VOLUME 1

83-106 KA-1008-01; Haskell, Finney, & Scott Counties
US-83 Projects Identification & Needs Study

Final Report
Date: July 2010

KANSAS
DEPARTMENT OF TRANSPORTATION

ACKNOWLEDGEMENTS

US-83 Projects Identification & Needs Study
Haskell, Finney, and Scott Counties
From Sublette to Scott City, Kansas
KDOT Project 83-106 KA-1008-01

Preparation of this report required the input and efforts of many team members from the Kansas Department of Transportation, as well as local officials, and the general public. This report acknowledges and expresses our appreciation for everyone's efforts.

Kansas Department of Transportation

Bureau of Design:

Corky Armstrong
James Brewer
Kris Norton (Project Manager)
Jeffrey Sims
Mark Hoppe
Dominique Shannon
Michael Fletcher
Amanda Wages

Bureau of Program and Project Mgmt.:

Melinda Desch

Bureau of Public Involvement:

Sue Stringer

Bureau of Transportation Planning:

David Schwartz
Kevin Koester

Bureau of Right of Way:

Nancy Shepard

Bureau of Materials and Research:

Andy Gisi

Bureau of Trans. Safety and Technology:

Brian Gower

District Six Office:

Larry Thompson
Kirk Hutchinson
Calvin Carter

District Six Area Offices:

Gerald Bennett
Chuck Oldaker

Public Officials

Haskell County:

Larry Love
Bill Lower
Gene Ochs
Troy Briggs
David Hudgens

City of Sublette:

Lawrence Herman
Jacob Holloway

Scott County:

Rich Cramer
Pam Faurot
Jack Frick
Larry Hoeme
Dylan Spencer
Glen Anderson

Scott City:

Gary Eitel
Jerry Snyder
Mike Todd
Chris Jurgens

Finney County:

Roman Halbur
Dave Jones
Larry Jones
Cliff Mayo
Don Doll
Pete Olson
John Ellermann

Garden City:

Matt Allen
Steve Cottrell
David Crase
Sam Curran
Reynaldo Mesa

City of Moscow:

William Bell

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

FINAL REPORT (VOLUME 1)

PREFERRED ALTERNATIVE AERIAL PLATES (VOLUME 2) (BOUND SEPERATELY)

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

1. INTRODUCTION

1.1 – Study Background (Local Consultation)

The Kansas Department of Transportation (KDOT) hosted a series of statewide meetings to discuss the local consultation process in order to better partner with local officials when selecting and programming transportation projects. Consideration of both local and regional input from these meetings, along with KDOT's Priority Formula data, identified US-83 from Sublette to Scott City as a regionally important highway corridor needing study. In addition to pavement and capacity issues, local officials raised concerns in regard to increasing truck traffic volumes and limited passing opportunities. Selection of this corridor for study was announced by KDOT in May 2007.

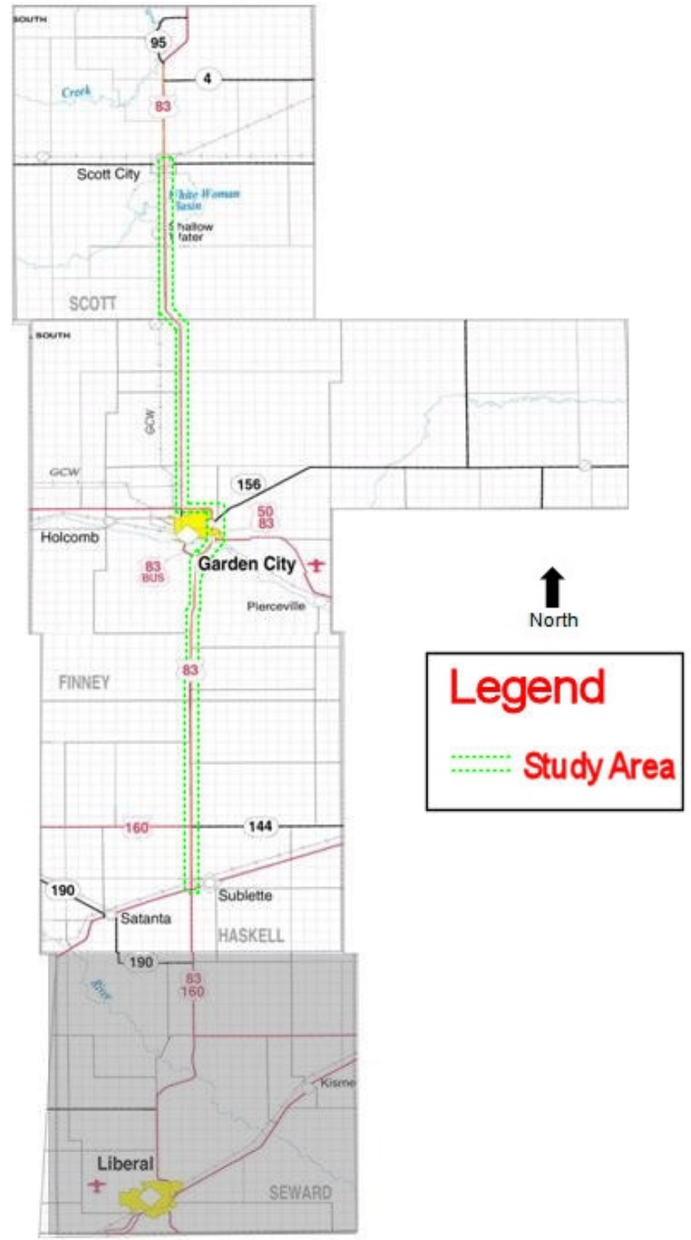
The study includes the evaluation of the US-83 corridor from Sublette to Scott City and will identify current and long-range corridor needs. Based on these needs, the study will identify and prioritize improvement projects; including the need for passing lanes or a four-lane improvement. This *"US-83 Projects Identification & Needs Study"* will provide information that is critical for KDOT to know in advance of a decision regarding project programming. Project authorization for the study occurred on February 25, 2008.

1.2 – Location and Description of the Study Area

The location of the *US-83 Projects Identification & Needs Study* is along the existing US-83 Corridor from Sublette north to Scott City in Haskell, Finney, and Scott counties in southwest Kansas; see Exhibit 1.2.1. The study area is approximately one mile wide centered on existing US-83, and is approximately 70 miles long extending from the US-56/US-83 junction west of Sublette, to the beginning of the four-lane curb & gutter section in Scott City, and includes the existing US-83 bypass around the eastern side of Garden City. Land use in the study area is primarily agricultural/pastureland with the exception of the cities along the route (Sublette, Garden City, and Scott City). Noted land use features located in the study area along US-83 include a large platted residential development with private golf course and a public golf course (just south of Garden City), irrigation ditches and appurtenances (just north of Garden City), numerous farmsteads, numerous center-pivot irrigated circles, flood irrigation, dry-land cultivation, six feedlots and two cemeteries.

For the purpose of this study, the use of the term "Urban Section" defines the more urbanized segment along the US-83 bypass from the east US-50/US-400/US-83 Jct. to the west US-50/US-400/US-83 Jct., in Garden City; see Exhibit 1.3.1. The term "Rural Section" defines those segments of US-83 featuring more rural characteristics with less dense commercial, industrial, and residential development.

Exhibit 1.2.1 Study Area Map



THIS PAGE INTENTIONALLY LEFT BLANK

1.3 – Study Description and Purpose

The purpose of this *US-83 Projects Identification & Needs Study* was twofold:

1. **To evaluate and identify current and anticipated long-range needs of the corridor.**
2. **To identify and prioritize improvement projects that will address those needs.**

The study evaluation of the corridor included:

- Review of previous available studies and Road Safety Audits (RSA's).
- Obtaining current and future (long-range) traffic volumes and types.
- Review of crashes and crash rates along the corridor.
- Review of roadway conditions, including pavement, highway geometrics and safety.
- Preliminary environmental review.
- Review of population and employment trends, including current and anticipated traffic/truck generators (feedlots, grain facilities, ethanol plants, manufacturing, commercial sites, farmsteads, & residential development).
- Review of utilities along the corridor.
- Review of flooding history (highway overtopping locations).
- Identification of highway segments that need further study (beyond the scope of this study).
- Public and local official input.

Considering the information and input obtained during the study evaluation, highway needs were identified and roadway type and alignment alternatives developed to best address those needs. It was anticipated that the roadway type alternatives developed would focus on addressing needs for improving capacity, safety, pavement condition, and access management such as:

- Two-lane roadway facility with passing lanes and intersection improvements.
- Two-lane roadway facility with passing lanes, intersection improvements, and adequate right-of-way to upgrade to a four-lane roadway facility in the future.
- Four-lane roadway facility (freeway, expressway or upgradeable expressway).

The roadway type and alignment alternatives were then evaluated and compared using several factors including; engineering, safety, public and local official input, environmental elements, right-of-way impacts, utilities, traffic accommodation, and costs. Considering the alternatives comparison, a *preferred roadway type* and *preferred alignment alternative* was identified and selected by KDOT to carry forward. The *preferred roadway type alternative* includes one or more of the roadway facility types listed above for the various functional classifications (urban or rural) identified along the corridor. The *preferred alignment alternative* utilizes a combination of the developed roadway alignment alternatives along different segments of the corridor. Taken together, the *preferred roadway type* and *preferred alignment alternative* selected by KDOT is known as the ***preferred alternative***.

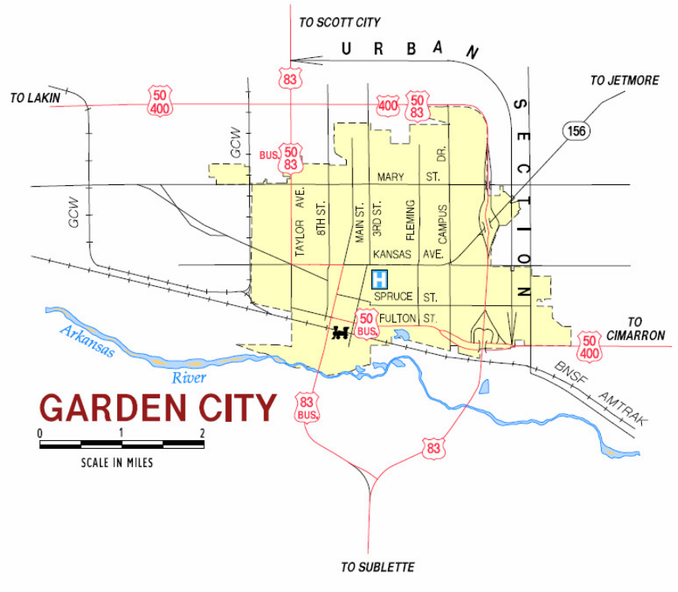
US-83 improvement projects were identified and prioritized based on the ***preferred alternative*** and determined needs. The identified improvement projects include project scope and estimated Total Project Costs (construction, preliminary engineering, construction engineering, right-of-way, and utility costs).

This *US-83 Projects Identification & Needs Study* provides information that will be critical for KDOT to know in advance of a decision regarding project programming when program funding becomes available.

BYPASS NOTE: Evaluation and planning for a future high capacity, high speed, access controlled highway alternative to the current US-83 corridor (i.e., future bypass around Garden City or Scott City) is beyond the scope of this study and was not considered.

URBAN SECTION NOTE: Prior to selection of any roadway type, alignment, or identified improvement projects for the urban section in Garden City, additional study and coordination with local officials is needed, which is considered beyond the scope of this study. The proposed roadway types, alignments, intersections, and interchanges depicted for the urban section are illustrative only. The urban section needs were considered and identified in this study however no specific alternatives, projects, or costs for the urban section were determined. See Exhibit 1.3.1 below for the urban section limits.

Exhibit 1.3.1 Urban Section



2. EVALUATION OF STUDY CORRIDOR

2.1 – Previous Studies

US-83 is the principal north-south route utilized for the movement of people and goods from the Oklahoma line to I-70 in the western Kansas region. The US-83 corridor has experienced strong trends in commercial and industrial development in the Garden City area resulting in concerns of land use and transportation. This development growth, along with the consistent increase in traffic volumes in the region has prompted past studies that have examined the relationship of highway investment and regional economic growth, regional traffic patterns, and corridor management. Past studies include:

- 1972 – "Economic Growth Center Highway Demonstration Program Work Plan for Garden City, Kansas.
- 1978 – "Origin and Destination Survey of Garden City, Kansas.
- 1979 – "Origin and Destination Survey of Oakley, Kansas.
- 1999 – "Review of the Effectiveness, Location, Design, and Safety of Passing Lanes in Kansas.
- 2002 – "US-50 Corridor Management and Spruce Street Grade Separation Design Concept Study for Garden City, Kansas.
- 2005 – "US-400 Corridor Concept Report; 400-106 K-8242-01"
- 2007 – "Transportation Logistics and Economics of the Processed Meat and Related Industries in Southwest Kansas".

Electronic or hard copies of these reports are available through the KDOT Library located at:

Kansas Department of Transportation
Librarian, Kansas DOT Library
700 S.W. Harrison St.
Topeka, KS 66603-3745
Phone: (785) 291-3854
E-Mail: library@ksdot.org

2.2 – Existing US-83

FACILITY TYPE –

US-83 is classified as a principal arterial on the National Highway System. Existing US-83 is a two-lane highway with paved shoulders from the Kansas/Oklahoma State Line north through the study area to north of I-70, except for the multi-lane curb and gutter sections within the cities of Liberal, Scott City, and Oakley. Currently, partial access control is maintained on US-83 in Finney County from "Old 83 Road" (8 miles south of Garden City), north through Garden City, to one-half mile north of the west US-50/US-400/US-83 Junction. The posted speed is 65 mph in the rural sections. The posted speed is 55 mph along the Garden City by-pass segment (urban section, from the east US-50/US-400/US-83 Jct. to the west US-50/US-400/US-83 Jct.).

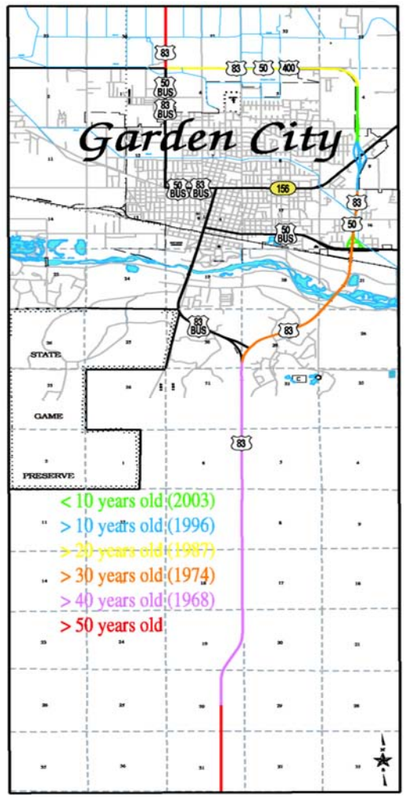
HORIZONTAL AND VERTICAL GEOMETRICS –

The study area located within Haskell, northern Finney, and Scott Counties predominately consists of level terrain associated with the *High Plains* region of Kansas. Southern Finney County (south of Garden City) includes rolling terrain associated with the *Arkansas River Lowlands*. The horizontal alignment of US-83 is generally straight in the rural segments with all curves meeting current design speed criteria for 65 mph. The horizontal alignment associated with the Garden City by-pass segment (from the US-83/US-83 Business Jct. to the west US-50/US-400/US-83 Jct.) includes several curves, all meeting current design speed criteria for 65 mph. The vertical alignment of US-83 satisfies current design speed criteria for 70 mph, with the exception of one vertical curve located three miles north of Garden City that satisfies 65 mph criteria. Most vertical curves in the study area exceed 80 mph design speed criteria.

PAVEMENT AGE, HISTORY, AND CONDITION –

The existing US-83 pavement structure through the study area is more than 50 years old with a 13 mile exception in Finney County from "Old 83 Road" (8 miles south of Garden City), north through Garden City, to the west US-50/US-400/US-83 Junction as shown in Exhibit 2.2.1.

Exhibit 2.2.1 Pavement Age



The KDOT Bureau of Materials and Research (Pavement Section) performed a pavement investigation of the US-83 corridor in the study area to assist in defining:

1. Sections of similar pavement along the corridor, including location and length.
2. Pavement age and paving action history for each pavement section.
3. Recommended paving action scope (reconstruction or rehabilitation) for each pavement section.
4. Priority listing of each pavement section to be addressed with pavement reconstruction or rehabilitation.

Based on the distress history of the road, existing condition, and recent rehabilitation actions, Table 2.2.1 lists the pavement sections in order of their priority along with the sections recommended scope of paving action.

Table 2.2.1 Pavement Sections

Priority	Section (US-83)	County	Action
1	HS-FI CoL, N to 7.9 mi. N of HS-FI County Line (CoL)	Finney	Reconstruction
2	Jct. US-83/US-160/K-144, N to HS-FI CoL	Haskell	Reconstruction
3	7.9 mi. N of HS-FI CoL, N to US-83 Bus./US-83	Finney	Reconstruction
4	FI-SC CoL, N to Scott City	Scott	Reconstruction
5	W Jct. US-50/US-83, N to FI-SC CoL	Finney	Reconstruction
6	Jct. US-56/US-83 in Sublette, N to Jct. US-83/US-160/K-144	Haskell	Reconstruction
7	US-83 Bus./US-83, N to E Jct. US-50/US-83	Finney	Reconstruction
	Section (US-50)		
8	E Jct. US-50/US-83, N to 0.6 mi. S of US-50/K-156	Finney	Rehabilitation
9	1.0 mi. N of US-50/K-156, N to W Jct. US-50/US-83	Finney	Rehabilitation
10	0.6 mi. S of US-50/K-156, N to 0.5 mi. N of US-50/K-156	Finney	Rehabilitation

-US-50 from 0.5 mi. N of US-50/K-156, N to 1.0 mi. N of US-50/K-156 will not need an action and can be incorporated in the future project. CoL = County Line.

The following is a discussion of each pavement section by county, including location, history and age of paving actions, performance, core information, and paving action recommendation.

Haskell County-

Section 1: Jct. US-56/US-83 in Sublette, N to Jct. US-83/US-160/K-144		Length	= 6.0 mi.
		Priority	= 6
2005	1.5” Hot Mix Asphalt (HMA)		
1999	Modified Slurry Seal		
1991	1.5” BM-1B + 5.5” BM-2 + 5.0” Cold Mill		
1989	1.0” BM-1 + 4.0” Cold In-Place Recycle (CIPR)		
1980	1.5” BM-2		
1950-1970	2.0” Seals		
1949	Seal + 4.0” Soil Asphalt + 5.0” Subgrade Mod.		

This section has a distress history of rutting, fatigue cracking, and thermal transverse cracking. In 1989 a major rehabilitation action was completed that consisted of a 4.0” cold in-place recycle and a 1.0” HMA overlay. The rehabilitation project raveled and rutted immediately and in 1991 a 5.0” cold mill and 6.5” HMA overlay was required to mediate these distresses. Since this action the pavement has alternated between a performance level of Two and Three and rutting has been reported every year. One core was obtained in this section and contained 10.0” of good material and the rest of the material was stripped. With the distress present in the roadway and the bottom layers of HMA stripped, **reconstruction** is recommended for this section.

Section 2: Jct. US-83/US-160/K-144, N to HS-FI CoL		Length	= 12.0 mi.
		Priority	= 2
2005	2.0” HMA		
1999	2.0” BM-1B		
1991	1.5” BM-1B + 5.5” BM-2 + 5.0” Cold Mill		
1989	1.0” BM-1 + 4.0” Cold In-Place Recycle (CIPR)		
1980	1.5” BM-2		
1950-1970	2.0” Seals		
1949	2.0” HMA over 6” Aggregate Base		

This section has had a history of thermal transverse cracking and recently has developed fatigue cracking since the overlay in 1999. In 1989 a major rehabilitation action was completed that consisted of a 4.0” cold in-place recycle and a 1.0” HMA overlay. This project raveled and rutted immediately and in 1991 a 5.0” cold mill and 6.5” HMA overlay was required to mediate these distresses. The rutting and transverse cracking began to reflect through in 1998 and this section received an overlay in 1999. Since this action the rutting has not reappeared but fatigue cracking developed and the transverse reflected through quickly. The fatigue cracking that has developed is indicative of a stripped HMA layer. Two cores were obtained through this section. Both cores obtained had 4.0” of good material and then the rest of the cores were stripped. Due to the condition of the roadway and distress history it is recommended that this section be **reconstructed**.

Finney County-

Section 3: HS-FI CoL, N to 7.9 mi. N of HS-FI CoL		Length	= 7.9 mi.
		Priority	= 1
2005	1.0” SM-9.5A (PG 64-22) + 1.0” Surface Recycle		
1998	1.0” BM-1T + 1.0” Surface Recycle		
1989	1.5” BM-2		
1973	0.8” BM-2		
1957	3.0” BMA2		
1949	2.5” HMA over 5.0” Aggregate Base		

This section has a history of rutting, thermal transverse cracking, and fatigue cracking. Since 1992 rutting has been present until it was relieved by the rehabilitation action in 2005. Since 1992 there has been transverse cracking reported every year, and the cracks have reflected through within a year of the two rehabilitations in 1998 and 2005. A core was obtained from this section and below the top 1.0” the rest of the core was stripped and fell apart. Therefore it is recommended that this section be **reconstructed**.

