	61.56	0.02	0.01
3B	North	none	unnamed tributary of Bear Creek	1.50	0.46	1.00	0.30	419.51	127.90	0.00	0.00	629.26	58.47	0.01	0.01
Total								**1,366.25**	**416.54**	**49.90**	**15.21**	**3,841.40**	**356.97**	**0.09**	**0.04**
4	South	Bln-I	unnamed tributary of Millum Creek	2.00	0.61	1.00	0.30	29.83	9.10	0.00	0.00	59.67	5.54	0.00	0.00
4	North	none	unnamed tributary of Bear Creek	2.00	0.61	1.00	0.30	32.24	9.83	0.00	0.00	64.48	5.99	0.00	0.00
4	South	none	unnamed tributary of Millum Creek	4.00	1.22	2.00	0.61	43.74	13.34	0.00	0.00	174.96	16.26	0.00	0.00
4	South	none	unnamed tributary of the Prices Branch of Bear Creek	4.00	1.22	1.50	0.46	50.71	15.46	0.00	0.00	202.85	18.85	0.00	0.00
4	South	Bln-I	unnamed tributary of the Poor Branch of Little Bear Creek	3.00	0.91	1.00	0.30	94.81	28.90	0.00	0.00	284.42	26.43	0.01	0.00
4	South	none	unnamed tributary of Bear Creek	4.00	1.22	1.50	0.46	266.46	81.24	0.00	0.00	1,065.85	99.05	0.02	0.01
4	South	none	unnamed tributary of Millum Creek	4.00	1.22	2.00	0.61	302.83	92.33	0.00	0.00	1,211.33	112.57	0.03	0.01

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
4	North	Bln-I	unnamed tributary of the Prices Branch of Bear Creek	2.00	0.61	1.00	0.30	308.47	94.05	0.00	0.00	616.95	57.33	0.01	0.01
4	South	none	unnamed tributary of Bear Creek	3.00	0.91	1.50	0.46	314.69	95.94	0.00	0.00	944.07	87.73	0.02	0.01
4	North	Bln-I	unnamed tributary of the Poor Branch of Little Bear Creek	10.00	3.05	4.00	1.22	317.81	96.89	0.00	0.00	3,178.12	295.33	0.07	0.03
4	North/south	none	unnamed tributary of Millum Creek	3.00	0.91	1.00	0.30	503.83	153.61	0.00	0.00	1,511.49	140.46	0.03	0.01
			Total					**2,265.43**	**690.68**	**0.00**	**0.00**	**9,314.18**	**865.54**	**0.21**	**0.09**
5A	North	none	unnamed tributary of Little Bear Creek	5.00	1.52	0.50	0.15	17.55	5.35	26.24	8.00	218.93	20.34	0.01	0.00
5A	South	Bln-I	unnamed tributary of Little Bear Creek	7.00	2.13	2.00	0.61	97.27	29.66	0.00	0.00	680.90	63.27	0.02	0.01
5A	South	Bln-I	unnamed tributary of Little Bear Creek	5.00	1.52	1.50	0.46	104.10	31.74	0.00	0.00	520.50	48.37	0.01	0.00
5A	North	none	unnamed tributary of Little Bear Creek	6.00	1.83	1.50	0.46	116.71	35.58	0.00	0.00	700.27	65.07	0.02	0.01
5A	North	Bln-I	unnamed tributary of Little Bear Creek	5.00	1.52	1.50	0.46	132.88	40.51	0.00	0.00	664.42	61.74	0.02	0.01
5A	South	none	unnamed tributary of Little Bear Creek	5.00	1.52	1.50	0.46	157.13	47.90	0.00	0.00	785.63	73.01	0.02	0.01
5A	South	Bln-I	unnamed tributary of Little Bear Creek	3.00	0.91	1.00	0.30	184.60	56.28	0.00	0.00	553.80	51.46	0.01	0.01
5A	North	Bln-I	unnamed tributary of Little Bear Creek	8.00	2.44	2.50	0.76	225.59	68.78	0.00	0.00	1,804.73	167.71	0.04	0.02
5A	North	Bln-I	unnamed tributary of Little Bear Creek	3.00	0.91	1.00	0.30	261.02	79.58	0.00	0.00	783.06	72.77	0.02	0.01
5A	North	Bln-I	unnamed tributary of Little Bear Creek	6.00	1.83	1.50	0.46	301.77	92.00	0.00	0.00	1,810.59	168.25	0.04	0.02
5A	North	none	unnamed tributary of Little Bear Creek	1.00	0.30	0.50	0.15	348.48	106.25	0.00	0.00	348.48	32.38	0.01	0.00
5A	North	none	unnamed tributary of Camp Creek	3.00	0.91	1.00	0.30	452.57	137.98	0.00	0.00	1,357.72	126.17	0.03	0.01
5A	North	Bln-I	unnamed tributary of Little Bear Creek	2.00	0.61	1.00	0.30	588.46	179.41	0.00	0.00	1,176.93	109.37	0.03	0.01
5A	North	Bln-I	unnamed tributary of Little Bear Creek	5.00	1.52	1.50	0.46	1,025.66	312.70	0.00	0.00	5,128.32	476.56	0.12	0.05
			Total					**4,013.80**	**1,223.72**	**26.24**	**8.00**	**16,534.28**	**1,536.48**	**0.38**	**0.15**
5B	North	none	unnamed tributary of Little Bear Creek	5.00	1.52	0.50	0.15	17.55	5.35	26.24	8.00	218.93	20.34	0.01	0.00
5B	North	Bln-I	unnamed tributary of Little Bear Creek	3.00	0.91	1.00	0.30	81.31	24.79	0.00	0.00	243.92	22.67	0.01	0.00
5B	South	Bln-I	unnamed tributary of Little Bear Creek	7.00	2.13	2.00	0.61	97.27	29.66	0.00	0.00	680.90	63.27	0.02	0.01
5B	South	Bln-I	unnamed tributary of Little Bear Creek	5.00	1.52	1.50	0.46	104.10	31.74	0.00	0.00	520.50	48.37	0.01	0.00
5B	North	Bln-I	unnamed tributary of Little Bear Creek	5.00	1.52	1.50	0.46	132.88	40.51	0.00	0.00	664.42	61.74	0.02	0.01
5B	South	none	unnamed tributary of Little Bear Creek	5.00	1.52	1.50	0.46	157.13	47.90	0.00	0.00	785.63	73.01	0.02	0.01
5B	South	Bln-I	unnamed tributary of Little Bear Creek	3.00	0.91	1.00	0.30	184.60	56.28	0.00	0.00	553.80	51.46	0.01	0.01
5B	North	none	unnamed tributary of Little Bear Creek	1.00	0.30	0.50	0.15	211.59	64.51	0.00	0.00	211.59	19.66	0.00	0.00
5B	North	Bln-I	unnamed tributary of Little Bear Creek	8.00	2.44	2.50	0.76	225.59	68.78	0.00	0.00	1,804.73	167.71	0.04	0.02
5B	North	Bln-I	unnamed tributary of Little Bear Creek	6.00	1.83	2.00	0.61	239.28	72.95	0.00	0.00	1,435.68	133.41	0.03	0.01
5B	North	Bln-I	unnamed tributary of Little Bear Creek	6.00	1.83	1.50	0.46	361.26	110.14	0.00	0.00	2,167.55	201.42	0.05	0.02
5B	North	none	unnamed tributary of Camp Creek	3.00	0.91	1.00	0.30	452.57	137.98	0.00	0.00	1,357.72	126.17	0.03	0.01
5B	North	none	unnamed tributary of Little Bear Creek	6.00	1.83	1.50	0.46	527.98	160.97	0.00	0.00	3,167.88	294.38	0.07	0.03
5B	North	Bln-I	unnamed tributary of Little Bear Creek	2.00	0.61	1.00	0.30	588.46	179.41	0.00	0.00	1,176.93	109.37	0.03	0.01
5B	North	Bln-I	unnamed tributary of Little Bear Creek	5.00	1.52	1.50	0.46	876.28	267.16	0.00	0.00	4,381.38	407.15	0.10	0.04
			Total					**4,257.84**	**1,298.12**	**26.24**	**8.00**	**19,371.55**	**1,800.14**	**0.44**	**0.18**
6	North	none	unnamed tributary of Camp Creek	3.00	0.91	1.00	0.30	81.90	24.97	0.00	0.00	245.69	22.83	0.01	0.00
6	North	none	unnamed tributary of the Yeater Branch of Big Creek	2.00	0.61	2.00	0.61	165.06	50.32	0.00	0.00	330.12	30.68	0.01	0.00
6	North	none	unnamed tributary of the Yeater Branch of Big Creek	2.00	0.61	1.00	0.30	169.14	51.57	0.00	0.00	338.27	31.43	0.01	0.00
6	South	none	unnamed tributary of the Camp Branch of Camp Creek	3.00	0.91	1.50	0.46	176.68	53.87	0.00	0.00	530.05	49.26	0.01	0.00

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
6	North	none	unnamed tributary of Camp Creek	5.00	1.52	2.00	0.61	196.84	60.01	0.00	0.00	984.22	91.46	0.02	0.01
6	North	none	unnamed tributary of the Yeater Branch of Big Creek	6.00	1.83	2.00	0.61	207.88	63.38	0.00	0.00	1,247.31	115.91	0.03	0.01
6	North	Bln-I	Camp Branch of Camp Creek	25.00	7.62	6.00	1.83	238.04	72.57	44.61	13.60	7,066.11	656.63	0.16	0.07
6	North	Bln-I	unnamed tributary of Camp Creek	9.00	2.74	2.50	0.76	263.34	80.29	0.00	0.00	2,370.10	220.25	0.05	0.02
6	North	none	unnamed tributary of Camp Creek	2.50	0.76	1.00	0.30	275.78	84.08	0.00	0.00	689.45	64.07	0.02	0.01
6	North	Bln-I	unnamed tributary of Camp Creek	6.00	1.83	2.00	0.61	287.31	87.60	0.00	0.00	1,723.87	160.19	0.04	0.02
6	North	Bln-I	unnamed tributary of the Camp Branch of Camp Creek	20.00	6.10	5.00	1.52	302.97	92.37	0.00	0.00	6,059.35	563.08	0.14	0.06
6	South	none	unnamed tributary of the Camp Branch of Camp Creek	5.00	1.52	2.00	0.61	345.41	105.31	0.00	0.00	1,727.04	160.49	0.04	0.02
6	North	none	unnamed tributary of the Camp Branch of Camp Creek	1.00	0.30	1.00	0.30	392.15	119.56	0.00	0.00	392.15	36.44	0.01	0.00
6	South	none	unnamed tributary of the Camp Branch of Camp Creek	4.00	1.22	3.00	0.91	414.96	126.51	0.00	0.00	1,659.85	154.24	0.04	0.02
6	North	none	unnamed tributary of the Camp Branch of Camp Creek	2.00	0.61	1.00	0.30	504.13	153.70	0.00	0.00	1,008.27	93.70	0.02	0.01
6	North	none	unnamed tributary of Camp Creek	4.00	1.22	1.50	0.46	621.56	189.50	0.00	0.00	2,486.23	231.04	0.06	0.02
6	North	none	unnamed tributary of the Camp Branch of Camp Creek	3.00	0.91	1.00	0.30	741.54	226.08	0.00	0.00	2,224.63	206.73	0.05	0.02
6	North	none	unnamed tributary of the Camp Branch of Camp Creek	2.00	0.61	1.00	0.30	1,254.28	382.40	0.00	0.00	2,508.55	233.11	0.06	0.02
Total								**6,638.97**	**2,024.08**	**44.61**	**13.60**	**33,591.25**	**3,121.53**	**0.77**	**0.31**
7A	South	Bln-I	Schlanker Branch of Big Creek	4.00	1.22	0.50	0.15	0.00	0.00	8.80	2.68	35.20	3.27	0.00	0.00
7A	South	none	unnamed tributary of Big Creek	2.00	0.61	1.00	0.30	8.61	2.62	0.00	0.00	17.21	1.60	0.00	0.00
7A	South	Bln-I	Big Creek	22.00	6.71	3.00	0.91	31.64	9.65	0.00	0.00	696.17	64.69	0.02	0.01
7A	South	none	unnamed tributary of Big Creek	3.00	0.91	1.00	0.30	44.08	13.44	0.00	0.00	132.25	12.29	0.00	0.00
7A	North	none	unnamed tributary of the Schlanker Branch of Big Creek	3.00	0.91	1.00	0.30	61.37	18.71	0.00	0.00	184.11	17.11	0.00	0.00
7A	North	none	unnamed tributary of the Schlanker Branch of Big Creek	3.00	0.91	1.00	0.30	65.68	20.02	0.00	0.00	197.05	18.31	0.00	0.00
7A	South.	none	unnamed tributary of the Schlanker Branch of Big Creek	1.50	0.46	1.00	0.30	67.76	20.66	0.00	0.00	101.64	9.45	0.00	0.00
7A	South	Bln-I	unnamed tributary of Big Creek	7.00	2.13	2.00	0.61	71.80	21.89	0.00	0.00	502.58	46.70	0.01	0.00
7A	North	none	unnamed tributary of Big Creek	5.00	1.52	2.00	0.61	91.58	27.92	0.00	0.00	457.88	42.55	0.01	0.00
7A	South	Bln-I	unnamed tributary of Big Creek	4.00	1.22	3.00	0.91	98.90	30.15	0.00	0.00	395.61	36.76	0.01	0.00
7A	South	none	unnamed tributary of Lost Creek	2.50	0.76	1.00	0.30	116.24	35.44	0.00	0.00	290.61	27.01	0.01	0.00
7A	South	none	unnamed tributary of Lost Creek	5.00	1.52	1.00	0.30	134.26	40.93	0.00	0.00	671.29	62.38	0.02	0.01
7A	North	none	unnamed tributary of Big Creek	5.00	1.52	2.00	0.61	152.56	46.51	0.00	0.00	762.82	70.89	0.02	0.01
7A	South	none	unnamed tributary of the Schlanker Branch of Big Creek	2.00	0.61	1.00	0.30	154.04	46.96	0.00	0.00	308.08	28.63	0.01	0.00
7A	South	none	unnamed tributary of Big Creek	1.00	0.30	1.00	0.30	160.68	48.99	0.00	0.00	160.68	14.93	0.00	0.00
7A	South	none	unnamed tributary of Big Creek	1.00	0.30	1.00	0.30	171.56	52.30	0.00	0.00	171.56	15.94	0.00	0.00
7A	North	Bln-I	unnamed tributary of Big Creek	4.00	1.22	1.50	0.46	185.68	56.61	15.09	4.60	803.09	74.63	0.02	0.01
7A	North	none	unnamed tributary of Big Creek	2.00	0.61	1.00	0.30	185.90	56.68	0.00	0.00	371.80	34.55	0.01	0.00
7A	North	none	unnamed tributary of Big Creek	12.00	3.66	4.00	1.22	185.98	56.70	0.00	0.00	2,231.81	207.40	0.05	0.02
7A	North	none	unnamed tributary of the Yeater Branch of Big Creek	3.00	0.91	1.50	0.46	240.63	73.36	0.00	0.00	721.89	67.08	0.02	0.01
7A	North	none	unnamed tributary of the Schlanker Branch of Big Creek	4.00	1.22	2.00	0.61	253.06	77.15	0.00	0.00	1,012.22	94.06	0.02	0.01
7A	North/south	none	unnamed tributary of Big Creek	2.00	0.61	1.00	0.30	259.29	79.05	0.00	0.00	518.57	48.19	0.01	0.00
7A	North	none	unnamed tributary of the Yeater Branch of Big Creek	6.00	1.83	2.00	0.61	280.34	85.47	0.00	0.00	1,682.05	156.31	0.04	0.02
7A	North	Bln-I	Schlanker Branch of Big Creek	7.00	2.13	2.00	0.61	347.57	105.97	0.00	0.00	2,432.96	226.09	0.06	0.02
7A	North	none	unnamed tributary of Big Creek	5.00	1.52	1.50	0.46	377.58	115.12	0.00	0.00	1,887.89	175.44	0.04	0.02
7A	North	none	unnamed tributary of Big Creek	5.00	1.52	2.00	0.61	415.58	126.70	0.00	0.00	2,077.91	193.09	0.05	0.02

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
7A	North	Bln-I	Big Creek	25.00	7.62	6.00	1.83	665.18	202.80	0.00	0.00	16,629.43	1,545.32	0.38	0.15
Total								**4,827.55**	**1,471.82**	**23.89**	**7.28**	**35,454.37**	**3,294.66**	**0.81**	**0.33**
7B	South	Bln-I	Schlanker Branch of Big Creek	4.00	1.22	0.50	0.15	0.00	0.00	8.80	2.68	35.20	3.27	0.00	0.00
7B	North	none	unnamed tributary of Big Creek	5.00	1.52	2.00	0.61	38.92	11.87	0.00	0.00	194.61	18.08	0.00	0.00
7B	North	none	unnamed tributary of the Schlanker Branch of Big Creek	3.00	0.91	1.00	0.30	61.26	18.68	0.00	0.00	183.77	17.08	0.00	0.00
7B	South.	none	unnamed tributary of the Schlanker Branch of Big Creek	1.50	0.46	1.00	0.30	63.53	19.37	0.00	0.00	95.29	8.86	0.00	0.00
7B	North	Bln-I	Big Creek	25.00	7.62	6.00	1.83	66.26	20.20	0.00	0.00	1,656.46	153.93	0.04	0.02
7B	North	none	unnamed tributary of Big Creek	2.00	0.61	1.00	0.30	71.04	21.66	0.00	0.00	142.08	13.20	0.00	0.00
7B	South	Bln-I	Big Creek	22.00	6.71	3.00	0.91	79.49	24.24	0.00	0.00	1,748.84	162.51	0.04	0.02
7B	South	none	unnamed tributary of Big Creek	3.00	0.91	1.00	0.30	83.01	25.31	0.00	0.00	249.02	23.14	0.01	0.00
7B	North	none	unnamed tributary of Big Creek	5.00	1.52	2.00	0.61	91.58	27.92	0.00	0.00	457.88	42.55	0.01	0.00
7B	North	none	unnamed tributary of Big Creek	12.00	3.66	4.00	1.22	93.41	28.48	0.00	0.00	1,120.90	104.16	0.03	0.01
7B	South	Bln-I	unnamed tributary of Big Creek	5.00	1.52	2.00	0.61	94.00	28.66	0.00	0.00	469.98	43.67	0.01	0.00
7B	North	Bln-I	unnamed tributary of Big Creek	4.00	1.22	1.50	0.46	103.37	31.51	15.09	4.60	473.83	44.03	0.01	0.00
7B	South	Bln-I	unnamed tributary of Big Creek	1.50	0.46	1.00	0.30	110.08	33.56	0.00	0.00	165.12	15.34	0.00	0.00
7B	South	none	unnamed tributary of the Schlanker Branch of Big Creek	2.00	0.61	1.00	0.30	135.40	41.28	0.00	0.00	270.80	25.16	0.01	0.00
7B	North/south	none	unnamed tributary of Big Creek	2.00	0.61	1.00	0.30	139.12	42.41	0.00	0.00	278.24	25.86	0.01	0.00
7B	South	none	unnamed tributary of Big Creek	1.00	0.30	1.00	0.30	160.68	48.99	0.00	0.00	160.68	14.93	0.00	0.00
7B	South	none	unnamed tributary of Big Creek	1.00	0.30	1.00	0.30	186.08	56.73	0.00	0.00	186.08	17.29	0.00	0.00
7B	North	none	unnamed tributary of Big Creek	5.00	1.52	1.50	0.46	273.65	83.43	0.00	0.00	1,368.26	127.15	0.03	0.01
7B	North	none	unnamed tributary of the Yeater Branch of Big Creek	6.00	1.83	2.00	0.61	280.34	85.47	0.00	0.00	1,682.05	156.31	0.04	0.02
7B	North	none	unnamed tributary of the Yeater Branch of Big Creek	3.00	0.91	1.50	0.46	297.41	90.67	0.00	0.00	892.24	82.91	0.02	0.01
7B	South	Bln-I	unnamed tributary of Big Creek	7.00	2.13	2.00	0.61	327.33	99.80	0.00	0.00	2,291.31	212.92	0.05	0.02
7B	North	none	unnamed tributary of the Schlanker Branch of Big Creek	3.00	0.91	1.00	0.30	327.36	99.81	0.00	0.00	982.08	91.26	0.02	0.01
7B	North	Bln-I	Schlanker Branch of Big Creek	7.00	2.13	2.00	0.61	383.39	116.89	0.00	0.00	2,683.71	249.39	0.06	0.02
7B	North	none	unnamed tributary of Big Creek	5.00	1.52	2.00	0.61	458.71	139.85	0.00	0.00	2,293.53	213.13	0.05	0.02
7B	North	none	unnamed tributary of the Schlanker Branch of Big Creek	4.00	1.22	2.00	0.61	475.78	145.05	0.00	0.00	1,903.10	176.85	0.04	0.02
7B	South	none	unnamed tributary of Big Creek	2.00	0.61	1.00	0.30	521.24	158.92	0.00	0.00	1,042.49	96.88	0.02	0.01
7B	South	Bln-I	unnamed tributary of Big Creek	11.00	3.35	3.00	0.91	746.64	227.63	0.00	0.00	8,213.01	763.21	0.19	0.08
7B	South	Bln-I	unnamed tributary of Big Creek	4.00	1.22	3.00	0.91	1,490.12	454.30	0.00	0.00	5,960.46	553.89	0.14	0.06
7B	South	Bln-I	unnamed tributary of Big Creek	5.00	1.52	1.50	0.46	2,195.85	669.47	0.00	0.00	10,979.27	1,020.27	0.25	0.10
Total								**9,355.04**	**2,852.15**	**23.89**	**7.28**	**48,180.29**	**4,477.24**	**1.11**	**0.45**
8A	North	none	unnamed tributary of Big Creek	5.00	1.52	1.00	0.30	408.66	124.59	0.00	0.00	2,043.31	189.88	0.05	0.02
8A	South	none	unnamed tributary of Big Creek	6.00	1.83	2.00	0.61	528.73	161.20	0.00	0.00	3,172.40	294.80	0.07	0.03
8A	North	Bln-I	unnamed tributary of Big Creek	3.00	0.91	1.00	0.30	1,588.44	484.28	0.00	0.00	4,765.33	442.83	0.11	0.04
Total								**2,525.84**	**770.07**	**0.00**	**0.00**	**9,981.04**	**927.51**	**0.23**	**0.09**
8B	North	none	unnamed tributary of Big Creek	5.00	1.52	1.00	0.30	408.66	124.59	0.00	0.00	2,043.31	189.88	0.05	0.02
8B	South	none	unnamed tributary of Big Creek	6.00	1.83	2.00	0.61	529.51	161.44	0.00	0.00	3,177.05	295.23	0.07	0.03
8B	North	Bln-I	unnamed tributary of Big Creek	3.00	0.91	1.00	0.30	1,344.30	409.85	0.00	0.00	4,032.89	374.76	0.09	0.04
Total								**2,282.47**	**695.87**	**0.00**	**0.00**	**9,253.25**	**859.87**	**0.21**	**0.09**
8C	North	none	unnamed tributary of Big Creek	5.00	1.52	1.00	0.30	408.66	124.59	0.00	0.00	2,043.31	189.88	0.05	0.02

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
8C	South	none	unnamed tributary of Big Creek	6.00	1.83	2.00	0.61	551.79	168.23	0.00	0.00	3,310.72	307.65	0.08	0.03
8C	North	Bln-I	unnamed tributary of Big Creek	3.00	0.91	1.00	0.30	1,588.44	484.28	0.00	0.00	4,765.33	442.83	0.11	0.04
Total								**2,548.89**	**777.10**	**0.00**	**0.00**	**10,119.36**	**940.36**	**0.23**	**0.09**
8D	North	none	unnamed tributary of Big Creek	5.00	1.52	1.00	0.30	408.66	124.59	0.00	0.00	2,043.31	189.88	0.05	0.02
8D	South	none	unnamed tributary of Big Creek	6.00	1.83	2.00	0.61	529.51	161.44	0.00	0.00	3,177.05	295.23	0.07	0.03
8D	North	Bln-I	unnamed tributary of Big Creek	3.00	0.91	1.00	0.30	1,344.30	409.85	0.00	0.00	4,032.89	374.76	0.09	0.04
Total								**2,282.47**	**695.87**	**0.00**	**0.00**	**9,253.25**	**859.87**	**0.21**	**0.09**
9A	North	none	unnamed tributary of Indian Camp Creek	8.00	2.44	0.50	0.15	0.00	0.00	431.74	131.63	3,453.91	320.96	0.08	0.03
9A	North	Bln-I	unnamed tributary of Hickory Lick Creek	8.00	2.44	1.50	0.46	6.73	2.05	0.00	0.00	53.87	5.01	0.00	0.00
9A	North	Bln-I	unnamed tributary of Indian Camp Creek	2.00	0.61	1.00	0.30	6.83	2.08	0.00	0.00	13.67	1.27	0.00	0.00
9A	North	none	unnamed tributary of Indian Camp Creek	3.00	0.91	1.00	0.30	21.89	6.68	0.00	0.00	65.68	6.10	0.00	0.00
9A	North	none	unnamed tributary of Hickory Lick Creek	5.00	1.52	1.50	0.46	42.62	12.99	0.00	0.00	213.11	19.80	0.00	0.00
9A	South	none	unnamed tributary of Hickory Lick Creek	8.00	2.44	2.00	0.61	43.50	13.26	0.00	0.00	348.03	32.34	0.01	0.00
9A	South	Bln-I	unnamed tributary of Hickory Lick Creek	10.00	3.05	3.00	0.91	71.95	21.94	0.00	0.00	719.51	66.86	0.02	0.01
9A	South	Bln-I	unnamed tributary of Indian Camp Creek	12.00	3.66	1.50	0.46	130.16	39.68	0.00	0.00	1,561.94	145.15	0.04	0.01
9A	South	none	unnamed tributary of Indian Camp Creek	4.00	1.22	2.00	0.61	210.29	64.11	0.00	0.00	841.14	78.16	0.02	0.01
9A	South	Bln-I	unnamed tributary of Hickory Lick Creek	2.00	0.61	1.00	0.30	214.80	65.49	0.00	0.00	429.60	39.92	0.01	0.00
Total								**748.79**	**228.29**	**431.74**	**131.63**	**7,700.48**	**715.58**	**0.18**	**0.07**
9B	North	none	unnamed tributary of Indian Camp Creek	8.00	2.44	0.50	0.15	0.00	0.00	431.74	131.63	3,453.91	320.96	0.08	0.03
9B	North	none	unnamed tributary of Indian Camp Creek	3.00	0.91	1.00	0.30	11.58	3.53	0.00	0.00	34.75	3.23	0.00	0.00
9B	North	Bln-I	unnamed tributary of Indian Camp Creek	2.00	0.61	1.00	0.30	13.59	4.14	0.00	0.00	27.18	2.53	0.00	0.00
9B	South	none	unnamed tributary of Hickory Lick Creek	8.00	2.44	2.00	0.61	38.72	11.81	0.00	0.00	309.76	28.79	0.01	0.00
9B	South	Bln-I	unnamed tributary of Indian Camp Creek	12.00	3.66	1.50	0.46	130.16	39.68	0.00	0.00	1,561.94	145.15	0.04	0.01
9B	South	none	unnamed tributary of Indian Camp Creek	4.00	1.22	2.00	0.61	179.04	54.59	0.00	0.00	716.16	66.55	0.02	0.01
9B	South	Bln-I	unnamed tributary of Hickory Lick Creek	2.00	0.61	1.00	0.30	201.14	61.32	0.00	0.00	402.29	37.38	0.01	0.00
9B	North	Bln-I	unnamed tributary of Hickory Lick Creek	8.00	2.44	1.50	0.46	204.92	62.47	0.00	0.00	1,639.32	152.34	0.04	0.02
9B	North	none	unnamed tributary of Hickory Lick Creek	5.00	1.52	1.50	0.46	527.86	160.93	0.00	0.00	2,639.32	245.26	0.06	0.02
Total								**1,307.02**	**398.48**	**431.74**	**131.63**	**10,784.64**	**1,002.18**	**0.25**	**0.10**
10A	South	none	unnamed tributary of Indian Camp Creek	5.00	1.52	0.50	0.15	0.00	0.00	292.82	89.27	1,464.08	136.05	0.03	0.01
10A	South	none	unnamed tributary of Indian Camp Creek	2.00	0.61	1.00	0.30	5.93	1.81	0.00	0.00	11.87	1.10	0.00	0.00
10A	South	Bln-I	unnamed tributary of Indian Camp Creek	12.00	3.66	3.00	0.91	29.55	9.01	0.00	0.00	354.66	32.96	0.01	0.00
10A	North	none	unnamed tributary of Indian Camp Creek	4.00	1.22	2.00	0.61	94.73	28.88	0.00	0.00	378.93	35.21	0.01	0.00
10A	South	Bln-I	unnamed tributary of Indian Camp Creek	9.00	2.74	2.50	0.76	121.93	37.17	0.00	0.00	1,097.40	101.98	0.03	0.01
10A	South	none	unnamed tributary of Indian Camp Creek	8.00	2.44	1.00	0.30	123.50	37.65	0.00	0.00	988.00	91.81	0.02	0.01
10A	North	Bln-I	unnamed tributary of Indian Camp Creek	15.00	4.57	3.00	0.91	320.06	97.58	0.00	0.00	4,800.96	446.14	0.11	0.04
Total								**695.72**	**212.11**	**292.82**	**89.27**	**9,095.90**	**845.25**	**0.21**	**0.08**
10B	South	none	unnamed tributary of Indian Camp Creek	5.00	1.52	0.50	0.15	0.00	0.00	292.82	89.27	1,464.08	136.05	0.03	0.01
10B	South	none	unnamed tributary of Indian Camp Creek	2.00	0.61	1.00	0.30	2.38	0.73	0.00	0.00	4.76	0.44	0.00	0.00
10B	South	Bln-I	unnamed tributary of Indian Camp Creek	12.00	3.66	3.00	0.91	29.55	9.01	0.00	0.00	354.66	32.96	0.01	0.00
10B	North	none	unnamed tributary of Indian Camp Creek	4.00	1.22	2.00	0.61	85.15	25.96	0.00	0.00	340.61	31.65	0.01	0.00
10B	South	Bln-I	unnamed tributary of Indian Camp Creek	9.00	2.74	2.50	0.76	121.93	37.17	0.00	0.00	1,097.40	101.98	0.03	0.01