Section 4: 7.9 mi. N of HS-Fl CoL, N to US-83 Bus./US-83		Length = 6.0 mi.
		Priority = 3
2006	1.0” SM-9.5A (PG 64-22) + 1.0” Surface Recycle	
1999	1.0” BM-1T + 1.0” Surface Recycle	
1991	3.0” BM-1B = 3.0” Cold In-Place Recycle (CIPR)	
1968	5.0” BC01 over 3.0” Asphalt Soil	

This section has a history of rutting and thermal transverse cracking. The rutting was present before the cold in-place recycle action in 1991 and reflected through by 1994. The rutting remained until the surface recycle and overlay in 1999 which mitigated the rutting until it reflected through in 2002. The surface recycle and overlay action in 2006 has covered up the rutting and it has not reappeared. This would indicate that the rutting is in the bottom layers of the HMA or subgrade since the rehabilitation actions have not succeeded in removing the rutted layers. The thermal transverse cracking has been prevalent throughout the life of the pavement also. A core was obtained from this section and below the top 4.5” the HMA material was in poor condition and stripped. Therefore it is recommended that this section be **reconstructed**.

Section 5: US-83 Bus./US-83, N to E Jct. US-50/US-83		Length = 2.4 mi.
		Priority = 7
2006	1.0” SM-9.5A (PG 64-22) + 1.0” Surface Recycle	
2001	1.0” BM-1T + 1.0” Surface Recycle	
1993	1.5” BM-1B	
1974	2.0” BM-2 + 4.0” BM-4 + 3.0” Subgrade Mod.	

Thermal transverse cracking has been prevalent in this section throughout the life of the pavement. Fatigue cracking first was reported in 1999, and was reported every year until the rehabilitation action in 2006. The fatigue cracking reflected through the rehabilitation action in 2001 within a year. This is indicative of a stripped or loss of bond in the top of the pavement. One core was obtained from this project and had a thickness of 13.0”. An HMA layer at a depth of 5.0” was stripped. Due to the depth of the stripped layer and the age of the pavement structure, it is recommended that this section be **reconstructed**.

Section 6 (US-50): E Jct. US-50/US-83, N to 0.6 mi. S of US-50/K-156		Length = 1.0 mi.
		Priority = 8
2006	1.0” SM-9.5A (PG 64-22) + 1.0” Surface Recycle	
2001	1.0” BM-1T + 1.0” Surface Recycle	
1993	1.5” BM-1B	
1974	2.0” BM-2 + 4.0” BM-4 + 3.0” Subgrade Mod.	

This section has a history of rutting and recently has had fatigue cracking before the rehabilitation action in 2006 mitigated the distress. The rutting has come back through every rehabilitation action before the 2006 action, which would indicate deteriorated bottom HMA layers. Due to the history of rutting and the age of the pavement structure, it is recommended that this section be **reconstructed.**

Section 7 (US-50): 0.6 mi. S of US-50/K-156, N to 0.5 mi. N of US-50/K-156		Length = 1.1 mi.
		Priority = 10
1995	9.0” PCCP (NRDJ)	
1995	4.0” BDB	

Over the life of this pavement very little distress has been reported. There has been some minor faulting reported. **Rehabilitation** is recommended for this section.

Section 8 (US-50): 0.5 mi. N of US-50/K-156, N to 1 mi. N of US-50/K-156		Length = 0.5 mi.
		Priority = None
2003	11.0” PCCP (NRDJ)	
2003	6.0” FATSG	

This section has had localized failures near the bridge over Mary Street that will be rehabilitated. The rest of the pavement section is in good condition and can be incorporated in the future project without any action needed other than stringent care must be taken to keep the joints sealed in this stretch of pavement.

Section 9 (US-50): 1.0 mi. N of US-50/K-156, N to W Jct. US-50/US-83		Length = 2.8 mi.
		Priority = 9
2004	PCCP Patching + Diamond Grinding + Reseal Joints	
1985	9.0” PCCP (NRDJ)	
1985	4.0” HMA Base	

Over the life of this pavement very little distress has been reported. There has been some minor faulting and minor joint distress reported. **Rehabilitation** is recommended for this section.

Section 10: W Jct. US-50/US-83, N to Fl-SC CoL		Length = 18.2 mi.
		Priority = 5
2008	1.5” SMA-12.5 (PG 76-22)	
2005	Slurry Seal	
2001	Slurry Seal	
1997	Slurry Seal	
1992	1.5” BM-1B + 5.0” Hot Recycle (50% RAP)	
1984	1.0” HMA	
1979	1.0” HMA	
1971	4.0” HMA + 4.0” Cold Mill	
1956	3.5” HMA	
1940	2.0” Bituminous Cover	

This section of US-83 has a history of rutting, with Code One rutting reported every year since 1993. The hot recycle and overlay in 1992 relieved the rutting for one year but by 1993 the rutting had reflected through. This pavement has also had a long history of thermal transverse cracking, which was mitigated for several years by the cold recycle and overlay. Two cores were obtained in this section that had an average thickness of 21.0”. The top 17.0” of HMA material was in good condition, and the bottom 4.0” was stripped. The rutting indicates that the bottom HMA layers or subgrade is rutting and the only remedy would be full depth reconstruction. It is recommended that this section be **reconstructed**.

Scott County-

Section 11: FI-SC CoL, N to Scott City		Length = 14.3 mi.
		Priority = 4
2008	1.5” SMA-12.5 (PG 76-22)	
2005	Slurry Seal	
2001	Slurry Seal	
1997	Slurry Seal	
1991	1.0” HMA + 5.0” Hot Recycle (50% RAP)	
1972	2.0” HMA	
1956	3.0” HMA	
1940	2.0” Bituminous Cover	

This section of US-83 has a history of rutting, with Code One rutting reported every year since 1993. The hot recycle and overlay in 1991 relieved the rutting for one year but by 1993 the rutting had reflected through. This pavement has also had a long history of thermal transverse cracking with some cracking reported every year since 1986. Two cores were obtained in this section and both cores had an average thickness of 21.0”. The HMA in the bottom 7.0” of each core was stripped. The history of rutting indicates that the bottom HMA layers or subgrade is rutting and the only remedy would be full depth reconstruction. It is recommended that this section be **reconstructed**.

2.3 – Level of Service, Traffic, and Crash Data

LEVEL OF SERVICE (LOS) –

US-83 is classified as a Class I highway facility for purposes of calculating highway capacity. Class I facilities are two-lane highways on which motorists expect to travel at relatively high speeds. Class I facilities most often serve long-distance trips or provide connecting links between facilities that serve long-distance trips. The primary measures of service quality for Class I two-lane highways such as US-83, are percent time-spent-following and average travel speed. Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service (LOS) is a quality measure describing operating conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six LOS are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions and the driver’s perception of those conditions. LOS criteria are defined for peak 15-minute flow periods and are intended for application to segments of significant length. Safety is not included in the measures that establish service levels. The following lists the general LOS definitions for rural two-lane highway facilities.

LOS A describes the highest quality of traffic service, when motorists are able to travel at their desired speed. The passing frequency required to maintain desired speed has not reached a demanding level, so that passing demand is well below passing capacity, and platoons of three or more vehicles are rare.

LOS B characterizes traffic flow with reasonably free flow operating conditions. The demand for passing to maintain desired speeds becomes significant and approximates the passing capacity at the lower boundary of LOS B.

LOS C describes further increases in traffic flow, resulting in noticeable increases in platoon formation, platoon size, and frequency of passing impediments. Unrestricted passing demand exceeds passing capacity. Although traffic flow is stable, it is susceptible to congestion due to turning traffic and slow-moving vehicles.

LOS D describes unstable traffic flow. The two opposing traffic streams begin to operate separately at higher volume levels, as passing becomes extremely difficult. Passing demand is high, but passing capacity reaches zero. Mean platoon sizes of 5 to 10 vehicles are common. The proportion of no-passing zones along the roadway usually has little influence on passing.

LOS E describes unstable traffic flow conditions with high percent-time-following and slow speeds. Passing is virtually impossible at LOS E, and platooning becomes intense, as slower vehicles or other interruptions are encountered.

LOS F represents heavily congested flow with traffic demand exceeding capacity. Traffic volumes are higher than capacity and speeds are highly variable.

Efficient mobility is the principal function of major two-lane highways that connect major traffic generators or that serve as primary links in state and national highway networks. These routes tend to serve long-distance commercial and recreational travelers, and long sections may pass through rural areas without traffic-control interruptions. Consistent high-speed operations and infrequent passing delays are desirable for these facilities. LOS expectations change slightly when going from rural sections to urban sections. There is more expectation among drivers in urban areas to have to follow another vehicle, but this is acceptable because trips tend to be shorter and drivers don’t have to be inconvenienced for long distances. **Rural highways should be designed to provide LOS B operation and urban highways should be designed to provide LOS C. As a “remain in place” guideline, KDOT attempts to provide minimum LOS C for rural highways and LOS D for urban highways.**

Sensitivity analyses based on the current (No Build) and an improved (Build) US-83 highway facility were performed on the traffic volume projections using LOS threshold values for both the urban section in Garden City and the rural sections in Haskell, Finney, and Scott Counties. LOS for the years 2010 through 2060 were developed to provide assistance in determining the long-range needs for the corridor; see Exhibit 2.3.1 and Exhibit 2.3.2. The (Build) sensitivity analysis is based on an improvement of US-83 utilizing a four-lane facility along the *urban section* and the *preferred roadway type* for the rural sections, discussed later in Section 4, which is a *two-lane with passing lanes (four-lane right of way)*. The sensitivity analysis exhibits are shown side-by-side for ease of comparison of the service quality over time between the (No Build) and (Build) scenarios.

Exhibit 2.3.1 Sensitivity Analysis - Level of Service (LOS) for Current Highway Facility (No Build)

	Intersection	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060
	Clara Ave & 130 Rd	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E
	130 Rd & 75 Rd	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
	75 Rd & CR 683/1074	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	CR 683/1074 & CR-1046/40 Rd	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	CR-1046/40 Rd & 30 Rd	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
SCOTT	30 Rd & Finney-Scott Rd	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
FINNEY	Finney-Scott Rd & RS-946/Gano Rd	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	RS-946/Gano Rd & RS-245/Tennis Rd	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	RS-245/Tennis Rd & RS-1722/6 Mile Rd	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D
	RS-1722/6 Mile Rd & RS-244/Lowe Rd	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
	RS-244.Lowe Rd & Rodkey Rd	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
	Rodkey Rd. & N US-50/83 JCT	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
URBAN SECTION	N US-50/83 JCT & 8th Street	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	8th Street & 3rd Street	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	3rd Street & Campus Drive	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Campus Drive & K-156/Mary Int.	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	K-156/Mary Int & Schulman	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Schulman & Spruce	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	Spruce & US-50B/83	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	US-50B/83 & No Name (Quarry)	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	No Name (Quarry) & Burnside	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Burnside & Grandview	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Grandview & US-83/83B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
	US-83/83B & Brookside	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
	Brookside & Brookover Ranch	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
	Brookover Ranch & Buffalo Dunes GC	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
	Buffalo Dunes GC & Annie Scheer	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
	Annie Scheer & Old US-83	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
	Old US-83 & RS-2126/Parallel	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
	RS-2126/Parallel & RS-247/Plymell	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
	RS-247/Plymell & RS-1558/Lear	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
FINNEY	RS-1558/Lear & 10th Rd	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
HASKELL	10th Rd & 30th Rd	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	30th Rd & RS-282/50th Rd	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	RS-282/50th Rd & RS-942/70th Rd	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D
	RS-942/70th Rd & 90th Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D
	90th Rd & US-160/K-144	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D
	US-160/K-144 & RS-2234/180th Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D
	RS-2234/180th Rd & US-56 JCT	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

Exhibit 2.3.2 Sensitivity Analysis - Level of Service (LOS) for Improved Highway Facility (Build)

Four-Lane (Urban Section) & Preferred Alternative – Two Lanes with Passing Lanes (Four-Lane R/W) (Rural Section)

	Intersection	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060
	Clara Ave & 130 Rd	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
	130 Rd & 75 Rd	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	75 Rd & CR 683/1074	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	CR 683/1074 & CR-1046/40 Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	CR-1046/40 Rd & 30 Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D
SCOTT	30 Rd & Finney-Scott Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D
FINNEY	Finney-Scott Rd & RS-946/Gano Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
	RS-946/Gano Rd & RS-245/Tennis Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
	RS-245/Tennis Rd & RS-1722/6 Mile Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
	RS-1722/6 Mile Rd & RS-244/Lowe Rd	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	RS-244.Lowe Rd & Rodkey Rd	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	Rodkey Rd. & N US-50/83 JCT	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
URBAN SECTION	N US-50/83 JCT & 8th Street	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	
	8th Street & 3rd Street	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	3rd Street & Campus Drive	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Campus Drive & K-156/Mary Int.	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	K-156/Mary Int & Schulman	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C
	Schulman & Spruce	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Spruce & US-50B/83	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C
	US-50B/83 & No Name (Quarry)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E
	No Name (Quarry) & Burnside	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E
	Burnside & Grandview	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
	Grandview & US-83/83B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	US-83/83B & Brookside	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	Brookside & Brookover Ranch	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	Brookover Ranch & Buffalo Dunes GC	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	Buffalo Dunes GC & Annie Scheer	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	Annie Scheer & Old US-83	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	Old US-83 & RS-2126/Parallel	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	RS-2126/Parallel & RS-247/Plymell	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	RS-247/Plymell & RS-1558/Lear	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
FINNEY	RS-1558/Lear & 10th Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D
HASKELL	10th Rd & 30th Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
	30th Rd & RS-282/50th Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
	RS-282/50th Rd & RS-942/70th Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D
	RS-942/70th Rd & 90th Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D
	90th Rd & US-160/K-144	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D
	US-160/K-144 & RS-2234/180th Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D
	RS-2234/180th Rd & US-56 JCT	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D

TRAFFIC VOLUMES –

Traffic volumes within the study area were developed by use of existing historic traffic counts and vehicle classification information; then projecting these traffic counts by a growth rate of 2% per year to 2010 (existing) and 2030 (projected). The historic traffic count trends along the US-83 corridor showed growth rates of 1.2% to 2% per year in the study area. Refer to Appendix 5.1 for traffic counts, projections, and turning movements.

EXISTING TRAFFIC (2010) –

The existing traffic volumes along the rural sections of US-83 in the study area range from 3,400 vehicles per day (vpd) to 3,850 vpd in Haskell County; 3,650 vpd to 6,000 vpd in Finney County; and 3,700 vpd to 5,400 vpd in Scott County. This generally results in a level of service (LOS) B in Haskell and Scott Counties; and LOS C in Finney County. Heavy/medium truck volumes account for 1,100 trucks per day (tpd) to 2,000 tpd, or 33 percent of the total traffic volume south of Garden City and 1,150 tpd to 1,700 tpd, or 31 percent of the total traffic volume north of Garden City.

The existing traffic volumes along the urban section of US-83 in Garden City range from 7,500 vpd to 9,600 vpd. This results in a LOS C for the urban section in Garden City from the east US-50/US-400/US-83 Jct. to the west US-50/US-400/US-83 Jct. Heavy/medium truck volumes account for 2,400 tpd to 3,100 tpd, or 32 percent of the total traffic volume in Garden City.

PROJECTED TRAFFIC (2030) –

The projected traffic volumes along the rural sections of US-83 in the study area range from 5,000 vehicles per day (vpd) to 5,700 vpd in Haskell County; 5,400 vpd to 8,900 vpd in Finney County; and 5,550 vpd to 8,000 vpd in Scott County. For the current (No Build) two-lane highway facility, this generally would result in a LOS C in Haskell, Finney, and Scott Counties; and LOS D in Finney County just south of Garden City from the US-83/US-83 Business Jct. to the east US-50/US-400/US-83 Jct. in Garden City.

The projected traffic volumes along the urban section of US-83 in Garden City range from 11,150 vpd to 14,250 vpd. For the current (No Build) two-lane highway facility, this generally would result in a LOS D for the urban section in Garden City from the east US-50/US-400/US-83 Jct. to the west US-50/US-400/US-83 Jct., with LOS E and LOS F occurring on US-83 near Spruce Street and Schulman Avenue respectively.

The exhibits shown to the right (Exhibits 2.3.3 & 2.3.4) are taken from the *Kansas Long Range Transportation Plan (LRTP)*, distributed in June 2008. Exhibit 2.3.3 shows that while the Kansas population has grown, vehicle and truck miles have grown faster. This trend is expected to continue. The Kansas population is projected to increase by 11 percent in the next 20 years, while statewide growth in vehicle and truck traffic is projected to increase by 44 percent and 97 percent respectively. This growth will significantly impact the needs of the Kansas highway system and will increase the need for more capacity on both the rural and urban highway systems, including US-83. Exhibit 2.3.4 maps the nearly 2,000 miles statewide that could be at or near congested levels by the year 2030. These locations were developed comparing projected future traffic volumes with current roadway conditions and are intended to provide a statewide perspective on future congestion needs. Based on the traffic volume data and sensitivity analyses associated with this study, along with the LRTP information, the US-83 corridor within the study area is currently experiencing congestion in some locations and is expected to have congestion throughout the study area corridor by 2030.

Exhibit 2.3.3
Population and Travel Growth Trends

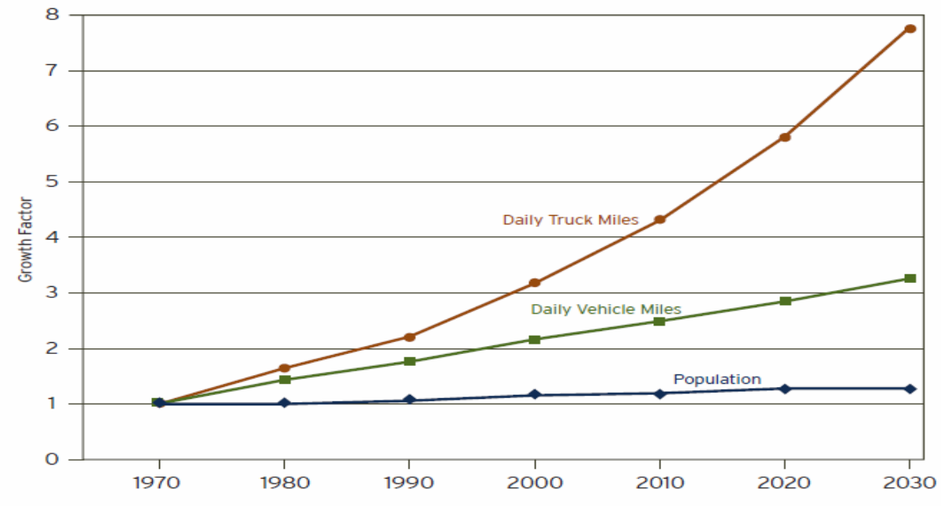
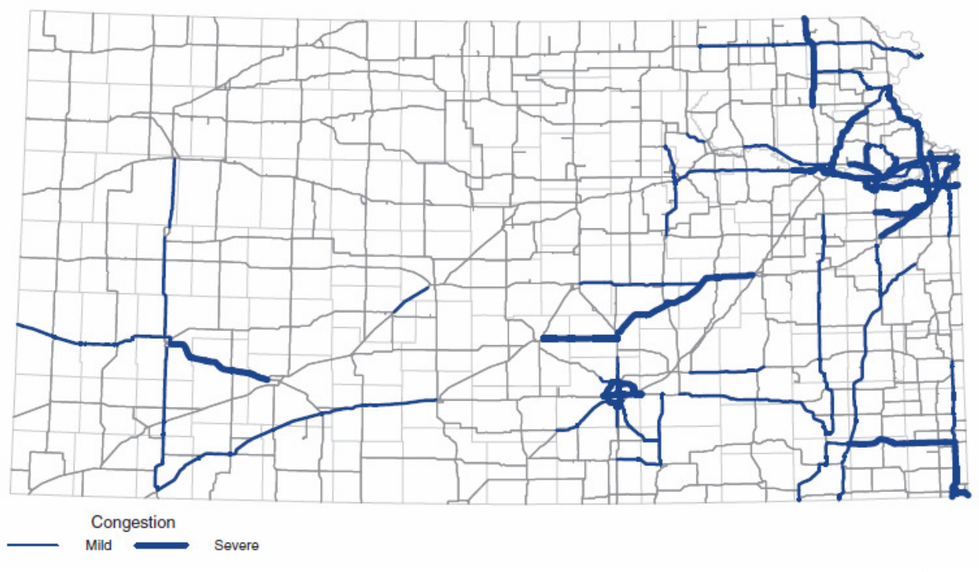


Exhibit 2.3.4
Projected Highway Miles At or Near Congestion in 2030



CRASH ANALYSIS –

The crash analysis for the US-83 corridor through the study area is based on data for the five-year period from 2003 through 2007. The crash analysis for the rural sections of US-83 was analyzed separately from the urban section in Garden City, as the highway facility characteristics for these sections differ in regard to their current level of access control and management.

The crash analysis considered reported intersection and intersection related crashes. In the rural section, the US-83/US-160/K-144 Jct. in Haskell County and the US-83/US-83 Business Jct. were noted as having more crashes than other rural intersections within the study area. In the urban section, the west US-50/US-400/US-83 Jct. in Garden City was noted as having the most crashes among all the other urban intersections. This stop-controlled, at-grade intersection is included for improvement to become a grade separated diamond interchange as part of the KDOT Project 50-28 K-8246-01 which is currently being constructed. Other stop-controlled, at-grade urban intersections noted for crashes are the US-83/Schulman and US-83/3rd Street intersections in Garden City. The crash analysis rates for the rural and urban sections follow; see Exhibits 2.3.5 and 2.3.6 respectively.

MOTOR VEHICLE CRASH ANALYSIS DATA (Rural Sections)

Route: US-83 **County:** Haskell, Finney, and Scott

Location: Corridor from Sublette to Scott City (Rural Only – Excludes Garden City)

Length: 66.85 miles

Time Period: Jan. 1, 2003 through Dec. 31, 2007

This analysis location is two-lane, undivided, and has no access control for most of its length.

Exhibit 2.3.5 Crash Rates (Rural Sections)

5-Year Rates:	
Overall accident rate per million miles of vehicle travel:	0.65
Statewide overall accident rate for similar roadway type:	1.53
Fatal accident rate per 100 million miles of vehicle travel:	2.95
Statewide fatal accident rate for similar roadway type:	2.29

MOTOR VEHICLE CRASH ANALYSIS DATA (Urban Section)

Route: US-83 **County:** Finney

Location: US-83 Corridor, Garden City By-Pass (US-50/US-400/US-83 E. Jct. to the US-50/US-400/US-83 W. Jct.)

Length: 5.31 miles

Time Period: Jan. 1, 2003 through Dec. 31, 2007

This analysis location is two-lane, undivided, and has partial access control for all of its length.

Exhibit 2.3.6 Crash Rates (Urban Section)

5-Year Rates:	
Overall accident rate per million miles of vehicle travel:	1.01
Statewide overall accident rate for similar roadway type:	1.65
Fatal accident rate per 100 million miles of vehicle travel:	1.28
Statewide fatal accident rate for similar roadway type:	1.85

2.4 – Environmental Elements

The purpose of doing the preliminary environmental review in this US-83 study was to:

- Discover early in the study process if there are any potential environmental "fatal flaws" that would exclude a particular alignment alternative.
- Identify environmental elements that will need further investigation subsequent to this study during the design phase.

The environmental review performed during this study did not identify any fatal flaws within the study area but did note several potential environmental element locations within the study area that will need further investigation during the design phase. These environmental elements would require permitting and/or mitigation or avoidance. Avoidance is the preferred method for dealing with environmental elements. However, if an environmental element cannot be avoided, then minimizing impacts should be pursued followed by mitigation. Potential environmental elements identified in the study area include areas of archeological resources, cultural and historical structures, wetlands, designated critical habitats, streams, floodplains, and hazardous waste.

ARCHEOLOGICAL POTENTIAL –

Known archeological sites within the study area were reviewed. Areas with high potential for encountering archeological resources along US-83 include:

- A four mile segment in Haskell County beginning near the Santa Fe Trail crossing north of Sublette.
- An eight mile segment in southern Finney County beginning in the *Arkansas River Lowlands* continuing north up to Garden City, ending north of the Arkansas River at the Santa Fe Trail crossing southeast of Garden City.
- A thirty-one mile segment beginning approximately four miles north of Garden City and continuing north all the way to Scott City, including the *White Woman Basin*.

These areas will require further field investigations during the design phase. In addition, three areas are recommended for a more intensive archeological investigation during the design phase. The *White Woman Basin* south of Scott City is recommended for a Giddings probe survey (soil probe) and the Santa Fe Trail crossings southeast of Garden City and north of Sublette are recommended for a metal detector survey. The exhibits in Appendix 5.2 labeled "Archeological Resources" illustrate these areas with high potential for encountering archeological resources needing further investigation.

CULTURAL & HISTORICAL –

There are no structures listed on the National Register of Historic Places within the study area. However, all standing structures 50 years old or greater are potentially eligible for listing on the National Register. A field survey of the study area has not been conducted to identify potential historic structures.

WETLANDS –

Potential wetlands within the study area were identified using the National Wetlands Inventory (NWI) maps (NWI Mapped Wetlands and Waters of the U.S.). These are shown as PEMA, which are emergent wetlands in low areas such as playas or along the Arkansas River, or PUSCx, PUSAx, and PUBFx wetlands, which are emergent wetlands in excavations such as irrigation tail water pits, wastewater pits, or ponds. The NWI maps for this area were developed from 1985 to 1990. Changes in land use may have altered some NWI mapped wetlands, or caused wetlands to develop at locations not shown on the NWI maps. National Wetlands Inventory mapped wetlands may or may not qualify as Corps of Engineers jurisdictional wetlands when wetlands determinations are made using the methods described in the 1987 Corps of Engineers Wetlands Delineation Manual. Currently, as of September 2008, many of the playa wetlands within the study area are not Corps of Engineers jurisdictional because they are not connected to navigable waters by jurisdictional streams, or are not within the 100 year floodplains of streams. The U.S. Army Corps of Engineers regulates fill placed in jurisdictional wetlands, streams, ponds, and other waters of the U.S. If fill is placed in jurisdictional wetlands or other waters, Corps of Engineers Section 404 permits would be required. Impacts to jurisdictional wetlands and streams require mitigation. Emergent wetlands are normally replaced at a 1.5:1 ratio, while shrub/scrub and forested wetlands are replaced at a 2:1 ratio. The exhibits in Appendix 5.2 labeled "NWI Mapped Wetlands and Waters of the U.S" identify the location of potential wetlands within the study area.

DESIGNATED CRITICAL HABITAT (DCH) –

Federal: In Haskell County the U.S. Fish & Wildlife Service (USFWS) lists the threatened Arkansas River Shiner and endangered Whooping Crane. Designated Critical Habitat (DCH) for the Arkansas River Shiner is in the Cimarron River southeast of Seward, well south of the study area. There is no federal DCH for the Whooping Crane in Haskell County. However, because wetlands may be used by Whooping Cranes, if wetlands are impacted by a project, Section 7 consultation with USFWS would be needed. There are no federally listed species in Finney or Scott Counties.

State: State listed species with DCH in Haskell County include only the Arkansas River Shiner. The DCH for this species is the Cimarron River located south of the study area. In Finney County state listed species with DCH includes the Eastern Spotted Skunk. Eastern Spotted Skunk DCH includes all suitable habitats within the riparian corridor along the main stem of the Arkansas River, extending ½ mile landward from the ordinary high water mark; see exhibit in Appendix 5.2, labeled "Wildlife State Designated Critical Habitat" map. Suitable habitat is described as, "forest edges and upland prairie grasses, especially where rock outcrops and shrub clumps are present. In western counties it relies heavily on riparian corridors where woody shrubs and woodland edges are present. Woody fencerows, odd areas, and abandoned farm buildings are also important habitat." In Scott County there is no DCH within the study area.

In conclusion, state DCH for the eastern Spotted Skunk may exist within the Arkansas River riparian corridor near Garden City. If any suitable Eastern Spotted Skunk habitat is impacted within ½ mile of the Arkansas River, a Kansas Department of Wildlife & Parks Action Permit and mitigation would be required. Examples of mitigation for impacts to Eastern Spotted Skunk DCH have included native grass plantings, shrub plantings, brush piles made of removed trees, or rock piles.

STREAMS -

In Scott County, approximately 3 miles south of Scott City, the study area crosses White Woman Creek classified as an expected Aquatic Life Use Water in the Kansas Department of Health & Environment, Surface Water Register. U.S. Army Corps of Engineers Regional Conditions for Kansas require that any box culvert with three or more cells on jurisdictional streams classified as Expected Aquatic Life Use Waters must have the center cell lowered to concentrate low flows. The Arkansas River is a Special Aquatic Life Use Water (SALU) due to the presence of the state threatened Eastern Spotted Skunk which is said to inhabit suitable terrestrial vegetation along the stream; see Appendix 5.2 labeled “Water Uses” map.

The U.S. Army Corps of Engineers regulates fills placed in jurisdictional streams. If drainage structures of fill are placed in jurisdictional streams Section 404 permits would be required. Corps of Engineers regulations requires mitigation for impacts to streams. Examples of stream impacts include fill placed in channels, channel changes, loss of stream length, and armoring.

In Haskell, Finney, and Scott Counties the Kansas Department of Agriculture, Division of Water Resources (DWR) regulates bridges, culverts, channel changes, and floodplain fills if the drainage area of the stream above the work exceeds 640 acres. If the drainage area is more than 640 acres, Dams, Stream Obstructions and Channel Changes permits would be required for drainage structures or channel changes, and Plans for Construction or Maintenance of Levees or Floodplain Fills permits would be required if more than 1 foot of fill is placed in the 100-year floodplain. The DWR regulations also require 50 feet of grassed buffers along both sides of new stream channels.

FLOODPLAINS –

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) showing 100-year floodplains are available for Finney County but not for Haskell or Scott Counties. In Finney County the only mapped 100-year floodplain (Zone AE) within the study area is in the vicinity of the Arkansas River at Garden City. Within the Zone AE a floodway is shown. See Appendix 5.2 (FIRM 2000990300B).

If an average of over 1 foot of fill is placed in a 100-year floodplain, Floodplain Fill permits from the Division of Water Resources would be required. An increase in the elevation of the design and base flood profiles of more than 1 foot at any location outside a floodway is not allowed unless the affected area is owned or a flowage easement has been obtained. Any increase in the elevation of the design and base flood profiles within a floodway is deemed an unreasonable effect.

HAZARDOUS WASTE –

A database search of Kansas Department of Health & Environment Identified Sites, CERCLIS, and National Priorities List did not identify any hazardous waste sites within the study area. This evaluation does not identify underground storage tanks.

2.5 – Population and Employment

The populations of Haskell and Finney Counties have continually increased from the census record years 1950 through 2000. From 1990 to 2000 census records show a population increase in Haskell County exceeding 10% and Finney County exceeding 22%. Scott County census records show increases in population from 1950 through 1980, with a slight decrease in population from 1980 through 2000. From 1990 to 2000 census records show a population decrease in Scott County exceeding 3%. Exhibit 2.5.1 shows the population data for the three counties in the study area. Since the year 2000, Haskell, Finney, and Scott Counties have experienced slight decreases in population.

Exhibit 2.5.1 Population Data

Haskell County

YEAR	Pop.	% Change
1950	2,606	+ 24.80%
1960	2,990	+ 14.70%
1970	3,672	+ 22.80%
1980	3,814	+ 3.90%
1990	3,886	+ 1.90%
2000	4,307	+ 10.80%
2005	4,232*	- 1.80%

U.S. Census Bureau

*Population Estimate

Finney County

YEAR	Pop.	% Change
1950	15,092	+ 49.5%
1960	16,093	+ 6.6%
1970	18,947	+ 17.7%
1980	23,825	+ 25.7%
1990	33,070	+ 38.8%
2000	40,523	+ 22.5%
2005	38,988*	- 3.9%

U.S. Census Bureau

*Population Estimate

Scott County

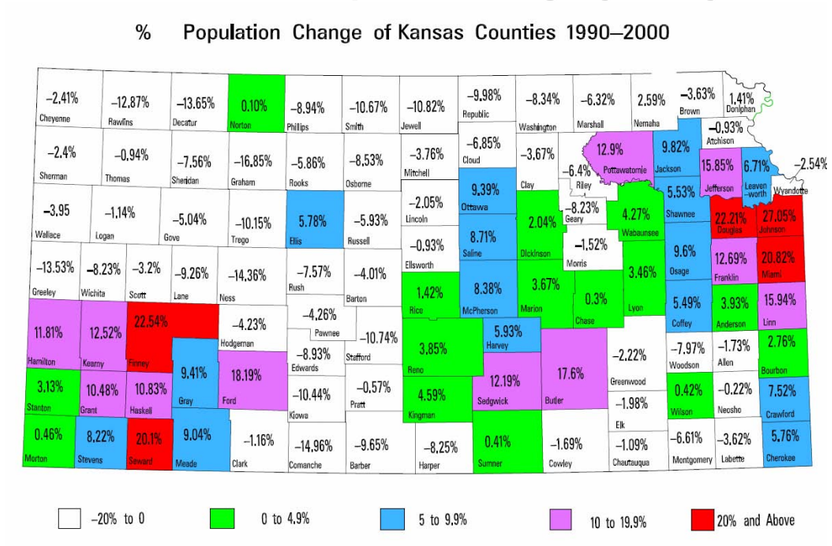
YEAR	Pop.	% Change
1950	4,921	+ 30.4%
1960	5,228	+ 6.2%
1970	5,606	+ 7.2%
1980	5,782	+ 3.1%
1990	5,289	- 8.5%
2000	5,120	- 3.2%
2005	4,600*	- 11.3%

U.S. Census Bureau

*Population Estimate

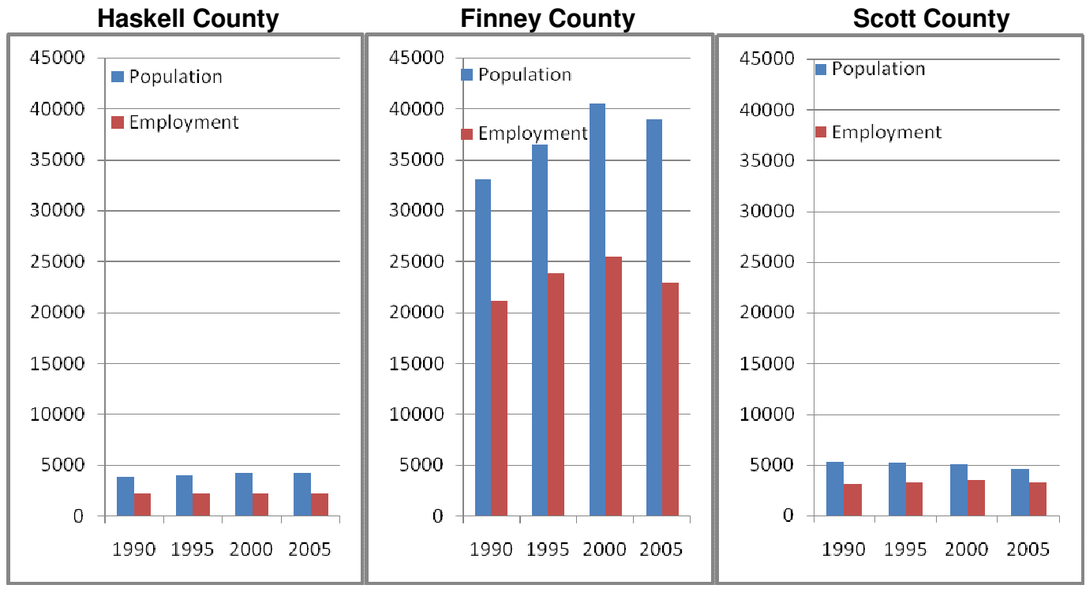
The southwest Kansas region generally experienced population increases in most counties from 1990 to 2000. See Exhibit 2.5.2 for population changes in Kansas counties 1990-2000. Since 2000, consistent with Haskell, Finney, and Scott Counties, most of the counties in the southwest Kansas region have experienced a slight decrease or stabilization in population. 2010 census data was not available for this report.

Exhibit 2.5.2 Population Change by County



Employment in the three counties saw steady increase from 1990 through 2000, with slight employment losses from 2000/2001 through 2005. See Exhibit 2.5.3.

Exhibit 2.5.3 Employment



2.6 – Field Data

The aerial imagery used in the Preferred Alternative Aerial Plates (Volume 2), bound separately, was obtained from the Farm Service Agency (FSA) National Agricultural Imagery Program (NAIP) 2006; http://www.kansasgis.org. Information shown on the aerial map plates was gathered through collection of field data, United States Geological Survey (USGS) maps, county, and city maps. A field visit was conducted on July 31, 2008. On this visit, field information was collected and included: oil/gas wells, storage tanks, irrigation wells, irrigation ditches, utility locations, transmission towers/lines, cemeteries, schools, churches, and farmsteads.

A record of all potentially affected houses, farmsteads, and commercial properties, including pictures, was collected to further assist in roadway type and alignment alternatives analysis and cost estimating. This record assisted the study team to better understand the potential impacts and costs, along with the potential need to consider the adjustment of the various roadway type and alignment alternatives. Existing conditions information is displayed on the alignment map plates, bound separately in the Preferred Alternative Aerial Plates (Volume 2).

2.7 – Utilities

There are existing utilities that parallel and cross US-83 throughout the study area. These utilities include electrical, telephone, fiber optic, natural gas and oil. The following is summary of known utilities, facilities, and utility providers:

ELECTRIC UTILITIES –

Pioneer Electric Coop. Assn., Inc. has aerial power distribution lines that generally parallel US-83 on the west side from Sublette north up to the end of its service area, approximately ten miles north of the Haskell-Finney County line. This includes a power substation on the west side of US-83, approximately three miles north of the US-83/US-160 Jct. in Haskell County. This includes approximately 9.5 miles on public right of way by highway permit and approximately 7.5 miles on private easement.

Victory Electric Cooperative Association, Inc. has aerial power distribution that generally parallels US-83 on the west side beginning three miles north of the Haskell-Finney County line and continuing north up to the end of its service area approximately eight miles north of the Haskell-Finney County line.

Wheatland Electric Cooperative, Inc. has aerial power distribution and transmission lines that generally parallel US-83 on the west and/or east side from the beginning of its service area (nine miles north of the Haskell-Finney County Line), north to the US-83/US-83 Business Junction. This includes a power substation on the east side of US-83 at Brookover Ranch Road. Aerial power lines begin again on the east side of US-83 at Burnside Drive just south of the Arkansas River Bridge and continue north to the east US-50/US-400/US-83 Junction. Aerial Power lines then continue north on the west side of the US-50/US-83 bypass up to the big curve, then switching to the north (right side) continuing to the west US-50/US-400/US-83 Junction. From the west US-50/US-400/US-83 Junction, aerial power distribution lines continue north on the west

side of US-83 up to the Finney-Scott County Line, then switch to the east side of the highway, continuing north up to Scott City. This includes approximately 14 miles on public right of way by highway permit and approximately 9 miles on private easement. Sunflower Electric Power Corporation has a high structural steel tower transmission line crossing US-83 approximately five miles south of Garden City.

TELEPHONE –

AT&T has underground telephone cable and fiber optic lines that parallel US-83 on the west and/or east side for the entire length of the study area. The KDOT Area Offices and AT&T determined that all telephone and fiber optic cable along the US-83 corridor throughout the study area appears to be on public right of way by highway permit.

NATURAL GAS & OIL –

Aquila Networks – KGO, Colorado Interstate Gas Company, K N Energy, Inc., Midwest Energy, Inc., Northern Natural Gas Company, and Williams Natural Gas Company have gas line networks parallel to and crossing US-83 throughout the study area. The study area lies within the Hugoton Natural Gas Field area; the largest natural gas field in North America and the second largest in the world. This natural gas area provides gas and oil to Kansas and the nation, generating significant revenues and providing jobs and income in at least thirteen counties in southwest Kansas, including Haskell, Finney, and Scott Counties. Several natural gas and oil wells along with their appurtenances are located along the US-83 study area.

2.8 – Drainage

The study area includes both natural and manmade drainage features that require drainage accommodation and drainage structures on and under US-83. The following drainage discussion is segmented into definable sections along the US-83 study area with distinguishable drainage features and topography. There are no known events of overtopping along US-83 within the study area.

Haskell County is the flattest county in Kansas and does not include any significant drainage features or drainage structures through the study area. There are no 10' to 20' span drainage structures or bridges on US-83 in Haskell County within the study area.

Southern Finney County, defined here as that portion of the county south of Garden City within the study area, lies within the *Arkansas River Lowlands* which includes a wide belt of sand hills characterized by typical sand-dune topography having moderate slopes and hills separated by small basins. There is little surface drainage in this region. Rainfall in this area collects in the numerous basins and hollows where a large part of it seeps into the ground. Bordering the sand hills on the north side is the Arkansas River Valley. The Arkansas River is spanned by a 1,500 foot long continuous reinforced concrete girder bridge (015). There are no 10' to 20' span drainage structures (except one implement pass) under US-83 in southern Finney County within the study area. There are no other significant drainage structures in southern Finney County.