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
10B	South	none	unnamed tributary of Indian Camp Creek	8.00	2.44	1.00	0.30	123.50	37.65	0.00	0.00	988.00	91.81	0.02	0.01
10B	North	Bln-I	unnamed tributary of Indian Camp Creek	15.00	4.57	3.00	0.91	262.75	80.11	0.00	0.00	3,941.24	366.25	0.09	0.04
Total								**625.27**	**190.63**	**292.82**	**89.27**	**8,190.76**	**761.14**	**0.19**	**0.08**
10C	North	none	unnamed tributary of Indian Camp Creek	4.00	1.22	2.00	0.61	74.49	22.71	0.00	0.00	297.96	27.69	0.01	0.00
10C	South	none	unnamed tributary of Indian Camp Creek	2.00	0.61	1.00	0.30	10.10	3.08	0.00	0.00	20.20	1.88	0.00	0.00
10C	South	none	unnamed tributary of Indian Camp Creek	5.00	1.52	0.50	0.15	0.00	0.00	294.22	89.70	1,471.08	136.70	0.03	0.01
10C	North	Bln-I	unnamed tributary of Indian Camp Creek	15.00	4.57	3.00	0.91	87.16	26.57	0.00	0.00	1,307.43	121.50	0.03	0.01
10C	South	Bln-I	unnamed tributary of Indian Camp Creek	12.00	3.66	3.00	0.91	30.00	9.15	0.00	0.00	359.95	33.45	0.01	0.00
10C	South	none	unnamed tributary of Indian Camp Creek	8.00	2.44	1.00	0.30	122.65	37.39	0.00	0.00	981.20	91.18	0.02	0.01
10C	South	Bln-I	unnamed tributary of Indian Camp Creek	9.00	2.74	2.50	0.76	121.12	36.93	0.00	0.00	1,090.06	101.30	0.03	0.01
Total								**445.52**	**135.83**	**294.22**	**89.70**	**5,527.90**	**513.69**	**0.13**	**0.05**
11A	South	Bln-I	unnamed tributary of Peruque Creek	2.50	0.76	1.00	0.30	8.79	2.68	0.00	0.00	21.98	2.04	0.00	0.00
11A	North	none	unnamed tributary of Peruque Creek	6.00	1.83	2.00	0.61	114.03	34.76	0.00	0.00	684.17	63.58	0.02	0.01
11A	North	none	unnamed tributary of Indian Camp Creek	4.00	1.22	2.00	0.61	424.85	129.53	0.00	0.00	1,699.41	157.92	0.04	0.02
11A	North	none	unnamed tributary of Peruque Creek	1.00	0.30	1.00	0.30	534.86	163.07	0.00	0.00	534.86	49.70	0.01	0.00
Total								**1,082.54**	**330.04**	**0.00**	**0.00**	**2,940.43**	**273.24**	**0.07**	**0.03**
11B	South	Bln-I	unnamed tributary of Peruque Creek	2.50	0.76	1.00	0.30	8.79	2.68	0.00	0.00	21.98	2.04	0.00	0.00
11B	South	Bln-P	Peruque Creek	18.00	5.49	3.00	0.91	93.27	28.44	0.00	0.00	1,678.86	156.01	0.04	0.02
11B	North	none	unnamed tributary of Peruque Creek	6.00	1.83	2.00	0.61	114.03	34.76	0.00	0.00	684.17	63.58	0.02	0.01
11B	North	none	unnamed tributary of Peruque Creek	1.00	0.30	1.00	0.30	128.14	39.07	0.00	0.00	128.14	11.91	0.00	0.00
11B	North	none	unnamed tributary of Indian Camp Creek	4.00	1.22	2.00	0.61	424.55	129.44	0.00	0.00	1,698.21	157.81	0.04	0.02
11B	North	none	unnamed tributary of Peruque Creek	9.00	2.74	4.00	1.22	536.89	163.69	0.00	0.00	4,832.03	449.03	0.11	0.04
11B	South	Bln-I	unnamed tributary of Peruque Creek	4.00	1.22	2.00	0.61	585.03	178.36	0.00	0.00	2,340.13	217.46	0.05	0.02
Total								**4,055.78**	**1,236.52**	**0.00**	**0.00**	**17,264.37**	**1,604.32**	**0.40**	**0.16**
12	South	none	unnamed tributary of Peruque Creek	2.00	0.61	1.00	0.30	19.70	6.01	0.00	0.00	39.41	3.66	0.00	0.00
12	South	Bln-I	unnamed tributary of Peruque Creek	8.00	2.44	1.00	0.30	23.38	7.13	0.00	0.00	187.06	17.38	0.00	0.00
12	North	none	unnamed tributary of Indian Camp Creek	2.00	0.61	1.00	0.30	143.66	43.80	0.00	0.00	287.33	26.70	0.01	0.00
12	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	176.22	53.73	0.00	0.00	352.45	32.75	0.01	0.00
12	North	none	unnamed tributary of Indian Camp Creek	2.00	0.61	1.00	0.30	193.75	59.07	0.00	0.00	387.49	36.01	0.01	0.00
12	North	none	unnamed tributary of McCoy Creek	1.50	0.46	1.00	0.30	213.05	64.95	0.00	0.00	319.57	29.70	0.01	0.00
12	North	none	unnamed tributary of McCoy Creek	2.50	0.76	1.00	0.30	216.84	66.11	0.00	0.00	542.10	50.38	0.01	0.01
12	North	none	unnamed tributary of Indian Camp Creek	9.00	2.74	2.50	0.76	328.46	100.14	0.00	0.00	2,956.12	274.70	0.07	0.03
12	South	none	unnamed tributary of Indian Camp Creek	5.00	1.52	1.00	0.30	474.90	144.79	0.00	0.00	2,374.49	220.65	0.05	0.02
Total								**1,789.96**	**545.72**	**0.00**	**0.00**	**7,446.01**	**691.93**	**0.17**	**0.07**
13A	South	none	unnamed tributary of Peruque Creek	3.00	0.91	1.00	0.30	42.99	13.11	0.00	0.00	128.96	11.98	0.00	0.00
13A	South	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	85.76	26.15	0.00	0.00	171.51	15.94	0.00	0.00
13A	South	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	89.90	27.41	0.00	0.00	449.48	41.77	0.01	0.00
13A	North	none	unnamed tributary of McCoy Creek	1.50	0.46	1.00	0.30	90.15	27.48	0.00	0.00	135.23	12.57	0.00	0.00
13A	South	none	unnamed tributary of McCoy Creek	5.00	1.52	1.00	0.30	92.36	28.16	0.00	0.00	461.82	42.92	0.01	0.00
13A	North	none	unnamed tributary of McCoy Creek	3.00	0.91	1.00	0.30	147.14	44.86	0.00	0.00	441.42	41.02	0.01	0.00

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
13A	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	154.10	46.98	0.00	0.00	308.20	28.64	0.01	0.00
13A	North	none	unnamed tributary of McCoy Creek	6.00	1.83	1.00	0.30	170.29	51.92	0.00	0.00	1,021.72	94.94	0.02	0.01
13A	North	none	unnamed tributary of McCoy Creek	4.00	1.22	2.00	0.61	174.65	53.25	0.00	0.00	698.59	64.92	0.02	0.01
13A	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	228.36	69.62	0.00	0.00	456.71	42.44	0.01	0.00
13A	South	none	unnamed tributary of Peruque Creek	3.00	0.91	2.00	0.61	268.62	81.90	0.00	0.00	805.87	74.89	0.02	0.01
13A	North	none	unnamed tributary of McCoy Creek	3.50	1.07	1.50	0.46	284.70	86.80	0.00	0.00	996.45	92.60	0.02	0.01
13A	South	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	297.32	90.65	0.00	0.00	1,486.62	138.15	0.03	0.01
13A	North	none	unnamed tributary of McCoy Creek	1.50	0.46	1.00	0.30	345.46	105.32	0.00	0.00	518.20	48.15	0.01	0.00
13A	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	436.68	133.13	0.00	0.00	873.36	81.16	0.02	0.01
13A	North	none	unnamed tributary of McCoy Creek	9.00	2.74	1.50	0.46	543.82	165.80	0.00	0.00	4,894.37	454.82	0.11	0.05
Total								**3,452.30**	**1,052.53**	**0.00**	**0.00**	**13,848.51**	**1,286.90**	**0.32**	**0.13**
13B	South	none	unnamed tributary of Peruque Creek	3.00	0.91	1.00	0.30	42.99	13.11	0.00	0.00	128.96	11.98	0.00	0.00
13B	South	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	85.86	26.18	0.00	0.00	171.72	15.96	0.00	0.00
13B	South	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	89.90	27.41	0.00	0.00	449.48	41.77	0.01	0.00
13B	South	none	unnamed tributary of McCoy Creek	5.00	1.52	1.00	0.30	92.36	28.16	0.00	0.00	461.82	42.92	0.01	0.00
13B	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	156.26	47.64	0.00	0.00	312.53	29.04	0.01	0.00
13B	North	none	unnamed tributary of McCoy Creek	3.00	0.91	1.00	0.30	156.49	47.71	0.00	0.00	469.47	43.63	0.01	0.00
13B	North	none	unnamed tributary of McCoy Creek	6.00	1.83	1.00	0.30	170.29	51.92	0.00	0.00	1,021.72	94.94	0.02	0.01
13B	North	none	unnamed tributary of McCoy Creek	4.00	1.22	2.00	0.61	174.65	53.25	0.00	0.00	698.59	64.92	0.02	0.01
13B	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	190.32	58.03	0.00	0.00	380.65	35.37	0.01	0.00
13B	South	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	225.62	68.79	0.00	0.00	1,128.11	104.83	0.03	0.01
13B	North	none	unnamed tributary of McCoy Creek	3.50	1.07	1.50	0.46	227.12	69.24	0.00	0.00	794.91	73.87	0.02	0.01
13B	South	none	unnamed tributary of Peruque Creek	3.00	0.91	2.00	0.61	268.62	81.90	0.00	0.00	805.87	74.89	0.02	0.01
13B	North	none	unnamed tributary of McCoy Creek	1.50	0.46	1.00	0.30	345.46	105.32	0.00	0.00	518.20	48.15	0.01	0.00
13B	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	436.68	133.13	0.00	0.00	873.36	81.16	0.02	0.01
13B	North	none	unnamed tributary of McCoy Creek	9.00	2.74	1.50	0.46	598.03	182.33	0.00	0.00	5,382.24	500.15	0.12	0.05
Total								**3,260.66**	**994.10**	**0.00**	**0.00**	**13,597.63**	**1,263.58**	**0.31**	**0.13**
13C	South	none	unnamed tributary of Peruque Creek	3.00	0.91	1.00	0.30	44.35	13.52	0.00	0.00	133.05	12.36	0.00	0.00
13C	North	none	unnamed tributary of McCoy Creek	1.50	0.46	1.00	0.30	347.18	105.85	0.00	0.00	520.76	48.39	0.01	0.00
13C	North	none	unnamed tributary of McCoy Creek	6.00	1.83	1.00	0.30	169.26	51.60	0.00	0.00	1,015.55	94.37	0.02	0.01
13C	South	none	unnamed tributary of Peruque Creek	3.00	0.91	2.00	0.61	268.62	81.90	0.00	0.00	805.87	74.89	0.02	0.01
13C	South	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	226.75	69.13	0.00	0.00	1,133.75	105.36	0.03	0.01
13C	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	184.08	56.12	0.00	0.00	368.15	34.21	0.01	0.00
13C	South	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	89.90	27.41	0.00	0.00	449.48	41.77	0.01	0.00
13C	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	178.92	54.55	0.00	0.00	357.85	33.25	0.01	0.00
13C	North	none	unnamed tributary of McCoy Creek	3.50	1.07	1.50	0.46	230.20	70.18	0.00	0.00	805.71	74.87	0.02	0.01
13C	South	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	88.39	26.95	0.00	0.00	176.77	16.43	0.00	0.00
13C	North	none	unnamed tributary of McCoy Creek	9.00	2.74	1.50	0.46	601.64	183.43	0.00	0.00	5,414.79	503.18	0.12	0.05
13C	South	none	unnamed tributary of McCoy Creek	5.00	1.52	1.00	0.30	7.28	2.22	0.00	0.00	36.40	3.38	0.00	0.00
13C	North	none	unnamed tributary of McCoy Creek	4.00	1.22	2.00	0.61	174.65	53.25	0.00	0.00	698.59	64.92	0.02	0.01
13C	North	none	unnamed tributary of McCoy Creek	2.00	0.61	1.00	0.30	436.68	133.13	0.00	0.00	873.36	81.16	0.02	0.01

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
Total								**3,047.90**	**929.24**	**0.00**	**0.00**	**12,790.09**	**1,188.54**	**0.29**	**0.12**
14	North	none	unnamed tributary of Spring Creek	3.00	0.91	0.50	0.15	4.05	1.23	0.00	0.00	12.14	1.13	0.00	0.00
14	North	Bln-I	unnamed tributary of the Dry Branch of McCoy Creek	3.00	0.91	1.00	0.30	6.05	1.85	0.00	0.00	18.16	1.69	0.00	0.00
14	North/south	none	unnamed tributary of Peruque Creek	2.50	0.76	0.50	0.15	20.61	6.28	32.80	10.00	133.53	12.41	0.00	0.00
14	South	none	unnamed tributary of the Dry Branch of McCoy Creek	6.00	1.83	2.00	0.61	25.02	7.63	0.00	0.00	150.14	13.95	0.00	0.00
14	South	none	unnamed tributary of the Dry Branch of McCoy Creek	1.00	0.30	1.00	0.30	51.39	15.67	0.00	0.00	51.39	4.78	0.00	0.00
14	North	none	unnamed tributary of the Dry Branch of McCoy Creek	1.00	0.30	1.00	0.30	58.99	17.98	0.00	0.00	58.99	5.48	0.00	0.00
14	North	none	unnamed tributary of Spring Creek	3.00	0.91	0.50	0.15	134.52	41.01	0.00	0.00	403.55	37.50	0.01	0.00
14	North	none	unnamed tributary of Spring Creek	3.00	0.91	1.00	0.30	145.59	44.39	0.00	0.00	436.78	40.59	0.01	0.00
14	North	none	unnamed tributary of Spring Creek	2.00	0.61	1.00	0.30	155.58	47.43	0.00	0.00	311.16	28.92	0.01	0.00
14	North	none	unnamed tributary of Spring Creek	4.00	1.22	0.50	0.15	158.74	48.40	0.00	0.00	634.97	59.01	0.01	0.01
14	South	Bln-I	unnamed tributary of Peruque Creek	9.00	2.74	1.50	0.46	243.16	74.13	0.00	0.00	2,188.46	203.37	0.05	0.02
Total								**1,003.70**	**306.01**	**32.80**	**10.00**	**4,399.26**	**408.81**	**0.10**	**0.04**
15	South	none	unnamed tributary of Peruque Creek	2.00	0.61	1.00	0.30	23.10	7.04	0.00	0.00	46.19	4.29	0.00	0.00
15	North	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	39.13	11.93	0.00	0.00	195.64	18.18	0.00	0.00
15	South	Bln-I	unnamed tributary of Peruque Creek	4.00	1.22	1.00	0.30	39.19	11.95	0.00	0.00	156.76	14.57	0.00	0.00
15	South	none	unnamed tributary of Peruque Creek	3.00	0.91	1.00	0.30	66.05	20.14	0.00	0.00	198.16	18.41	0.00	0.00
15	South	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	110.02	33.54	0.00	0.00	550.08	51.12	0.01	0.01
15	South	none	unnamed tributary of Peruque Creek	2.00	0.61	1.00	0.30	129.86	39.59	0.00	0.00	259.73	24.14	0.01	0.00
15	North	Bln-I	unnamed tributary of Peruque Creek	8.00	2.44	1.00	0.30	148.68	45.33	0.00	0.00	1,189.45	110.53	0.03	0.01
15	North	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	165.24	50.38	0.00	0.00	826.22	76.78	0.02	0.01
15	South	none	unnamed tributary of Peruque Creek	3.00	0.91	2.00	0.61	169.88	51.79	0.00	0.00	509.63	47.36	0.01	0.00
15	South	none	unnamed tributary of Peruque Creek	7.00	2.13	1.00	0.30	173.34	52.85	0.00	0.00	1,213.38	112.76	0.03	0.01
15	South	Bln-I	unnamed tributary of Peruque Creek	9.00	2.74	1.50	0.46	185.00	56.40	0.00	0.00	1,664.96	154.72	0.04	0.02
15	South	Bln-I	unnamed tributary of Peruque Creek	13.00	3.96	2.00	0.61	198.89	60.64	0.00	0.00	2,585.54	240.27	0.06	0.02
15	South	none	unnamed tributary of Peruque Creek	5.00	1.52	1.00	0.30	226.19	68.96	0.00	0.00	1,130.97	105.10	0.03	0.01
15	North	none	unnamed tributary of Peruque Creek	10.00	3.05	2.00	0.61	312.69	95.33	0.00	0.00	3,126.88	290.57	0.07	0.03
15	South	Bln-I	unnamed tributary of Peruque Creek	6.00	1.83	1.50	0.46	355.89	108.50	0.00	0.00	2,135.34	198.43	0.05	0.02
15	South	Bln-I	unnamed tributary of Peruque Creek	4.00	1.22	1.50	0.46	375.95	114.62	0.00	0.00	1,503.82	139.74	0.03	0.01
15	North	none	unnamed tributary of Peruque Creek	6.00	1.83	1.00	0.30	429.12	130.83	0.00	0.00	2,574.70	239.26	0.06	0.02
15	South	none	unnamed tributary of Peruque Creek	6.00	1.83	1.00	0.30	467.21	142.44	0.00	0.00	2,803.25	260.50	0.06	0.03
15	South	Bln-I	unnamed tributary of Peruque Creek	9.00	2.74	1.50	0.46	2,493.75	760.29	0.00	0.00	22,443.76	2,085.63	0.52	0.21
Total								**6,109.18**	**1,862.55**	**0.00**	**0.00**	**45,114.46**	**4,192.34**	**1.04**	**0.42**
16A	North	none	unnamed tributary of Lake St. Louis	3.00	0.91	1.00	0.30	27.50	8.39	0.00	0.00	82.51	7.67	0.00	0.00
16A	South	none	unnamed tributary of Lake St. Louis	2.00	0.61	1.00	0.30	32.10	9.79	0.00	0.00	64.20	5.97	0.00	0.00
16A	North	Bln-I	unnamed tributary of Lake St. Louis	9.00	2.74	2.00	0.61	37.62	11.47	0.00	0.00	338.54	31.46	0.01	0.00
16A	South	Bln-I	unnamed tributary of Lake St. Louis	18.00	5.49	2.50	0.76	54.22	16.53	0.00	0.00	975.93	90.69	0.02	0.01
16A	South	Bln-I	unnamed tributary of Lake St. Louis	7.00	2.13	1.50	0.46	110.19	33.60	0.00	0.00	771.36	71.68	0.02	0.01
16A	North	Bln-I	unnamed tributary of Lake St. Louis	10.00	3.05	2.00	0.61	655.99	200.00	0.00	0.00	6,559.91	609.59	0.15	0.06
16A	North	Bln-I	unnamed tributary of Lake St. Louis	18.00	5.49	3.00	0.91	1,107.71	337.72	0.00	0.00	19,938.82	1,852.85	0.46	0.19

Alternative	Side	USGS	USGS Name	OHWM Width		OHWM Depth		Impact Length				Impacted Area		Total Impacted Area	
								Natural		Artificial					
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	sq ft	sq m	AC	HA
Total								**2,025.34**	**617.48**	**0.00**	**0.00**	**28,731.27**	**2,669.91**	**0.66**	**0.27**
16B	North	none	unnamed tributary of Lake St. Louis	3.00	0.91	1.00	0.30	27.50	8.39	0.00	0.00	82.51	7.67	0.00	0.00
16B	South	none	unnamed tributary of Lake St. Louis	2.00	0.61	1.00	0.30	32.10	9.79	0.00	0.00	64.20	5.97	0.00	0.00
16B	North	Bln-I	unnamed tributary of Lake St. Louis	9.00	2.74	2.00	0.61	37.62	11.47	0.00	0.00	338.54	31.46	0.01	0.00
16B	South	Bln-I	unnamed tributary of Lake St. Louis	18.00	5.49	2.50	0.76	54.22	16.53	0.00	0.00	975.93	90.69	0.02	0.01
16B	South	Bln-I	unnamed tributary of Lake St. Louis	7.00	2.13	1.50	0.46	104.79	31.95	0.00	0.00	733.50	68.16	0.02	0.01
16B	North	Bln-I	unnamed tributary of Lake St. Louis	10.00	3.05	2.00	0.61	655.99	200.00	0.00	0.00	6,559.91	609.59	0.15	0.06
16B	North	Bln-I	unnamed tributary of Lake St. Louis	18.00	5.49	3.00	0.91	1,098.32	334.85	0.00	0.00	19,769.67	1,837.13	0.45	0.18
Total								**2,010.53**	**612.97**	**0.00**	**0.00**	**28,524.26**	**2,650.67**	**0.65**	**0.27**
17	South	none	unnamed tributary of Lake St. Louis	3.00	0.91	1.00	0.30	5.46	1.67	0.00	0.00	16.39	1.52	0.00	0.00
17	South	none	unnamed tributary of Lake St. Louis	3.00	0.91	1.00	0.30	17.35	5.29	0.00	0.00	52.06	4.84	0.00	0.00
Total								**22.81**	**6.96**	**0.00**	**0.00**	**68.44**	**6.36**	**0.00**	**0.00**
							Preferred:	**44,028.9**	**13,423.5**	**2,680.7**	**817.3**	**256,792.3**	**23,862.9**	**5.9**	**2.4**

Bln-I = USGS blueline intermittent stream
OHWM = Ordinary High Water Mark
Note: Widths and depths presented are average based on the OHWM within the impacted area of the stream.
Preferred alternative shaded in gray

- Disturbance to stream banks and riparian areas would be avoided where possible.
- Stream flows would not be interrupted and all temporary in-channel fills that have the potential to impound water would be contained within culverts.

7. Threatened & Endangered Species

The USFWS was contacted to request information about federally-listed species and possible critical habitat in the project area. According to the USFWS, no critical habitat exists in the project area.[3] Six plant and animal species were listed by the USFWS as threatened, endangered, or as a candidate for such listing which could occur in the project area.

Four of the federally-species are generally associated with large rivers or river floodplains. These include the bald eagle, pallid sturgeon, Eastern massasauga rattlesnake and decurrent false aster. Since the SIU 7 study corridor does not cross any major rivers or large river floodplains, this project is not likely to adversely affect these four species. The last two federally-listed species, Running Buffalo Clover and the Indiana Bat, are discussed below.

The Missouri Natural Heritage Database was searched for sensitive biological resources within one-quarter-mile of the SIU 7 study corridor. In addition to the six federally-listed species, five state-listed species were identified which could occur in the project area, although none of these species have been identified within the project area. Since suitable habitat for the Blanding's Turtle, American Bittern, and King Rail will not be impacted this project is not likely to adversely affect these three species. With no known occurrence of the remaining two state-listed species (the Barn Owl and Western Fox Snake) within the project area, this project is not likely to adversely affect these species. MoDOT will commit to reviewing the Natural Heritage Database periodically for new locations of the Barn Owl or Western Fox Snake within the project area.

Running Buffalo Clover (*Trifolium stoloniferum*) is a native clover of Missouri and was thought to be extirpated from the state until 1989, when it was rediscovered. It is a perennial that grows from 4 to 20 inches tall, blooming generally from mid-May through June.

Running Buffalo Clover was recently discovered along the Loutre river, near the existing I-70 crossing. The sites where the plants were found appear to be in or adjacent to disturbed areas as well as in riverine settings, along the first wooded terrace or bench above the river. It has been thought that disturbance, such as that provided by the herds of buffalo in Missouri, were instrumental in the species propagation and distribution. Running Buffalo Clover does not appear to compete well with other species of clover. Currently mowing and grazing can provide that disturbance which appears to be necessary for the plant's distribution.

Since it will likely be a number of years before the I-70 Improvement is constructed, the distribution of this endangered plant could change over time. MoDOT will review the Natural Heritage Database periodically for new locations of the Running Buffalo Clover and will then field check for the Running Buffalo Clover at least one year prior to construction at the locations noted below and any new areas identified from the Natural Heritage Data Base. MoDOT will commit to conducting Running Buffalo Clover surveys at the Loutre River crossing, the Auxvasse Creek crossing in SIU 6, the Cedar Creek crossing in SIU 5 and the Lamine River crossing in SIU 2 prior to construction.

---

[3] Hansen, Rick. United States Department of the Interior, Fish & Wildlife Service, Columbia Missouri Field Office; letter to the authors dated January 7, 2004.

MoDOT will also continue consulting with the USFWS and MDC on this plant species and will develop or improve habitat for the plant when feasible to do so as part of the construction activities.

MoDOT recognizes the importance of riverine corridors for a variety of benefits, including habitats suitable for endangered species such the Indiana Bat and Running Buffalo Clover. It has developed a stream mitigation and enhancement plan for the major river crossings, including those noted above.

The sixth federally listed species is the Indiana bat, which is endangered throughout its entire range, which consists of most of the Midwest and parts of the Eastern United States. Indiana Bats (*Myotis sodalis*) may be found throughout Missouri. The wintering range is generally south of the Missouri River and the summer range generally north. According to the MDC, there are fewer than 30 caves or mines that are known to have sizable Indiana Bat colonies. The bats have very specific habitat requirements for their winter hibernation sites.

The females and their young spend the summer months in maternity colonies in both riparian and upland woodlands where suitable roost trees are present. The preferred roost trees have exfoliating, loose or platy bark, or scars from fire or lighting strikes or other damage that allow the bats entry in a hollow or cavity in the tree. The tree could also be dead or declining vigor and the bark is in the process of sloughing off. Female maternity colonies prefer to roost under the sloughing bark.

There are likely areas within the I-70 corridor that provide seasonal habitat to the Indiana Bat. MoDOT recognizes the importance of minimizing the effects of habitat loss, especially with respect to habitats that could be used by threatened and endangered species. The Indiana Bat does prefer woodlands with a variety of species and age classes.

The USFWS previously used a guidance that focused on not cutting suitable roost trees during the breeding season (April 1 through September 30) to avoid negative impacts on the species. The USFWS now advocates reviewing projects on a case by case basis focusing on the following criteria: the projects proximity to known hibernacula; maternity, male roosts and/or important foraging areas; the composition of the woodland; the land use of the area after the project is complete; and consideration of the magnitude, scope, frequency and duration of the proposed action with regard to the importance of the area to the Indiana Bat.

To address USFWS and MDC concerns, MoDOT will review the Natural Heritage Data Base periodically during the project development process to identify any new locations of Indiana Bat activity. MoDOT will continue consultation with the USFWS to avoid or minimize potential impacts to this species.

By following the procedures described above, it is not likely that adverse impacts to the Indiana Bat would be created by this project. MoDOT will continue to coordinate with MDC and the USFWS throughout project development to minimize or avoid potential impacts.

8. Archaeological Resources/Section 106 Review

Archaeological investigations conducted during the First Tier EIS identified a total of 158 previously recorded archaeological sites within the SIU 7 portion of the I-70 corridor. Of these known sites, seven are located in areas that could be potentially impacted by one of the build alternatives under consideration.

A Phase 1 archaeological survey of all of the areas directly affected by the preferred alternative will be completed prior to the preparation of the Final EIS. This survey will examine the previously recorded sites mentioned above to verify their location and assess their current condition. The survey will also look for previously unknown sites. Any sites discovered during

this survey will be evaluated, and those considered to have potential for eligibility for the National Register of Historic Places (NRHP) will be recommended for further testing. With the concurrence of the State Historic Preservation Office (SHPO), additional, more-detailed testing will be conducted, and a determination made as to the eligibility of the site for listing on the NRHP. If any adverse affects to a site considered eligible for the NRHP are anticipated, alternatives for avoiding or mitigating those impacts will be evaluated. The ultimate course of action selected will be determined in consultation with the SHPO, other concerned state and federal agencies, and interested members of the public. This process and the resulting decision will be documented in a programmatic agreement that is incorporated into the FEIS (Appendix H).

Literature reviews for the First Tier studies indicated the possible existence of four cemeteries in areas that will be directly impacted by one of the build alternatives under consideration. The possible cemetery locations are in New Florence (Alternatives 3A and 3B), west of Warrenton (Alternative 6), and two in Wentzville (Alternative 15), and are shown on the exhibits of the Alternatives in Chapter II. Field reviews conducted during the Second Tier investigations were unable to locate any indication of human burials at these locations. These four potential cemetery locations will be carefully examined during the Phase I archaeology survey.