Garden City drainage features along the US-83 bypass (from the Arkansas River Bridge north to the west US-50/US-400/US-83 Junction) include; the "Drainage District One" canal and concrete box bridge (018) crossing under US-83 just north of Spruce Street. This drainage district canal begins north of Holcomb and continues east through Garden City and drains into the Arkansas River southeast of the city. The drainage area facilitated through this box bridge includes much of Garden City's urban area and is approximately eleven square miles. Also, just west of the big curve along the US-83 bypass, is another concrete box bridge (021) running diagonally under the US-83/Campus Drive intersection. This box bridge facilitates approximately 257 acres of drainage in the north half of Section 5, between 3rd Street and Campus Drive in Garden City.

Northern Finney County, defined here as that portion of the county north of Garden City (north of the west US-50/US-400/US-83 Junction) within the study area, lies within the *Finney Basin* which is a broad, shallow depression in the northwestern part of Finney County extending from the Arkansas River Valley northward into Scott County. This basin is characterized by short, ephemeral streams that gradually disappear on the west slope of the depression, prior to reaching US-83. Many smaller shallow depressions and marshy areas temporarily hold water after rains in this area. Another drainage feature of this area is the *Farmers Ditch* irrigation ditch network. The *Farmers Ditch*, administered and maintained by the Finney County Water Users Association, begins just west of the Kearny/Finney County Line and continues east, generally paralleling US-50 towards Garden City. West of US-83, north of Garden City, the *Farmers Ditch* is split into several lateral ditches that cross under US-83, typically via 10' to 20' span reinforced concrete box structures, including the *Springer, Craig, Becker,* and *Renick Laterals.* These lateral irrigation ditches connect to private irrigation ditch networks and include gate systems with concrete appurtenances. One of these private irrigation ditches generally parallels the east US-83 right-of-way from Garden City north to Five Mile Road. The *Farmers Ditch* irrigation ditch network along with the known associated private irrigation ditches are displayed on the alignment map plates, bound separately in the Preferred Alternative Aerial Plates (Volume 2). There are no other significant drainage structures in northern Finney County within the study area.

Southern Scott County, defined here as that portion of the county south of Scott City within the study area, lies within the *Finney Basin* which extends north from Finney County, and the *Scott* or *White Woman Basin* which is a large depressional area southeast of Scott City at the terminus of White Woman Creek. White Woman Creek begins in Colorado about 20 miles west of the state line and flows eastward to a point about 3 miles south of Scott City, where it disappears entirely on the western side of *White Woman Basin*. The *White Woman Basin* is dry most of the year, but occasionally becomes flooded after receiving the floodwaters of White Woman Creek as a result of heavy precipitation in the western part of its drainage basin, forming a lake that sometimes covers several square miles. Most of this water sinks rapidly into the ground, disappearing completely in a relatively short time. The drainage structures along US-83 in southern Scott County include; several equalizer cross road pipe and 10' to 20' span concrete box structures. Three bridge size drainage structures facilitate drainage within the *White Woman Basin* and include the White Woman Creek concrete box bridge (001), White Woman Basin concrete box bridge (002), and the Lion Creek concrete box bridge (003).

2.9 – Public Involvement

The public involvement process began on May 31, 2007 with KDOT District Six staff hosting a series of conference calls to inform local and regional stakeholders that KDOT had selected the US-83 corridor from Sublette to Scott City for study to determine needs and potential future projects. During the summer of 2007, KDOT District Six and Public Involvement staff attended several local official meetings to discuss the study and seek input from the officials on current and future needs they felt existed and should be considered along the US-83 corridor. The following lists the dates and local official groups for those meetings that KDOT District Six and Public Involvement staff attended:

- July 23, 2007 Garden City Commission
- July 24, 2007 Holcomb City Council
- July 30, 2007 Haskell County Commission
- August 6, 2007 Finney County Commission
- August 6, 2007 Sublette City Commission
- August 7, 2007 Scott County Commission
- August 20, 2007 Scott City Commission

The KDOT Public Involvement Activity Forms summarizing the conference calls and local officials meetings described above are available at the KDOT Bureau of Design and Bureau of Public Involvement offices in Topeka, Kansas. See Appendix 5.5 for KDOT offices contact information.

LOCAL OFFICIALS AND PUBLIC MEETINGS (FIRST SERIES) –

KDOT held a series of local officials and public meetings during the study process to obtain feedback on the preliminary alternatives developed thus far and to obtain input on important study area elements. The series of meetings included a public officials meeting at 1:00 pm followed by a public meeting from 6:00 to 8:00 pm at the same location. The list of dates and locations of the meetings were:

- August 24, 2009 Sublette Christian Church - Sublette, Kansas
- August 25, 2009 4-H Building – Garden City, Kansas
- August 26, 2009 Law Enforcement Center – Scott City, Kansas

The local officials meetings included a presentation of the existing US-83 roadway conditions and known needs, along with explanation of the preliminary roadway types and alignment alternatives developed thus far. Informational handouts, typical sections, and aerial displays showing the preliminary roadway types and alignment alternatives were available for comment and discussion. In addition, KDOT project team members from District Six, Public Involvement, and Design were available to address any questions or comments from the officials. KDOT encouraged local officials to draw and/or make comments and suggestions on the aerial maps identifying areas of concern or possible alignment alternatives for consideration.

The public meetings were an open-house format where the public could come and go during the meeting hours. Informational handouts, typical sections, and aerial displays showing the preliminary roadway types and alignment alternatives were available for comment and discussion. In addition, KDOT project team members from District Six, Public Involvement, and Design were available to address any questions or comments from the public.

Exhibit 2.9.1 Public Meetings (First Series)

WHAT WE HEARD –

Comments from local officials and the public consistently expressed the need for passing lanes along the corridor to provide increased and safer passing opportunities. Other consistent comments from local officials and the public were concerns on how highway improvement projects impact homes, businesses, farm ground, irrigated circles, irrigation pivots, water wells, and irrigation ditch networks. While most understood the need for highway improvements along the corridor it was noted that impacts to farming operations, irrigated circles, water wells, and loss of farm ground could severely affect livelihoods. KDOT should avoid or minimize these impacts whenever possible.

Local officials and the public acknowledged that traffic and truck volumes have and will continue to increase along the corridor and that highway improvements are needed. While some expressed that only passing lanes are needed, others commented that the long-range future should be considered, including acquisition of right of way for a future four-lane highway. KDOT's consistent position at these meetings, based on factors including current and projected traffic volumes, was that passing lanes would work for some time into the future, but that eventually a four-lane highway will be needed to address the long-range needs of the corridor.

The comments received during the first series of public meetings were used to develop, refine, and select a *preferred roadway type and preferred alignment alternative* to be presented for additional public input at a second series of local officials and public meetings held in May 2010.

LOCAL OFFICIALS AND PUBLIC MEETINGS (SECOND SERIES) –

KDOT held a second series of local officials and public meetings during the study process to obtain feedback on the *preferred roadway type and preferred alignment alternative* developed subsequent to the first series of public meetings and to obtain any additional input on important study area elements. The second series of meetings included a public officials meeting at 3:30 pm followed by a public meeting from 5:00 to 7:00 pm at the same location. The list of dates and locations of the meetings were:

- May 18, 2010 Sublette Christian Church - Sublette, Kansas
- May 19, 2010 4-H Building – Garden City, Kansas
- May 20, 2010 Law Enforcement Center – Scott City, Kansas

The local officials meetings included a presentation of the existing US-83 roadway conditions and known needs, along with explanation of the *preferred roadway type* and *preferred alignment alternative* developed. Informational handouts, typical sections, and aerial displays showing the *preferred roadway type* and *preferred alignment alternative* were available for comment and discussion. In addition, KDOT project team members from District Six, Public Involvement, and Design were available to address any questions or comments from the officials.

The public meetings were an open-house format where the public could come and go during the meeting hours. Informational handouts, typical sections, and aerial displays showing the *preferred roadway type* and *preferred alignment alternative* were available for comment and discussion. In addition, KDOT project team members from District Six, Public Involvement, and Design were available to address any questions or comments from the public. KDOT encouraged local officials and the public to draw and/or make comments or suggestions on the aerial maps identifying areas of concern or possible alignment alternatives for consideration.

Exhibit 2.9.2 Public Meetings (Second Series)

WHAT WE HEARD –

Comments from local officials and the public again consistently expressed the need for passing lanes along the corridor to provide increased and safer passing opportunities. Other consistent comments from local officials and the public were concerns on how highway improvement projects impact homes, businesses, farm ground, irrigated circles, irrigation pivots, water wells, irrigation ditch networks, and how access to their property would be affected. There was consistent feedback that US-83 highway improvements are needed.

There was discussion with local officials and the public, including affected property owners, in regard to locations where the *preferred alignment alternative* utilized or considered noticeable offsets from the existing US-83 highway. These locations include: (1) Plymell; (2) just north of Garden City; and (3) Shallow Water.

1. Plymell comments included concern about Plymell community disruption. Concern over home and business relocation of the house in the northeast quadrant of the US-83/Plymell Road (RS 247) intersection. Concern over increased impacts to irrigated ground and irrigation pivots.

2. Just north of Garden City comments included concern of increased impacts to irrigated ground and large tracts being bisected with the large offset from existing US-83 to the west. Other comments included the opinion that leaving the proposed US-83 at US-83's current location and relocating the private irrigation ditch (being avoided with the large offset) would me much less costly in construction and right of way dollars. Other comments included statements that the private irrigation ditch should be avoided.

3. Shallow Water comments included concern about change in access to the CO-OP gas station and Road 75 not having direct access to US-83.

The comments received during the second series of public meetings were used to verify the *preferred roadway type* and to refine the *preferred alignment alternative*. Based on the *preferred roadway type* and *alignment alternative, a* ***preferred alternative*** was then selected by KDOT and utilized for the quantities, costs, and right of way estimates for the identified construction projects shown in this FINAL report and aerial plate maps. See Section 4 (STUDY RECOMMENDATONS) for the ***preferred alternative*** and identified construction projects details.

See Section 4.8 for the ***preferred alternative*** information associated with (1) Plymell; (2) just north of Garden City; and (3) Shallow Water.

See Appendix 5.3 for the public meetings summaries and informational handouts.

3. DEVELOPMENT OF ROADWAY TYPES AND ALIGNMENT ALTERNATIVES

3.1 – Type of Facility

Through the local consultation process and use of KDOT Priority Formula data, KDOT announced, "This 70-mile corridor needs to be studied to identify and prioritize segments for improvement. In addition to pavement and capacity problems, local officials raised concerns about increased truck traffic from ethanol plants and limited passing opportunities. The study will determine whether the scope should focus on passing lanes or a four-lane improvement." With this input and announcement in mind, along with the information obtained during the study evaluation of items listed in Section 1.3; preliminary roadway type and alignment alternatives were developed. The following briefly describes each roadway type and their characteristics considered in this study.

FREEWAY - A four-lane, divided highway with full control of access (access points provided only at grade-separated interchange locations). Existing highways, roads, or streets that are proposed to cross the freeway will do so via a grade separation structure (overpasses or underpasses) with existing roads or streets to be closed where they would intersect the freeway. Minimum interchange spacing is one mile in urban areas and two miles in rural areas with grade separations spaced to provide appropriate access across the freeway facility. Freeways are intended to provide for high levels of safety and efficiency in the movement of large volumes of traffic at high speeds. The principal advantages of access control include preservation of highway capacity, higher speeds, and improved safety for highway users. See Exhibit 3.1.1.

Exhibit 3.1.1

Typical Urban Freeway with Interchange & Median Separated by Concrete Median Barrier

EXPRESSWAY - A four-lane, divided highway with partial control of access (access points provided at "at-grade" intersections with public roads). Minimum access spacing is one mile with two mile, or greater, access spacing desirable. Private access to an expressway facility is generally prohibited. Access roads parallel to the expressway provide residents, business owners, and landowners access to public roads that intersect the expressway. Grade-separated interchanges can be used at major route intersections with expressways. The principal advantages of access control include preservation of highway capacity, higher speeds, and improved safety for highway users. See Exhibit 3.1.2 and Exhibit 3.1.3. Expressways may be upgradeable to a full access control freeway at some future date if adequate right of way is initially acquired to accommodate future interchanges and grade separation structures (overpasses and underpasses). These are referred to as "upgradeable expressways".

Exhibit 3.1.2

Typical Urban Expressway Intersection with Access Roads

Exhibit 3.1.3

Typical Rural Expressway Intersection with Widened Median & Access Roads

TWO-LANE WITH PASSING LANES (FOUR-LANE RIGHT OF WAY) - A two-lane, undivided highway with partial control of access (access points provided at "at-grade" intersections with public roads). Minimum access spacing is one mile with two mile, or greater, access spacing desirable. Private access to a partially controlled access facility is generally prohibited. Access roads parallel to the highway provide residents, business owners, and landowners access to public roads that intersect the highway. The principal advantages of access control include preservation of highway capacity, higher speeds, and improved safety for highway users.
Within certain traffic volume ranges, including consideration of truck volumes and percentage of "no-passing" zones, passing lanes are one of the most effective methods of improving level of service on a two-lane highway because they increase passing opportunities and provide smoother traffic operations with fewer vehicle-vehicle conflicts. Passing lanes allow motorists the opportunity to safely and easily pass slower vehicles, improving traffic flow at a much lower cost than a traditional expansion to a four-lane facility initially. The construction of passing lanes with this roadway type alternative would serve as an interim improvement until that time when traffic volumes warrant the construction of a four-lane facility. See Exhibit 3.1.4. Right of Way for four-lanes is retained and/or acquired to facilitate construction of two additional lanes in the future when needed for ultimate conversion to a four-lane facility.

TWO-LANE WITH PASSING LANES - A two-lane, undivided highway with partial control of access (access points provided at "at-grade" intersections with public roads). Minimum access spacing is one mile with two mile, or greater, access spacing desirable. Private access to a partially controlled access facility is generally prohibited. Access roads parallel to the highway provide residents, business owners, and landowners access to public roads that intersect the highway. The principal advantages of access control include preservation of highway capacity, higher speeds, and improved safety for highway users.
Within certain traffic volume ranges, including consideration of truck volumes and percentage of "no-passing" zones, passing lanes are one of the most effective methods of improving level of service on a two-lane highway because they increase passing opportunities and provide smoother traffic operations with fewer vehicle-vehicle conflicts. Passing lanes allow motorists the opportunity to safely and easily pass slower vehicles, improving traffic flow at a much lower cost than a traditional expansion to a four-lane facility initially. See Exhibit 3.1.4. Right of Way for a two-lane facility only would be retained and/or acquired with no accommodation to expand to a four-lane facility in the future when needed.

Exhibit 3.1.4

Two-Lane Highways with Passing Lanes

3.2 – Design Criteria

The development and evaluation of roadway types and alignment alternatives throughout this study were based on a set of design criteria summarized below. It should be noted that designers will use the most current criteria prevailing at the time of final design.

System Classification: National Highway System (NHS)

Functional Classification: Principal Arterial
1. Freeway (Urban)
2. Expressway (Urban)
3. Expressway (Rural)
4. Two-Lane (Rural)

Access Control: Full for Freeway (Urban);
Partial for Expressway (Urban);
Partial for Rural Expressway and Rural Two-Lane Alternatives

Design Speed: 70 mph (desirable); 60 mph (minimum); for Urban Alternatives
75 mph (desirable); 70 mph (minimum); for Rural Alternatives

Design Vehicle: WB-62; Interstate Semitrailer, 62 ft. Wheelbase

Vertical Clearance (min.): 16'-4" - Roads over highway and at interchanges
15'-4" - Highway over local roads
23'-6" - Highway over railway

Bridge Loading: LFD HS20-44 or LRFD HL-93

3.3 – Factors Used for Roadway Type and Alignment Development

Several factors were used by the study team to develop the roadway types and alignment alternatives evaluated. These include physical, engineering, social, economic, public, and environmental factors.

Physical and Engineering Factors:

- Functional Classification (Principal Arterial)
- Rural or Urban Area
- Other Funded Transportation Projects
- Previous Studies and Reports
- Existing and Projected Future Traffic Volumes and Traffic Types
- Traffic Flow Patterns
- Traffic Service and Capacity
- Useful Functional Life (Designs that Preserve the Capacity of the Roadway)
- Posted Speeds and Design Speeds
- Highway Geometrics
- Highway Safety, Mobility, and Access Needs
- Crash History, Patterns, and Rates
- Railroads
- Pavement Condition and Recommended Paving Action Scope
- Traffic Accommodation During Construction
- Bridges and Drainage Structures
- Farmland (Irrigated, Dry-land)
- Irrigation Ditches, Canals, and Appurtenances
- Irrigation Pivots, Pumps, and Wells
- Utilities (Electric, Telephone, Oil and Gas Wells, Storage Tanks, and Lines)
- Farmsteads, Businesses, Feedlots, and Houses
- Cemeteries, Churches, and Schools
- Right-of-Way
- Potential for Construction in Useable and Programmable Sections Over Time
- Logical Construction Project(s) Termini
- Maintenance of Existing Travel Corridor (Retaining Present Travel Patterns)
- Existing Highway or Access Roads to be Turned Over to Local Gov't. for Maintenance
- Costs

Social, Economic, and Public Factors:

- Population and Employment Trends
- Economic Development
- Land Use
- Change in Access
- Displacements or Impacts to Residences, Farmsteads, and Businesses
- Displacements or Impacts to Schools, Churches, and Cemeteries
- Community Comprehensive Transportation Plans and Agreements
- Public Input

Environmental Factors:

- Archeological Resources
- Cultural Resources
- Historic Sites or Structures
- Wetlands
- Designated Critical Habitat
- Streams
- Floodplains
- Hazardous Waste

3.4 – Roadway Type Evaluation

The initial development of the roadway types considered in this study, described in Section 3.1 (freeway, expressway, and two-lanes with passing lanes), was based on several factors listed in Section 3.3. Important factors for determining roadway type included existing and projected traffic volumes, traffic flow patterns, need for preservation of highway capacity, speeds, safety, crashes, land use, and rural or urban conditions.

ROADWAY TYPE (RURAL SECTION) - The US-83 rural section is classified as a principal arterial and as such must provide a high degree of mobility and safety for highway traffic. Access control, full or partial, is one of the most significant and effective design factors contributing to the efficient mobility and safety of a highway facility. Some level of access control is recommended and included with all roadway types developed in this study. The US-83 corridor's rural section predominant land use is agricultural with multiple ownership and tracts of cultivated fields (irrigated and dry-land), feedlots, farmsteads, and commodities (gas and oil). The agricultural products and jobs along the US-83 corridor, along with adequate accessibility to them, are important to the regional and state economy. Therefore, a balance must be struck between transportation mobility and accessibility along the corridor to provide for improved and sustainable highway operations, safety, service quality, economic development and growth. It is important to remember that while there are current corridor needs identified, the roadway types developed should also consider and attempt to address the corridor's long-range needs.

TWO-LANE WITH PASSING LANES (RURAL) - This roadway type was developed to address the current corridor needs associated with limited passing opportunities and increased travel times due to the traffic volumes and high percentage of trucks. These needs were expressed by the public and local officials during the local consultation process prior to this study. Existing traffic volumes and sensitivity analyses results lend support to that local input and justify adding passing lanes to the corridor. Passing lanes would adequately address segments of the US-83 corridor's current limited passing and increased travel time needs for some time, but would not adequately address the corridor's long-range operational needs as increased development and traffic volumes continue over time. A two-lane roadway with passing lanes, and no provision for ultimate expansion to a four-lane facility was not recommended as the roadway type concept to carry forward in this study. The *two-lane with passing lanes* roadway concept (no provision for future expansion to four lanes) was eliminated from further study.

TWO-LANE WITH PASSING LANES (FOUR-LANE RIGHT OF WAY) (RURAL) – This roadway type was developed for those same reasons as discussed in the previous paragraph to address the corridors current needs, however, the acquisition of four-lane right of way facilitates future expansion to a four-lane facility. Four lanes would be needed at some time in the future to adequately address the corridor's long-range operational needs as increased development and

traffic volumes continue over time. As construction projects become funded and developed along the US-83 corridor, initial acquisition of four-lane right of way would occur. This initial acquisition of four-lane right of way would avoid potentially significant expense in the future due to continued higher type land use and development occurring along the corridor over time. These improved land uses and developments would be acquired at much greater cost if acquisition is delayed until that time when a four-lane facility is needed. Right of way acquisition for grade-separated interchange locations at major route intersections with US-83 including US-56, US-160/K-144, and US-83 Business should be considered during the preliminary design phase of identified projects that include these locations; see Section 4.9. The development and construction of funded highway projects along the US-83 corridor would be a significant investment in the Kansas highway system. To protect KDOT's investment, the ultimate roadway concept that would address the identified long-range needs of the corridor should be considered. This would enable future projects to facilitate the incremental upgrades necessary to bring the highway to that ultimate roadway concept when needed. The *two-lane with passing lanes (four-lane right of way)* roadway type concept accomplishes this and was recommended as the *preferred roadway type* concept to carry forward in this study.

EXPRESSWAY (RURAL) - This roadway type was developed to address the US-83 corridor's long-range needs. The four-lane right of way limits discussed above in the *two-lane with passing lanes (four-lane right of way)* roadway type concept, are predicated on the right of way needs for constructing a four-lane expressway facility in the future when a two lane facility with passing lanes would become inadequate. The US-83 corridor's traffic volumes, crash rates, and operational characteristics do not immediately justify a four-lane expressway facility. However, when considering the long-range increase in traffic and truck volumes, as well as continued agricultural industry, and commercial/residential growth outward from communities along the route, a four-lane expressway facility would be justified in the future for the entire US-83 rural section within the study area. Right of way acquisition for an *upgradeable expressway* should be considered on those rural sections approaching the urban area near Garden City where existing and projected traffic volumes are notably higher. Review of the sensitivity analyses show that some rural section segments along the US-83 corridor near Garden City will justify four-lanes as early as the year 2025, with virtually all of the corridors rural sections justifying four-lanes by the year 2045. While a four-lane expressway may not initially be constructed with identified and funded projects, the design and right-of way acquisition should accommodate this roadway type to allow for future conversion to a four-lane expressway. Grade-separated interchange locations at major route intersections with US-83 including US-56, US-160/K-144, and US-83 Business should be considered during the preliminary design phase of identified projects that include these locations; see Section 4.9. The *expressway* roadway type concept (four lanes with partial access control) was recommended as the roadway type concept to carry forward in this study to estimate the rural section's right-of-way limits, right-of-way impacts, and right-of-way costs.

FREEWAY (RURAL) - This roadway type was developed to address the US-83 corridor's long-range needs. The US-83 corridor's traffic volumes, crash rates, land use, and accessibility needs along the study area do not generally justify a freeway facility with full control of access to address the corridors current and long-range needs. However, when considering the notably higher traffic volumes (existing and projected) on the rural sections near Garden City, as well as the current and expectant commercial/residential growth outward from Garden City, a four-lane freeway facility may be justified as the ultimate long-range roadway type facility for those rural sections approaching the urban area near Garden City. Right of way acquisition for an *upgradeable expressway* should be considered on those rural sections approaching the urban area near Garden City. The *freeway* roadway type concept in the rural sections was eliminated from further study.

ROADWAY TYPE (URBAN SECTION) - The US-83 urban section is classified as a principal arterial and as such must provide a high degree of mobility and safety for highway traffic. Access control, full or partial, is one of the most significant and effective design factors contributing to the efficient mobility and safety of a highway facility. The current roadway type along the urban section is a two-lane, partial access control facility with a variety of intersection types. Grade separation interchanges are currently located at major highway junctions with US-83 including east US-50/US-400, K-156/Mary Street, and west US-50/US-400. A signalized at-grade intersection exists at Spruce Street with un-signalized at-grade intersections existing at Schulman Avenue, Campus Drive, 3rd Street, and seven private or commercial entrances. The US-83 corridor's urban section predominant land use is general commercial, single and multi-family residential, agricultural, and public facilities that include the Tangeman Sports Complex and the new high school. Based on the traffic volumes and LOS, a four-lane roadway facility is needed to address the urban sections current and long-range needs. The roadway types (*expressway* or *freeway*) and degree of access control proposed for the urban section in this study are discussed below and promote the current *US-83 Corridor Master Plan.* This corridor plan, which defines corridor management parameters and identifies retrofit and improvement opportunities for the US-83 urban section, was entered into by Finney County, Garden City, and KDOT on March 26, 1999. A copy of the *US-83 Corridor Master Plan* is located in Appendix 5.4. The land use and development along the urban section of the US-83 corridor is dynamic. The resultant changes in traffic patterns and flow rates that may occur over time will require continued cooperation and coordination by KDOT, Garden City, and Finney County officials to address these changes along the urban section for the needed safety and efficiency of the corridor.

EXPRESSWAY (URBAN) - This roadway type alternative was developed to address the current and long-range needs of the US-83 urban section as well as to promote the corridor management parameters and improvements set forth in the *US-83 Corridor Master Plan.* The US-83 urban section traffic volumes and operational characteristics currently justify a four-lane expressway type facility. However, when considering the expected long-range traffic volumes and growth in the area, an *upgradeable expressway* or *freeway* type facility should be considered for the US-83 urban section in Garden City; or another high capacity, high speed, fully access controlled highway alternative to US-83. While the *expressway* alternative developed is generally consistent with the *US-83 Corridor Master Plan,* it would not meet the long-range needs of the community or region as safely and efficiently as an *upgradable expressway* or *freeway* would. See the alignment map plates labeled "Expressway (Urban Section)" for the *expressway* roadway type alignment, improvement features, and right of way limits, bound separately in the Preferred Alternative Aerial Plates (Volume 2). The *expressway* roadway type concept (four lanes with partial access control) was carried forward in this study, for information only, to estimate the urban section's right-of-way limits. Specific projects were not identified for the urban section.

FREEWAY (URBAN) - This roadway type was developed to address the current and long-range needs of the US-83 urban section. The US-83 urban section traffic volumes, land use, and expectant commercial/residential growth do justify a four-lane freeway type facility with full control of access to address the corridors current and long-range needs, particularly if no other high capacity, high speed, fully access controlled highway alternative to US-83 is ever developed and

constructed. See the alignment map plates labeled “Freeway (Urban Section)” for the *freeway* roadway type alignment, improvement features, and right of way limits, bound separately in the Preferred Alternative Aerial Plates (Volume 2). The *freeway* roadway type concept (four lanes with full access control) was carried forward in this study, for information only, to estimate the urban sections right-of-way limits. Specific projects were not identified for the urban section.

3.5 – Roadway Alignments Evaluation

RURAL SECTIONS - Three initial alignment alternatives were developed for evaluation (Alternative 1, Alternative 2, & Alternative 3) predicated on a *two-lane with passing lanes (four-lane right of way)* roadway type, see Exhibits 3.5.1, 3.5.2, & 3.5.3. The horizontal alignment geometrics were developed utilizing a 70 mph design speed. The three alignment alternatives were evaluated on several factors including construction costs, utility costs, right of way costs and impacts, and traffic handling during construction. The three alignment alternatives comparative information and maps were presented for local official and public comment at the first series of public meetings held in August 2009. Based on the evaluated factors and public input received for each alignment alternative, a *preferred alignment alternative* was developed. The *preferred alignment alternative* utilized a combination of the three initial alignment alternatives along different segments of the corridor and attempted to minimize or avoid impacts to established development, including irrigated cropland whenever possible. See Section 3.7, Table 3.7.2 for the alignment alternatives comparative information. The *preferred alignment alternative* cost information and maps were presented for local official and public comment at the second series of public meetings held in May 2010. See the alignment map plates labeled “Preferred Alternative” for the *preferred alignment alternative* roadway type, alignment, improvement features, and right of way limits, bound separately in the Preferred Alternative Aerial Plates (Volume 2). The Roadway Type and Alignment Alternatives Maps showing the three initial alignment alternatives as presented at the August 2009 public meeting series are available for viewing at the KDOT District Six Headquarters Office in Garden City and at the KDOT Bureau of Design, Road Section Office in Topeka. See Appendix 5.5 for KDOT offices contact information.

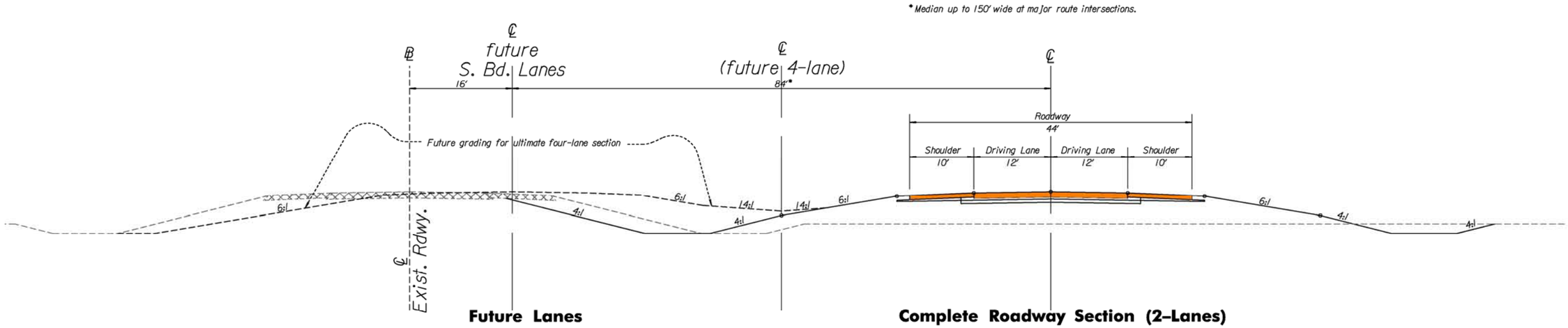
ALTERNATIVE 1 - This alignment alternative constructs a new two-lane roadway typically utilizing a 100 foot offset from existing US-83, see Exhibit 3.5.1. The existing US-83 pavement will be removed. The offset alignment requires all new drainage structures, embankment, and pavement structure resulting in Alternative 1 costing more per mile to construct than the other alignment alternatives. This alternative facilitates future expansion to a four-lane highway, typically by utilizing the existing US-83 roadway and right of way for the construction of two additional lanes in the future. At some locations, to minimize or avoid right of way impacts, the future lanes are shown on new right of way and the existing US-83 roadway and right of way is used for construction of access road(s) to serve properties. The Alternative 1 alignment has the flexibility to shift (cross-over) east or west of existing US-83 to avoid or minimize right of way impacts to established developments along the corridor. At three locations along the US-83 corridor (1) Plymell; (2) just north of Garden City; and (3) Shallow Water; Alternative 1 utilizes a larger offset distance independent of existing US-83 to avoid or minimize right of way impacts where established developments occur on both sides of the existing highway. Alternative 1 typically requires acquisition of new right of way on only one side of existing US-83. Traffic (two-lanes) can be easily accommodated through construction on existing US-83 with Alternative 1 as it is constructed on an offset alignment. Temporary pavement widening or a shoofly detour will be required to facilitate traffic through construction at locations where the new roadway crosses over existing US-83.

ALTERNATIVE 2 - This alignment alternative constructs a new two-lane roadway typically utilizing a 40 foot offset from existing US-83, see Exhibit 3.5.2. The existing US-83 pavement will be removed. This alternative facilitates future expansion to a four-lane highway by utilizing new right of way for the construction of two additional lanes in the future. The Alternative 2 alignment has the flexibility to shift (cross-over) east or west of existing US-83 to avoid or minimize right of way impacts to established developments along the corridor. Alternative 2 typically requires acquisition of new right of way only on one side of existing US-83, except for those locations where construction of access roads to serve property is needed. Traffic (two-lanes) can be accommodated through construction on existing US-83 with Alternative 2. The 40 foot offset is the minimum desirable offset that provides for complete construction of the new roadway pavement on its offset alignment in one phase of construction. Temporary pavement widening or a shoofly detour will be required to facilitate traffic through construction at locations where the new roadway crosses over existing US-83.

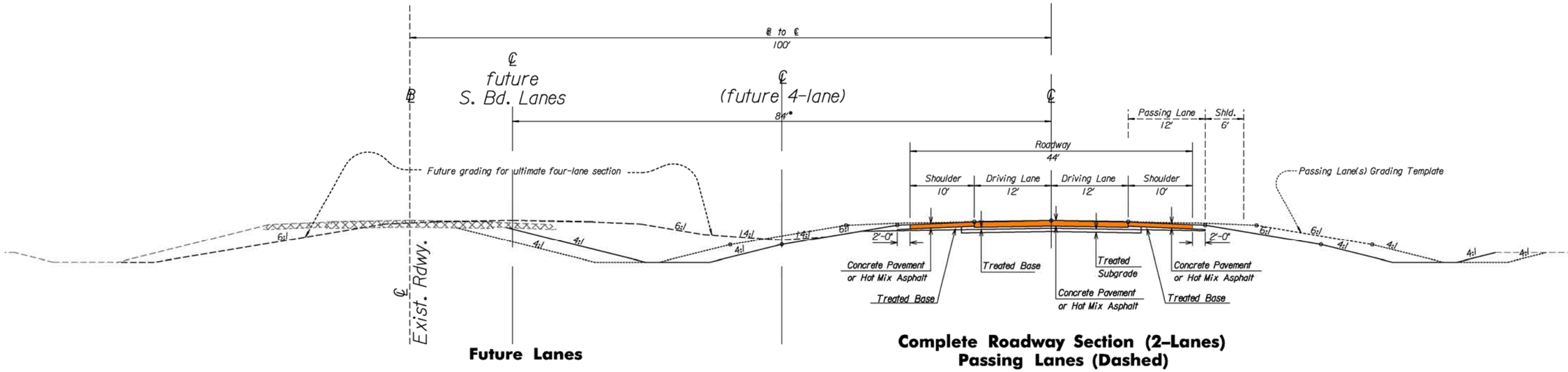
ALTERNATIVE 3 - This alignment alternative constructs a new two-lane roadway on the existing US-83 alignment, see Exhibit 3.5.3. The existing US-83 pavement will be retained as a base for the new roadway’s full-depth pavement to be overlaid on top of. This, along with the need for less embankment results in Alternative 3 costing less per mile to construct than the other alignment alternatives. This alternative facilitates future expansion to a four-lane highway by utilizing new right of way for the construction of two additional lanes in the future. Alternative 3 alignment’s future lanes have the flexibility to shift (cross-over) east or west of existing US-83 to avoid or minimize right of way impacts to established developments along the corridor; however the alignment of the two-lane roadway being constructed is fixed to the existing US-83 alignment. Alternative 3 typically requires acquisition of new right of way on both sides of existing US-83. Traffic (one-lane with 24 hour pilot car) can be accommodated through construction on existing US-83 with Alternative 3, or possibly in some instances by use of a state route detour.

URBAN SECTION - Two initial alignment alternatives labeled Expressway (Urban Section) and Freeway (Urban Section) were developed predicated on a *four-lane expressway* and a *four-lane freeway* roadway types respectively, see Exhibit 3.5.4. Both alignment alternatives remain on the existing US-83 alignment from the east US-50/US-400 interchange to the big curve north of Mary Street, providing a four-lane roadway by adding a divided median with concrete median barrier and an additional lane on each side of the existing roadway. Both alignment alternatives then offset to the north of existing US-83 at the big curve and develop a wider divided turf median, tying back into the existing US-83 alignment at 3rd Street. Both alignment alternative’s roadway widths and alignments are consistent with and match into the beginning of the recently constructed KDOT Project No. 50-28 K-8246-01. The Freeway (Urban Section) alignment considers and aligns with the proposed US-400 highway corridor identified in the *US-400 Corridor Concept Report;* KDOT Project No. 400-106 K-8242-01 (March 2005). The horizontal alignment geometrics were developed utilizing a 70 mph design speed. The Freeway and Expressway alignment alternatives will be carried forward in this study for information only to estimate the urban sections right-of-way limits. Specific projects will not be identified for the urban section.

Exhibit 3.5.1 – Alternative 1 Typical Section



Future Lanes **Complete Roadway Section (2–Lanes)**



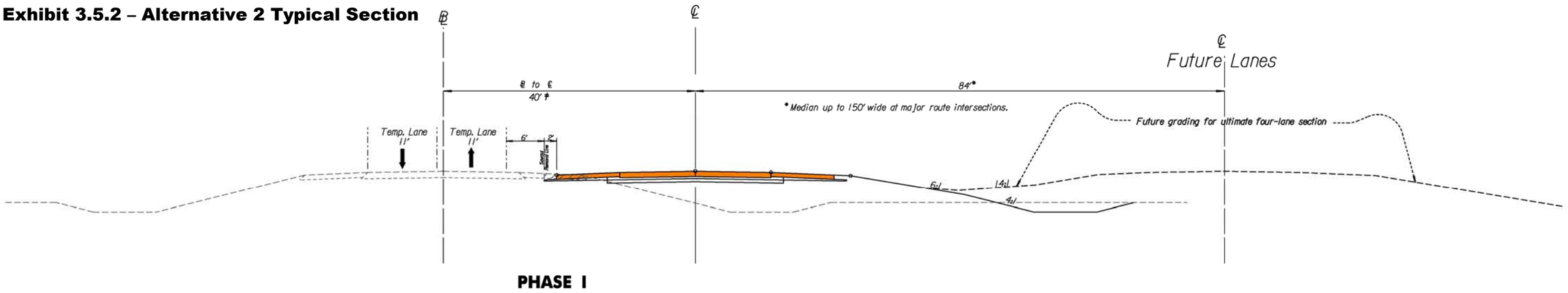
Future Lanes **Complete Roadway Section (2–Lanes) Passing Lanes (Dashed)**

The pavement, surface, and base types shown are for development of study cost only and do not reflect any predisposition by KDOT or otherwise for any particular pavement or surface type. Specific pavement, surface, and base types will be developed during the preliminary design phase for each project as they become funded & programmed.

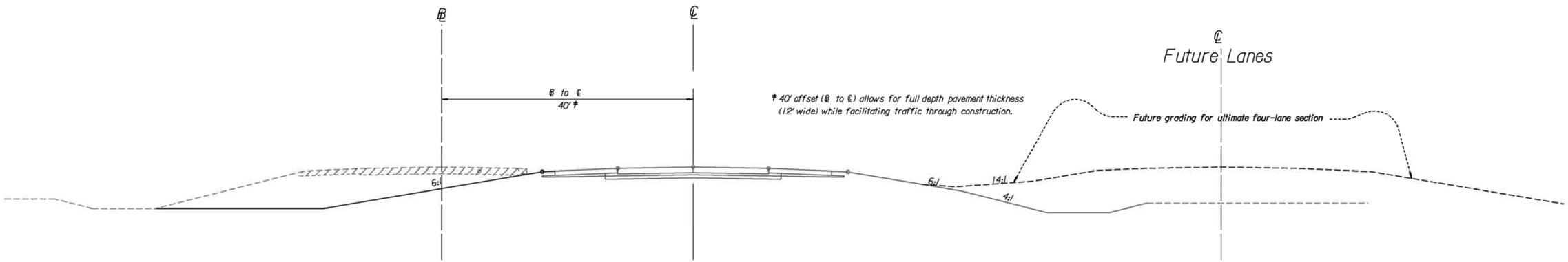
Offset Roadway & Future Lanes may be added on either side of existing roadway.

SCALE
PLAN: Lat. & Long. 10' 0 10' 20'

Exhibit 3.5.2 – Alternative 2 Typical Section

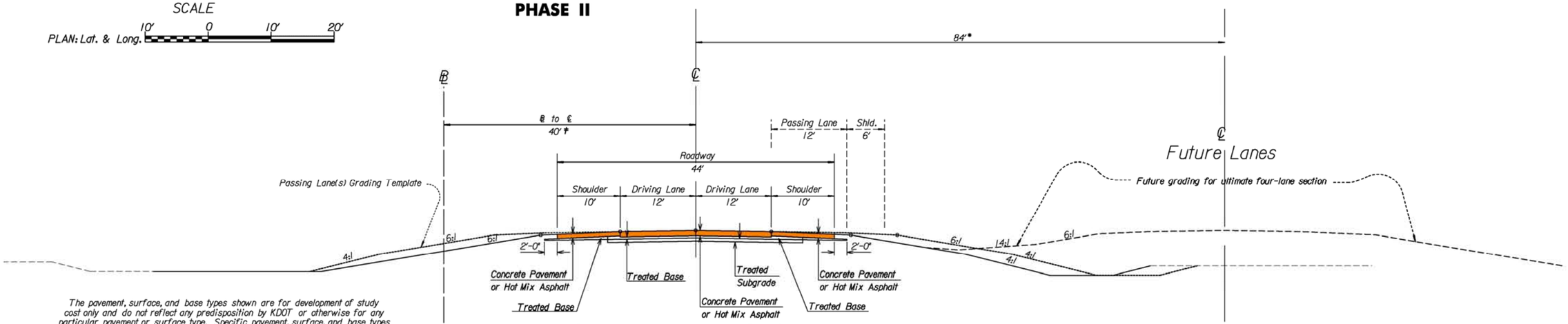


PHASE I



PHASE II

SCALE
10′ 0 10′ 20′
PLAN: Lat. & Long.