9. Historic Resources/Section 106 Review

Properties can be eligible for listing on the NRHP if they possess significance in American history, architecture, archaeology, engineering or culture, and if they retain integrity of location, design, setting, materials, workmanship, feeling and association. There are four broad categories for significance:

A. Association with events that have made a broad contribution to American history.

B. Association with the lives of significant individuals.

C. That embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

D. That have yielded, or may be likely to yield, information important in prehistory or history.

a. Study and Field Investigations

In order to determine the presence in the study area of any resources potentially eligible for the National Register that might be affected by the proposed project, an architectural survey was conducted of the area of potential effect (APE). The APE for the architectural survey included the project footprint and 50 to 100 feet (15 to 30 m) on either or both sides of the footprint, depending on the proposed improvements and whether the area is urban or rural. The additional width beyond the footprint allows for the consideration of secondary and indirect impacts. In those areas of the project where no new right of way or easements are proposed, the APE reflects the exiting right of way limits. In urban areas, if parcels will be acquired and buildings removed, thus altering the viewscape, then the adjacent parcel was surveyed. The area of potential effects for archaeological resources differs from that used for architectural and bridge resources. Unless specified otherwise, the use of APE throughout this document refers to the APE identified for the architectural survey.

Consultations between ARC, MoDOT and SHPO staff resulted in a written methodology, titled *I-70 Tier 2 Cultural Resources-Architectural Survey Methodology* (Architecture Methodology), approved by the SHPO on March 5, 2003. The following sections summarize the methodology.

Architectural Resources Pre-1945
The architecture methodology required completion of the SHPO Architecture/Historic Inventory Form for each parcel with at least one building constructed before 1945. If one resource on a parcel was within the APE then everything on the parcel was surveyed regardless of age. At least two photographs of all primary buildings constructed prior to 1945 were taken.

Potential historic districts that fall entirely within the APE for the project are inventoried completely and all boundaries marked on the aerial and topographic maps. Those potential historic districts with boundaries that fall partially within the APE for the project have the resources within the APE documented and boundaries for the district within the APE defined.

The locations of resources constructed prior to 1945 were identified on topographic maps and aerial mosaics. For those properties recommended as eligible for the NRHP, the recommended boundary of the eligible property is shown on the site plans located with the inventory forms to assist in project effect assessments.

Architectural Resources 1945 through 1970
According to the architecture methodology buildings constructed between 1945 and 1970 were photographed, but inventory forms were not completed for any resource unless the building exhibited a high design or possessed unique features.

Subdivisions and commercial strips dating between 1945 and 1970 are treated as one resource and assigned one architectural resource number; typical architectural examples within the subdivisions are described. Streetscape photographs and photographs of repetitive examples are included within the report, with locations keyed to a map. Copies of the original subdivision plat and floor plans for the each of the house styles are provided in the report when they could be obtained.

The location of all resources constructed between 1945 and 1970 were displayed on aerial mosaic maps, but not on the topographic maps.

Architectural Resources Post-1970
Parcels with resources constructed after 1970 were not photographed during the field survey unless the resource on the parcels represented an exceptional architectural example; the locations of these resources are not shown on the mapping, unless they are considered an exceptional example.

Bridges
For potentially historic bridges, a streamlined bridge methodology was developed in conjunction with the SHPO and MoDOT Cultural Resources staff. The bridge methodology uses the same APE as the architectural survey and defines bridge resources as highway, railroad and pedestrian bridges, viaducts and culverts. It excludes metal, plastic and concrete pipes, and most bridges and culverts under 20 feet (6 m) in roadway length. There are no NRHP-eligible bridges identified within the APE within SIU 7.

In addition to architecture and bridge resources, the architectural survey identified other property types including Daughters of the American Revolution (DAR) markers along the Boone's Lick Trail and railroad lines.

The architecture and bridge survey for this project included 1,225 parcels, yielding 91 parcels containing buildings constructed before 1945, and 159 parcels containing buildings constructed between 1945 and 1970. In addition, one subdivision was studied.

Of the resources surveyed, 13 individual properties are recommended as eligible for listing on the NRHP, and four districts with 16 contributing resources within the area of potential effects (APE)

are also recommended as eligible. These properties are summarized in Table IV-15 Further details of the survey can be found in the technical report Final Interstate 70, SIU7 Historical and Architectural Survey, Vol. 15, April 2004.

Table IV-15: Summary of Historic Resources

MoDOT Resource Number	Map ID Number	Individually Eligible	Contributing to Eligible District	Criteria	Areas of Significance
7MT0046	1188	Yes		A, C	Transportation, Architecture
7MT0086	1127		Yes	C	Architecture
7MT0087	1125		Yes	C	Architecture
7MT0088	1123		Yes	C	Architecture
7MT0089	1121C		Yes	C	Architecture
7MT0172	1055	Yes		C	Architecture
7MT1047	982	Yes		C	Architecture
7MT1065	1131		Yes	C	Architecture
7MT1066	1129		Yes	C	Architecture
7MT1188	1193	Yes		C	Architecture
7WN0494	701	Yes		C	Landscape Architecture
7WN0516	695	Yes		C	Architecture
7WN0530	685	Yes		A, C	Architecture, Communication
7WN0561	582	Yes		A	Recreation
7WN0577	576	Yes		A	Commerce
7WN0584	601	Yes		A, C	Architecture, Education
7WN0600	516		Yes	C	Architecture
7WN0601	518		Yes	C	Architecture
7WN0605	583	Yes		B, C	Architecture, Industry
7WN1167	740		Yes	B, C	Architecture
7WN1168	742		Yes	B, C	Architecture
7WN1169	744		Yes	B, C	Architecture
7WN1170	746		Yes	B, C	Architecture
7SC0779	405	Yes		C	Architecture
7SC0886	215		Yes	C	Architecture
7SC0938	156	Yes		C	Architecture
7SC1133	217N		Yes	C	Architecture
7SC1134	217K		Yes	C	Architecture
7SC1139	217A		Yes	C	Architecture

Within SIU 7, a number of properties that have been determined eligible for listing on the NRHP could be impacted by some of the alternatives under consideration. The SHPO has been consulted about eligibility (see Appendix H) within SIU 7 and will be consulted regarding effects of the preferred alternate on eligible resources before publication of the FEIS. The eligible properties and potential impacts on them are described in the following paragraphs.

a. MoDOT New Florence Complex (7MT0046)

This parcel contains the New Florence MoDOT maintenance shed complex, which includes one circa 1932 garage, and several recent buildings.

7MT0046.1 is a circa 1932 Art Deco-influenced, maintenance building with concrete foundation, brick walls, asphalt shingle side gable roof with parapets and a rectangular plan. The main (east) façade is five bays, four with overhead garage doors and the fifth with a single-leaf metal door.

There is molded concrete facing between the garage bays and at the south end of the façade. The south façade has a decorative brick panel below the parapet and four 12-light metal industrial-style windows and a single-leaf metal door. The rear (west) façade has five bays with a 12-light industrial-style window in each bay; corbelled brick pilasters separate the bays. The north façade has a single 12-light industrial-style window, a single-leaf metal door and a decorative brick panel below the parapet. This building has been determined eligible for the National Register. Other recent buildings at the MoDOT complex were not considered eligible.

Architectural Resource 7MT0046.1, the circa 1932 maintenance building, has been determined eligible for the NRHP under criteria A and C for local significance in transportation and architecture. The building was constructed within a decade of Highway 40, and represents the MSHC efforts to ensure that the new highway was properly maintained. The building was recommended to be architecturally significant because of the design elements included in it, including the parapet wall, corbelled brick and decorative use of concrete. The recommended boundary for the NRHP property is the footprint of the building, and the period of significance is circa 1932, the construction date.

Three alternates are being considered at this property (2A, 2B and 2C). Alternative 2A includes the entire building and would require the building's removal. Alternative 2B would require property from the north boundary of the parcel, but would not directly affect the building. Alternative 2A would have an adverse effect on the characteristics that qualify the property for inclusion in the NRHP. Alternative 2B would have no adverse effect on this Section 4(f) property, but would affect another eligible property, 7MT1188, discussed below. Alternative 2C would route the frontage road to the rear of the entire maintenance complex, and would have no adverse effect on the eligible building.

The remaining buildings on the parcel are recommended as not eligible for the NRHP due to lack of historic or architectural significance.

b. High Hill District (7MT0086-7MT0089, 7MT1065-7MT1066)

The High Hill District includes portions of the original town plat located west of the High Hill interchange and north of I-70. The district contains a good collection of early twentieth century architecture representing a variety of architectural styles and forms.

The various houses that comprise the High Hill Historic District reflect the impact of modern transportation on the local community. When High Hill was founded, the community was focused along Main Street (the Boone's Lick Trail) and the North Missouri Railroad. Early plat maps of High Hill show a small community with only two minor additions to the original town. The community featured several churches, stores, a school, and a central flourmill located adjacent to rail lines on the northern edge of the town. None of the houses within the High Hill Historic District are shown on these early plat maps.

As the twentieth century progressed, High Hill began to expand south and west of its original boundaries. Two new subdivisions are shown on the 1918 plat map of High Hill, Coffman's Addition and Nebel's Addition.

When Highway 40 was built through High Hill, it followed the path of the Boone's Lick Trail and passed along Main Street. Construction of Highway 40 did not have a significant impact on the physical layout of High Hill, but the building of Interstate 70 divided the town in half. The new interstate highway passed through the heart of Coffman's Addition and Nebel's Addition, leveling several blocks of the two neighborhoods. Based on available map evidence, it appears likely that the houses that comprise the historic district were built in the early to mid twentieth century.

The High Hill Historic Districted has been determined eligible for the NRHP under criterion C for architecture. The recommended period of significance for the district is circa 1900-circa 1930, the era in which most of the construction in the district occurred. Within the APE for this project the district includes parcels 86-89 and 1065-1066, although the district does extend to the north and west beyond the APE for this project, the east boundary is the east property line of parcel 89, and the south boundary is I-70. Each of the primary buildings on these parcels is recommended as a contributing resource, as are all of the outbuildings except 7MT0087.3 and 7MT1065.2 both of which were constructed outside the period of significance for the district, and 7MT0088.3, which likely was not historically related to this house, and which has lost association with a primary building.

Alternative 3A would abut the existing southern property boundary of the district, with the exception of a narrow strip of right of way that would be required from the southernmost edge of parcel 7MT0089. Alternative 3B would abut the south property lines of the district along the present I-70 right of way. Neither alternative would require the removal of any buildings from the district, and both alternatives would have no adverse effect on the characteristics of the district that qualify it for inclusion in the NRHP.

c. Chandlee Farmstead (7MT0172)

This complex is located east of Jonesburg and contains a historic farmstead (7MT0172.1-7MT0172.9), and two modern complexes: one containing a house (7MT0172.10) and one containing a commercial use (7MT0172.11-7MT0172.13).

The farmhouse (7MT0172.1) is a two-story gable front and wing form house with Folk Victorian design elements in the porch detailing. The house has a brick foundation that has been stuccoed, weatherboard siding, asphalt shingle gable roof and an irregular plan. The house has six-over-six, double-hung sash windows and six-light entry doors. In the southwest corner formed by the junction of the two gables is a one-story and pent-roof porch with turned columns with cutwork brackets. There is one interior-end brick chimney and one exterior-end brick chimney. On the north façade is a one-story, gable-roof addition with two-over-two, double-hung sash windows and a chimney, which appears to have been stuccoed. There is also a one-story, pent-roof addition on the north façade, which has a standing seam metal roof and a concrete foundation.

Located east of the house is the privy (7MT0172.2) with a concrete foundation, vertical board siding, asphalt shingle gable roof and square plan. A vertical plank single-leaf door is located on the west façade.

A shed (7MT0172.3) is located east of the house, and has a concrete foundation, board-and-batten siding, standing seam metal gable roof and square plan. There is a four-panel, single-leaf door on the west façade, and a covered window opening on the north façade.

Directly behind the shed (to the west) is an equipment shed (7MT0172.4) with concrete foundation, corrugated metal siding, corrugated metal gable roof and rectangular plan. Double-leaf metal doors are located on the north façade.

There is a barn located to the northeast of the house (7MT0172.5) that has a concrete foundation, corrugated metal siding, corrugated metal gable roof and square plan. The building has open bays on the first story on the east façade and several single-leaf doors into the hayloft in the east façade. Two sliding doors are located on the first story of the south façade.

Located to the west is a second barn (7MT0172.6), which has a concrete foundation, corrugated metal siding, corrugated metal gable roof and rectangular plan.

Also on the property and associated with the historic farm complex are a windmill (7MT0172.7), a well (7MT0172.8) and a cistern (7MT0172.9).

Located on the eastern edge of the parcel are two additional building complexes.

A ranch style house (7MT0172.10) has a concrete foundation, brick veneer siding, asphalt shingle gable roof and rectangular plan with eight-over-eight, double-hung sash windows and a gabled pediment over the entry bay.

A meat-processing complex consists of a processing plant (7MT0172.11), a metal shed (7MT0172.12) and a vertical-board wood shed (7MT0172.13).

This property has been determined eligible for listing on the NRHP under criterion C for local significance in architecture. The complex is a good example of a late nineteenth century farm complex with the associated outbuildings that would be expected at a farm from that time period. Although no apparent significance under agriculture was discovered the buildings are good vernacular examples of farm architecture and are eligible as such. The recommended period of significance for the property is circa 1880 through circa 1930, the era when most of the buildings were constructed. The recommended boundary for the NRHP property is the current property lines, with resources 7MT0172.1-7MT0172.3 and 7MT0172.5-7MT0172.9 contributing to the significance of the property, and resources 7MT0172.4, and 7MT0172.10-7MT0172.13 not contributing to the significance of the property.

There are two alternates being considered in this area, both involving the configuration of the outer road. Alternative 5B would loop the outer road to the north of the parcel and would connect to an existing road on the eastern edge of the parcel. Alternative 5B would have no physical impact on the parcel, and would have no adverse effects on the characteristics that qualify the property for inclusion in the NRHP. Alternative 5A would loop the outer road through the western portion of the property, and would bring the road much closer to the complex of contributing buildings than it currently is. Alternative 5A would not physically impact the buildings, but would cause some alterations to the setting of the property, but the new outer road would still be greater than 300 feet from the buildings. Alternative 5A would have no adverse effects on the characteristics that qualify the property for inclusion in the NRHP.

d. Folk Victorian House (7MT1047)

This complex is located within Jonesburg, and contains a house, shed and garage.

The house (7MT1047.1) is a one-and-a-half-story, circa 1899, Folk Victorian style house with a stone pier foundation, weatherboard siding, asphalt shingle side gable roof and an irregular plan. The windows are one-over-one, double-hung sash windows, and single-light stationary windows with multi-light transoms. The main (south) façade has a gable-front wall dormer with a bay projection; a porch runs the length of the façade to the bay. The wall dormer and bay have imbricated shingle siding with cove and diamond shingles. The flat porch roof is supported by three turned columns, and two engaged turned columns, with woodwork brackets. There are brackets under the bay roof. Under the porch and bay roofs is a millwork verge board and pendants. There is a gable dormer above the porch. The west façade has had a porch removed; it has two doors and one window on the first story and paired windows in the half story. The north façade has a rear-gable front projection with two windows in the first story and two windows in the half story, and imbricated shingles in diamond and cove patterns in the gable. In the side gable part of the façade there is a gable dormer with round arched upper window. The east façade has a bay window and a single window.

Behind the house are two outbuildings – a shed (7MT1047.2) and garage (7MT1047.3). The shed has a concrete foundation, rolled asphalt brick siding, standing seam metal, pent roof and square plan. It has six-light awning windows, and vertical-plank, single-leaf doors. The garage has a concrete foundation, rolled asphalt brick siding, standing seam metal gable roof and a square plan. There is a vertical-plank, double-leaf door in the west façade, six-light awning windows and a vertical-plank, single-leaf door.

The house (7MT1047.1) has been determined eligible for listing on the NRHP under criterion C for local significance in architecture. The building is an elaborate example of the Folk Victorian style of architecture with decorative shingles in the gables, scrollwork and fretwork on the porch and bay. The house is one of the best examples of the style in the community, with a high degree of integrity. The recommended period of significance is the circa 1899 construction date of the house, and the recommended boundary is the current property line. The two outbuildings (7MT1047.2 and 7MT1047.3) are recommended as non-contributing elements of the property.

Both Alternatives 5A and 5B would require a small amount of new right of way from the west edge of the property, but the house and outbuildings would remain. Either alternative for the project would have no adverse effect on the characteristics of the property that qualify it for inclusion in the NRHP.

e. Folk Victorian House (7MT1188)

This parcel is located on Boonslick Road, on the north side of I-70, between High Hill and New Florence. The parcel contains a house and several agricultural outbuildings. Also on the parcel is a DAR marker for the Boone's Lick Trail.

The house (7MT1188.1) is a one-and-a-half-story, circa 1870, Folk Victorian style house with a stuccoed foundation, brick walls, asphalt shingled front gable roof and rectangular plan. The house has one-over-one, double-hung sash windows with brick segmental arches above, a one-light door with two panels below, and an iron crest and lightning rods on the roof ridge; there are two interior brick chimneys. The main (south) façade has a projecting bay with a multi-light stationary window and chamfered corners with decorative brackets, there is also a gable roof portico with the roof supported by two round columns. In the roof gable and the porch gable are imbricated shingles in diamond, fish scale and cove patterns. In the half story are paired Queen Anne double hung sashes with colored glass in the small panes. The east façade has a slightly projecting bay under a gable dormer, there are four windows in the first story of the bay and paired windows in the dormer the same as the front dormer as well as imbricated shingles. To the south of the bay is a multi-light stationary window with colored glass. To the north of the bay are two additional bays. The north façade has a pent roof frame addition. The west façade has a gable roof wall dormer with two windows, two windows to the north of that bay, and one window to the south of that bay.

The DAR marker (7MT1188.2) is located southwest of the house near the road. The marker commemorates the community of Lewiston. The marker reads: "Boone's Lick Road/Lewiston-1826/Marked by the/Daughter of the/American Revolution/and the/State of Missouri/1913."

Located to the north of the house is a shed (7MT1188.3) with a concrete foundation, vertical plank siding, asphalt shingle gambrel roof and square plan. Located northeast of the house are two metal equipment sheds (7MT1188.7 and 7MT1188.8) and three metal grain bins (7MT1188.4, 7MT1188.5 and 7MT1188.6).

The house (7MT1188.1) has been determined eligible for listing on the NRHP under criterion C for local significance in architecture. The circa 1870 house is an excellent rural example of the Folk Victorian style of architecture, with elaborate detailing on the house including the cresting on the

ridgeline and the imbricated shingles in the front gable. The house is quite similar to two others in the APE, 7WN0600 and 7WN0601, although it was built 20 years earlier than those two examples, and is a very early example of the style, which appeared between circa 1870 and 1910.

The boundary for the NRHP eligible property is the footprint of the house, 7MT1188.1, with a recommended period of significance of circa 1870, the construction date of the house. There are no outbuildings associated with the property greater than 50 years of age, and the DAR marker located on the property is not exceptionally significant to qualify for listing on the NRHP.

Three alternates are being considered at this location. Alternatives 2A and 2C would have all new improvements to the I-70 corridor on the south side of the existing alignment and would have no physical impacts on the property. Alternative 2A and 2C would have no adverse effects on the characteristics that qualify the property for inclusion in the NRHP. Alternative 2B makes all improvements to the north side of the existing I-70 corridor and would require the removal of all buildings on the property and the DAR marker. The removal of the buildings, under Alternative 2B, would have an adverse effect on the characteristics that qualify the property for inclusion in the NRHP.

f. Historic Landscape (7WN0494)

This parcel is located east of Warrenton along the north outer road. The property contains a house and garage in a designed landscape with two man-made ponds.

The house (7WN0494.1) is a one-and-a-half-story, circa 1930, Craftsman/Bungalow style house with concrete foundation, permastone siding, asphalt shingle gable roof and square plan. The windows are one-over-one, double-hung sash. The main (south) façade has a full-length porch with a gable roof supported by four temporary posts; there is a knee-brace bracket under the porch gable. There is a shed roof dormer with three windows above the porch. The east and west facades have permastone on the first story, and asbestos shingles in the half story.

Located northwest of the house is a garage (7WN09494.2) that has a concrete foundation, weatherboard and plywood siding, standing seam metal gable roof, and square plan. There is one bay on the south façade with an overhead garage door.

The landscape surrounds the house and fills much of the large lot. There are ponds located northeast and northwest of the house. The other design features include plantings of trees and bushes, and a bridge over the end of the pond northeast of the house.

Architectural Resource 7WN0494 was constructed in the mid to late 1920s after the completion of old Route 40, now the north outer road of Interstate 70. Louis F. Muensterman occupied the house in the late 1940s. According to the present owner of the property, Muensterman designed and built the landscape in the 1940s following the Japanese gardening principles of natural design.

This property has been determined eligible for the NRHP under criterion C for local significance in landscape architecture. The landscape is a good example of a vernacular landscape influenced by the Japanese landscape philosophy of nature. The period of significance is circa 1940-1950, the time period in which the landscape was completed. The recommended NRHP boundary is the existing property boundary. The contributing elements of the resource are the landscape design features, plantings and the bridge. The house and garage are non-contributing resources due to the alterations made to the house, and the non-historic nature of the garage.

Two alternates are being studied at this property. Alternative 10B runs near the south property line of the property, and would have only minor impacts on the landscape. Alternative 10B would have no adverse effect on the characteristics of the property that qualify it for inclusion in the NRHP. Alternative 10A encroaches between 300 and 500 feet on the south property line,

and would require the removal of one of the ponds, and would substantially alter the landscape. Alternative 10A would have an adverse effect on the characteristics of the property that qualify it for inclusion in the NRHP.

g. Veneer Stonework House (7WN0516)

This property is located between the communities of Wright City and Warrenton. The property contains a house and a shed.

The house (7WN0516.1) is a circa 1950, Ranch style house with a concrete foundation, stone veneer siding, asphalt shingle hipped roof, and rectangular plan. The house has one-over-one, double-hung sash windows and an exterior, stone veneer chimney. The main (south) façade has two projecting bays, one with the single-leaf entry door; there is a porthole window adjacent to the door. The stonework around the door and windows creates a quoin effect. On the east façade of the house is a frame addition connecting the house to a circa 1950 stone veneer garage. The frame connection has single-light windows and a pent roof. The original garage has stone veneer walls, an asphalt shingle gable roof and a rectangular plan.

The shed (7WN0516.2) has a concrete foundation, plywood siding, corrugated metal, pent roof and a rectangular plan. The shed has one open bay on the west façade, and three open bays on the east façade.

This house was constructed circa 1950; it is not shown on the 1948 General Highway Map of Warren County, but does appear by 1972 on the Wright City topographic map.

The house (7WN0516.1) has been determined eligible for listing on the NRHP under Criterion C for local significance in architecture. The building is an excellent example of veneer stonework construction. The recommended boundary for the NRHP property is the footprint of the house, and the period of significance is the construction date of circa 1950.

Three alternates are being studied in the vicinity of this property. Alternatives 10B and 10C run near the south property line and have only minor impacts on the parcel. Alternative 10B would have no adverse effect on the characteristics of the property that qualify it for inclusion in the NRHP. Alternative 10A would require the removal of the house, and is recommended as an adverse effect on the characteristics of the property that qualify it for inclusion in the NRHP.

h. Southwestern Bell Repeater Office (7WN0530)

This parcel is located west of Wright City along the north outer road. It contains one building.

The repeater office (7WN0530) is a 1930, one-story, Classical Revival style building with a concrete foundation, brick walls and a flat asphalt roof. There is also some Tudor Revival influence in the door surrounds. The main (south) façade is five bays with the two end bays projecting slightly from the façade. The building has terra cotta quoins, door surrounds and window surrounds. The door surround includes a hood with shields in the corners, a slightly pointed arch above the door and quoins. The window surrounds include hoods and quoins. A cornice on three sides of the building is also terra cotta with a rosette centered in each piece of the terra cotta. There is a limestone water table and stringcourse. The windows are six-over-six double-hung sashes; there are single windows in the projecting bays and on the rear façade, and paired windows in the remaining bays of the main façade and the side facades. Each of the double-leaf front doors has a large single light, a metal kick plate; the doorway has a slightly pointed segmental arch, six-light transom. An exterior staircase with limestone balustrade and steps leads to the front doors. There is a chimney on the

west facade, near the rear. Stairs to the basement level and additional stairs to the main level are located on the rear façade, and are unornamented.

Architectural Resource 7WN0530 is a telephone repeater station built in 1930 by Southwestern Bell Telephone Company. In 1929, Southwestern Bell initiated a five-year program to upgrade its long-distance telephone service throughout the Midwest. As part of this upgrade, the company planned to construct a 2,500-mile cable network linking all the major cities of Missouri, Kansas, Oklahoma, Arkansas and Texas. In order to provide efficient service, the company needed to construct several repeater stations along the new cable lines (Park 1984). Repeater stations were unmanned facilities where equipment was used to receive telephone signals, amplify and clarify them, and retransmit them along additional lines. Repeater equipment strengthened telephone signals and helped remove unwanted background noise from voice transmissions (SBC Corporation 2003).

The building has been determined eligible for listing on the NRHP under criteria A and C for local significance in communication and architecture. This building was constructed to house a new technology to improve the long distance telephone network, and was one of a series of buildings constructed for the purpose. The importance that Southwestern Bell gave to the technology is evident in the expense that was incurred for the design of the buildings. The building is unusual in being an architect-designed building in the area, in this case the staff architects of the Southwestern Bell Company in St. Louis, and was very elaborate for a building that would be unmanned. The architectural detailing on the building is exceptional for the region as well. The recommended period of significance for the property is 1930, the date of construction of the building, and for the repeater technology. The recommended NRHP boundary is the footprint of the building.

Alternative 11A would include an outer road that runs north of the building, and would encroach upon the northwest corner of the property, and would also require a narrow strip along the southern edge of the property. Access to the property would be changed, however the building itself would not be impacted. Alternative 11B would require the same strip along the southern boundary of the property, but would not require taking any portion of the northwest corner of the parcel. The relocation of the outer road would not impact the integrity of the building, and that either Alternative 11 would have no adverse effect on the characteristics that qualify the building for inclusion in the NRHP.

i. Diekroeger Brothers Park (7WN0561)

This parcel is located in Wright City on the south side of I-70. The parcel contains a park with features including buildings, play areas, parking lots and a bridge.

The shelter house (7WN0561.1) was constructed circa 1942, and consists of a gable roof pavilion with square wooden posts with angle brackets, and a poured concrete floor. Located just east of the shelter is a playground (7WN0561.7) with modern playground equipment. Just south of the shelter is a caboose (7WN0561.6).

A concession stand (7WN0561.2) is located northwest of the shelter. The concession stand is a circa 1942, one-story building with poured concrete foundation, weatherboard siding, asphalt shingle gable roof, and rectangular plan. There are single- and double-leaf doors in the gable ends, and shuttered window openings on the sides. Located west of the concession stand is a covered barbeque pit (7WN0561.3) with a concrete block fire pit, and a gable roof shelter supported by six round posts.

Located south of the concession stand is a parking lot. On the west side of the parking lot are restrooms (7WN0561.4) in a concrete block building on a poured concrete foundation with an asphalt shingle gable roof.

Located south of the parking lot is a bridge over the drainage ditch that runs along the south side of the property. The bridge (7WN0561.5) is a small suspension type bridge with wood towers on the ends, chain cables and a wooden floor.

Located on the east edge of the property are two short marble column monuments (7WN0561.8), one has inscribed "Diekroeger/ Bros/ Park," the other is inscribed "Wright City/ MO/ 1942." Also located within the park are a flagpole (7WN0561.9) and a drinking fountain (7WN0561.10)

The Diekroeger Brothers Park in Wright City is located on the former site of the Warren County Fair, a community event that first occurred at the site in 1906. In 1942, Florence W. Diekroeger and his brother Emil W. Diekroeger donated 6.39 acres to Wright City for a city park. The Diekroeger Brothers had been involved in farming, livestock and lumber.

The park has been determined eligible for the NRHP under criterion A for local significance in recreation. The site was used as recreational grounds in the city for most of the twentieth century, and was the first park established in the community. The boundary of the historic park is identical to the existing property line, and the period of significance is 1942-1954, the period from the donation of the parkland and including the early development of the park, to the modern time. The contributing elements of the park include the shelter house (7WN0561.1) and the concession stand (7WN0561.2). The overall setting of the park is also relatively unchanged, however, the playground equipment has changed, likely due to wear and to changes in safety regulations.

Alternatives 11A and 11B are identical in this area, and run along the north property line of the property. Neither alternative would require a taking of land from the park property, nor would either alter the characteristics that make the park eligible for inclusion in the NRHP, and would constitute a no adverse effect.

j. Big Boy's Restaurant Property (7WN0577)

This property is located in Wright City on the south side of I-70. The parcel contains two former gas stations, the Big Boy's Restaurant and an associated outbuilding.

The first gas station (7WN0579.1) is a circa 1950, streamlined style gas station with concrete foundation, baked enamel panel sides, and flat roof with parapet. The main (north) façade has two service bays with overhead garage doors and one closed, office bay with three plate-glass windows and a single-leaf door. An awning wraps around the bay with the office. The east façade has the office bay with two plate-glass windows and two single-leaf doors with transoms into the restrooms. The sign on the main façade reads: "Bob's Repair and Auto Body Ph. 745-3126."