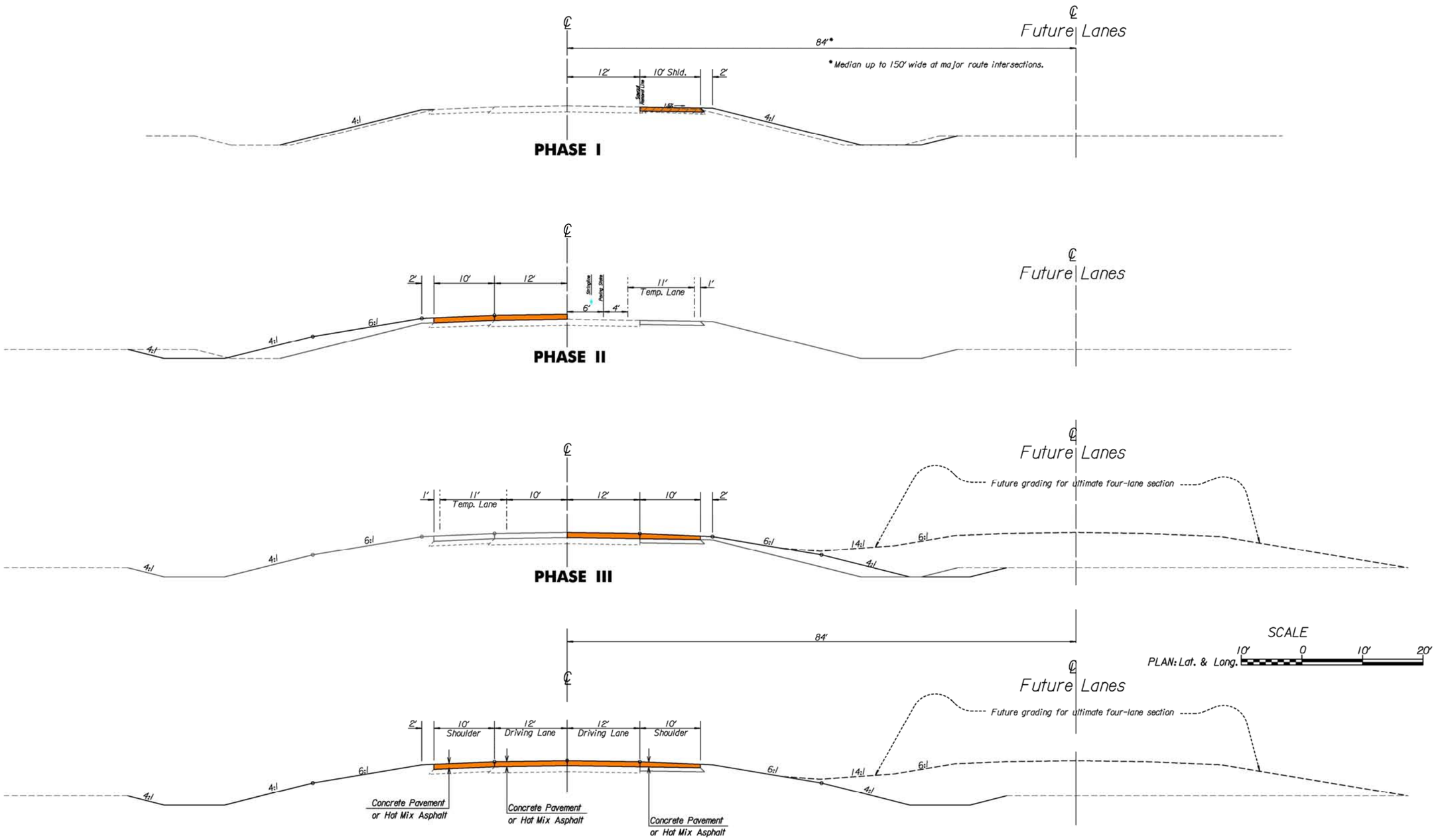


The pavement, surface, and base types shown are for development of study cost only and do not reflect any predisposition by KDOT or otherwise for any particular pavement or surface type. Specific pavement, surface, and base types will be developed during the preliminary design phase for each project as they become funded & programmed.

Complete Roadway Section
Passing Lanes (Dashed)

Offset Roadway & Future Lanes may be added on either side of existing roadway.

Exhibit 3.5.3 – Alternative 3 Typical Section

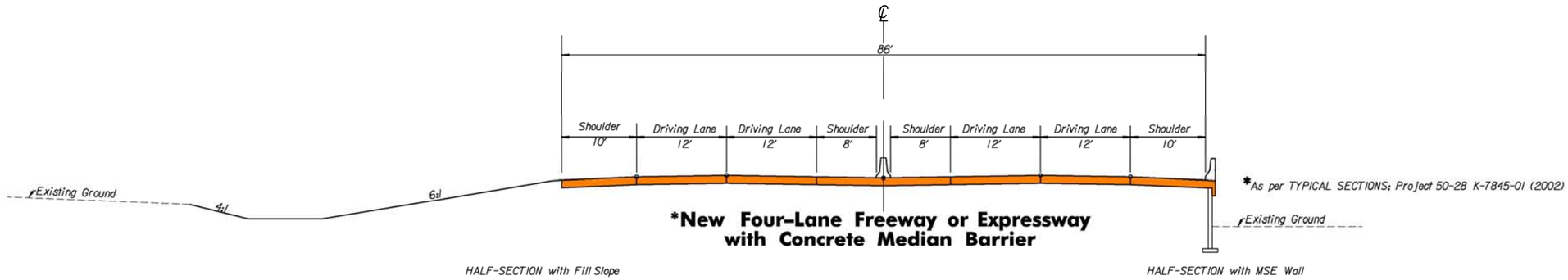


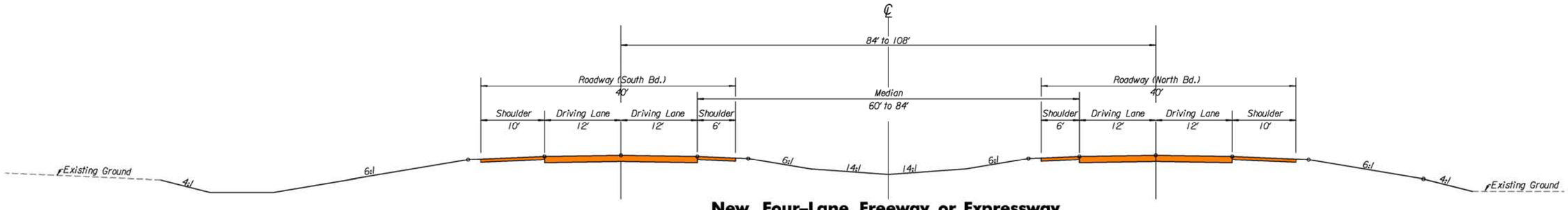
Complete Roadway Section

Future Lanes may be added on either side of existing roadway.

The pavement, surface, and base types shown are for development of study cost only and do not reflect any predisposition by KDOT or otherwise for any particular pavement or surface type. Specific pavement, surface, and base types will be developed during the preliminary design phase for each project as they become funded & programmed.

Exhibit 3.5.4 – Urban Section – Garden City (For Information Only)

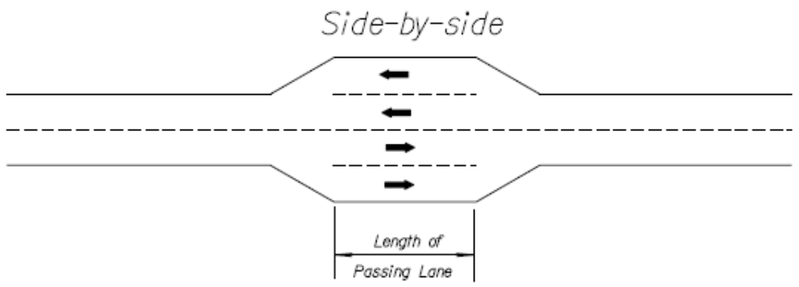




3.6 – Passing Lanes

The need for passing improvements along the US-83 corridor within the study area was initially based on public input and concern in regard to increased truck traffic and limited passing opportunities. The determination of need for passing improvements was verified by the sensitivity analysis - Level of Service (LOS) analysis; see Exhibit 2.3.1. While there is a high percentage of length of passing zones along the route due to the generally level terrain, the demand for passing opportunities exceeds the supply due to high traffic volume levels that limit the frequency of gaps in opposing traffic. Passing lanes are needed along this segment of the US-83 corridor to improve safety and overall traffic operations by breaking up traffic platoons and reducing delays caused by inadequate passing opportunities over substantial lengths of highway. The lengths of the proposed passing lanes range from 1.5 miles to 2 miles long and utilize the side-by-side configuration, see Exhibit 3.6.1 below. The three initial alignment alternatives that were developed, as well as the *preferred alignment alternative*, locate the proposed passing lanes in the same locations along the US-83 corridor. See Exhibit 3.6.2 for the proposed passing lane locations within the study area.

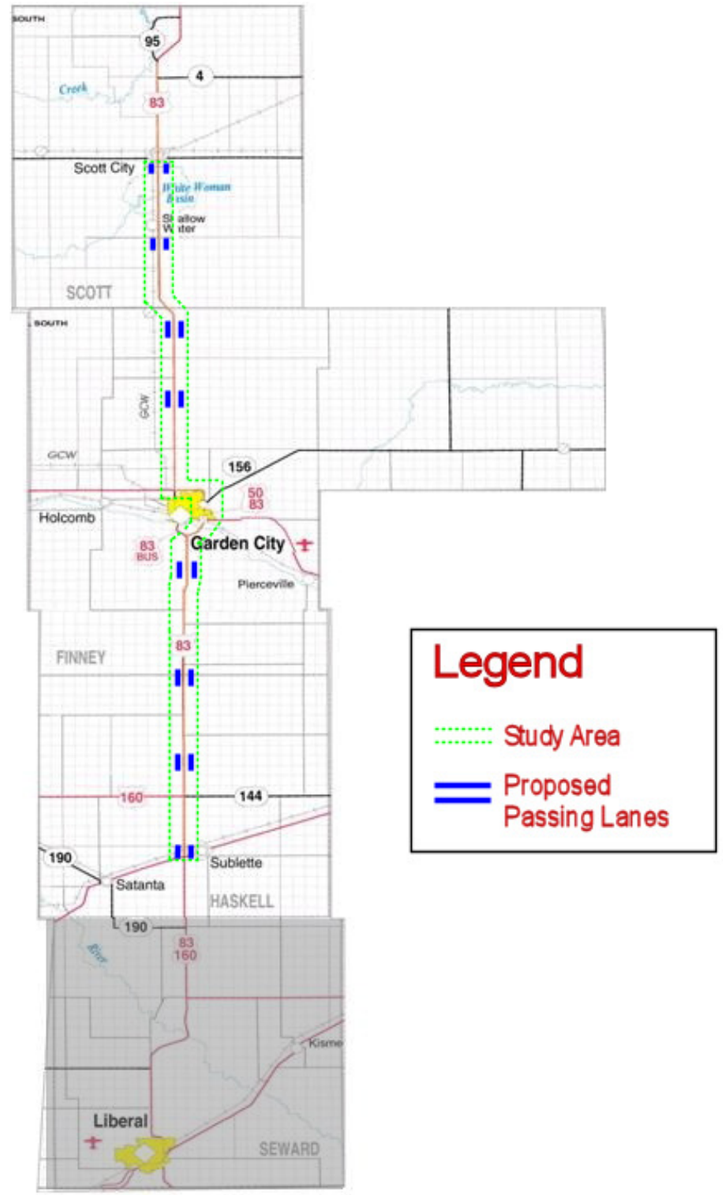
Exhibit 3.6.1 Passing Lanes Configuration



The proposed passing lanes are located systematically at regular intervals to improve the overall traffic operations over the entire length of the US-83 corridor within the study area. Several factors were considered when determining the specific location of the proposed passing lanes including:

- Spacing - passing lanes should be provided systematically at regular intervals of approximately 5 miles.
- Construction cost.
- Major intersections - major and high volume intersections should be avoided whenever possible.

Exhibit 3.6.2 Passing Lanes Locations



3.7 – Cost Estimates and Comparison

The total estimated cost for each alignment alternative developed in this study is expressed in fiscal year (FY 2010) dollars (inflated from FY 2008). They are based on the representative horizontal and vertical alignments with typically anywhere from 260 feet to 380 feet of right of way width (including existing right of way) depending on the alignment alternative, access roads, and future lanes location. Estimates were not determined for the urban section. The following components are included in the total estimated costs:

1. Preliminary Engineering
2. Construction Engineering
3. Utility Relocation
4. Right of Way
5. Construction

See Table 3.7.2 for the total estimated costs for each alignment alternative.

ENGINEERING ESTIMATES

The engineering cost for each alternative was estimated at 17.5 percent of the total construction cost. This amount includes 10 percent for preliminary engineering and 7.5 percent for construction engineering. Engineering estimates were not determined for the urban section.

UTILITY RELOCATION ESTIMATES

The utility relocation estimates for each alignment alternative within the study area included a review of the known or mapped utilities along or crossing the highway; the side (left or right) of the existing highway they occurred on; and whether the utility was on public right of way or private easement. Electric utility poles on private easement affected by each alignment alternative were counted and relocated at a cost of $2,500 per pole. All telephone cable and fiber optic line was anticipated to be on public right of way, resulting in no relocation cost. Gas and product pipeline crossings under US-83 were counted and reviewed for size. Cost estimates to extend encasement of the gas and product lines for the entire right of way width for each alignment alternative were developed based on $150 per linear foot (pipelines 4 inches or less) and $250 per linear foot (pipelines 5 inches or greater). Utility relocation estimates were not determined for the urban section.

RIGHT OF WAY ESTIMATES

The KDOT Bureau of Right of Way, Appraisal Section provided the values to determine the preliminary right of way estimates for each alignment alternative. The estimates were based on land values of approximately $500 per acre (pasture), $1,000 per acre (dry land), approximately $1,200 per acre (flood irrigation), and approximately $1,500 per acre (pivot irrigation). The KDOT Bureau of Right of Way, Appraisal Section also provided the estimated value of residences, farmsteads, and other improvements for partial take acquisition and/or total take acquisition. The preliminary right of way estimates also include approximated damages, adjustments, and relocation costs. Right of way estimates were not determined for the urban section.

CONSTRUCTION ESTIMATES

The total construction cost includes the following items:

1. Earthwork
2. Pavement/Surfacing
3. Drainage Structures
4. Bridges (Box & Open-Span)
5. Miscellaneous/Contingency Items

EARTHWORK - The earthwork estimates for each rural section alignment alternative were based on a roadway profile (crown grade) and an existing ground surface (field elevation). Cross section information was available and utilized from KDOT Project No. 83-41 K-3334-01 (1991) to assist in developing a typical relationship between the proposed roadway crown grade elevation and field elevation for the rural sections throughout the length of the study area. As Haskell, most of Finney, and Scott Counties are relatively flat with little relief, the 1991 project cross sections are fairly representative of the topography in all three counties, and were considered sufficient for estimating the rural section earthwork for this study. The estimated earthwork volumes are for US-83 mainline only and do not include any earthwork associated with construction of future lanes. Alignment Alternative 1 and Alternative 2 utilize a crown grade of 5 feet above field elevation and ditch cut depths of 1.5 feet. Alignment Alternative 3 utilizes a crown grade of 1 foot above the existing roadway profile and ditch cut depths of 1.5 feet. The earthwork estimates include volumes for “Common Excavation”, Common Excavation (Contractor Furnished)”, and “Compaction (Type A) (MR-5-5)”. The earthwork unit costs were derived from KDOT’s historic bid tabs (FY 2008, Wage Area 1).

PAVEMENT/SURFACING - The mainline pavement/surfacing estimates for each alignment alternative utilized the pavement/surfacing types, thicknesses, and widths, including base and subgrade as shown on the typical section Exhibit’s 3.5.1, 3.5.2, and 3.5.3. Several of the unit costs for the mainline pavement, base, and subgrade were derived from the bid tabulation costs from KDOT Project No. 400-29 K-8237-01 (Bypass SW of Dodge City) (March 2008). This was considered a representative project in the southwest Kansas region with a potentially similar paving action and unit costs that could occur on US-83 projects. The pavement/surfacing estimates also include HMA surfacing (6 inches thick) and surfacing aggregate material (4 inches thick) for the access roads (24 foot surface width) associated with each alignment alternative. The unit costs for the access road surfacing items were derived from KDOT’s historic bid tabs (FY 2008, Wage Area 1).

DRAINAGE STRUCTURES - Developing cost estimates for the road size drainage structures included a review of the previous grading plans on US-83 within the study area to determine the size and type of the drainage structures under US-83. There are numerous reinforced concrete boxes (RCB's) and reinforced concrete pipes (RCP's) that facilitate cross road drainage under the highway. The KDOT Area Offices preliminary review indicated that generally all of these cross road drainage structures are in satisfactory condition. For estimating purposes on this study, the existing drainage structure sizes and types were retained for each alignment alternative. Based on the alignment alternatives offset distance from existing US-83 and the satisfactory condition of the existing drainage structures, the RCB's and RCP's were either new (Alternative 1) or extended (Alternatives 2 & 3) to a length that satisfy the alternatives grading limits or clear zone criteria.

BRIDGES – Developing cost estimates for the bridge size structures included a review of the previous grading plans on US-83 within the study area to determine the size and type of the bridge structures as well as review of the bridge maintenance packet information. The bridge estimates for each alignment alternative include the repair of the Arkansas River Bridge (015) and Bridge (016) over the BNSF Railroad in Finney County, and the replacement or extension of the three concrete box bridges; White Woman Creek Bridge (001), White Woman Basin Bridge (002), and Lion Creek Bridge (003) in Scott County. The Arkansas River Bridge estimate is based on a repair scope that includes joint replacement, polymer overlay, and exterior shelf bearings repair. The Bridge over the BNSF estimate is based on a repair scope that includes edge of wearing surface (EWS) seal, polymer overlay, rail replacement, lead paint removal, and vertical clearance improvement. Based on KDOT Area and Bridge Office field review and bridge maintenance packet information, the three concrete box bridges in Scott County are in satisfactory condition, however they may rate under the legal load limit. Retaining any portion of the existing concrete box bridge structures directly under the traffic lanes is not desirable. Based on this, the concrete box bridge estimates include new structures (Alternative 1), extended structures (Alternative 2), and new structures including shoofly detours (Alternative 3). The concrete box bridge estimates utilize KDOT's Automated Reinforced Concrete Box System Software based on concrete box bridge widths that satisfy the clear zone criteria.

MISCELLANEOUS/CONTINGENCY ITEMS – Miscellaneous/Contingency items were estimated at 20 percent of the sum of the construction costs for the major construction items; earthwork, pavement/surfacing, drainage structures, and bridges. This category accounts for construction items such as mobilization, construction staking, guardrail, fencing, seeding, signing and pavement marking, traffic control, and for unexpected issues that may arise during construction that are unknown at this stage of project development. This percentage was derived at by reviewing other KDOT project line item bid tabulations, comparable in scope, and comparing the major construction item costs with the miscellaneous construction item costs.

Table 3.7.1 lists the unit costs of various construction items used in the development of the alignment alternative construction cost estimates. Additionally, Table 3.7.2 summarizes each alignment alternatives total estimated costs and provides a comparison of each alignment alternatives data. Construction estimates were not determined for the urban section.

Table 3.7.1 Unit Costs (FY 2008)

ITEM	UNIT	UNIT COST
Earthwork		
Common Excavation (Rural Large)	Cu. Yd.	$2.12
Common Excavation (Contr. Furn.)	Cu. Yd.	$3.87
Comp. of EW (Type A) (5-5)	Cu. Yd.	$0.38
Rock Excavation (Pavement Removal)	Cu. Yd.	$8.00
Drainage Structures		
Cross Road Pipe	Lin. Ft.	$110.00
End Sections	Each	$750.00
Reinforced Concrete Boxes (RCB)	Cu. Ft.	$10.00
Pavement/Surfacing		
Fly Ash	Cu. Yd.	$21.70
Granual Base (4" Var.)	Sq. Yd.	$4.65
Concrete Pav't (10" Uniform)(AE)(NRDJ)	Sq. Yd.	$33.00
Concrete Pavement (8" Uniform)(AE)(PL)	Sq. Yd.	$22.00
Concrete Pavement (10" Uniform)(PL)	Sq. Yd.	$26.63
Curb and Gutter	Lin. Ft.	$16.00
Pavement Edge Wedge (Rock)	Ton	$29.72
HMA Pavement (8")(Shoulder)	Sq. Yd.	$25.55
HMA Commercial Grade (Class A)	Cu. Yd.	$127.24
Surfacing Material (SA-1 or SA-X)	Cu. Yd.	$20.00
Bridges		
Bridge (015) over Arkansas River (Repair)	Sq. Ft.	$7.70
Bridge (016) over BNSF R.R. (Repair)	Sq. Ft.	$30.54
Concrete Box (Average)	Cu. Ft.	$9.65

Detailed cost estimates for each alignment alternative are available in the KDOT Bureau of Design Office in Topeka. See Appendix 5.5 for KDOT offices contact information.

Table 3.7.2 Alignment Alternatives Summary (Rural Section)

Project: 83-106 KA-1008-01

	Alternative 1					Alternative 2					Alternative 3					Preferred Alternative				
	Haskell	Finney	Scott	Total	Cost	Haskell	Finney	Scott	Total	Cost	Haskell	Finney	Scott	Total	Cost	Haskell	Finney	Scott	Total	Cost
Construction																				
Earthwork/Drainage Structures	$6,726,105	$12,297,652	$5,478,806		$24,502,563	$5,162,469	$9,490,025	$4,280,043		$18,932,537	$2,964,642	$5,082,214	$2,200,156		$10,247,011	$3,466,649	$7,394,593	$5,439,274		$16,300,517
Pavement/Surfacing	$20,069,124	$36,213,236	$16,214,741		$72,497,102	$20,639,027	$37,229,449	$16,424,579		$74,293,055	$20,575,230	$37,093,197	$16,409,858		$74,078,284	$20,484,898	$36,583,522	$16,253,458		$73,321,878
Bridges	$0	$729,196	$653,992		$1,383,188	$0	$729,196	$331,493		$1,060,689	$0	$1,017,496	$1,518,892	**	$2,536,388	$0	$729,196	$653,992		$1,383,188
Misc./Contingency (20%)					$19,676,571					$18,857,256					$17,372,337					$18,201,117
Inflation (8%, FY'08 to FY'10)					$9,444,754					$9,051,483					$8,338,722					$8,736,536
				Subtotal	**$127,504,178**				Subtotal	**$122,195,020**				Subtotal	**$112,572,742**				Subtotal	**$117,943,235**
			Total Project Length (Miles)		65.73			Total Project Length (Miles)		65.72			Total Project Length (Miles)		65.72			Total Project Length (Miles)		65.72
			Construction Cost per Mile		**$1,939,817**			Construction Cost per Mile		**$1,859,328**			Construction Cost per Mile		**$1,712,915**			Construction Cost per Mile		**$1,794,632**
Right-of-Way																				
Dryland/Pasture (Acres)	222.08	264.09	283.18	769.35	$538,546	189.57	255.47	192.15	637.18	$446,026	181.53	240.87	210.15	632.55	$442,782	179.45	267.30	243.36	690.11	$483,076
Flood Irrigated (Acres)	0.00	102.52	57.69	160.21	$192,247	0.00	60.82	69.38	130.20	$156,239	0.00	56.55	58.07	114.62	$137,545	0.00	42.11	56.06	98.17	$117,810
Pivot Irrigated (Acres)	181.12	432.49	63.69	677.31	$1,015,958	146.56	317.93	54.80	519.30	$778,944	127.45	293.32	62.78	483.55	$725,330	132.96	299.37	61.39	493.73	$740,597
Pivot Irrigation Adj. (No.)	13	33	5	51	$1,020,000	14	38	6	58	$1,160,000	19	53	13	85	$1,700,000	21	43	6	70	$1,400,000
Irrigated to Dryland (Acres)	434.84	1,326.68	172.73	1,934.25	$1,547,398	342.71	824.98	146.07	1,313.77	$1,051,013	320.35	842.17	168.49	1,331.01	$1,064,804	347.12	826.43	133.96	1,307.51	$1,046,008
Irrigation Wells (No.)	5	4	3	12	$240,000	5	4	3	12	$240,000	6	5	3	14	$280,000	6	4	3	13	$260,000
Oil/Gas Wells (No.)	0	2	0	2	$200,000	0	2	0	2	$200,000	0	2	0	2	$200,000	0	1	0	1	$100,000
Oil Tank Batteries (No.)	5	2	0	7	$140,000	5	2	0	7	$140,000	5	2	0	7	$140,000	5	1	0	6	$120,000
Feed Lots (Acres)	0.00	0.00	0.00	0.00	$0	0.00	2.66	0.00	2.66	$258,000	0.00	3.31	2.34	5.65	$274,500	0.00	1.79	0.00	1.79	$114,500
Commercial (Acres)	2.14	0.00	4.53	6.67	$187,530	2.39	2.07	3.61	8.07	$530,500	2.19	2.62	3.36	8.17	$617,680	2.27	1.85	4.10	8.22	$212,430
Residential (Acres)	2.20	6.17	3.86	12.23	$1,276,280	2.96	15.64	6.00	24.60	$2,712,675	3.90	18.02	6.36	28.28	$3,674,825	3.90	13.21	15.07	32.18	$2,210,705
Residential Displacement (No.)	1	4	2	7		1	5	2	8		1	6	1	8		0	3	3	6	
				Subtotal	**$6,357,959**				Subtotal	**$7,673,398**				Subtotal	**$9,257,466**				Subtotal	**$6,805,126**
Utilities																				
Gas Line Crossings	$526,750	$763,250	$96,750		$1,386,750	$384,650	$557,350	$70,650		$1,012,650	$395,300	$475,700	$60,300		$931,300	$634,250	$763,250	$96,750		$1,494,250
Electric	$222,000	$921,000	$0		$1,143,000	$348,000	$906,000	$0		$1,254,000	$549,000	$1,584,000	$0		$2,133,000	$516,000	$1,152,000	$0		$1,668,000
Phone/Fiber (All on KDOT R/W)	$0	$0	$0		$0	$0	$0	$0		$0	$0	$0	$0		$0	$0	$0	$0		$0
				Subtotal	**$2,529,750**				Subtotal	**$2,266,650**				Subtotal	**$3,064,300**				Subtotal	**$3,162,250**
General					$0															
Miles of Access Roads	4.38	7.80	7.30		19.49	4.15	6.61	5.77		16.53	3.57	6.01	5.69		15.28	3.69	6.78	7.63		18.10
Traffic Handling/Constructability																				
Accommodates future long range capacity needs					Yes					Yes					Yes					Yes
P.E. (10%)					$12,750,418					$12,219,502					$11,257,274					$11,794,324
C.E. (7.5%)					$9,562,813					$9,164,626					$8,442,956					$8,845,743
	Total Project Cost Alternative 1				**$158,705,118**	**Total Project Cost Alternative 2**				**$153,519,196**	**Total Project Cost Alternative 3**				**$144,594,739**	**Preferred Alternative Project Cost**				**$148,550,677**

**For Alt.3 a shoofly cost of $300,000 was added to all bridges except the Arkansas River Bridge

4. STUDY RECOMMENDATIONS

4.1 – Evaluation Factors

The study team considered all of the physical, engineering, social, economic, public, and environmental factors listed in Section 3.3 for the development and evaluation of the roadway types and alignment alternatives. While some factors were considered to be non-consequential, nine were relevant in determining the recommendation for the *preferred roadway type* and *preferred alignment alternative* to be carried forward as the ***preferred alternative*** toward projects development and are listed below:

1. Existing and Projected Future Traffic Volumes and Traffic Types
2. Highway Safety, Mobility, and Access Needs
3. Traffic Service and Capacity
4. Useful Functional Life (Designs that Preserve the Capacity of the Roadway)
5. Maintenance of Existing Travel Corridor (Retaining Present Travel Patterns)
6. Avoidance/Minimization of Impacts to Established Development; Cemeteries, Farmsteads, Feedlots, Businesses, Schools, Churches, Irrigation Pivots, Water Wells, Irrigation Ditches, Major Utilities, and Public Golf Courses
7. Public Input
8. Existing Highway or Access Roads to be Turned Over to Local Gov't. for Maintenance
9. Costs

4.2 – Preferred Roadway Type & Alignment; PREFERRED ALTERNATIVE

The study team evaluated the alternative roadway types and alignments using the nine most relevant evaluation factors to arrive at the *preferred roadway type* and *preferred alignment alternative* for the rural sections along the US-83 corridor within the study area. The *preferred roadway type* is the *two-lane with passing lanes (four-lane right of way)* and includes partial access control with minimum access spacing of one mile. This roadway type and level of access control –

- ✓ Preserves the useful functional life of the roadway by facilitating conversion to an ultimate four-lane facility in the future when needed.
- ✓ Improves roadway safety and mobility by minimizing or eliminating conflict points along the highway such as driveway and entrances, addressing access needs by providing property access via local roads and access roads.
- ✓ Addresses public concerns about limited passing opportunities and improves roadway safety and mobility by providing passing lanes.
- ✓ Facilitates construction in useable and programmable sections over time. This is beneficial as funding limitations frequently restrict a highway facility's roadway type that is initially constructed.

The *preferred alignment alternative* is a combination of the alignment alternatives initially developed (Alternative 1, Alternative 2, & Alternative 3) along different segments of the US-83 corridor's rural sections. The *preferred alignment alternative* –

- ✓ Provides the best balance between reduced construction cost and reduced right of way impacts when compared to the other alignment alternatives.
- ✓ Avoids or minimizes impacts to established development and irrigated circles whenever possible.
- ✓ Considers public input provided at and subsequent to the public meetings.
- ✓ Utilizes the existing US-83 travel corridor and right of way as much as possible.

Taken together, the *preferred roadway type* and *preferred alignment alternative* selected by KDOT constitute the ***preferred alternative***. See the Preferred Alternative Aerial Plates (Volume 2), bound separately.

4.3 – Identification of Potential Projects

The study team identified potential construction projects utilizing the following factors to assist in determining each projects priority and limits (Begin & End):

1. Pavement Section Limits, Condition, and Priority – Each construction project should address the different pavement section limit boundaries identified by KDOT Materials & Research (Pavement Section) and listed in Section 2.2.
2. Traffic Handling Method – Each construction project should have a consistent traffic handling method throughout the length of the project whenever possible.
3. Logical Termini – Each construction project should have rational end points for a transportation improvement. This can typically occur at the beginning and end of a pavement section being addressed, at major intersecting roadways, or at locations where a permanent cross-over is proposed.
4. Independent Utility – Each construction project must be able to function on its own, without further construction of an adjoining segment.

Eight rural section construction projects have been identified along the US-83 corridor from Sublette to Scott City; see Exhibit 4.3.1.

4.4 – Projects Environmental Classification

The preliminary environmental review was broad in nature and encompassed the entire 70 mile long US-83 study area corridor from Sublette to Scott City. No known "fatal flaws" that would exclude the ***preferred alternative*** were discovered. While further environmental investigations would need to occur during the design phase, the study team believes that each identified construction project posses' logical termini and independent utility, and would not restrict the construction of other reasonably foreseeable transportation projects along the corridor. The study team anticipates that the identified construction projects proposed environmental classification satisfies the requirements of a Categorical Exclusion (CE).

4.5 – Projects Funding

This study was undertaken to evaluate the study area and to identify construction projects so that when funding becomes available, design could begin on identified project(s). The order of identified construction projects to be designed and constructed will need to consider the projects identified pavement condition priority and is dependent on the amounts of any future funding. KDOT has authorized and funded preliminary design only on projects 1, 2, and 3; see Exhibit 4.3.1. Currently there is no funding for right of way acquisition or construction.

LIMITED FUNDING –

Funding limitations frequently restrict the scope of construction projects. Passing lane only projects could be considered if only limited funding is available. The passing lane only projects would construct a set of side-by-side passing lanes along existing US-83 at the locations identified above. Each set of side-by-side (two-mile long) passing lanes' estimated construction cost is $1.85 Million (FY 2010). If passing lanes only are constructed at the identified locations, several could be utilized for the base material of the ***preferred alternative's*** full-depth overlay when adequate funding becomes available for its construction. While these passing lanes only projects would provide increased passing opportunities, they would not address the corridor's long-range needs.

4.6 – Projects Schedule

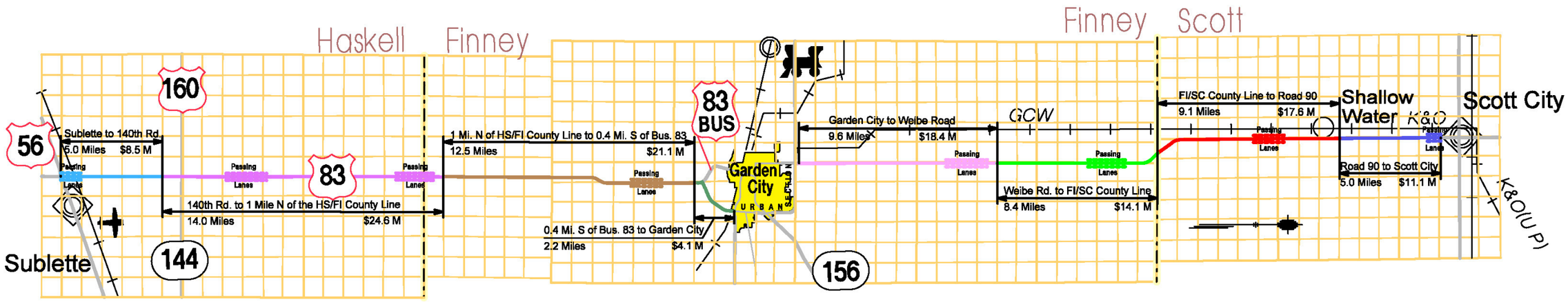
The schedule below is based on the project development experience of the project team and on project development schedule histories of KDOT projects similar in scope and length to the identified construction projects in this study. The following is a schedule of the anticipated minimum time it will take for projects development once a project is authorized:

- **Preliminary Design..... 27 months**
  - Includes *consultant selection, surveying, geo-tech & field check plans.
- **Final Design..... 21 months**
  - Includes right of way (R / W) acquisition, utility relocation, & PS&E plans.
- **Construction Letting..... 3 months**
  - Includes final plans, advertisement, R / W clear, & utilities relocated.

Projects Development (TOTAL).....	**51 months**

*Consultant selection takes approximately 6 months. Depending on workload, projects designed by KDOT staff could omit that time from preliminary design.

Exhibit 4.3.1 – Identified Construction Projects (Rural Sections)



LEGEND

- Project 1 (Priority 6)
- Project 2 (Priority 2)
- Project 3 (Priority 1&3)
- Project 4 (Priority 7)
- Project 5 (Priority 5)
- Project 6 (Priority 5)
- Project 7 (Priority 4)
- Project 8 (Priority 4)

Project: 83-106 KA-1008-01 Preferred Alternative

Projects	Project 1	Project 2	Project 3	Project4	Project 5	Project 6	Project 7	Project 8
Priority	6	2	1 & 3	7	5	5	4	4
Grading & Drainage	$914,170	$3,176,450	$3,579,671	$311,014	$2,321,663	$1,456,472	$3,608,263	$2,236,856
Paving/Surfacing	$6,137,520	$17,324,370	$13,874,091	$2,292,128	$11,933,629	$10,284,732	$11,063,690	$6,277,467
Mainline Length (Miles)	5.02	14.04	12.48	2.17	9.56	8.39	9.07	4.99
Side & Access Roads (Miles)	1.09	2.80	2.33	0.00	2.68	1.57	3.61	3.31
Bridges	$0	$0	$0	$787,532	$0	$0	$0	$706,312
Total Construction Cost*	**$8,462,028**	**$24,600,984**	**$20,944,515**	**$4,068,809**	**$17,106,350**	**$14,089,445**	**$17,606,343**	**$11,064,762**
Right-of-Way	$260,440	$1,491,721	$1,311,243	$20,201	$1,481,514	$953,545	$1,022,402	$264,060
Dryland/Pasture (Acres)	73.58	105.87	119.46	28.86	51.53	67.44	154.74	88.61
Flood Irrigated (Acres)	0.00	0.00	11.45	0.00	30.66	0.00	27.27	28.79
Pivot Irrigated (Acres)	6.90	147.63	135.08	0.00	57.27	85.45	48.21	13.18
Pivot Irrigation Adj. (No.)	1	22	14	0	8	19	4	2
Irrigated to Dryland (Acres)	16.97	379.99	380.74	0.00	153.78	242.06	89.95	44.01
Irrigation Wells (No.)	1	6	2	0	0	1	1	2
Oil/Gas Wells (No.)	0	0	1	0	0	0	0	0
Oil Tank Batteries (No.)	5	0	1	0	0	0	0	0
Feed Lots (Acres)	0.00	0.00	0.00	0.00	0.00	1.79	0.00	0.00
Commercial (Acres)	1.13	1.14	1.85	0.00	0.00	0.00	2.61	1.49
Residential (Acres)	1.31	2.71	3.85	0.00	7.96	1.28	15.07	0.00
Residential Displacement (No.)	0	0	0	0	3	0	3	0
Utilities	$393,500	$822,000	$622,500	$71,750	$640,500	$515,250	$64,500	$32,250
P.E. (10%)	$846,203	$2,460,098	$2,094,451	$406,881	$1,710,635	$1,408,944	$1,760,634	$1,106,476
C.E. (7.5%)	$634,652	$1,845,074	$1,570,839	$305,161	$1,282,976	$1,056,708	$1,320,476	$829,857
Total Project Cost	**$10,596,823**	**$31,219,877**	**$26,543,547**	**$4,872,801**	**$22,221,975**	**$18,023,893**	**$21,774,356**	**$13,297,405**

* Figured with a 20% Contingency in Fiscal Year 2010

4.7 – Preferred Alternative Aerial Plates (Bound Separately)

The ***preferred alternative*** aerial map plates are bound separately in the Preferred Alternative Aerial Plates (Volume 2). The orange roadway represents the *two-lane with passing lanes* roadway to be initially constructed with identified construction projects. The black double-dashed lines represent the future lanes (to be constructed when a four-lane facility is needed). As construction projects are selected and funded, detailed design surveys and preliminary design will determine the actual right of way requirements and impacts. See the map plate's LEGEND and map plate's layout guide in the Preferred Alternative Aerial Plates (Volume 2), bound separately.

4.8 – Preferred Alternative; (Plymell, just north of Garden City, & Shallow Water)

PLYMELL - Several alignment alternatives were considered at Plymell including a large offset west, on and near existing US-83, and a large offset east. See Exhibit 4.8.1. The large offset east was selected as the *preferred alignment alternative* at Plymell to be included in the ***preferred alternative*** for reasons including:

- Impacts noticeably less pivot irrigated circles/acres than the large offset west.
- Avoids displacement and relocation of the house/business located in the northeast quadrant of the existing US-83/RS247 intersection.
- Results in less traffic volume going by school/church and avoids right of way acquisition/impacts to school/church properties located on the west side of existing US-83.
- Total cost is approximately $500,000 less than on/near the existing US-83 alignment and approximately $300,000 less than the large offset west.

JUST NORTH OF GARDEN CITY - Several alignment alternatives were considered just north of Garden City including a large offset west, on, and near existing US-83. See Exhibit 4.8.2. The alignment on existing US-83 was selected as the *preferred alignment alternative* just north of Garden City to be included in the ***preferred alternative*** for reasons including:

- Can avoid the private irrigation ditch located on the east side paralleling existing US-83 just beyond the existing right of way line.
- Avoids bisecting several flood irrigated and pivot irrigated tracts of ground.
- Reduces right of way impacts to flood and pivot irrigated ground and maximizes use of existing US-83 right of way.
- Total cost is approximately $1.5 million less than the large offset west.

SHALLOW WATER - Several alignment alternatives were considered at Shallow Water including a large offset to the west, on and near existing US-83, and a large offset to the east. See Exhibit 4.8.3. The alignment near existing US-83 was selected as the *preferred alignment alternative* at Shallow Water to be included in the ***preferred alternative*** for reasons including:

- Impacts noticeably less pivot irrigated circles/acres than the larger offsets west or east.
- Avoids impacts to and retains good visibility to the CO-OP gas station.
- Provides direct access for RS-683 to/from US-83 and allows room for access road (on existing US-83) to serve CO-OP gas station and Road 75 into Shallow Water.
- Avoids bisecting several irrigated and dry land tracts of ground, however it displaces two houses. During the preliminary design phase, adjustment of the ***preferred alternative*** alignment further east, to avoid displacement of the house(s) could be reconsidered.
- Total cost (right of way & construction) for the ***preferred alternative*** vs. the large offset east are comparable.