The second gas station (7WN0579.2) is a circa 1950, streamlined style gas station with concrete foundation, baked enamel panel sides, and flat roof with parapet. The main (north) façade has two service bays with multi-light overhead garage doors and one closed, office bay with two plate-glass windows and a single-leaf door with transom. The east façade has the office bay with plywood over the windows and two single-leaf doors into the restrooms. The sign on the main façade reads: "Signs."

The restaurant (7WN0577.3) is a one-story, 1948 building with a concrete foundation, vertical board siding, asphalt shingle side gable roof and rectangular plan. The windows are single-light stationary windows, and there is a hexagonal cupola centered on the ridgeline. The main (north) façade has a pent-roof projection with many lights; it provides the main entrance into the restaurant. The west façade has a louvered vent; a full-length addition has been made to the south façade, which extends past the east and west facades.

Associated with the restaurant is the Big Boy's sign (7WN0577.4), which was constructed in 1925 and relocated to the present location in 1948. The sign features a waiter with a platter of chicken and a square sign below which reads: "Big Boy's Restaurant."

Located behind the main buildings on the complex is a shed (7WN0577.5), which has a concrete foundation, vertical and horizontal board siding, corrugated-metal pent-roof and rectangular plan.

The complex that included the Big Boy's Restaurant and one gas station (7WN0579.2), noted on project plans as a Gulf Station, was included on 1964 project plans for I-70 parcel 131. E.V., J. R. and S. A. Chaney were noted as property owners. A Shell Station (7WN-579.1) was indicated on the adjoining property (parcel 130 on the 1964 project plans), which was owned by T. P. Davis Senior. Both gas stations had two islands with pumps.

The next parcel to the west contained a hotel (7WN0572), with an office (7WN0572.1) and motel building (7WN0572.2).

The importance of this development in the growth of Wright City following the development of Highway 40 is clear from the 1964 project plans. The highway in this area was completely commercial relating to highway travel; development included a restaurant and the Wright City Motel on the north side of the Highway, and the gas stations, motel and Big Boy's Restaurant on the south side.

The property has been determined eligible for the NRHP under Criterion A for local significance in commerce. The complex is a good example of postwar commercial development that occurred to meet the needs of travelers on Highway 40. The boundary of the property considered eligible for the NRHP is the current property line, with the restaurant (7WN0577.3), Big Boy's sign (7WN0577.4) and the two gas stations (7WN0577.1 and 7WN0577.2) as contributing resources.

Both Alternatives 11A and 11B would abut the existing property line, with no taking from the property. Both Alternative 11A and Alternative 11B would have no adverse effect on the characteristics that qualify the property for inclusion on the NRHP.

k. Wright City Middle School/Fraser C. Small Building (7WN0584)

This building is located in Wright City north of I-70 along the north outer road.

The school (7WN0584.1) was constructed circa 1937, and has a Classical Revival influence. It has a concrete foundation, brick walls, standing seam metal gable roof and "U" shape plan. The windows are one-over-one, double-hung metal sash; there are interior brick chimneys. The main façade has projecting gables in the two end bays, and a gable roof portico over the central bay; the portico is supported by two square brick posts. There are additions on each of the legs of the "U."

A second building (7WN0584.2) was constructed circa 1990 and has a concrete foundation, metal siding, standing seam metal gable roof and rectangular plan. The building has six bays on the main façade and one bay on the sides.

This building has been determined eligible for listing on the NRHP under criteria A and C for local significance in education and architecture. The school was constructed in 1937 under the auspices of the WPA, one of the New Deal relief programs.

Alternatives 11A and 11B are identical at this location, and run along the south property line of the project and would have no physical impact on the parcel. Either Alternative 11A or 11B would have no adverse effect on the characteristics that qualify the property for inclusion on the NRHP.

I. Wright City Brick Victorians Historic District (7WN0600 & 7WN0601)

This district is composed of two mirror-image Folk Victorian style houses constructed circa 1905. The district is considered eligible for the NRHP under Criterion C for local significance in architecture with a period of significance of circa 1905. These two buildings are good examples of the Folk Victorian style, a simplified version of the Queen Anne styles. Only the two primary houses are considered to be contributing elements to the district.

The first house comprising the district, Architectural Resource 7WN0600.1, faces west on Cherry Street on the corner of Third Street, and is located on the north half of Lots 7 and 8, Block 7, in Wright City. There is an identical building (7WN0601.1) located on the adjacent parcel.

The house (7WN0600.1) is a 1905, one-and-a-half-story, gable front and wing, Folk Victorian style house with a brick foundation, brick walls, asphalt shingle hipped on gable roof, and an irregular plan. There in an interior brick chimney, the windows are one-over-one, double-hung sash. The main (west) façade has a pent roof porch in the "L" formed by the junction of the gable front and wing. The gable front includes a bay window, and has fish-scale shingles in the gable and two single-light windows. There are brackets under the eaves of the bay. The porch roof has two turned posts with milled verge boards and brackets. There are two turned engaged columns. The south façade has five bays in the first story, and a gable roof dormer with two windows and fish-scale shingles. The east façade has an enclosed porch, and one window.

To the east of the house is a garage (7WN0600.2), which has a concrete foundation, vertical board siding, asphalt shingle gable roof and rectangular plan. There is a sliding door on the north façade, and a single-leaf door on the west façade.

According to the property owner the house was constructed between 1904 and 1906, and included a stable (non-extant) at the back of the property.

The other contributing element of the district, Architectural Resource 7WN0601.1, faces west on Cherry Street between Second and Third streets, and is located on the south half of Lots 7 and 8, Block 7, in Wright City, immediately adjacent to identical building (7WN0600.1).

The house (7WN0601.1) is a 1905, one-and-a-half-story, gable front and wing, Folk Victorian style house with a brick foundation, brick walls, asphalt shingle hipped on gable roof, and an irregular plan. There in an interior brick chimney and the windows are one-over-one, double-hung sash. The main (west) façade has a pent roof porch in the "L" formed by the junction of the gable front and wing. The gable front includes a bay window, and has weatherboard in the gable and a one-over-one, double-hung sash window. There are brackets under the eaves of the bay. The porch roof has two turned posts with milled verge boards and brackets. There are two turned engaged columns. The south façade has five bays in the first story, and a gable roof dormer with two windows and fish-scale shingles. The east façade has a deck with entry door and two windows.

A garage (7WN0601.2) is located north of the house. It has a concrete foundation, plywood siding, asphalt shingle gable roof and rectangular plan. There is a sliding door on the west façade.

Both properties are recommended as eligible for listing on the NRHP as contributing elements of the Wright City Brick Victorians Historic District.

The district has been determined eligible for the NRHP under Criterion C for local significance in architecture with a period of significance of circa 1905, the construction dates of the houses.

The boundary of the district considered eligible for the NRHP is the west property lines on Cherry Street on the west, the rear property lines on the alley on the east, the north property line of 7WN0600 on the north and the south property line of 7WN0601 on the south. Both primary houses

are recommended as contributing elements. The outbuildings associated with the buildings were constructed outside the period of significance and are considered non-contributing elements.

One alternate, Alternative 12, is being studied in the vicinity of this district. Alternative 12 would abut the northern boundary of the northern parcel, but would not require the taking of any right of way from either property. Alternative 12 would have no adverse effect on the characteristics of the district that qualify it for inclusion in the NRHP.

n. Folk Victorian House (7WN0605)

This parcel is located on Lot 4, Block 16, in northeast Wright City. The parcel contains a house and garage.

The house (7WN0605.1) is a 1908, one-story, gable front and wing plan, Folk Victorian house with a rusticated concrete block foundation, weatherboard siding, standing seam metal gable roof and irregular plan. The house has one-over-one, double-hung sash windows with wood surrounds and hoods; there are two interior brick chimneys, one has a corbelled cap. There are fish-scale shingles in the three gables of the house. There is a porch built in the southwest corner "L" formed by the junction of the gable front and wing. The main (south) façade has three windows in the first story of the gable front, and a four-light window in the attic. There are two entry doors under the porch, one into the wing and one into the gable front. The porch roof is flat, and is supported by two turned posts with brackets, and has two turned, engaged columns with brackets. The west façade has two windows in the gable front and a four light window in the attic; there is one window in the wing. The north façade has three windows in the rear facing gable and one window in the wing. A pent roof addition has been made to the east façade; it has weatherboard siding, and a standing seam metal roof.

Located to the east of the house is a garage (7WN0605.2) with a concrete foundation, board and batten siding, standing seam metal gable roof, square plan; there is a pent roof addition made to the south and east facades, with double-leaf doors on the south façade.

This house (7WN0605.1) has been determined eligible for listing on the NRHP under Criteria B and C for local significance in industry and architecture. The recommended boundary of the eligible property is the current property boundary.

Alternative 12 is the only alternate being considered at this location. Alternative 12 is located south of the existing property line and would have no physical impacts on the property. Alternative 12 would have no adverse effect on the characteristics of the property that qualify it for inclusion in the NRHP.

o. Lix Bungalow Historic District (7WN1167 – 7WN1170)

This district contains four Bungalow-style houses along the east side of Route 47 south of I-70 in Warrenton that have previously been determined eligible for listing on the NRHP as part of MoDOT Job number J3P0416 as the Lix Bungalow Historic District under Criteria B and C for local significance in architecture and development for their association with the Lix family.

The Lix family built five nearly identical Bungalow style houses in 1935 and 1941 that were used as rental properties during and after World War II. The Lix families were farmers, and they lived in these houses during the Great Depression when farm prices were low. During World War II there was a need for housing, and farm prices had gone up, so the family rented these properties and moved back to their farms. The Lix family built the houses on parcels 7WN1167-7WN1170, and another house farther south along Route 47. The four houses in the I-70 APE were constructed in

1935 and have the same plan and features including basement entrance below grade, full front porch with brick supports and balustrade and decorative brickwork in the porch supports.

The four houses comprising the district are described in the following paragraphs.

7WN1167: The house is a 1935 one-story Bungalow style building with brick siding, asphalt shingle gable roof, concrete block foundation, three-over-one, double-hung windows, a full gable front porch with square brick supports and brick balustrade with concrete handrail. There are two doors into the basement on the east elevation, below grade, and a screened porch on the east elevation.

7WN1168: The house (7WN1168) is a 1935, one-story Bungalow style building with brick siding, asphalt shingle gable roof, concrete block foundation, three-over-one, double-hung windows, a full gable front porch with square brick supports with tan brick arrows on two sides of each support, brick balustrade with concrete handrail. There are two doors into the basement on the east elevation, below grade, and a shed roof porch with two square wood supports on east elevation. In addition AR 7WN1168 has many of the same features but instead of having a gable front porch the porch has side gables.

7WN1169: The house is a 1935, one-story Bungalow with brick siding, asphalt shingle gable roof, concrete block foundation, three-over-one, double-hung windows, incised full front porch with four brick supports with tan brick "I" in two sides of corner supports, brick balustrade with concrete handrail, gable dormer in roof on west elevation, double leaf, multi-light doors to basement in east elevation, below grade. Rear porch with shed roof, lattice balustrade and two square supports.

7WN1170: The house is a 1935, one-story Bungalow with brick siding, asphalt shingle gable roof, concrete block foundation, three-over-one, double-hung windows, full front porch with gable front roof, two square brick porch supports and brick balustrade with concrete handrails, brick chimney, rear porch with shed roof, wood balustrade and lattice wall.

The properties are eligible under Criteria B and C for local significance in architecture and development and for their association with the Lix family, with a period of significance of 1935-1941, and with boundaries of their existing property lines.

The buildings were revisited during this survey to determine if changes had been made to the district and if it still retained integrity. The houses have not been altered since the original determination of eligibility.

Four alternatives are being considered in this vicinity, all of which are identical in their effects on the four Lix Bungalows. Each alternative would require the taking of a narrow strip of right of way from the west edge of the property, but would leave the buildings intact. Any of the Alternative 8 options would have no adverse effect on the characteristics of the district that qualify it for inclusion in the NRHP.

p. Lustron House (7SC0779)

This parcel is located west of Wentzville between I-70 and the north outer road. The parcel contains two hotel buildings, a house under construction that is incorporating an existing garage, a Lustron house, a mobile home and a barn.

The first hotel building (7SC0779.1) has a concrete foundation, brick walls, standing seam metal gable roof and rectangular plan. The windows are one-over-one, double-hung sash windows, arranged in pairs. The building has six units, each marked by a door and a pair of windows on the main façade, and two windows on the rear façade. There is a pent roof porch across the

main (south) façade. The end units have a pair of windows on the side, and have a corner window of glass blocks. This building has a cupola at the ridgeline.

The second hotel building (7SC0779.2) is identical to the first except it does not have the cupola.

A house is under construction on the property (7SC0779.3), which has a concrete foundation, asphalt shingle gable roof, and rectangular plan. At the time of the survey the siding had not been applied. On the south façade it incorporates a preexisting garage, which has a concrete foundation, Masonite siding, standing seam metal gable roof and rectangular plan. There is an overhead garage door in the south façade.

A Lustron house (7SC0779.4) is a one-story, circa 1948 house located east of the previous three buildings. This house has a concrete foundation, metal panel siding, asphalt shingle side gable roof and rectangular plan. The house has one-over-one, double-hung sash windows, sometimes on either side of picture windows; and there is an interior metal chimney. The main (north) façade has a recessed porch in the east bay, a slightly projecting bay window in the center bay, and a window opening in the western bay. The west façade of the house has two bays with sash windows. The south façade has a bay with a stationary window, two bays with sash windows, and a bay with a single-leaf door.

To the east of the Lustron house is a mobile home (7SC0779.5), which has a concrete foundation, metal siding, standing seam metal gable roof and rectangular plan.

Located to the south of the mobile home is a two-story barn (7SC0779.6), which has a concrete foundation, weatherboard siding, asphalt shingle front gable roof and rectangular plan. The west façade has a single-leaf door in the first story and into the hayloft, and a stationary window, all in the center bay. To the south of the center bay are double-leaf doors. On the south façade are two six-light hopper windows.

Architectural Resource 7SC0779.1 and 7SC0779.2, currently the Seven Acres Apartments, originally was the Seven Acres Motel. Construction plans for Route 40, rebuilt on new alignment in 1948, indicate that there had been a farmstead and orchard near this location belonging to Edward W. Pidgeon, and that an excess right of way parcel where the motel would be built was “released by state to Clem Obrecht.” Built by 1964, the motel then belonged to Joseph J. and Dorothy R. Phipps.

Architectural Resource 7SC0779.4 is a house manufactured by the Lustron Corporation of Columbus, Ohio. The Lustron Corporation operated between 1948 and 1950, and manufactured 2,498 houses, which were shipped to 36 states.

Lustron houses were available in three standard plans, the Newport, Westchester and Meadowbrook, and in two- and three-bedroom models. There was also a deluxe version of the Westchester plan. The two-bedroom Westchester featured a cutout porch, unlike the other models. The two-bedroom Westchester was best selling model of the house, and provided the homeowner with about 1000 square feet of livable space.

The Lustron is house (7SC0779.4) appears to be a two-bedroom Westchester model. A cutout corner porch and two windows on the primary façade characterize the model, and this house exhibits both features. The only alterations that have been made to the house are the replacement of the original porcelain enameled steel roof with an asphalt roof, and the installation of metal awnings over some of the windows. These alterations do not detract from the character of the house, and it has been determined eligible for the NRHP under Criteria A and C for significance in social history, as an example of a pre-fabricated house constructed in response to the post-World War II housing shortage, and for significance in architecture as aa

example of a Lustron house. The recommended boundary is the footprint of the building and the period of significance is the circa 1948 construction date.

There is one alternate being considered in the vicinity of this property. Alternative 14 would move I-70 closer to the rear of the house, but would not have a direct impact on the house. The relationship of the house and the interstate would not be altered as a result of this project since there are currently no intervening buildings between the house and the interstate. Alternative 14 would have no adverse effect on the characteristics that qualify the property for inclusion in the NRHP.

The remaining buildings on the parcel are recommended as not eligible for the NRHP because they do not possess architectural or historical significance.

q. Wentzville Historic District (7SC0885-7SC0886, 7SC0891-7SC0893, 7SC1131-7SC1139)

This district contains a grouping of buildings that were constructed in Wentzville during the early twentieth century, and contains examples of the Colonial Revival, Craftsman/Bungalow and Minimal Traditional styles. Most of the houses in the area were constructed between circa 1915 and circa 1950. The contributing primary buildings within the APE of this project are 7SC886, 1133, 1134, 1138, and 1139. These are described in the following paragraphs.

7SC886: This parcel is located at 813 S. Linn Avenue in Wentzville, north of I-70 and contains a house and garage.

The house (7SC0886.1) is a one-and-a-half story, 1931, Colonial revival style house with a concrete foundation, asbestos siding, asphalt shingle side gable roof, and rectangular plan. A garage (7SC0886.2) is located noprthwest of the house. The garage has a concrete foundation, asbestos siding, asphalt shingle front gable roof and square plan.

7SC1133: This parcel is located at 404 South Church Street in Wentzville, and contains a house and garage.

The house (7SC1133.1) is a circa 1920, 1.5-story Bungalow style house with a poured concrete foundation, Masonite siding, asphalt shingle front gable roof and rectangular plan. A garage (7SC1133.2) is located southeast of the house. The garage has a concrete foundation, weatherboard siding, asphalt shingle pent roof and rectangular plan. There is a six-light stationary window in the south façade, and vertical board double-leaf doors on the west façade. A pent roof addition has been made to the north façade.

7SC1134: This parcel is located at 402 S. Church Street in Wentzville. The parcel contains a house with a garage addition.

The house (7SC1134) is a 1940, one-story, Minimal Traditional style house with poured concrete foundation, brick walls, asphalt shingle side gable roof and irregular plan. The main (west) façade has a projecting bay with a door and picture window, and a second bay with double-hung sash windows. A concrete stoop covered with permastone leads to the door. A one-bay garage has been added to the rear (east) façade by a gable roof enclosed breezeway. The breezeway has glass walls and a central door. The garage has a front gable roof, and a single overhead garage door.

7SC1139: This parcel is located at 708 S. Church Street in Wentzville. The parcel contains a house and garage.

The house (7SC1139.1) is a 1940, Cape Cod/Minimal Traditional style house with a poured concrete foundation, weatherboard siding, asphalt shingle side gable roof and rectangular plan. There are two gable roof dormers on the main (west) façade, and a central doorway flanked by paired double-hung windows. There are two pairings of double hung windows on the first story

of the south façade, and one window in the half story. A one-story, gable roof screened porch is on the north façade. The rear (east) façade has one gable roof dormer and a brick chimney.

Located east of the house is a garage (7SC1139.2) with a concrete foundation, Masonite siding, asphalt shingle front gable roof and square plan. There are two bays of overhead garage doors on the north façade.

The district has been determined eligible for the NRHP. The west boundary for the district is South Church Street, the south boundary for the district is I-70, the east boundary the rear property lines of the properties on the east side of South Linn Street, and the north boundary is undetermined outside the APE and is the north property line of parcel 7SC1131 within the APE. The recommended period of significance is circa 1915 to circa 1950, the era when most of the construction within the district occurred.

The contributing primary buildings within the APE for this project are 7SC0886, 7SC1133, 7SC1134, 7SC1138, and 7SC1139. The non-contributing parcels within the district are parcels 7SC0885, a 1955 ranch house, 7SC1131-1132, which contains a circa 1960 ranch house, 7SC1136 constructed circa 1962, and 7SC0891 constructed in 1952, and 7SC1137, which contains a house under construction in 2003. Secondary buildings that were constructed after the period of significance would be considered non-contributing resources.

Alternative 15 is the only alternate being considered in this area. A small strip of property would be required from the southern boundary of the parcel containing 7SC0886, but would not require the removal of any of the buildings in the district. There would be no takings from any of the other parcels in the district. Alternative 15 would have no adverse effect on the characteristics of the district that qualify it for inclusion in the NRHP.

r. Tudor Revival (7SC0938)

This complex is located in Section 29 southeast of the Route 40/61 and I-70 interchange. The complex contains a house, a small commercial garage, a shed, a barn and a greenhouse.

The house (7SC0938.1) is a one-and-a-half-story, circa 1940, Tudor Revival influence house with a brick foundation, brick walls, asphalt shingle side gable roof and rectangular plan. The house has stone at the corners and an exterior-end brick chimney. The windows are six over six double-hung sash, and twelve-light stationary windows. The main (south) façade has a central entry with a metal awning. To the east of the door are paired stationary windows; to the west of the door are two bays with one window each. There are two gable roof dormers. The east façade has two windows on the first story and one window in the half story. The west façade has a garage addition with two overhead garage doors.

The commercial building (7SC0938.2) is a one-story, circa 1925, commercial style building with a concrete foundation, brick walls, gable roof with stepped parapet and square plan. A pent roof addition has been made to the west façade. The original building has two bays on the south façade, one with an overhead garage door, the other with a single-leaf door and two sash windows. The addition has an overhead garage door on the south façade.

The shed (7SC0938.3) is located between the house and the commercial building. The shed has a concrete foundation, brick walls, metal, pent roof, and square plan. There is a four-panel single leaf door in the south façade.

The barn (7SC0938.4) has a concrete foundation, vertical board siding, asphalt shingle arched roof and a square plan. Pent roof additions have been made to the east and west facades of the building. The south façade has a single-leaf door in the center bay, and four-light stationary windows on each side of the entry.

The greenhouse (7SC0938.5) is an arched roof covered with plastic. A barbeque pit (7SC0938.6) is located behind the house; it is a pavilion with a pyramid roof supported by round posts.

This property has been determined eligible for listing on the NRHP under criterion C for local significance in architecture. The house (7SC0938.1) is an excellent example of the Tudor Revival style with many decorative elements from that style including the stonework at the corners of the house, the massive chimney and the steeply pitched roof. The commercial building (7SC0938.2), shed (7SC0938.3) and barn (7SC0938.4) are all contemporary to the house and contribute to the setting of the property, and are therefore recommended as contributing elements of the property. The greenhouse and barbeque pit (7SC0938.5 and 7SC0938.6) are not contemporary with the house and are recommended as non-contributing elements of the property. The recommended NRHP boundary is the current property line, and the recommended period of significance is circa 1940, the date of construction of the house, commercial building, shed and barn.

There is one alternate being considered in the vicinity of this property. Alternative 15 will require taking a very small portion of the southwest corner of the property, with perhaps a slight realignment of the driveway, but will not affect any of the buildings on the property. It is recommended this alternative would have no adverse effect on the characteristics that qualify the property for inclusion in the NRHP.

s. Tudor Revival Influence House (7SC1133)

This parcel has been determined eligible for listing on the NRHP as a contributing element of the Wentzville Historic District. Please see the previous discussion for details on the recommendations and effects for this district.

t. Bungalow Style House (7SC1134)

This parcel has been determined eligible for listing on the NRHP as a contributing element of the Wentzville Historic District. Please see the previous discussion for details on the recommendations and effects for this district.

u. Minimal Traditional Style House (7SC1139)

This parcel has been determined eligible for listing on the NRHP as a contributing element of the Wentzville Historic District. Please see the previous discussion for details on the recommendations and effects for this district.

10. Section 4(f) & Section 6(f) Impacts

Section 4(f) of the U.S. Department of Transportation Act of 1966 protects public parks and recreation lands, wildlife and waterfowl refuges, and historic sites. The Land and Water Conservation Fund Act of 1965 provided funding for outdoor public recreational purposes. Section 6(f) of the Act provides for the protection of those resources from conversion to other non-recreational uses.

a. Impacts to Parks and Recreation Resources

Section B.5, Parks and Open Space, in Chapter III of this document identified those parks, wildlife refuges and LWCF properties located within the vicinity of the existing I-70 corridor. Of

those, seven parks were found to be within the Area of Potential Effect of the proposed project, three of which were developed in part with LWCF funding. Those seven parks are:

- Lions Park, Jonesburg
- Corwin Ruge Park, Wright City (LWCF)
- Dyer Park, Warrenton
- Diekroger Park, Wright City
- Memorial Park, Wentzville (LWCF)
- Quail Ridge Park, St. Charles County (LWCF)
- Founders Park, Lake St. Louis

None of these parks will be directly impacted by any of the Build Alternatives under consideration. Indirect impacts can include changes in access, visual impacts and changes in noise levels. None of the proposed alternatives will alter access to the parks, and none will change the quality of the visual aesthetics in the vicinity of the parks. Traffic noise levels will increase at all of the parks, but are not projected to change to a degree that would alter the use of the facilities. Specific noise mitigation measures for these parks will be investigated when detailed noise studies are conducted.

b. Historic Resources

Within the architectural APE of the Build Alternatives under consideration, a number of historic resources have been identified that qualify for protection under Section 4(f). These historic resources include 13 individual properties that have been determined eligible for listing on the NRHP, and four historic districts that include a total of 16 contributing resources that have also been determined eligible. The preceding *Section IV.9, Historic Resources/Section 106 Review* provides descriptions of each of these resources, and describes the impacts that the alternatives would have on them. Anticipated direct impacts to each of these resources are summarized in the concluding paragraphs on each property in Section IV.9. Exhibits showing the proposed improvements in relation to each of the Section 4(f) resources are presented at the end of this chapter. See Exhibits IV-1 through IV-22.

c. Summary of Impacts to Section 4(f) Historic Site Resources

The following table lists all of the historic site resources protected by Section 4(f) that are located within the Area of Potential Effects of any of the Build Alternatives under consideration within SIU 7. The table identifies the nature of impact, if any, that the alternatives will have on each resource, and the recommended determination of effect of the project on that resource. The recommended Preferred Alternative is indicated as the alternative shaded in gray in the table below. The Preferred Alternative will not have an adverse impact on any of the historic resources covered by Section 4(f).

Table IV-16: Summary of Impacts to Section 4(f) Historic Site Resources

Alternative	Resource	Direct Effect	Indirect Effect	Determination of Effect
1	No Section 4(f) Resources			
2A	MoDOT New Florence Complex	Total Take	-	Adverse Effect
	Folk Victorian House, 7MT 1188	None	-	No Adverse Effect
2B	MoDOT New Florence Complex	-	Visual	No Adverse Effect
	Folk Victorian House, 7MT 1188	Total Take	-	Adverse Effect
2C	MoDOT New Florence Complex	-	Visual	No Adverse Effect
3A	High Hill District	-	Noise	No Adverse Effect
3B	High Hill District	-	Noise	No Adverse Effect
4	No Section 4(f) Resources			
5A	Chandlee Farmstead	Take portion of property	Visual	No Adverse Effect
	Folk Victorian House, 7MT1047	Narrow strip along side of lot	-	No Adverse Effect
5B	Chandlee Farmstead	None	Visual	No Adverse Effect
	Folk Victorian House, 7MT1047	Narrow strip along side of lot	-	No Adverse Effect
6	No Section 4(f) Resources			
7A	No Section 4(f) Resources			
7B	No Section 4(f) Resources			
8A	Lix Bungalows	Strip along west line	Noise	No Adverse Effect
8B	Lix Bungalows	Strip along west line	Noise	No Adverse Effect
8C	Lix Bungalows	Strip along west line	Noise	No Adverse Effect
8D	Lix Bungalows	Strip along west line	Noise	No Adverse Effect
9A	No Section 4(f) Resources			
9B	No Section 4(f) Resources			
10A	Veneer Stonework House	Total Take	-	Adverse Effect
	Historic Landscape	500 ft strip	Noise, Visual	Adverse Effect
10B	Veneer Stonework House	Narrow strip	Noise, Visual	No Adverse Effect
	Historic Landscape	Narrow strip along south	Noise, Visual	No Adverse Effect
10C	Veneer Stonework House	Narrow strip	Noise, Visual	No Adverse Effect
	Historic Landscape	Narrow strip along south	Noise, Visual	No Adverse Effect
11A	Big Boy's Restaurant	None	-	No Adverse Effect
	Diekroeger Brothers Park	None	-	No Adverse Effect
	Southwestern Bell Repeater Office	NW corner of parcel & south strip	Visual	No Adverse Effect
	Wright City Middle School	None	None	No Adverse Effect
11B	Big Boy's Restaurant	None	-	No Adverse Effect
	Diekroeger Brothers Park	None	-	No Adverse Effect
	Southwestern Bell Repeater Office	South strip	Visual	No Adverse Effect
	Wright City Middle School	None	None	No Adverse Effect
12	Wright City Brick Victorians Historic District	None	-	No Adverse Effect
	Folk Victorian House, 7WN0605	None	Noise	No Adverse Effect
13A	No Section 4(f) Resources			
13B	No Section 4(f) Resources			
13C	No Section 4(f) Resources			
14	Seven Acres Motel, Lustron House	None	Noise	No Adverse Effect
15	Wentzville District	Small strip of land from 7SC0886	-	No Adverse Effect
	Tudor Revival House 7SC0938	Small corner of parcel	-	No Adverse Effect
16A	No Section 4(f) Resources			
16B	No Section 4(f) Resources			
17	No Section 4(f) Resources			

Preferred alternative shaded in gray

11. Air Quality

Air quality analysis for the proposed project was coordinated with the East-West Gateway Council of Governments (EWGCOG), the Missouri Department of Natural Resources, and MoDOT to determine the appropriate analysis for the project.

a. Localized (Microscale) Impacts

The principal pollutant of concern at the microscale level is carbon monoxide (CO). CO impacts are generally very localized, and even under the worst meteorological and traffic conditions, CO concentrations are of concern only within a relatively short distance (several hundred feet) of heavy traffic areas.

Localized long-term air quality effects were assessed using hot-spot modeling analysis for CO. The hot-spot analysis follows applicable EPA guidelines, procedures and approved analytical tools. The purpose of the analysis is to predict CO concentrations and determine if the proposed build alternative for the first year of operation (2010) will exceed the CO NAAQS for the eight-hour (9 ppm) and one-hour averaging time (35 ppm). The No-Build scenario for the first year of operation is also modeled to determine the impact of not building the proposed alternative and to compare it to the Build scenario. Finally, the base year (2002) is modeled to determine the current air quality impact of the existing conditions.

EPA's Guideline for Modeling Carbon Monoxide from Roadway Intersections (1992) was followed for the CO hot-spot analysis. This document provides guidance on all aspects of the analysis including intersection selection, receptor placement, meteorological parameters, background concentrations and other model inputs. The CAL3QHC dispersion model was used for the prediction of CO concentrations from the intersections as recommended by EPA. CO emission factors (queue and free flow) used in this model were calculated using the MOBILE6.0 model for the years 2002 and 2010. Inputs for the MOBILE6.0 model were obtained from the EWGCOG.

The selection of the interchanges for modeling was based where the ramps meet the local roads and on the ranking procedure as described in the EPA guideline (1992).

Based on a review of projected traffic volumes and levels of service at all of the interchanges within SIU 7, two urban interchanges (Route 47 and at Wentzville Parkway) were selected for the CO hot-spot analysis. The Wentzville Parkway interchange with I-70 is located in St. Charles County. Route 47 runs through the City of Warrenton, in Warren County. These interchanges also had the highest traffic volumes.

To determine if there are environmental consequences resulting from the project, the microscale hot-spot modeling analysis predicted the CO concentrations for year 2002 existing conditions and year 2010 in the first year of operation of the project. For the two intersections associated with the selected interchanges, CO concentrations resulting from the proposed alternative (Build scenario) were compared with the CO concentrations resulting from the No-Build Alternative. This comparison was done for the year 2010. Table IV-17 presents the maximum carbon monoxide concentration for both the one-hour and eight-hour averaging time.

Table IV-17: CO Hot-Spot Analysis Build vs. No-Build

Maximum Carbon Monoxide Concentration (ppm)					
		2002	2010		NAAQS For CO (ppm)
Intersection Name	Avg. Time	Existing	No-Build	Build	
Highway 47 @ I-70 WB	1-hr	5.90	3.46	2.76	35
Highway 47 @ I-70 EB		5.40	3.36	2.66	
Highway 47 @ I-70 WB	8-hr	4.13	2.42	1.93	9
Highway 47 @ I-70 EB		3.78	2.35	1.86	
Wentzville Parkway @ I-70 WB	1-hr	4.60	2.86	2.76	35
Wentzville Parkway @ I-70 EB		4.70	2.76	2.76	
Wentzville Parkway @ I-70 WB	8-hr	3.22	2.00	1.93	9
Wentzville Parkway @ I-70 EB		3.29	1.93	1.93	

Background concentrations: 1-hr = 3.0 ppm (from EPA Region X and confirmed by EPA Region VII)
8-hr = 1-hr concentrations x 0.7 persistence factor (EPA's Guideline for Modeling Carbon Monoxide from Roadway Intersections)
Maximum 1-hr and 8-hr CO Concentrations

As shown in Table IV-17, neither the existing nor the future year 2010 Build or No-Build alternatives are projected to exceed the one-hour or eight-hour NAAQS for CO. In fact, CO concentrations are projected to be lower in the future, either with or without the proposed project. Air quality is projected to improve largely because of the improvements in emissions technology that will be implemented in future-year vehicles. As these cleaner-operating vehicles gradually replace older, more-polluting vehicles, air quality is projected to improve in spite of increases in traffic volume.

There will be no adverse impacts to air quality as a result of the proposed improvements at the two worst-case interchanges. Air quality impacts at other, lower-volume interchanges will be even lower, and thus it can be concluded that there will be no adverse impacts to air quality as a result of implementation of the proposed project.

b. Air Quality Impacts During Construction

Construction activities will cause short-term air quality impact. It will primarily generate particulate matter (PM-10 and PM-2.5) and small amounts of CO and oxides of nitrogen from construction machinery exhaust. All construction activities will take place according to MoDOT construction specifications and MoDNR regulations.

c. Conformity

The I-70 study is included in the FY 2004-2008 Transportation Improvement Program (TIP) endorsed by the EWGCOG, the Metropolitan Planning Organization (MPO) for the region in which the project is located. Projects in the TIP are considered to be consistent with the *Legacy 2025* regional transportation plan endorsed by EWGCOG.

In March 2002, the FHWA and the Federal Transit Administration (FTA) determined that the *Legacy 2025* regional transportation plan conforms with the State Implementation Plan (SIP) and the transportation-related requirements of the 1990 Clean Air Act Amendments. These findings were in accordance with 40 CFR Part 93, "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation plans, Programs, and Projects Funded or Approved Under Title 23 USC or the Federal Transit Act."

The project's design concept and scope are consistent with the project information used for the TIP conformity analysis. Therefore, this project conforms to the existing State Implementation Plan and the transportation-related requirements of the 1990 Clean Air Act Amendments.

12. Noise

Relocating the travel lanes to provide a wider median in the rural areas of SIU 7 will move the noise source closer to sensitive receptors along one side of the highway, increasing the number of receptors approaching or exceeding the NAC. In urban areas, adding an additional lane to the outside of the existing highway will move the noise source slightly closer to receptors along both sides of the highway. Shifts in the location of the highway of this small magnitude will have only a very minor effect on future noise levels. Throughout the entire length of SIU 7, the increases in traffic volumes expected will be the principal contributor to noise level increases along both sides of the highway.

Future traffic noise levels for the build alternatives were predicted using the FHWA's Traffic Noise Model (TNM®). All noise levels in this chapter are in dBA L_{eq} (h). This model considers a variety of factors, including roadway geometry, traffic volumes and speeds and the mix of vehicle types. The model was tested using actual noise and traffic measurements at several locations along I-70 and was found to provide projections within acceptable tolerances (see Chapter III for a discussion of the existing noise measurements). Because of the scale of the proposed project, simplifying assumptions were incorporated into the model for this initial impact assessment. The model assumed level terrain and no intervening barriers protecting any of the identified receptors (other than the median barrier, where one is proposed).

The MoDOT *Traffic Noise Policy* for identifying a noise impact (mirroring FHWA's regulations in 23 CFR, Part 772) includes both a relative criterion and an absolute criterion. The relative criterion is met when "the predicted traffic noise levels substantially exceed the existing noise levels." The absolute criterion is met when "the predicted traffic noise levels approach or exceed the noise abatement criteria (NAC)" levels. MoDOT defines "substantially exceed" as an increase of 15 dBA or more over existing noise levels, and they define "approach or exceed" to mean within one dBA of the noise levels defined in the FHWA's Noise Abatement Criteria for specific land uses. For residential and most institutional land uses, the external dBA L_{eq} (h) level per MoDOT's policy is 66. For commercial uses, the external dBA L_{eq} (h) impact level is 71.

None of the alternatives will generate an increase in noise levels great enough to exceed the relative NAC, but the 66 and 71 absolute NAC for residential/institutional and commercial land uses, respectively, will be exceeded in numerous locations. Table IV-18 summarizes the number of receptors that are predicted to exceed the NAC for residential, institutional and commercial units, for each SIU 7 traffic section in the design year of 2030. Year 2030 traffic noise was modeled at 12 representative locations, one in each traffic section, to provide estimates of potential noise impacts. Design hour traffic volumes were used in the model to provide an assessment of the worst hourly traffic noise impact on a regular basis. Between 678 and 738 residential and institutional units, depending on which alternative is chosen, will be affected. Clearly, there is very little difference in noise impacts among the alternatives. In 11 of the subsections, there are no differences in the number of impacted receptors. In only one of the subsections (section 8, vicinity of the Route 47 interchange) is there a difference greater than five impacted receptors among the build alternatives considered. In general, the number of impacted units increases as one moves from west to east in SIU 7.

Table IV-18: Noise Impacts to Residential, Institutional and Commercial Units

Alternative	Residences	Hospitals/ Elderly Facilities	Schools	Churches	Total Residential & Institutional Units Impacted	Total Commercial Units Impacted
1					**0**	**9**
2A	4				**4**	**1**
2B	1				**1**	**1**
2C	1				**1**	**1**
3A	31			2	**33**	**5**
3B	31			2	**33**	**5**
4					**0**	**1**
5A	21				**21**	**1**
5B	21				**21**	**1**
6	5				**5**	**0**
7A	14				**14**	**4**
7B	13				**13**	**6**
8A	93				**93**	**19**
8B	36				**36**	**4**
8C	93				**93**	**19**
8D	36				**36**	**4**
9A	30	1		2	**33**	**6**
9B	30	1		2	**33**	**4**
10A	15				**15**	**4**
10B	13				**13**	**4**
10C	13				**13**	**4**
11A	56		1	1	**58**	**14**
11B	59		1	1	**61**	**12**
12	57			2	**59**	**8**
13A	11			1	**12**	**7**
13B	11			1	**12**	**7**
13C	11				**11**	**7**
14	29		2		**31**	**20**
15	54	1			**55**	**7**
16A	133				**133**	**7**
16B	133				**133**	**7**
17	207	1		1	**209**	**3**
Minimum Total:	**663**	**3**	**3**	**9**	**678**	**97**
Maximum Total:	**723**	**3**	**3**	**9**	**738**	**118**
Preferred:	**755**	**3**	**3**	**9**	**770**	**116**

Preferred alternative shaded in gray

Approximately 97 to 118 commercial buildings are projected to meet or exceed the 71 dB impact criterion in 2030. A substantial number of these units are already subject to noise levels above the 71 NAC, and an even greater number of them will be subject to noise impacts by the design year of 2030, even with the No-Build Alternative, due to the expected increases in traffic volumes over that period. In fact, the projected increase in traffic volumes from current levels to those predicted for the year 2030 is responsible for nearly all of the change in the number of units impacted. In the western portion of SIU 7, traffic volume increases will add about 50 feet to the area impacted by the 66 NAC. In the vicinity of Wright City, the projected traffic volume

increases are larger, and will add about 200 feet to the area impacted by the 66 NAC. In the extreme eastern end of the SIU 7 study area, near Lake St. Louis Boulevard, the area within the 66 NAC will increase from today's distance of just over 400 feet (122 m) to about 760 feet (232 m) by the year 2030, an increase of 360 feet (110 m).

The MoDOT Noise Policy requires that mitigation be considered for all properties impacted by noise on the proposed project. A variety of mitigation measures can be considered, such as instituting traffic control measures, using quiet pavements, creating buffer zones, installing noise insulation in public use buildings, relocating the highway and constructing noise barriers. However, in order for any abatement measure to be incorporated into the project, it must be both feasible and reasonable. To establish feasibility, MoDOT regulations require that a noise abatement measure provide at least a 5 dBA noise reduction to the first-row, impacted receivers and, to be reasonable, cost no more than $30,000 per benefited receiver.

Traffic control measures include restrictions on certain types of vehicles (usually trucks), during parts of or all of the day or speed-limit reductions. Considering that I-70 exists as the major thoroughfare for through and local truck traffic in the study corridor, such a restriction is not appropriate for this project. Very minor benefits (one dBA per 5 mile per hour reduction) can be achieved with speed restrictions, and these benefits are far outweighed by increases in traffic congestion, travel delay costs, and a deteriorated air quality that would be associated with speed restrictions.

Relocating the highway can involve moving the highway a great distance or making smaller changes in the horizontal or vertical alignment. The idea is to move the noise source farther from the receiver or to break the line of sight between the noise source (traffic) and receiver by depressing the roadway. Such alterations are not reasonable for this project due to the extremely high cost that would be associated with relocating the entire facility, as well as the environmental impacts on whatever new location would be chosen.

Buffer zones are "unused" spaces between the highway and the sensitive receptors. Land acquisition for these zones can be very effective in addressing noise mitigation, although if the land designated for the buffer zone is already developed, it will be very expensive and thus uneconomical to acquire.

Federal highway funds may be used to insulate public-use or non-profit institutional use structures. Insulating such buildings against traffic noise by sealing windows and filling cracks can greatly reduce impacts to affected tenants.

The most common method of highway noise mitigation is the construction of noise barriers. Noise barriers are usually made of masonry, metal, wood, or earthen berms, and are constructed parallel to the roadway, between the roadway and the receivers. Noise barriers could severely restrict access to adjoining activities unless a frontage road provides alternative access. Numerous gaps in the barrier would satisfy access requirements, but could render the barrier ineffective. Noise barriers may also be viewed unfavorably by nearby businesses, as they restrict both visibility and access for their potential customers.

MoDOT's noise policy allows abatement measures for only two or more receivers, and a noise barrier would not be cost effective for only two receivers in a single location. For example, a barrier analysis was performed for two impacted residences in a single location near milepost 189.5, and satisfactory abatement (i.e., 5 dBA) was achieved with a barrier 15 feet (4.6 m) in height and 450 feet (137 m) long. The cost, however, for the two receptors' abatement is $121,500 - well in excess of MoDOT's $30,000 per receptor criterion. (Construction cost estimates for noise barriers assume a unit cost of $18 per square foot of barrier.) Therefore, while feasible, a barrier at such a location is not reasonable. Finally, noise barriers must also be

developed in consultation with and approved by the local community through a public involvement process.

Noise barrier analyses were performed for a sample of affected residential and institutional uses within the modeled low, medium and high traffic areas of SIU 7. The results of the barrier analysis for first-row receivers are shown in Table IV-19.

Table IV-19: Barrier Analysis Results

Location (Milepost)	Projected Noise Levels L_{eq} (h) dBA				
	w/o Barriers	w/ 12' Barrier	Noise Abatement	w/ 15' Barrier	Noise Abatement
MP 179.5	73	66	7		
MP 203.5	75	68	7	66	9
MP 212 - 214	76	70	7	67	9

Within the low traffic section (in the vicinity of milepost 179), preliminary analyses indicate that a barrier 4,075 feet (1,242 m) in length and 12 feet (3.7 m) high will reduce noise levels to first row receptors by at least 5 dBA - and below the absolute 66 NAC - for 33 uses (residential and institutional). At a total cost of about $880,000 or about $26,700 per benefited receiver, this barrier is both feasible and reasonable.

For the “medium” traffic section: at milepost 203.5, a 1,700-foot (213 m) long, 12-foot (3.7 m) high barrier will protect 14 residences at an estimated cost of $367,200, or $26,230 per residence. A 15-foot (4.6 m) high barrier at the same location lowers traffic noise to first row receptors to below the 66 NAC, but at a cost of $32,785 per receptor. Under the MoDOT “reasonableness and feasibility” criteria, only the 12-foot (3.7 m) high barrier satisfies both criteria.

For the “high” traffic section at the east end of SIU 7 (milepost 212-214), a 9,450-foot (2,880 m) long, 12-foot (3.7 m) high barrier benefits 356 residential units and two institutions at a cost of $2,041,200, or $5,700 per receiver. A second iteration using a 15-foot (4.6 m) high barrier yielded additional minor noise relief, but not enough to reduce noise levels below the 66 NAC. The 12-foot (3.7 m) high barrier is both reasonable and feasible. In all locations where barriers are considered, the final barrier height recommended may vary, and will be based on more detailed analyses during the design phase.

Based on projections of Year 2030 noise levels from the Traffic Noise Model, a number of locations were identified where noise impacts are anticipated and noise walls will be evaluated. These locations are presented in Table IV-20. Detailed noise studies will be conducted in each of these areas in order to determine the exact extent of the impacts and the feasibility and reasonableness of any potential mitigation measures. MoDOT intends to install noise abatement measures that are found to be both feasible and reasonable. A final decision on the installation of noise abatement measures will be made upon completion of the project design and the public involvement process.

Table IV-20: Preliminary Noise Barrier Locations

Location (Mile Post Segment)	Side of I-70	Approximate Barrier Height	Approximate Number of Residential Units Affected
179 - 180	North	12’	40
193.6 - 193.9	South	12’	16
193.8 - 194.1	North	12’	14
194.8 - 195.3	North	12’	33
200.1 - 200.4	South	12’	20
203.5 - 203.8	South	12’	18
206.6 - 206.9	North	12’	20
209.5 - 209.9	North	12’	40
212 - 213.9	South	12’	180

Noise generated by construction equipment would vary greatly depending upon the equipment type, mode and duration of operation, and specific type of work in progress. Variations in the distances from buildings to the construction site and zoned land uses, as well as the intensity and timing of specific construction activities, would result in varying levels of exposure to construction noise, and varying levels of impacts. Typical noise levels at 50 feet (15 m) range from 75 to 95 dBA and from 65 to 85 dBA at 200 feet (61 m). Impacts resulting from construction noise are anticipated to be localized and temporary.

MoDOT has special provisions in the construction contracts that require that all contractors comply with all applicable local, state and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. Construction equipment will be required to have mufflers constructed in accordance with the equipment manufacturer’s specifications.

13. Wells

Wells within the study area were identified by MoDNR databases cross-referenced with parcel ownership data developed for this project. Property owners whose name matched the well records were called to determine the location of the well on their property. Due to the poor positional accuracy of the pre-1984 wells (located to the 3rd quarter-section, or approximately 650 feet), the majority of the wells within the study corridor could not be accurately located.

A total of four private wells and two public wells exist within the construction limits for SIU 7:

- Alternative 1 would impact one public water supply well.
- Alternative 2A and 2C would impact two private water supply wells located on a tree farm.
- Alternative 6 would impact one private non-public water supply well.
- Alternative 12 would impact one public water supply well located in a mobile home park.
- Alternatives 13A, 13B, and 13C would impact one public water supply well located at the Foristell Truck Stop.
- Alternative 14 would impact one public water supply well located at the Seven Acres Motel and Apartments.

Wells encountered during construction will be closed by a registered well driller in accordance with state regulations.

14. Visual & Aesthetic Resources

The First Tier EIS documented the commitments of MoDOT and the FHWA to provide corridor-wide impact coordination, impact mitigation, and considerations of corridor enhancements. The document provided agencies and communities the assurance that an enhancement master plan would be developed, and that corridor-based considerations would be fulfilled and appropriate special considerations would be provided for each of the second tier studies.

A Corridor Enhancement Subcommittee, one of three subcommittees for the I-70 Corridor, is a consortium of the project team and local, state and federal agency technical staff. This subcommittee developed a proposed enhancement plan for the overall I-70 Corridor. The goals of the enhancement plan include creating an approximately 200-mile I-70 transportation corridor that:

- Complements the existing natural environment
- Maintains sensitivity to the existing context of the corridor
- Provides a sense of consistency along the entire route
- Showcases Missouri natural resources through enhancements which also highlight Missouri history, cultural resources and economy.
- Establishes baseline enhancements for the entire corridor and identifies opportunities for additional enhancements by local communities and other partnering agencies.

Included in the conceptual plan are: a program for aesthetic enhancements for the existing natural features in the corridor; visual design treatments to build elements that reduce their sense of scale; an overall design theme for enhancements to complement the visual context of the corridor (context sensitive solutions); corridor landscape enhancements for both the mainline and interchanges; and riparian habitat enhancement and wildlife corridors treatment.

Appropriate baseline enhancement features will be incorporated into the major reconstruction efforts along the I-70 Corridor, dependent upon the availability of adequate funding. This baseline enhancement concept includes bridge enhancement, landscaping using native grasses and flowers, and habitat enhancement at major stream and river crossings. Additional “beyond-baseline” enhancements are dependent upon the participation and funding by local communities and resource agencies.

The current highway’s path through the landscape has already been established, and has irrevocably impacted the surrounding landscape. The project area does not contain any notable viewsheds. The different alternatives are all along the current alignment, with only slight variation among them. Variation of visual impacts among the different alternatives will be minimal from both a driver’s (view from the road) and occupants’ (viewers of the road) point-of-view, based on the current aesthetic value of the surrounding environment.

Though minimal visual impacts are expected to result from the expansion, positive visual impacts could be considered. Primary targets for these improvements would be residential/commercial areas (viewers of the road) in close proximity to the highway such as the High Hill area. Frontage setback could be maximized. Minimal frontage setback between the highway and adjacent houses/buildings with land acquisition or frontage roads would remove open space and privacy that the occupants of those structures currently enjoy. Because the highway will expand visually

and be able to support a larger volume of traffic, its interruption in the line-of-sight from the homes bordering it will become more dominant.

15. Energy

Transportation consumes the most rapidly depleting form of energy – petroleum. It also accounts for a major portion of overall energy consumption. Transportation-related energy consumption is generally separated into two main categories: "direct" consumption is the quantifiable energy consumed to move a vehicle, and "indirect" consumption is the remaining energy required to operate the overall transportation system.

Direct energy consumption is generally divided into "traffic-related" factors and "facility-related" factors. Traffic-related factors include the volume of traffic, speed and composition of vehicle types. Facility-related factors include roadway grades, curvature and speed change cycles. Since these facility-related factors have a minor effect on direct energy consumption, they are generally considered insignificant and are omitted from consideration.

Indirect energy consumption is generally divided into "central" energy use and "peripheral" energy change. Central energy use encompasses all the energy resources used indirectly in building and operating a transportation system. This includes energy for construction and maintenance of the facility and manufacturing and maintenance of the vehicles. Peripheral energy change recognized energy resources that are not used in any manner by the system itself. Rather it addresses the potential effects that a transportation system may have on energy use and availability in the area it serves. For example, a shift in population density, land use or transportation patterns may be fostered, or induced by a project. This will have an impact on energy demand, supply and distribution within the region. Peripheral energy consumption is considered negligible because development might take place anyway, or will occur somewhere else in the region.

An expenditure of energy will be necessary for the construction of any new roadway within the project area. There is no notable difference in energy impacts for any of the alternatives under consideration. The commitment of energy resources is based on the judgment that highway users will benefit from the highway improvements. As such, the initial energy expenditure is expected to be offset by improved operating costs, access, safety and travel time. No changes to existing I-70 will require any additional energy expenditures for construction, but the fuel energy consumed by traffic congestion will continue to increase.

As traffic volumes increase under the No-Build Alternative, it is expected that energy consumption would also increase. Energy usage for maintenance activities would also be expected to increase under the No-Build Alternative, as the facility continues to deteriorate. Further, the number of VMT is expected to change very little with the improvements to I-70. However, VHT are expected to decrease. Under this scenario, similar distances will be traveled, but travel times will be reduced. This is the intent of the improvements to I-70 within the project area, and similar expectations for energy usage would be anticipated in any highway project of a similar nature.

16. Construction Impacts

a. Build Alternatives

The build alternatives are discussed here as a group since the entire project follows the existing I-70 corridor and differences among alternatives within any subsection of the SIU are not great, from a construction standpoint.

For each of the build alternatives, traffic delays are expected during reconstruction. Each of the alternatives has been designed to minimize these delays and to maintain at least two lanes of traffic in each direction during construction.

In the rural areas the highway is being widened to one side so that new lanes for one direction can be constructed in their entirety while traffic is maintained on the existing four lanes of existing I-70. Once completed, one direction of traffic will be shifted to the first set of new lanes and one direction of the existing lanes so that the new lanes in the opposite direction can be constructed. The final portion of the existing lanes would be removed after traffic was shifted entirely onto the new lanes in both directions. See Chapter II for graphics illustrating this staged approach to construction.

While this scenario provides for maintenance of at least two lanes of traffic in each direction, reductions in lane widths and shifts in traffic to temporary pavement, particularly in the area of interchanges and locations where the highway widening shifts from one side to the other, will reduce traffic speeds and cause delays during peak travel times.

Urban areas of I-70, starting around MP 189, will require more extensive traffic control measures to facilitate construction. The alternatives generally provide for widening the highway to one side, which will allow for a staged construction approach similar to that for the rural areas. Portions of the new lanes in one direction will be built adjacent to the existing lanes. Traffic would be shifted to the new lanes to allow a portion of the existing lanes to be replaced. Traffic would then be shifted a third time to allow for the remaining portions of new pavement to be constructed.

This scenario provides for maintenance of at least two lanes of traffic in each direction, but will likely require reductions in lane widths, shifts in traffic to temporary pavement in some locations, locations with small or non-existent shoulders, and use of head-to-head traffic with a temporary concrete median barrier. This scenario will reduce traffic speeds and cause delays during peak travel times. In some locations, such as the area through Wright City, the new alignment will be centered on the existing highway to prevent unnecessary impacts to adjacent properties. These locations will require extensive use of the various traffic control measures in order to maintain traffic and may require additional shifts in traffic so that construction can be done in smaller pieces.

Delays to traffic on cross roads are also anticipated due to reconstruction of the interchanges. Interchange construction will typically be accomplished by offsetting the crossroad to one side or the other of the existing crossroad to allow for construction of a new bridge over I-70 without interrupting traffic on the existing bridge. Construction to build new ramps and tie in the realigned cross road with the existing cross road will require shifts in traffic to temporary pavement and staged construction in order to keep the cross road open to traffic.

Air Quality
Air quality impacts in the vicinity of construction are localized and temporary. Dust particles stirred up during construction and vehicle emissions from construction equipment and delayed vehicles will temporarily affect air quality. Contractors will need to follow established dust

control measures during construction. While care must be exercised in all locations, special care must be taken in locations such as the following:

- Parks where people participate in outdoor activities. Parks are adjacent to the highway at Wright City and Wentzville.
- Schools where children will participate in outdoor activities. There are no schools immediately adjacent to the highway, but some are nearby in Jonesburg, Wright City and Wentzville.
- Retirement or nursing homes where there is a large group of elderly people who may be more susceptible to poor air quality. A nursing home is located on the north side of I-70 just west of Route Z in Wentzville.

Noise
Heavy equipment operations and certain construction activities, such as pile driving, and vibratory compaction of embankments, will result in temporary noise increase within the area. All such potential impacts will be limited in duration to the actual construction period and to the immediate vicinity of the work in progress. Appropriate time limits for construction in noise-sensitive locations will be determined during the plan development phase with input from the public. To reduce construction noise impacts, contractors will be required to use construction equipment with operable mufflers.

Natural Resources
Though SIU 7 crosses no rivers or streams, there are many small creeks and creek tributaries that cross I-70. Construction of cuts and fills removes vegetation and disturbs soils, intensifying the effects of natural erosion. Before cuts and fills revegetate, increased sediment discharges can occur that could cause impacts including loss of water clarity, deposition of sediment in the creek or tributary, and an increase in soluble constituents that may be attached to the sediment. Appropriate erosion control measures will need to be implemented, including the use of temporary berms and slope drains, ditch checks, ditch lining, sediment basins, silt fence and straw bales. Such measures will be designed and detailed in the construction plans and implemented by the contractor during construction to minimize the effects of erosion.

Wildlife in the immediate vicinity of construction may be affected by the increased noise and activity of construction operations. Because all construction is within or immediately adjacent to existing highway right of way, this impact should be minimal.

Spills of oil and other chemical substances from construction equipment could occur during construction. Care must be taken to avoid spills and to promptly cleanup all spills that occur.

Design of individual construction projects will attempt to balance the amount of earth that must be cut and filled on the project.

b. No-Build Alternative

The No-Build Alternative will not add additional lanes to I-70 and interchange configurations will not be improved, but there are a variety of projects that will need to be undertaken on a continuing basis to keep I-70 in a usable state as outlined in Chapter II. These projects involve pavement resurfacing, pavement reconstruction, bridge replacement and even geometric improvements in places where safety has become a concern.

As such, all of the construction impacts defined for the build alternative will apply, to at least some degree, to the No-Build Alternative.

The biggest difference between the two is that resurfacing or reconstruction of the four-lane portions of existing I-70 under the No-Build alternative will typically require either the construction of a new temporary line along the shoulder or the closing of one lane of traffic in one or both directions. This results in much longer delays for the traveling public and increased vehicle emissions in the construction zone when compared with the build alternative because of the reduction in the number of lanes that would likely occur. On the positive side, some projects such as resurfacing are shorter in duration than complete reconstruction projects, which would result in less overall air pollution.

The reconstruction or redecking of bridges over I-70 at interchanges will also create significant delays to the traveling public as they deal with lane closures, temporary alignment shifts and other traffic control procedures that would need to be instituted to facilitate construction.

F. Secondary & Cumulative Impacts

The assessment of secondary and cumulative impacts in NEPA documents is required by Council on Environmental Quality (CEQ) regulations [40 CFR Parts 1500 – 1508]. Secondary or cumulative impacts may be the unintended consequences of roadway improvements. These impacts may include increases in traffic volumes outside the study corridor; or changes in population, housing, employment, tax base or other land use changes.

Determining the boundaries and time period for an analysis of secondary and cumulative impacts depends on the characteristics of the resources affected, the magnitude and scale of the projects' impacts, and the environmental setting. To avoid extending data and analytical requirements beyond those relevant to decision-making, a practical delineation of the spatial and temporal factors is needed. For this project, the existing spatial factor is the I-70 Corridor from Kansas City to St. Louis, and the time period will cover from approximately the 1950s up to and through the year 2030. For the purpose of the overall secondary and cumulative impacts evaluation, the length of the I-70 Corridor is approximately 200 miles, the width for evaluation is resource dependent, and the time period will cover approximately 75 years. This secondary and cumulative impact analysis will consider impacts that are due to present and reasonably foreseeable actions.

1. Definitions of Secondary & Cumulative Impacts

Secondary and cumulative impacts result when the effects of an action or project are added to or interact with other effects in a particular place and within a particular time. The cumulative impacts of an action or project can be viewed as the total effects on a resource, ecosystem or human community of that action or project and all other activities affecting that resource no matter what entity is taking the actions. Secondary and cumulative impacts may occur outside the I-70 right of way and are generated as a result of changes in development patterns.

2. Known and Anticipated Actions by Others

A number of transportation projects are either planned or are reasonably foreseeable that may have an impact within SIU 7. These projects are not limited to those that are included in the Missouri State Transportation Improvement Program but rather reflect the reasonably anticipated long-range improvements on the various corridors outside of the I-70 Corridor. The roadways could be

improved by 2030 (the STEIS design year), although funding is not programmed at this time and the roadways are not identified as priorities on MoDOT's Mid-Range Plan. Inclusion in this list does not imply a commitment by MoDOT that construction of these improvements will occur before 2030. Rather, this list is based on needs identified and solutions proposed in either ongoing or completed studies for these projects. These assumed improvements establish a baseline condition for the STEIS. The anticipated and assumed improvements include (Figure IV-2):

a. Major East-West Corridors

- U.S. 36 – With the exception the section of U.S. 36 from Macon to Hannibal, U.S. 36 has been widened and improved to a four-lane expressway for its entire length from the Kansas border to the Illinois border.
- U.S. 40/61 (I-64) – Improved to an eight-lane or six-lane freeway from Downtown St. Louis to Route DD and then as a four-lane freeway to connection with I-70. The four-lane freeway connection to I-70 has NEPA clearance for potentially six-lanes.
- U.S. 50 – Widened and improved to a four-lane highway to provide a freeway or expressway facility from I-435 in Kansas City to I-44 near Union, southwest of St. Louis.
- Page Avenue Extension – Improved to a six-lane highway from I-270 to U.S. 40/61 in O'Fallon.

In addition, a major residential and commercial development is in the advanced planning stages in the area north of the Lake St. Louis interchange. Projections of the size of this development and the anticipated traffic volumes generated have been taken into account in planning the I-70 improvements. There are of course numerous smaller development projects being considered throughout the corridor. These are accounted for generally in the growth anticipated from now to 2030 in the travel demand models used for the study.

b. Major North-South Corridors

- Route 13 – Four-lane highway from Springfield to Richmond
- U.S. 65 – Four-lane highway from Arkansas to Trenton
- U.S. 63 – Four-lane highway from West Plains to Kirksville
- U.S. 54 – Four-lane highway from Camdenton to U.S. 61
- Route 47 – New Missouri River bridge is planned at Washington and two lanes will be added to Route 47 from Washington to U.S. 50
- Route 19 – Four-lane highway from U.S. 54 to U.S. 61

c. Currently Scheduled I-70 Projects

In a continuing effort to maintain I-70 and alleviate safety and congestion problems, several I-70 projects within the limits of the study area are currently scheduled for construction, under design, or under contract. Included are the following:

- Lake St. Louis Boulevard Interchange – Replacement of the existing bridge with a wider bridge and improvements to ramps and frontage roads. Completion expected in late 2004.
- Pearce Boulevard/Wentzville Parkway Interchange – Replacement of the existing bridge with a wider bridge and improvements to ramps and frontage roads; construction of outer roadway.

Figure IV-2: Related Projects

- Route Z Interchange – Addition of two ramps to form complete diamond interchange and relocation of a frontage road.
- U.S. 40/61 Interchange – Modifications to replace the existing westbound I-70 to southbound U.S. 40/61 ramp with a loop ramp and to relocate the southbound U.S. 61 to westbound I-70 ramp.
- I-70 Widening – Addition of two new lanes in median from west of Route Z to west of Lake St. Louis Boulevard.
- I-70 Widening – Reconstruction of I-70 from Route Z to the Foristell Interchange (Routes W/T), including widening to six lanes and relocation of I-70 over rather than under railroad.
- Routes W/T – Construct new interchange.
- U.S. 40/61 Improvements – Reconstruction of U.S. 40/61 from I-70 to west of Lake St. Louis Boulevard including the elimination of the at-grade intersection at Callahan Road and the construction of an interchange at Prospect Road.

d. Recommended Future Corridor Studies

Legacy 2025, the transportation plan for the St. Louis region, recommends the following future corridor studies within, or very near, the Section 7 study corridor:

- MO 79, between I-70 and Lincoln County
- MO K, between U.S. 40 and I-70
- MO M, between I-70 and MO 79
- MO P, between MO M and U.S. 61
- MO Z, between I-70 and MO N

3. Potential Secondary & Cumulative Impacts

This section summarizes the potential secondary and cumulative impacts identified within the entire I-70 corridor and within SIU 7.

As a background for this analysis, it should be noted that, except in a few very localized areas, all of the improvements to I-70 will be within and adjacent to the existing right of way – no new highway corridors will be developed in areas that do not currently have such a corridor. In addition, no new interchanges on I-70 are proposed within SIU 7as a part of this project. Across the entire state, the difference in future year traffic projections between the Build and No-Build Alternatives is only approximately 3,000 vehicles per day. The Build alternatives will therefore not be adding new traffic at a scale to induce major changes in development that is not otherwise expected to occur. Within SIU 7, the differences in traffic volume are even smaller, with differences of only several hundred vehicles per day in most subsections. The principal transportation difference produced by the Build Alternatives, through the additional capacity of the proposed third lane, is the increase in average travel speed and reduction in congestion.

a. Land Use

Beginning in the 1910s and 1920s, Missouri improved and paved its first major cross-state highway. The route was designated Highway 40, and by the 1930s, the road was carrying cross-state and national traffic. A number of small communities arose along the highway to provide basic services for travelers such as fuel, food and lodging. When the original I-70 Corridor was located and constructed during the 1950s and 1960s, the direct and secondary impacts included noticeable changes to land use.

Most of the former Highway 40 was either incorporated into the new interstate or changed into a local access road along the new I-70 corridor. Local access was lost to the controlled access I-70 facility (except at the interchanges) and as a result, many of the unincorporated villages and their transportation-related businesses disappeared along the corridor. Although today the primary land use within the corridor is rural in character, the change from forest and agricultural lands to the location of development was highly related to the selection of the new corridor, as well as the locations of the current interchanges. Economic development at or near these interchanges can be partially credited with generating new jobs, which in-turn increased the demand for housing, commercial, and retail services, and community infrastructure such as schools, libraries, police and fire protection, and sewer and water service. The economic growth and the secondary growth that follows is a cumulative impact. The I-70 transportation corridor, past, now, and in the future, will continue the economic development trend and as

such, will continue to impact land use. Transportation contributes to and is one of several factors that help facilitate economic development.

The existence or the creation of adequate utilities and other infrastructure remains an attraction for development. Communities or areas with these types of facilities were and are able to attract development. Development is then a generator of tax revenues that contribute to the initial investment in the utilities and infrastructure. Over time, the expansion of the population, households and employment took place with the accompanying increase in the tax base. The cumulative impacts of the corridor have continued with these development trends until the present and it is expected that these trends will continue with the reconstruction and widening of the existing I-70 Corridor.

Agricultural uses, scattered residential and retail development, mining, forested, and natural areas distinguish the rural areas along I-70. More dense, urban and suburban land uses occur within the cities located along the I-70 Corridor. These communities include Columbia, Warrenton, Wright City and Wentzville. Smaller urbanized areas are found at Oak Grove, Grain Valley, Higginsville, Odessa, Concordia, Boonville, Kingdom City and High Hill. Eastern Jackson County and western St. Charles County are generally characterized by low density, suburban development, and represent the outermost reaches of the Kansas City and St. Louis metropolitan areas, respectively. The development trend is especially expected to continue on the fringe or edges of the urban areas of Kansas City, Columbia and St. Louis. The basic infrastructure is already in place, the typical level of traffic is high and the non-interstate roadways usually have unrestricted access. These three features are important factors to attract development.

Within SIU 7, decreased travel times would be expected to allow for additional regional growth while utilizing approximately the same commuter travel budgets. This would potentially open up new land for residential and economic development. The economic impacts of this growth would be offset by corresponding decreases in productive farmland, and the congestion problems associated with regional sprawl. Further, as towns and villages within SIU 7 find themselves transitioning from primarily rural to primarily suburban communities, there will be pressure to better plan for their growth and development futures.

With the ultimate improvement of I-70, there will be some residential and business displacements along the existing roadway. It is likely that those displaced would relocate close to or within the I-70 corridor area, especially the transportation-dependent businesses. This, in turn, would cause an additional change in land use, from non-developed to developed use.

b. Parklands

Section 4(f) of the U.S. Department of Transportation Act of 1966, as codified and amended, has afforded publicly owned parkland protection from being converted to uses other than park and recreation. Consequently, and over time, Federal-aid highway projects have avoided or mitigated any impacts to the taking of parkland. Most often, parkland has been avoided and if impacted, the impact has been minor and appropriately mitigated.

Reconstructing and widening the existing I-70 Corridor could result in secondary and cumulative impacts resulting from improved transportation access. As ensuing development expands around existing parkland facilities, particularly in urban areas, some encroachment could take place because of street widening or changes in land use/zoning. Increased development could also result in increased noise levels and visual impacts in some parklands that were previously somewhat isolated. Within SIU 7, Diekroeger Park is located close to the existing freeway, but will not be directly impacted.

An additional secondary impact could occur in urban areas in the form of park system expansion. A trend of expanding development in an area can serve as a trigger for a community to purchase property to be preserved as part of a parkland plan or open space corridors. This land use determination might have otherwise been at the discretion of private developers and individual property owners. Also, with the reconstruction of existing interchanges, there will be the opportunity to provide increased trails plus bicycle and pedestrian infrastructure. Additionally, these areas could provide the opportunity for community-initiated enhancement features.

c. Prime Farmland

The proposed reconstruction and widening of I-70 may result in secondary impacts to prime farmland due to farmland conversion along the new required right of way. It is estimated that approximately 1,300 acres (526 ha) of farmland will be directly impacted along the entire length of the corridor. Farmers affected by the conversion of all or part of their land to the development of the roadway may choose to no longer farm or cultivate their land. As a result, more farmland soils could be taken out of production if farmers choose to sell their land for non-farm uses. If the farmland is sold, it may be subdivided and converted to commercial or residential land use.

The improved roadway may, at some time in the future, act as a catalyst for increased growth, relocated development and expansion in the region. Historically, this has taken place in the I-70 Corridor. New development would depend on the location, and such development would be expected to occur in areas already near the main population centers. However, in SIU 7 with the proposed reconstruction and widening of I-70 within the existing corridor, overall secondary and cumulative impacts to the prime farmland resource are expected to be minimal.

d. Terrestrial & Aquatic Communities

Although the direct loss of forest acreage can eliminate or reduce the size of habitats, secondary and cumulative impacts can also occur as a result of habitat fragmentation, which can have an adverse effect on species diversity and connectivity. It is estimated that approximately 230 acres (93 ha) of forestland will be directly impacted along the length of the corridor. Habitat fragmentation in both terrestrial and aquatic areas can create variable-sized parcels or “islands” of viable habitats that become isolated. These impacts are expected to be minimal however, since the majority of SIU 7 is already developed. It is possible that secondary and cumulative impacts may take place in locations where there is new frontage road developed. Secondary and cumulative impacts could also result by inducing more development within the corridor.

Forested areas and watersheds across the I-70 Corridor are resources that have been impacted by the initial location and construction of I-70. With the reconstruction and widening of I-70 and, as more land is encroached upon by private development, the potential for additional disturbance of terrestrial and aquatic areas increases.

e. Threatened & Endangered Species

Much of the land near and adjacent to the I-70 Corridor already exhibits appreciable amounts of disturbance and/or development. Therefore, most of these areas are unlikely to harbor listed species that could be impacted by secondary development. Most of the recorded habitat locations are remote and are far enough removed from the I-70 corridor to not be secondarily

impacted by reconstructing and widening existing I-70. Because of this, the potential for cumulative impacts to listed threatened and endangered species in SIU 7 is considered to be low.

f. Wetlands & Waters of the U.S.

There is the potential for the proposed reconstruction and widening of the I-70 Corridor to contribute to secondary and cumulative impacts to wetlands and other water of the U.S. During the construction phase, activities that impact these sites through sedimentation, changes in the nature of stream hydraulics, or clearing of vegetation in riparian habitat, are likely to have impacts on wetland functions and values of downstream or downslope waters of the U.S., including wetlands.

It is estimated that approximately 80 acres (32 ha) of wetlands will be directly impacted along the SIU 7 corridor. It should be noted however, that there will be wetland mitigation planned within the corridor to ensure, at a minimum, no net loss of wetlands as a resource.

g. Air Quality

The proposed reconstruction and widening of the 200-mile long I-70 Corridor falls within the Metropolitan Kansas City Interstate Air Quality Control Region, the Southwest Missouri Intrastate Air Quality Control Region, the Northern Missouri Intrastate Air Quality Control Region and the Metropolitan St. Louis Interstate Air Quality Control Region. The Metropolitan Kansas City Interstate Control Region is classified as a maintenance area for Ozone, while the Metropolitan St. Louis Interstate Air Quality Control Region is classified as non-attainment for Ozone. Corridor wide, emissions are projected to decrease in the next 20 to 30 years. These reductions in emission will offset the increase in free-flow traffic volumes along the study corridor. It is recognized that development trends are expected to continue throughout the foreseeable future. With the improved mobility and the access management policy implemented with the ultimately reconstructed I-70 corridor, this project is not anticipated to cause a violation of the National Ambient Air Quality Standards. At the western and eastern termini, conformity statements may be required from the Metropolitan Planning Organizations.

h. Visual Quality

The I-70 Corridor travels through several physiographic regions of north-central Missouri. The western portion of the study corridor is located in the Western Glaciated Plains, consisting of gentle to moderate slopes with rolling hills. Much of this area has been cleared for use as agricultural cropland and pastureland.

The middle portion of the corridor includes the Lower Missouri River and the adjacent Ozark Border. The Lower Missouri River region consists of level river bottoms in a wide floodplain area, most of which has been cleared and is used for agricultural cropland. Some areas remain as wetlands and riparian forests. The Ozark Border is characteristically rugged with forested hilly terrain of steep to moderately steep slopes and narrow valleys. Some of this area has remained forested.

The eastern portion of the study corridor is located in both the Eastern Glaciated Plains and the Ozark Border adjacent to the Missouri River. The Eastern Glaciated Plains consist of gentle to moderate slopes with rolling hills, most of which has been cleared for agricultural use over time. The Ozark Border is characterized by hilly terrain similar to that of the middle portion of the corridor, however, there is much more remaining forested land in Callaway, Montgomery and Warren Counties, between Kingdom City and Wright City, especially in the area south of I-70.

In addition to the Missouri River valley, the study corridor includes several other perennial and intermittent stream valleys. Each of these provides a unique visual environment, which is composed of water, trees and rocks or bluffs.

The majority of the built environment is concentrated within the larger towns and cities such as the east side of the Kansas City metropolitan area, the west side of the St. Louis metropolitan area and the city of Columbia. In these areas, there is a sharp contrast between the built environment and the natural environment. In most cases, the edges of these urbanized or built-up areas tend to include highway corridors with adjacent commercial and industrial uses that lack harmonious or cohesive aesthetic relationships. In contrast, the smaller towns within the study corridor are less intrusive, and can be more aesthetically pleasing, depending upon architectural styles and maintenance practices.

The proposed reconstruction and widening of existing I-70 would secondarily and cumulatively impact the visual quality of the environment as increases in growth, development and traffic volumes occur as a result of the proposed improvement. However, the visual quality of the corridor will be enhanced in accord with the appropriate elements of an I-70 Corridor Enhancement Plan.

4. Secondary and Cumulative Impacts of the No-Build Alternative

Secondary and cumulative impacts would also accrue under the No-Build Alternative. These impacts would include:

- Continued deterioration of the existing highway
- Continued worsening of congestion and increased crashes
- Slowed St. Louis area regional growth
- Negative economic growth, as new businesses become reluctant to move to the SIU 7 corridor
- Worsening air quality associated with increasing congestion

5. Measures To Minimize Indirect & Cumulative Impacts

The First Tier EIS documented the commitments of MoDOT and the FHWA to provide corridor-wide impact coordination, impact mitigation and considerations of corridor enhancements. The document provided agencies and community assurances, through the development of an enhancement master plan, which corridor-based considerations will be fulfilled and appropriate special considerations will be provided for each of the second tier studies.

A Corridor Enhancement Subcommittee, one of three subcommittees for the I-70 Corridor, is a consortium of the project team and local, state and federal agency technical staff. This committee developed a proposed mitigation and an enhancement plan for the overall I-70 Corridor. The goals of the corridor mitigation and enhancement plan include creating an approximately 200-mile I-70 transportation corridor that:

- Complements the existing natural environment
- Maintains sensitivity to the existing context of the corridor
- Provides a sense of consistency along the entire route

- Showcases Missouri through enhancements that highlight Missouri history, cultural resources, and economy
- Establishes baseline enhancements for the entire corridor and identifies opportunities for additional enhancements by local communities and other partnering agencies

Included in the plan are: a program for aesthetic enhancements for the existing natural features in the corridor; visual design treatments to built elements that reduce their sense of scale; an overall design theme for enhancements to complement the visual context of the corridor (context sensitive design); corridor landscape enhancements for both the mainline and interchanges; and, riparian habitat enhancement and wildlife corridors treatment.

G. Joint Development Opportunities

The I-70 FTEIS identified Overton Bottoms and Mineola Hill for providing the greatest opportunities for joint development activities. Neither of these regions is located within SIU 7. However, the Missouri Department of Conservation has indicated an interest in considering projects within entire I-70 corridor for potential for joint activities related to wildlife crossings, as well as other opportunities to mitigate future conflicts between wildlife and the highway.

H. Relationship Between Localized Short-Term Impacts & the Maintenance & Enhancement of Long-Term Productivity

The impacts of the project as described in this document must be balanced against the benefits of a facility that will serve the present and future traffic and safety needs of the three-county area and the mid-east Missouri region. Improvements to I-70 in general would have relatively similar impacts on resources such as farmland, wetlands and wildlife. Short-term uses of the environment for the proposed project will primarily relate to construction issues. Construction impacts will be minimized by the development and implementation of a Construction Staging Plan. The Construction Staging Plan will incorporate a Traffic Management Plan that will ensure that traffic operations on existing roadways within the corridor are maintained while the new roadway is under construction. Traffic detours will be developed to maintain the flow of traffic and to prevent neighborhood streets from being used excessively by through traffic.

Noise from construction activities near sensitive receptors will be reduced by using mufflers on construction equipment and by ensuring that equipment meets federal and local noise regulations.

Air quality impacts during construction will be primarily from construction-related activities. This might include excavation, transport, storage and grading of earth and other materials. Implementing a water spray program in disturbed areas will minimize impacts from fugitive dust. Following construction, all exposed soil will be covered with asphalt paving and/or permanent landscaping to eliminate fugitive dust emissions. Continual monitoring of the Construction Management Plan will prevent, to the greatest extent possible, detrimental air quality effects due to traffic detours, traffic delays and construction activity.

Residential and commercial properties and utilities will also be affected by construction. Property acquisition and relocation activities will follow the policies set forth in the FHWA's Uniform Relocation Assistance and Real Property Acquisition Policies Act.

Some businesses along the corridor may experience some temporary loss of business during construction. In addition, coordination with project area businesses regarding access issues, via direct communication, will occur throughout the construction period.

To prevent impacts to local waterways, mitigation measures will include the installation of siltation curtains in the waterways to limit the amount of construction-related turbidity. Portions of wetlands and floodplain will also be impacted by the proposed project. To the greatest extent possible, impacts will be minimized. Further, wetland and flood storage compensation will be key components of the mitigation plan.

In the long-term, the proposed project will result in substantial transportation improvements for the region. The benefits will include travel-time savings, reduced energy consumption and improved safety conditions. The project also has the potential to improve conditions for existing businesses by alleviating traffic problems. By providing easier access, the proposed improvements could spur outside firms to locate to the region.

The I-70 project is classified as a long-term productive facility. This project, with its advantageous design characteristics, will provide for safe and efficient travel when the improved I-70 facility is open to traffic and through the design year. Expected benefits of the proposed action include reduced operating costs, reduced travel time, improved safety of motorists, and overall economic enhancement of the study area and the region. The benefits offered by the long-term productivity of the I-70 project are expected to more than offset the short-term inconvenience and adverse effects on the human environment.

I. Irreversible Or Irretrievable Commitments Of Resources

Implementing the proposed alternative will involve a commitment of a range of natural, physical, human and fiscal resources. Land used in the construction of the proposed facility is considered an irreversible commitment during the period that the land is used for a highway facility. However, if a greater need arises for the use of the land, or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such conversion will ever be necessary or desirable.

Considerable amounts of fossil fuels, labor and highway construction materials will be expended. In addition, large amounts of labor and natural resources will be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect on continued availability of these resources. Any construction will also require a substantial one-time expenditure of both state and federal funds, which are not retrievable.

The commitment of these resources is based on the premise that members of the traveling public will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services that are anticipated to outweigh the commitment of these resources.

Page Intentionally Left Blank

MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
MoDOT New Florence Complex
7MT0046
Alternative 2A

EXHIBIT
IV-1

MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
MoDOT New Florence Complex
7MT0046
Alternative 2B

EXHIBIT
IV-2

MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

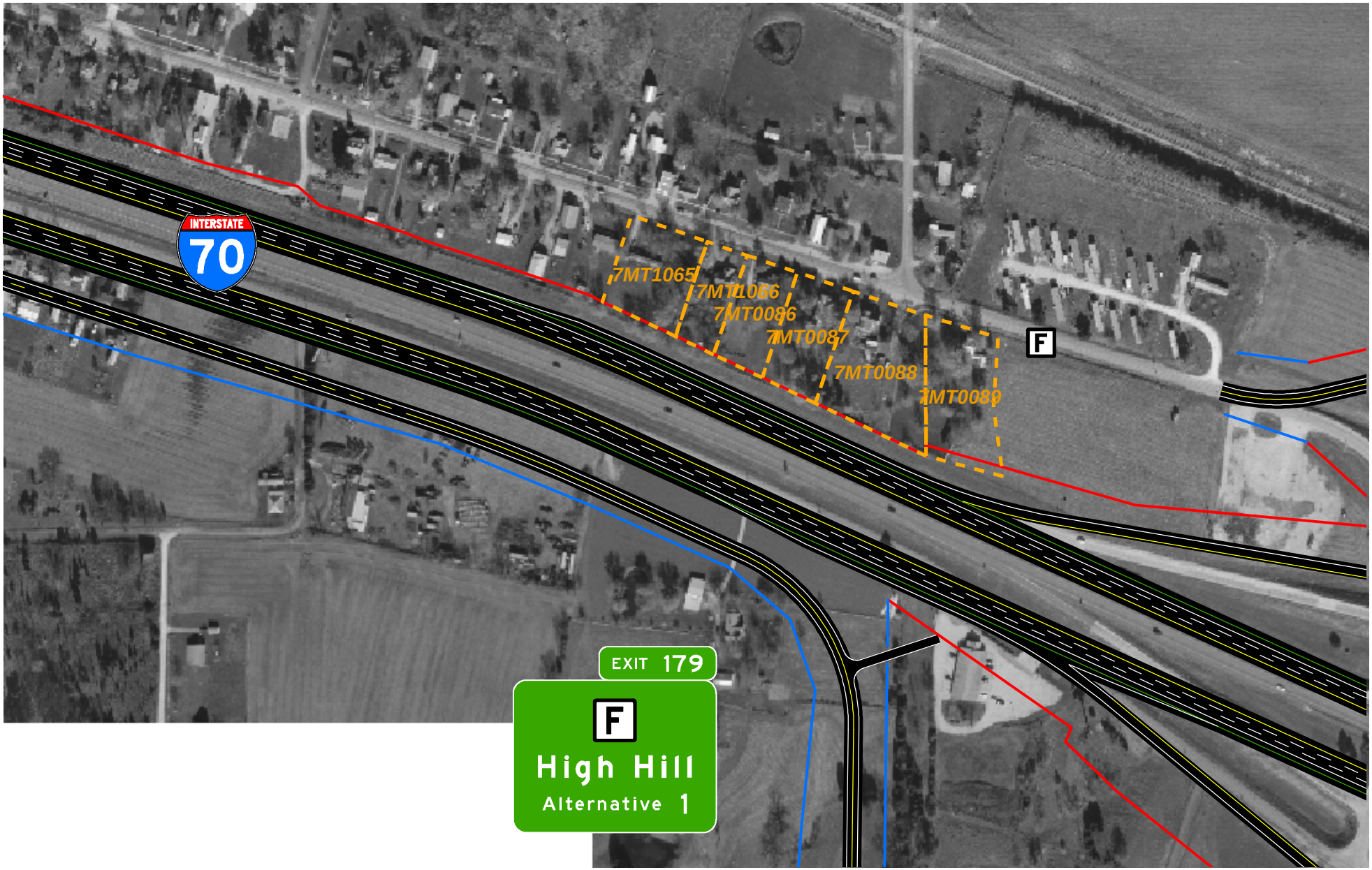
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
MoDOT New Florence Complex
7MT0046
Alternative 2C

EXHIBIT
IV-3



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

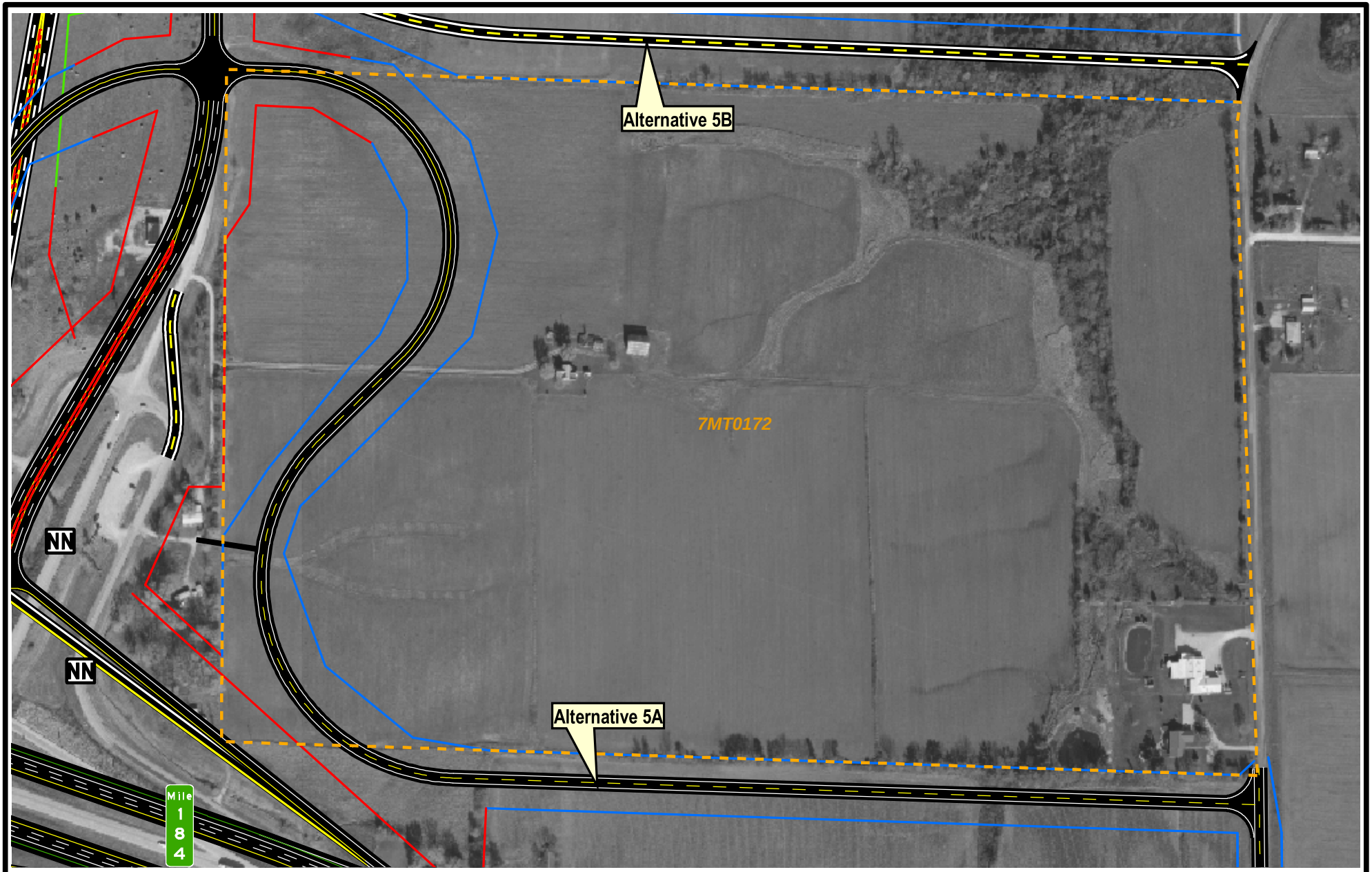
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
High Hill District
7MT0086-89, 1065-1066
Alternative 3A & 3B

EXHIBIT
IV-4



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

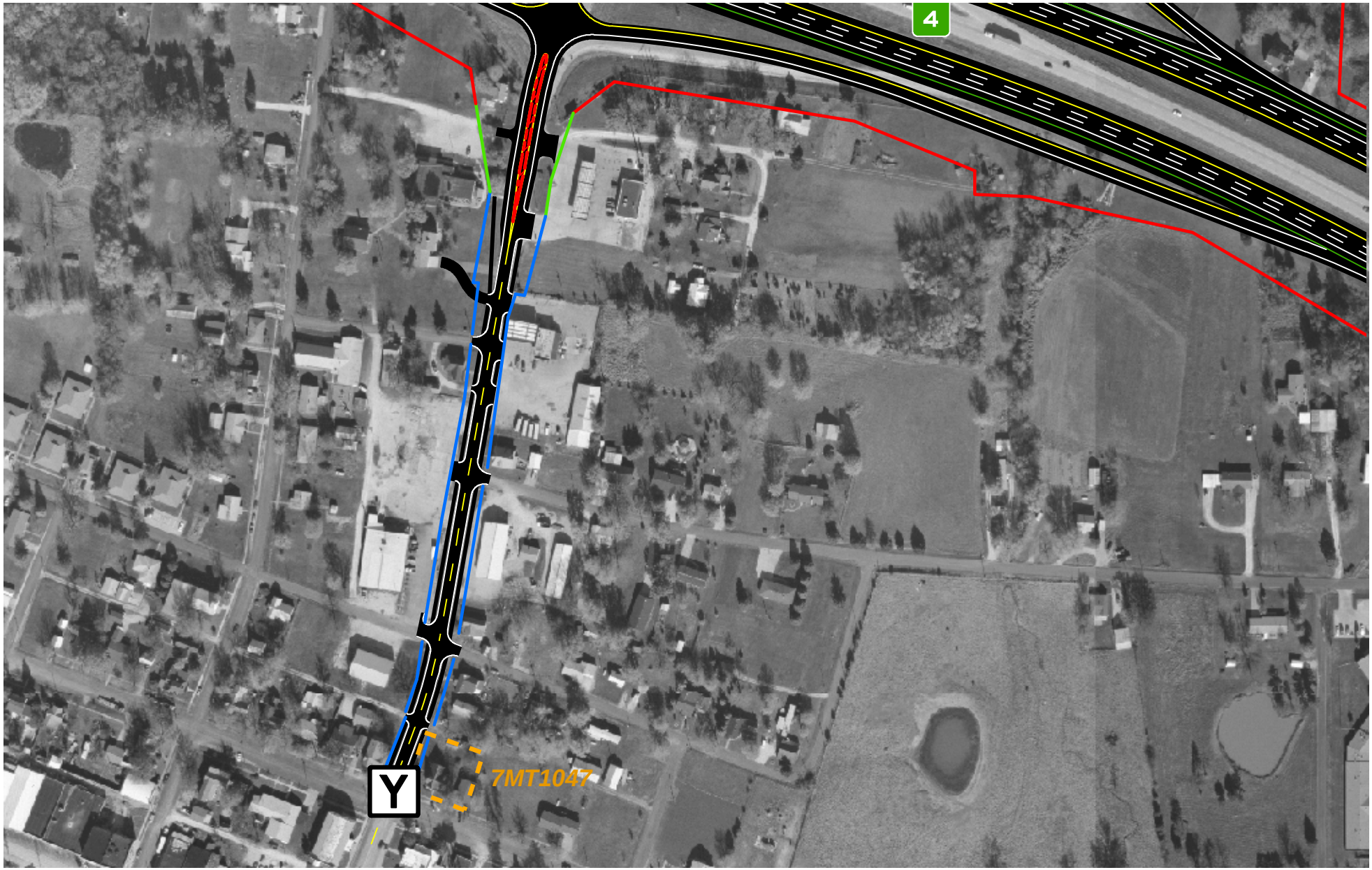
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 125 250 500 Feet

N

Section 4(f) Impacts
Chandlee Farmstead
7MT0172
Alternative 5A & 5B

EXHIBIT
IV-5



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Folk Victorian House
7MT1047
Alternative 5A & 5B

EXHIBIT
IV-6

MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 125 250 500 Feet

N

Section 4(f) Impacts
Folk Victorian House
7MT1188
Alternative 2A

EXHIBIT
IV-7

MoDOT IMPROVE i70

SIU 7
Route 19 to Lake St. Louis

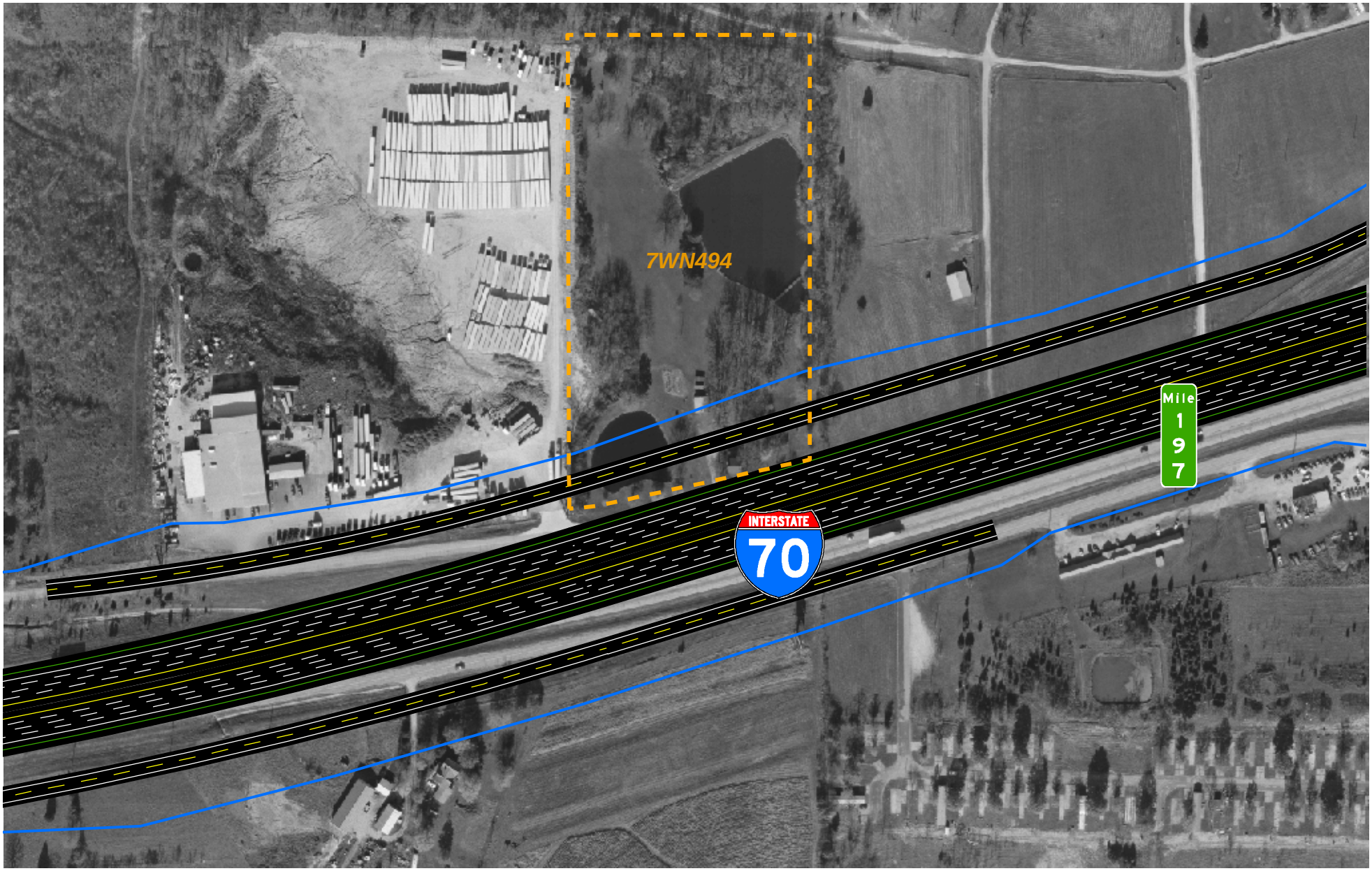
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site (w/MoDOT Resource Number)

0 125 250 500 Feet

N

Section 4(f) Impacts
Folk Victorian House
7MT1188
Alternative 2B

EXHIBIT
IV-8



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Historic Landscape
7WN0494
Alternative 10A

EXHIBIT
IV-9

MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Historic Landscape
7WN0494
Alternative 10B

EXHIBIT
IV-10

MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

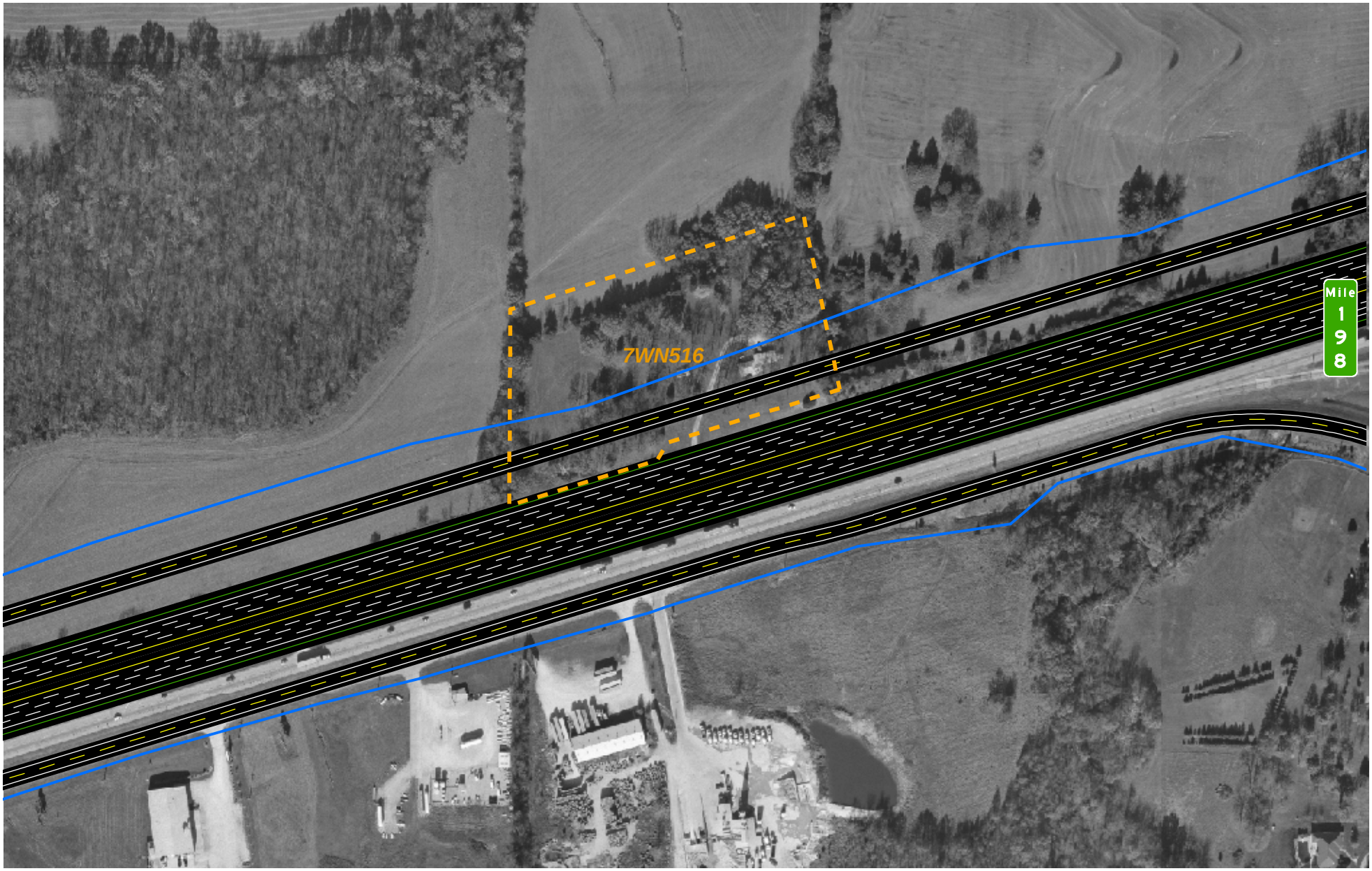
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Historic Landscape
7WN0494
Alternative 10C

EXHIBIT
IV-11



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Veneer Stonework House
7WN0516
Alternative 10A

EXHIBIT
IV-12

MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

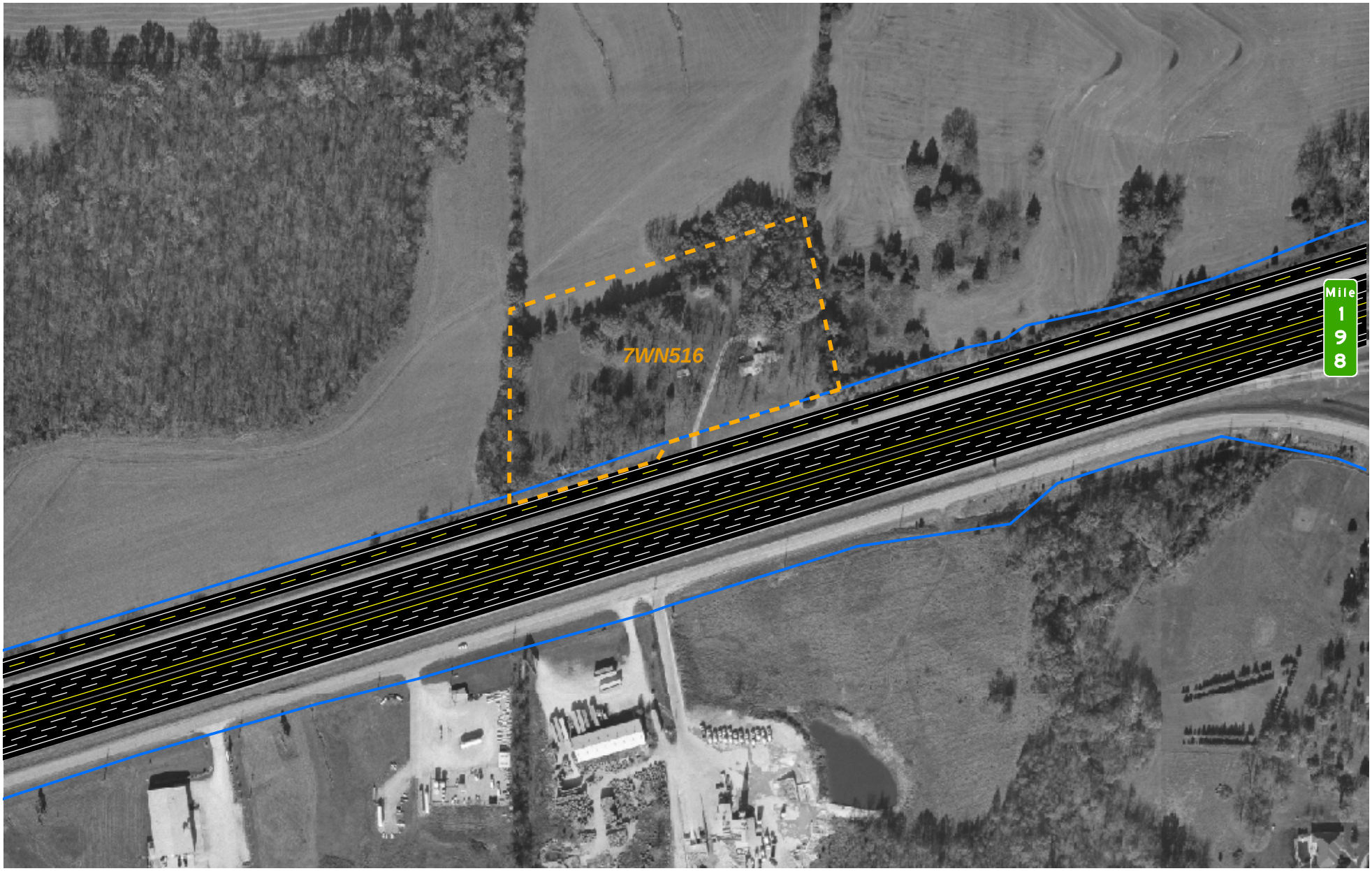
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Veneer Stonework House
7WN0516
Alternative 10B

EXHIBIT
IV-13



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

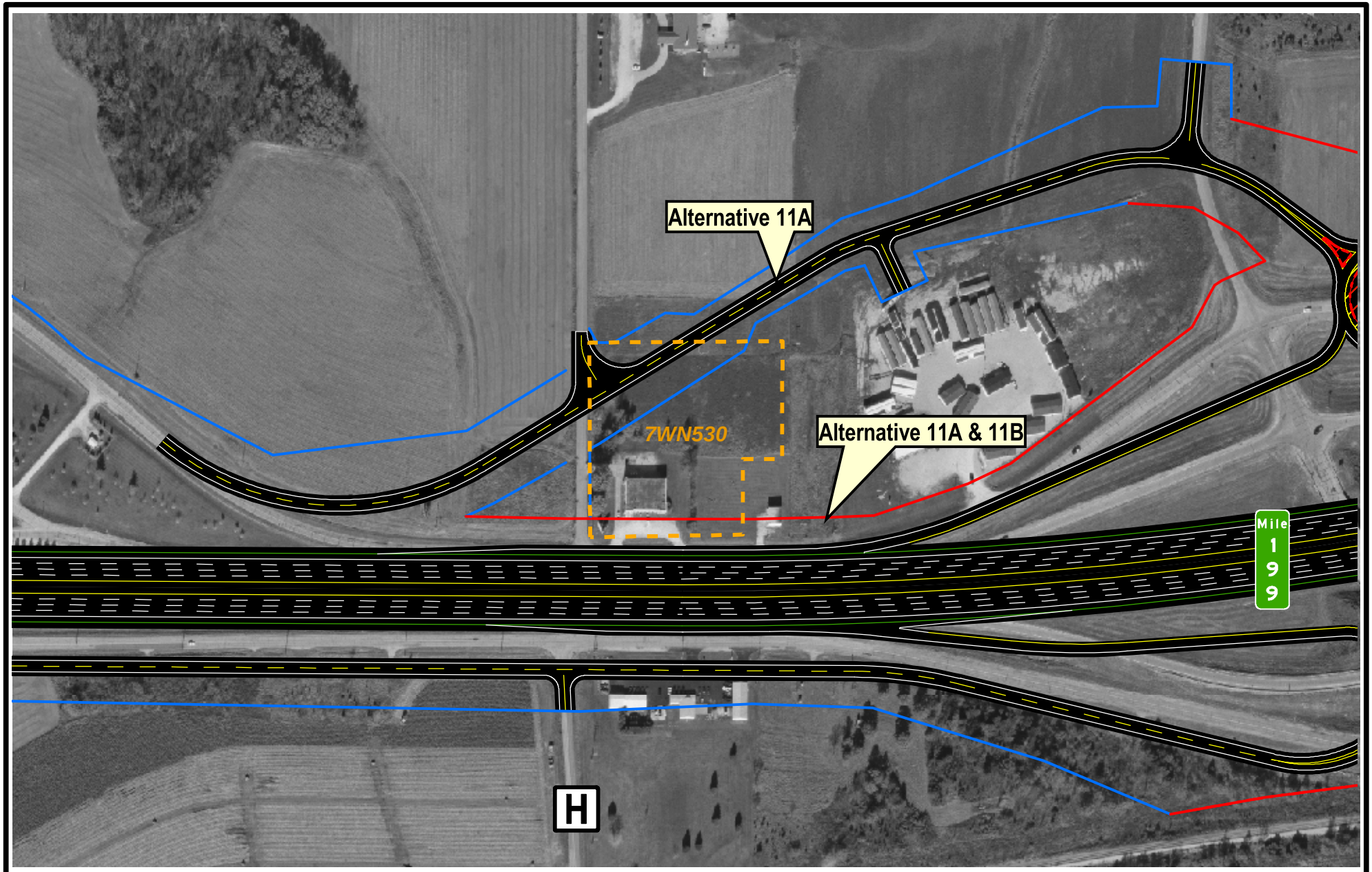
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Veneer Stonework House
7WN0516
Alternative 10C

EXHIBIT
IV-14



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

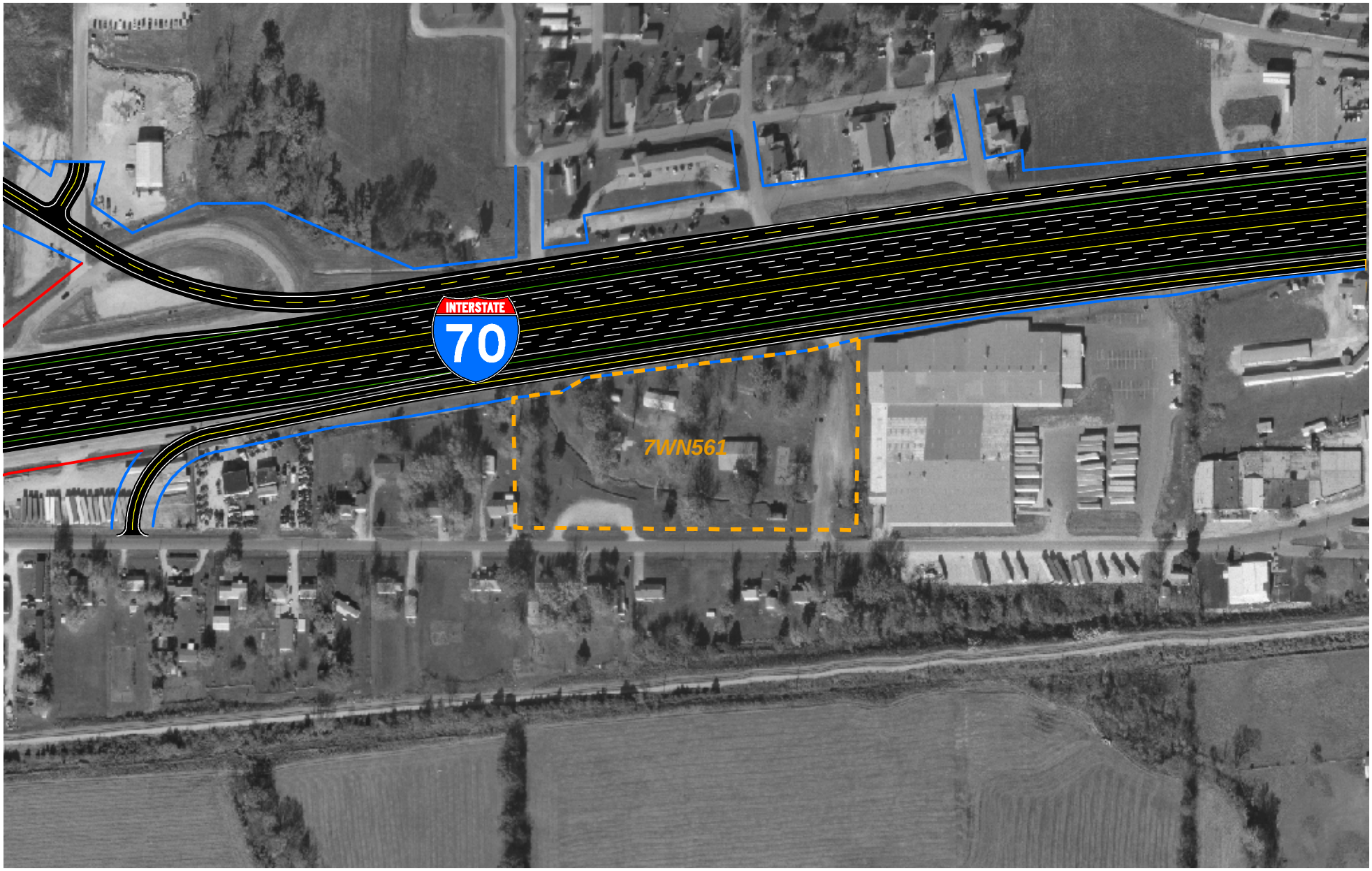
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Southwestern Bell Repeater Office
7WN0530
Alternative 11A & 11B

EXHIBIT
IV-15



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

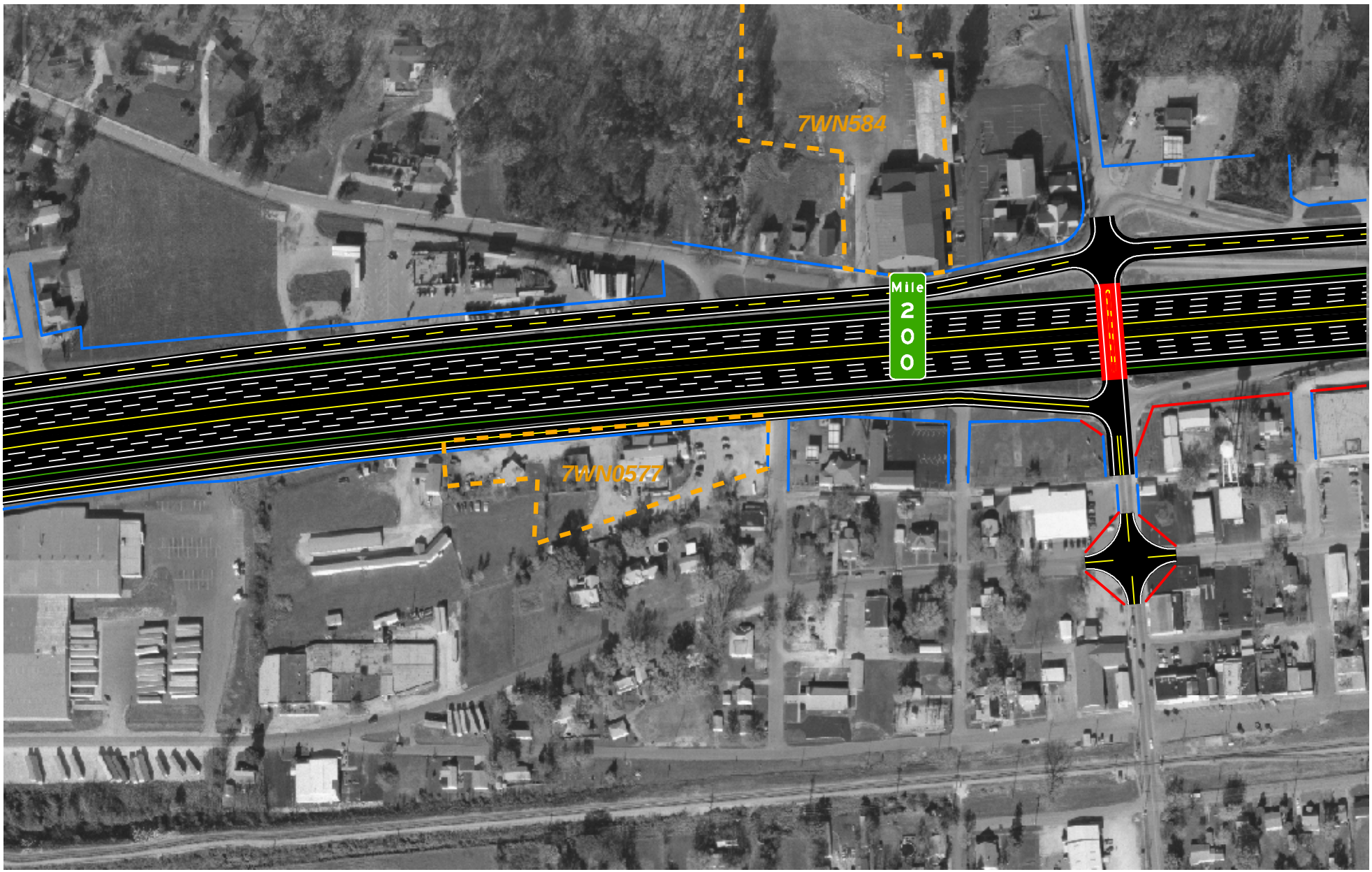
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Diekroeger Brothers Park
7WN0561
Alternative 11A & 11B

EXHIBIT
IV-16



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

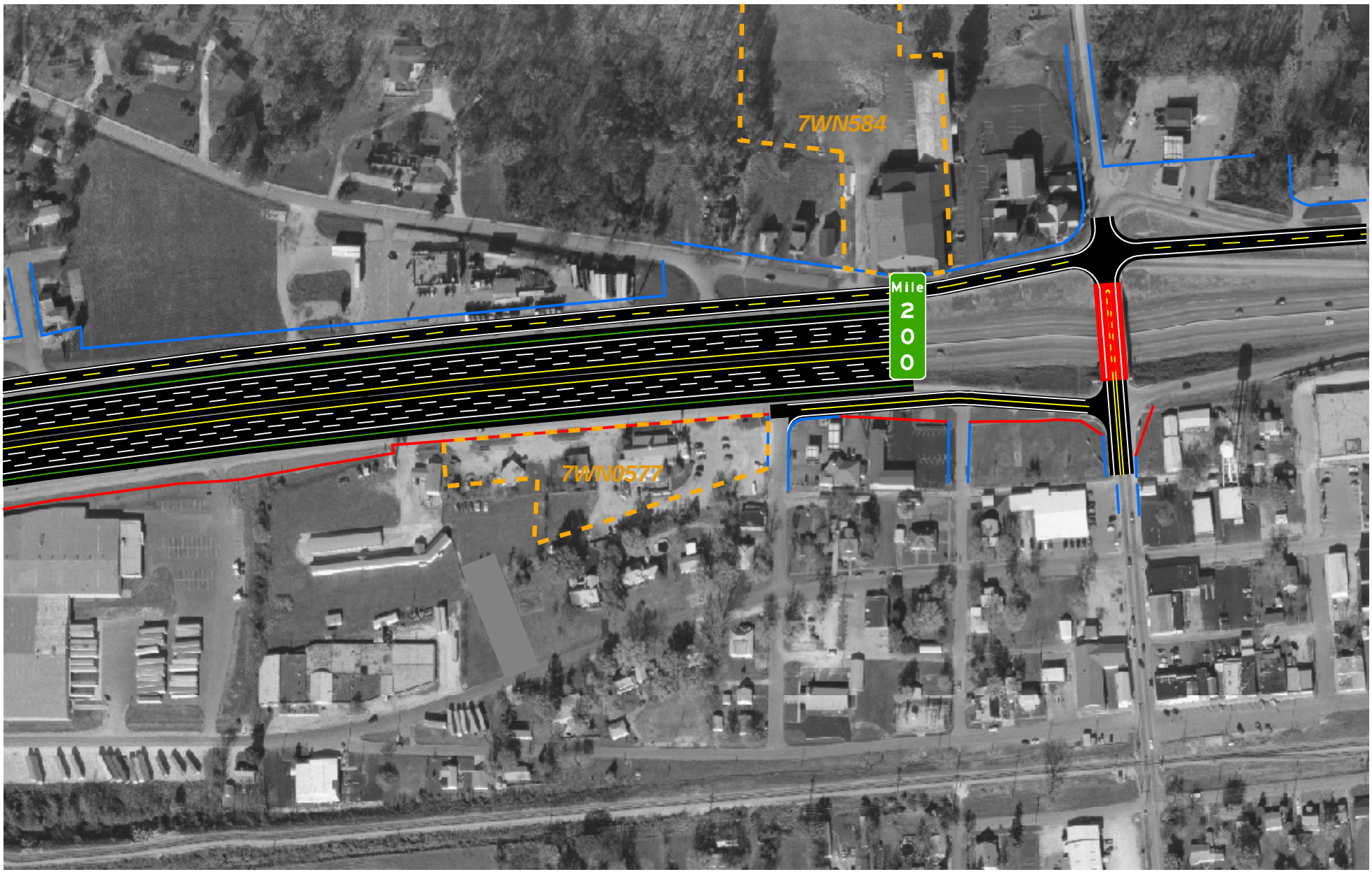
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Big Boy's Restaurant Property
7WN0577
Alternative 11A

EXHIBIT
IV-17



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

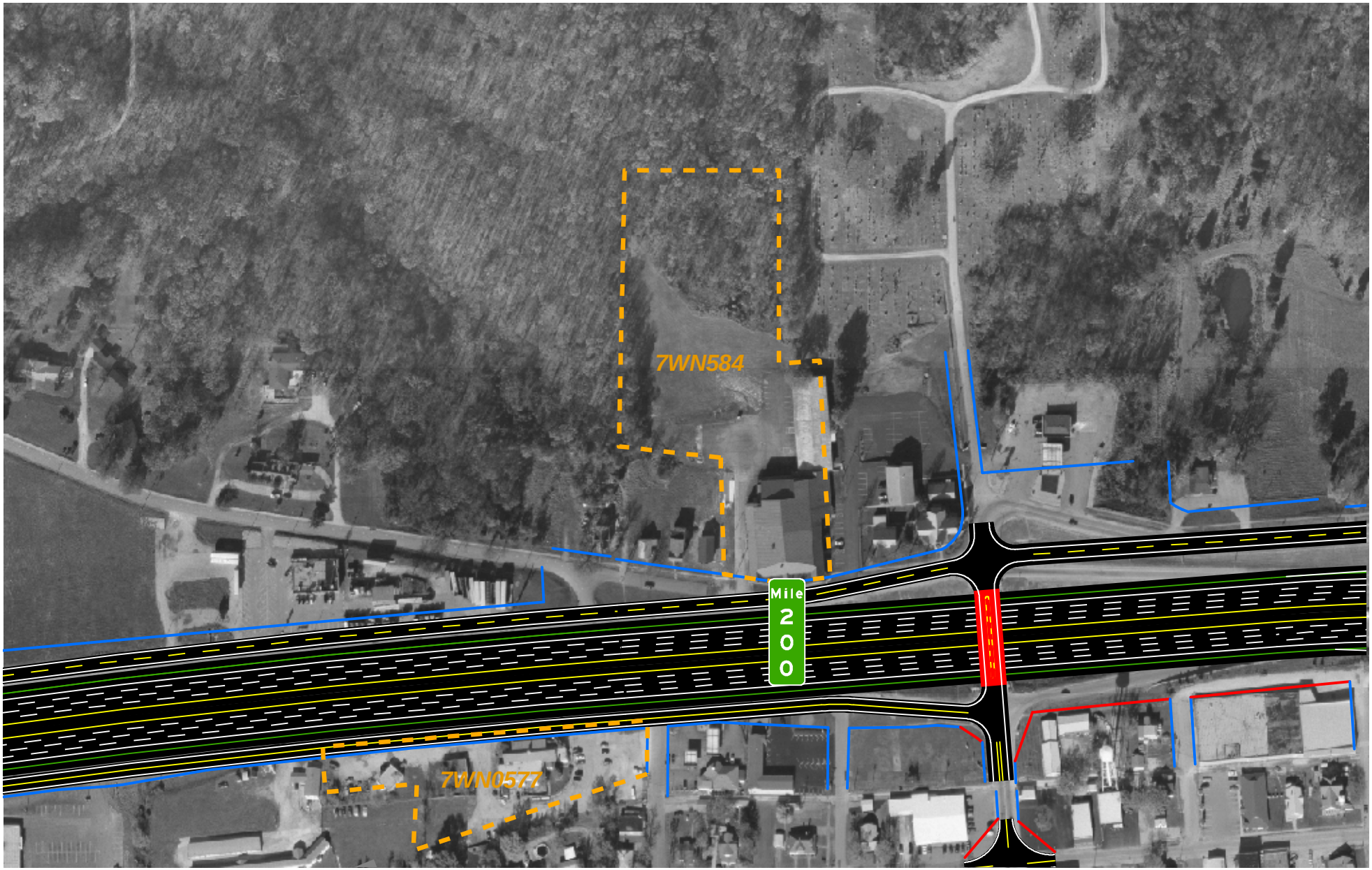
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Big Boy's Restaurant Property
7WN0577
Alternative 11B

EXHIBIT
IV-18



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

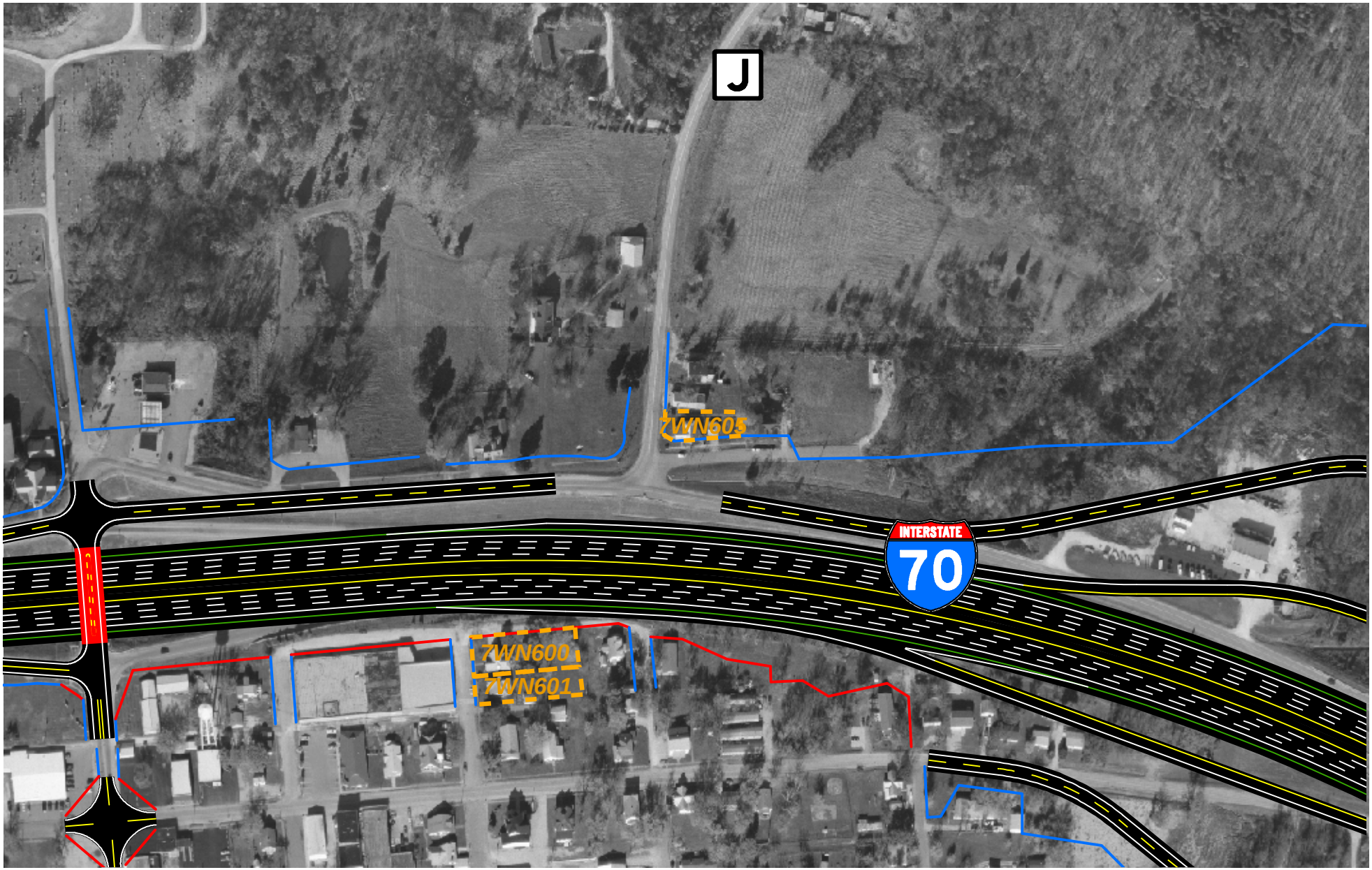
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Wright City Middle School-
Fraser C. Small Building
7WN0584
Alternative 11A & 11B

EXHIBIT
IV-19



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

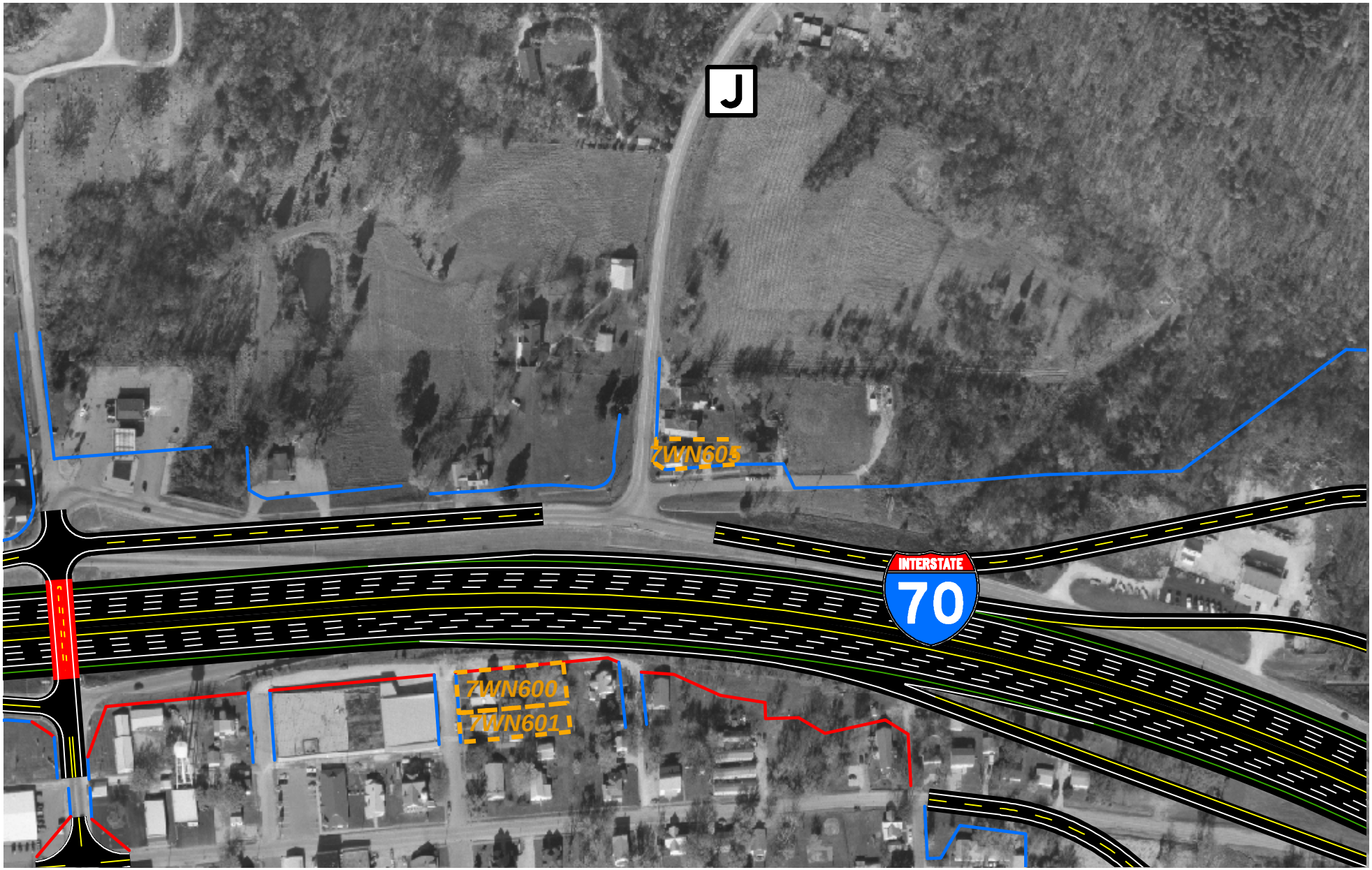
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Wright City Brick Victorians
Historic District Elements
7WN0600-601
Alternative 12

EXHIBIT
IV-20



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

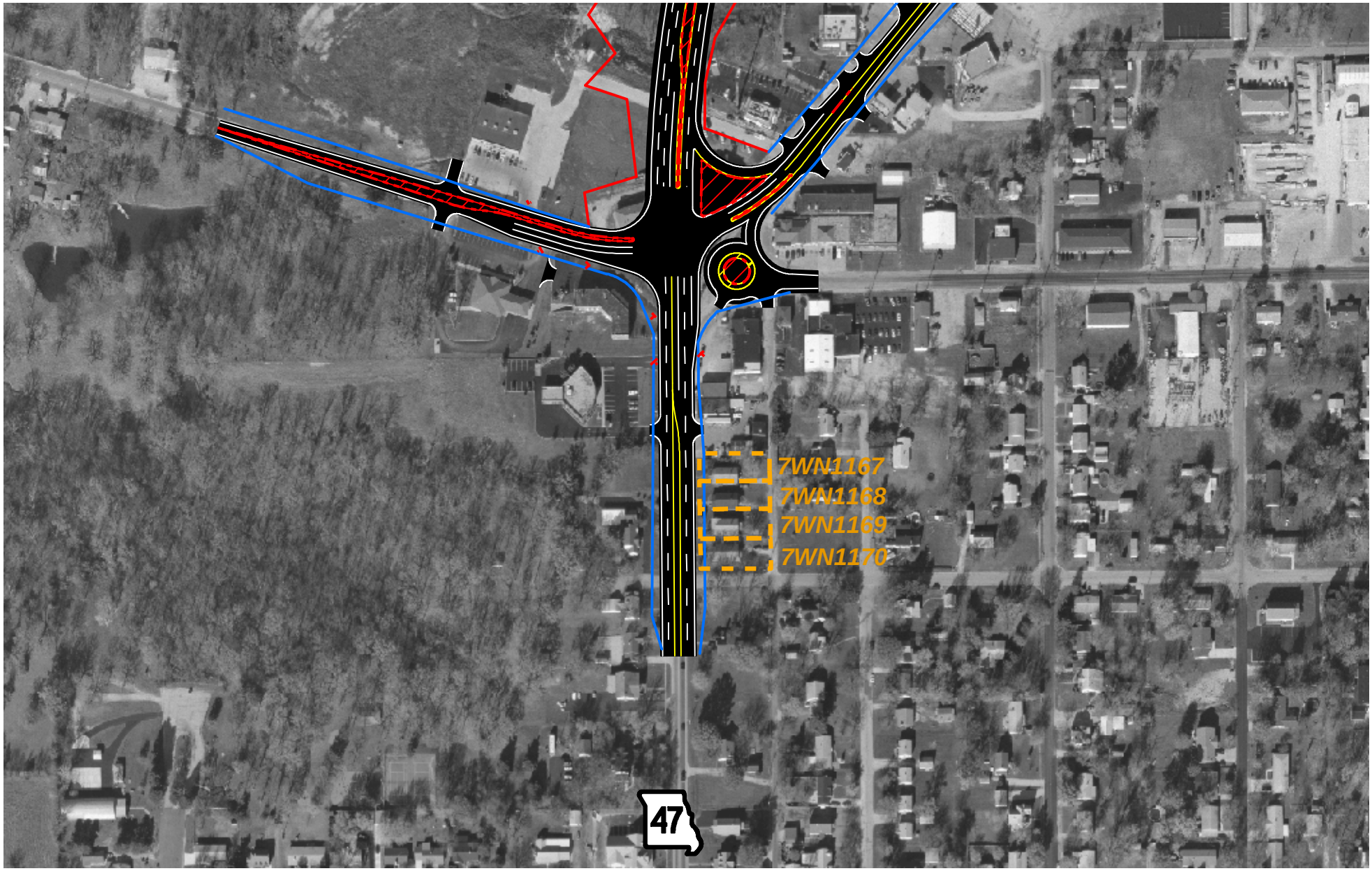
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Folk Victorian House
7WN0605
Alternative 12

EXHIBIT
IV-21



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

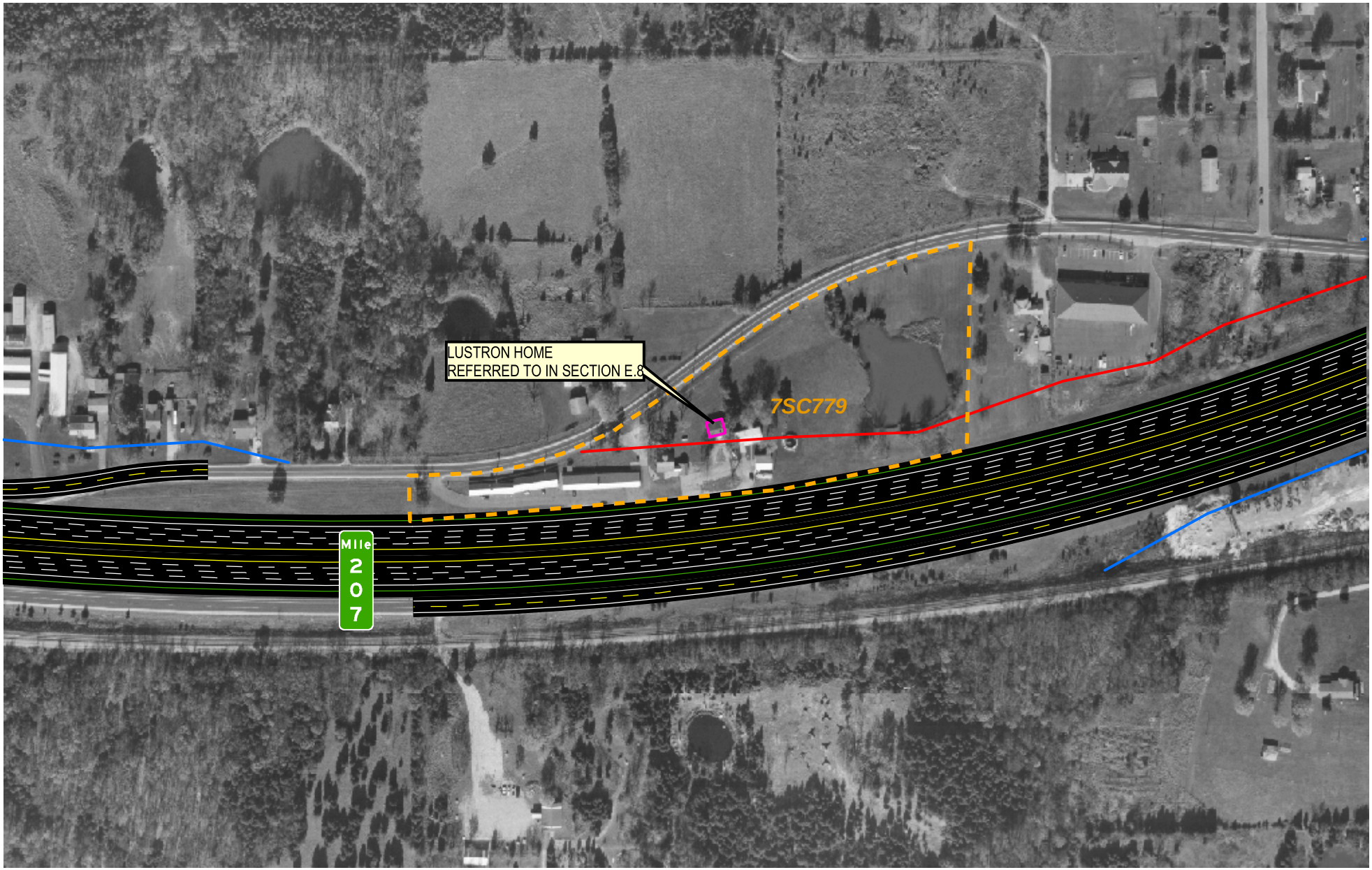
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Lix Bungalows
7WN1167-1170
Alternative 8A, 8B, 8C & 8D

EXHIBIT
IV-22



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

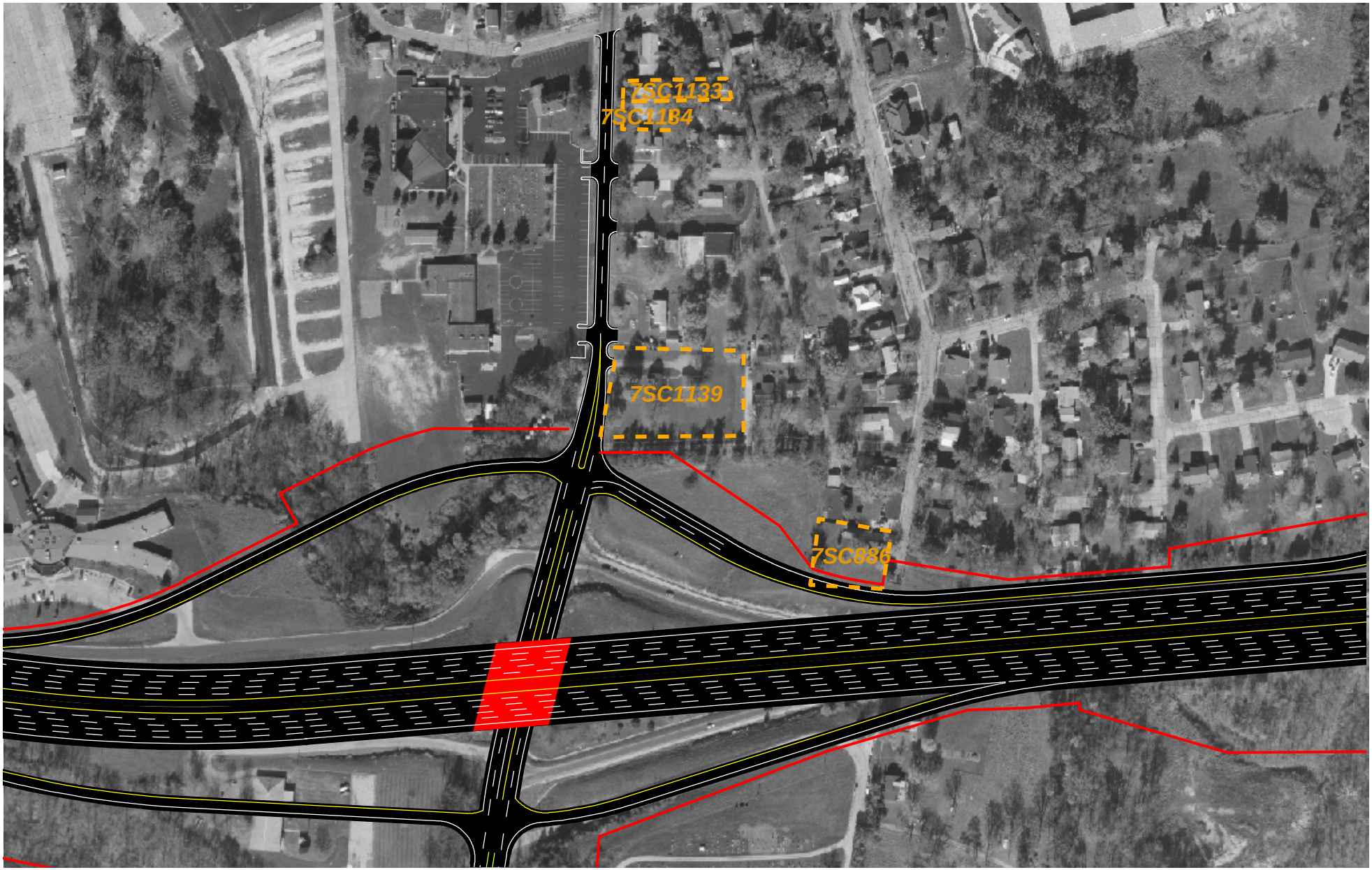
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Seven Acres Apts, Seven Acres Motel, & Lustron House
7SC0779
Alternative 14

EXHIBIT
IV-23



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

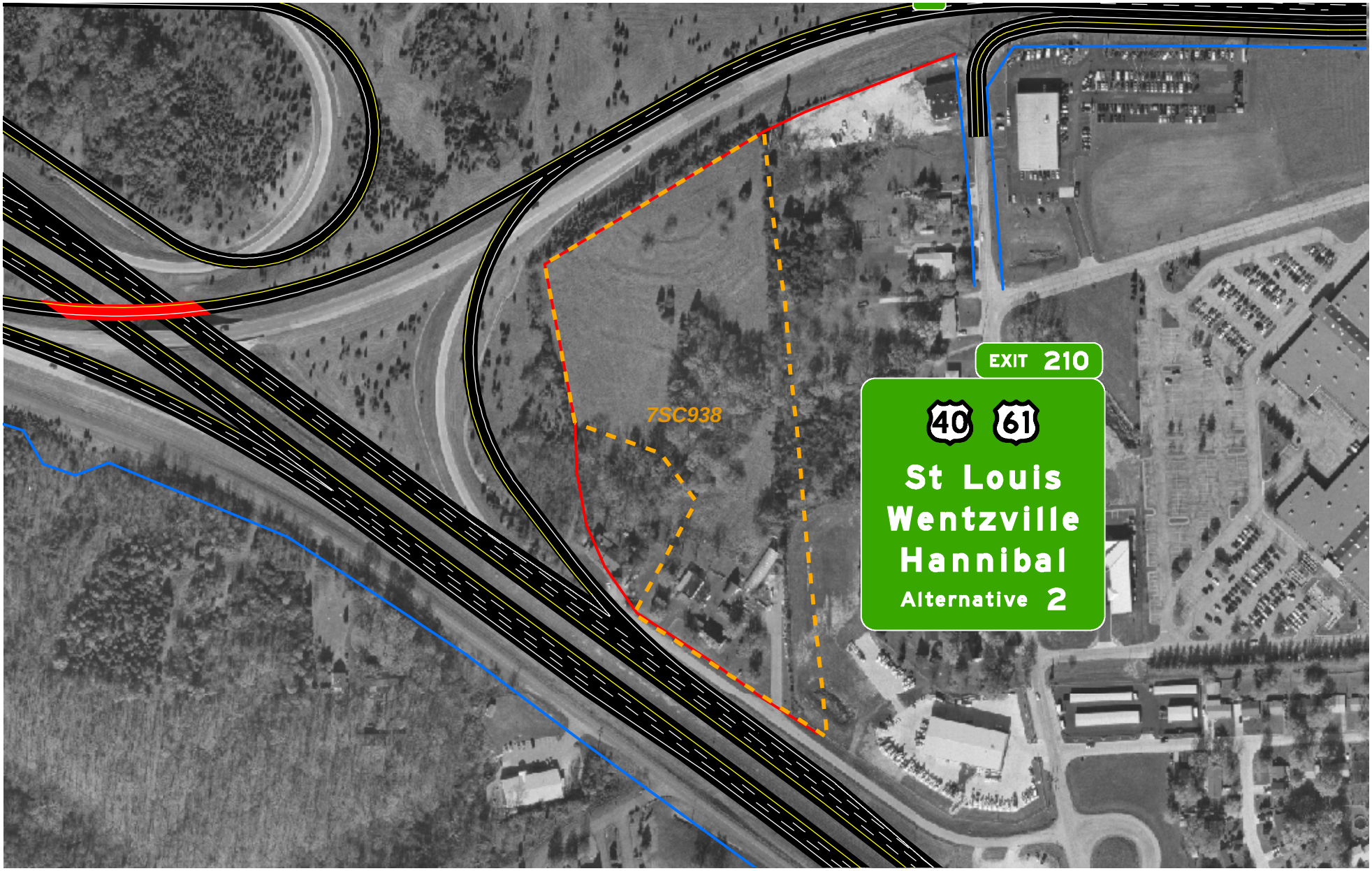
Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Wentzville District
7SC0885-886, 0891-0893, 1131-1139
Alternative 15

EXHIBIT
IV-24



MoDOT IMPROVE i70

SIU
7
Route 19
to
Lake St. Louis

Limited Access R/W
Right-In, Right-Out R/W
Normal R/W
Proposed Bridge
NRHP Eligible Site
(w/MoDOT Resource Number)

0 100 200 400 Feet

N

Section 4(f) Impacts
Tudor Revival
7SC0938
Alternative 15

EXHIBIT
IV-25