Exhibit 4.8.1 Plymell Alternatives

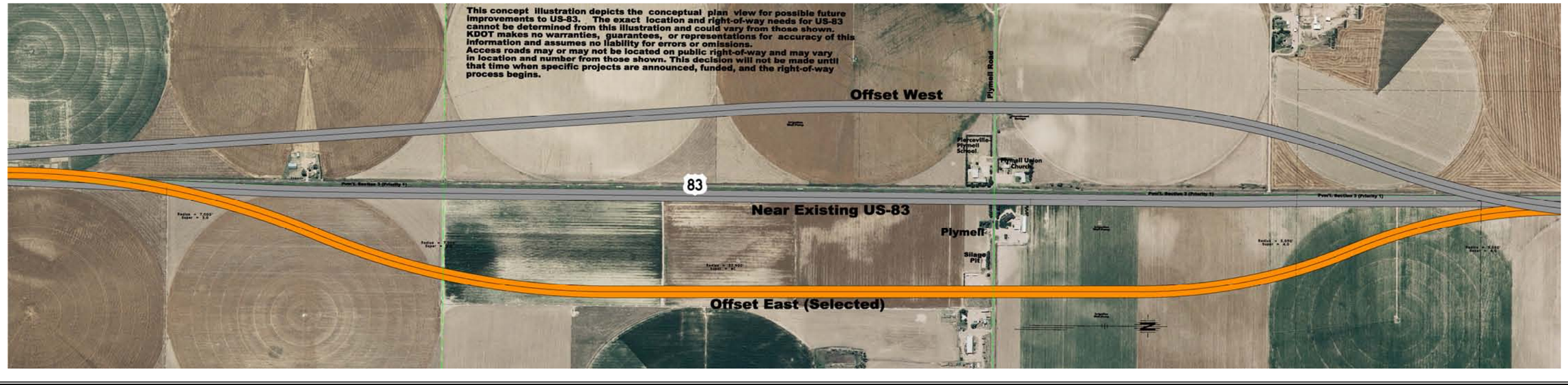


Exhibit 4.8.2 Just North of Garden City Alternatives

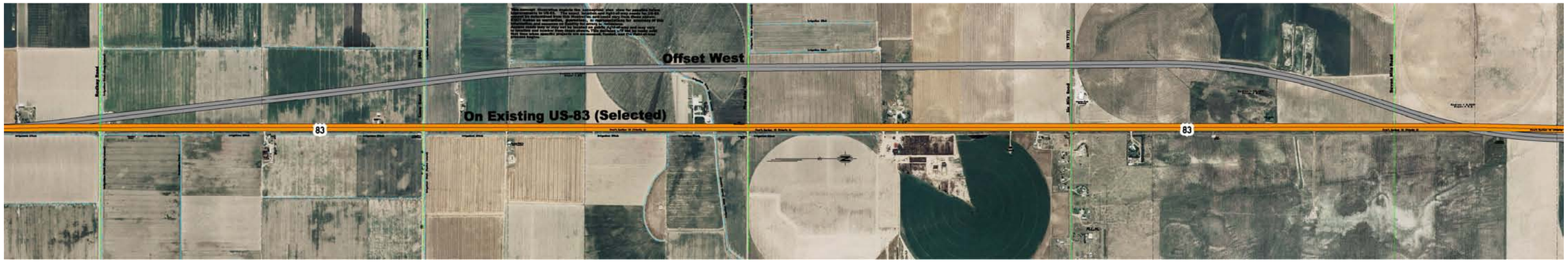
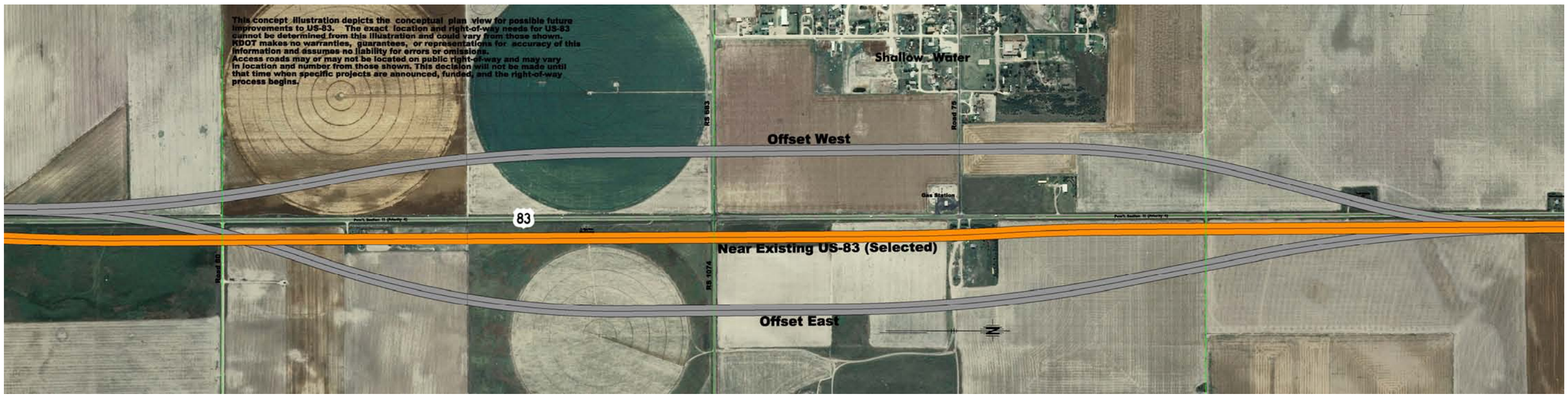


Exhibit 4.8.3 Shallow Water Alternatives



4.9 – Interchange Considerations (Rural Section)

Right of way acquisition for grade-separated interchange locations at major route intersections with US-83 including US-56, US-160/K-144, and US-83 Business should be considered during the preliminary design phase of identified projects that include these locations. Preliminary interchange configurations were briefly analyzed for each of the three aforementioned rural section intersection locations and are illustrated on the following pages. See Exhibit 4.9.1, Exhibit 4.9.2, and Exhibit 4.9.3, as well as the Preferred Alternative Aerial Plates (Volume 2), bound separately. During the preliminary design phase of identified projects, more detailed analysis should be made at each of these intersection locations to verify the best overall interchange configuration, US-83 alignment location, and whether US-83 should be carried under or over the intersecting route(s). As the topography is relatively flat along the US-83 corridor, topography may not govern the interchange types or configurations developed. Other higher traffic volume intersections may need to be considered for possible interchange locations as well during the preliminary design phase. Costs for preliminary interchanges are not included in this report. The following is a brief summary of reasons why a particular preliminary interchange configuration was developed and illustrated for each major route intersection location.

US-56/US-83 JUNCTION - The preliminary interchange configuration developed for this highway junction is a “folded diamond”. US-83 is shown relocated approximately 1, 200 feet west of its current intersection with US-56. This relocation of US-83 could be moved further west or back east, but would require added roadway length to tie back into US-83 or longer bridges to go over the railroad respectively. The close proximity of US-56 to the railroad makes a traditional diamond interchange impractical. A folded diamond interchange with a relocated US-83 going over US-56 and the railroad provides for:

1. Desirable staged construction when built allows for all highway and railroad traffic to continue unimpaired through construction.
2. Minimizes impacts to existing development near the current US-56/US-83 intersection.

US-83/US-160/K-144 JUNCTION - The preliminary interchange configuration developed for this highway junction is a “diamond”. US-83 is shown relocated approximately 575 feet east of its current intersection with US-160/K-144. This new US-83 alignment location provides room for US-160/K-144 to go over US-83 and get back down to current grade without major impacts to the feed yard. Taking the major route (US-83) under and the minor route (US-160/K-144) over provides several advantages including:

1. US-83 drivers will be able to easily identify the approaching interchange.
2. The ramp grades will assist turning vehicles to decelerate as they exit US-83 and to accelerate as they enter US-83.
3. Construction of the US-160/K-144 overpass and approach roadways in the future will not significantly impact the original US-83 investment.
4. US-83 traffic can be easily accommodated through construction with no detour.
5. Less bridges and embankment to construct resulting in less cost.

US-83/US-83 Business JUNCTION - The preliminary interchange configuration developed for this highway junction is a “diamond”. US-83 Business would go over US-83. A connection to the Southwind development could be provided as well. Taking the major route (US-83) under and the minor route (US-83 Business/local road) over provides the same advantages as listed above for the US-83/US-160/K-144 diamond interchange.

Exhibit 4.9.1 Preliminary US-56 & US-83 Interchange Configuration

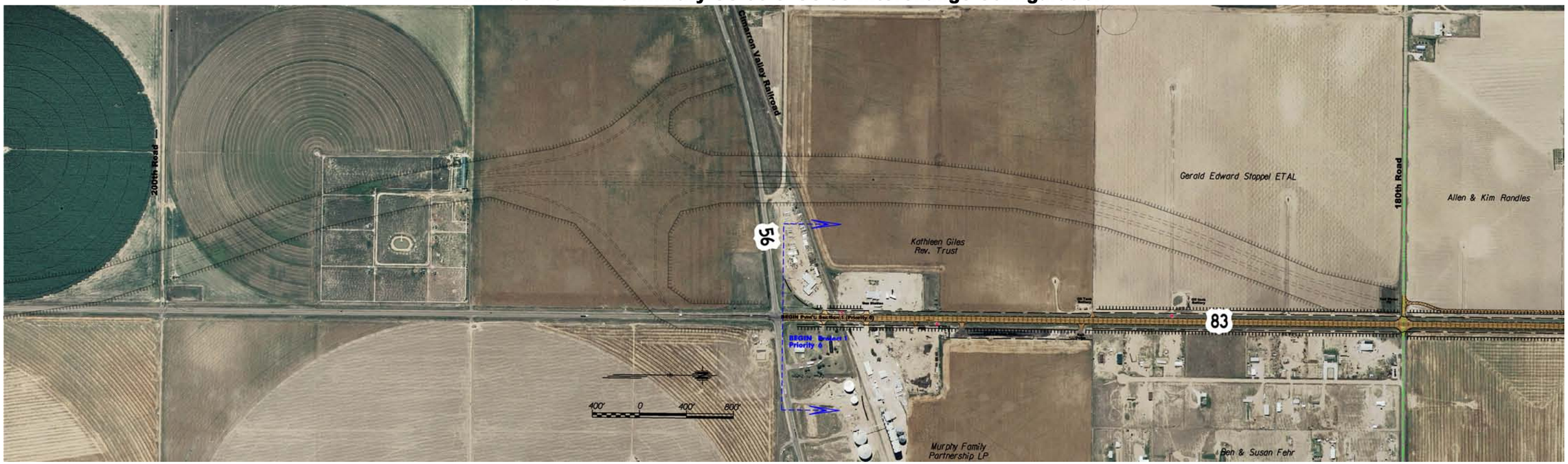


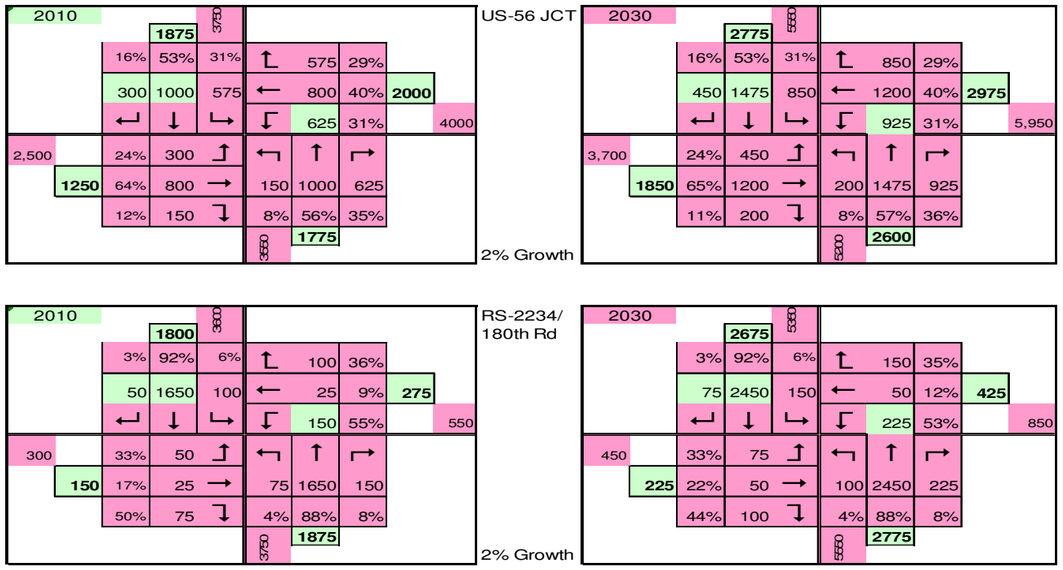
Exhibit 4.9.2 Preliminary US-160 & US-83 Interchange Configuration

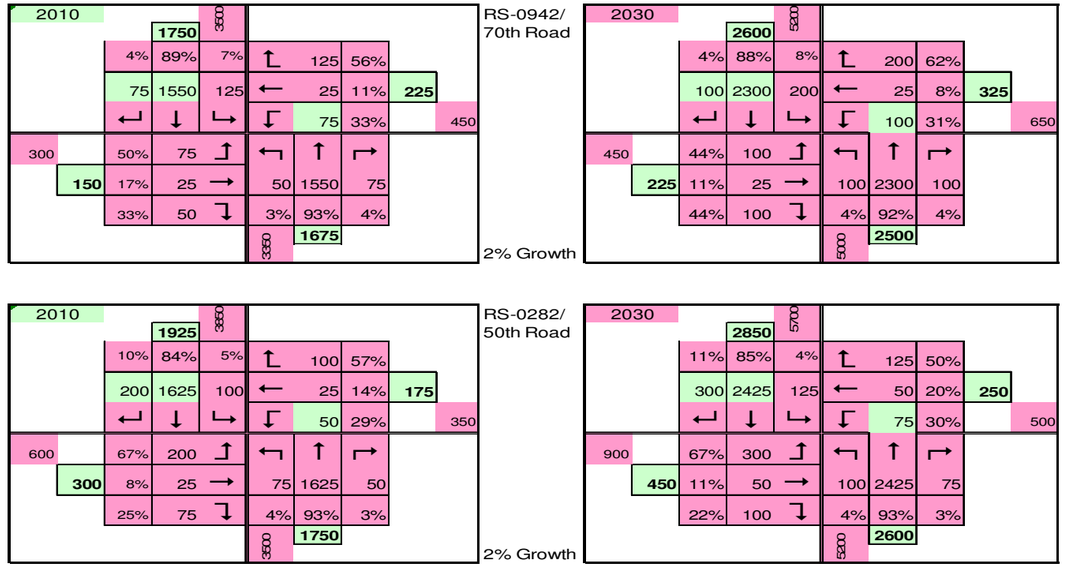
Exhibit 4.9.3 Preliminary Business 83 & US-83 Interchange Configuration

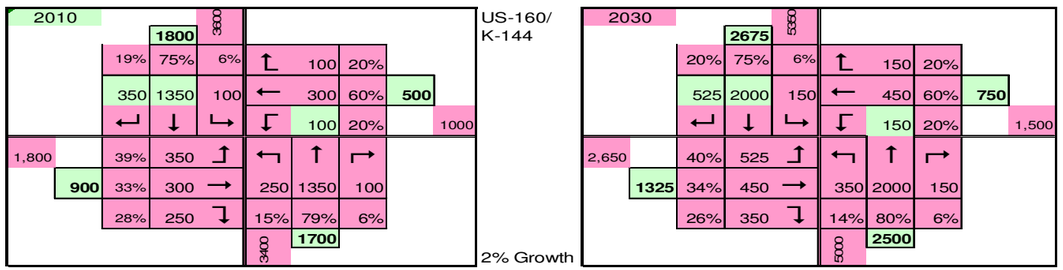
5. APPENDICES

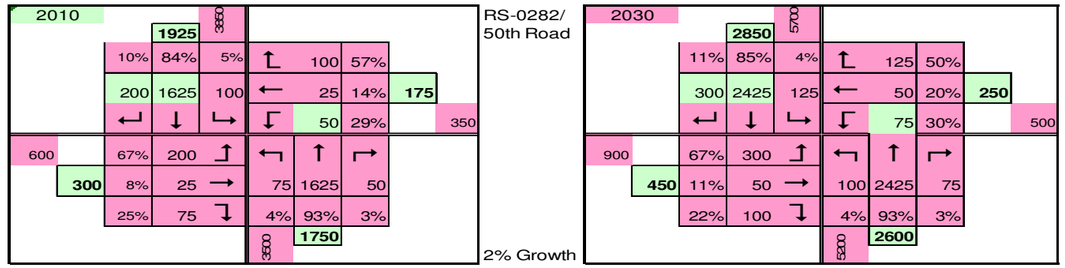
5.1 – Traffic Counts, Projections, & Turning Movements

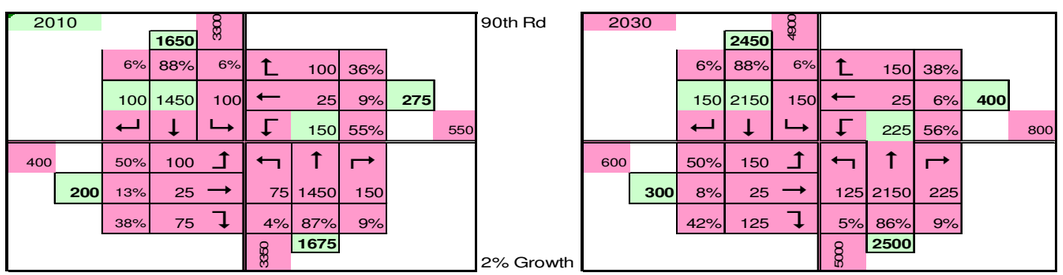
Haskell County Intersection Traffic Counts

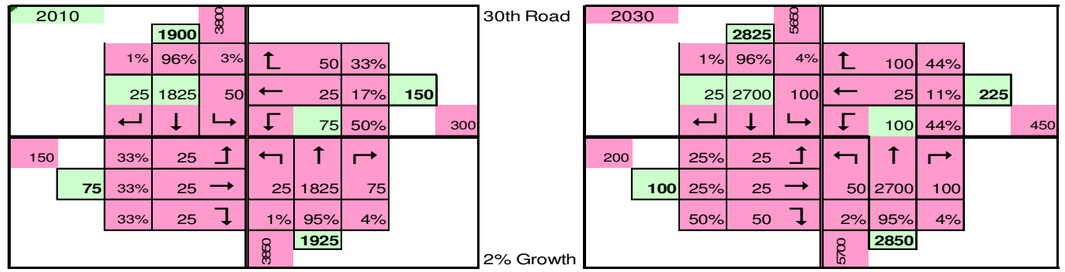




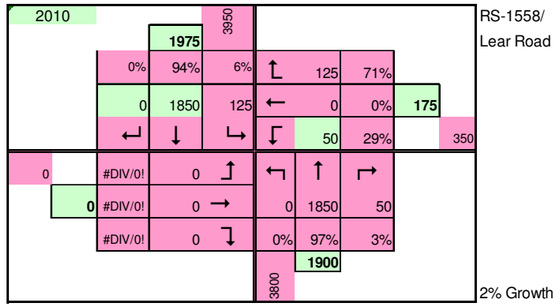




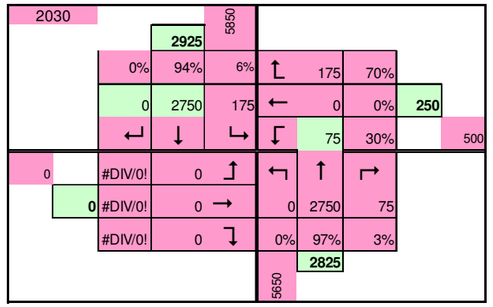




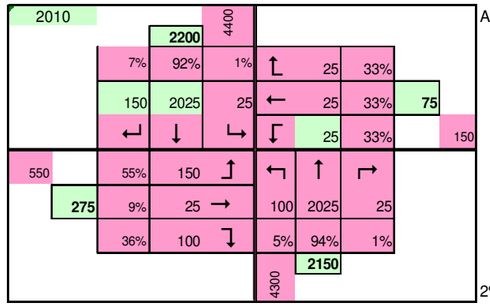
Finney County Intersection Traffic Counts



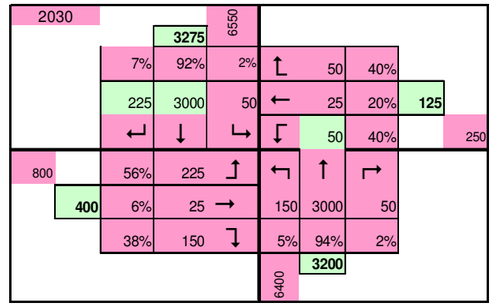
RS-1558/
Lear Road



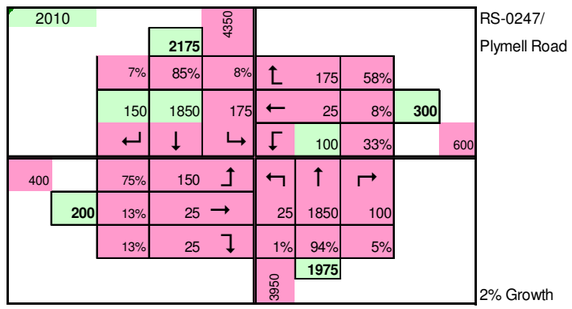
2% Growth



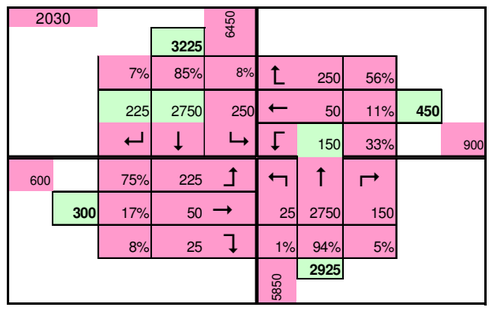
Annie Scheer



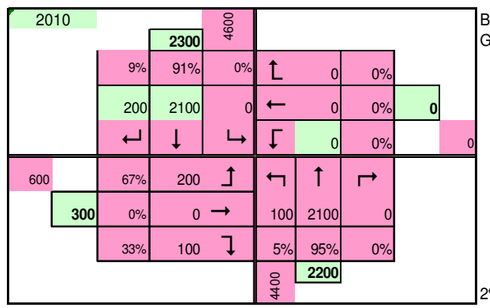
2% Growth



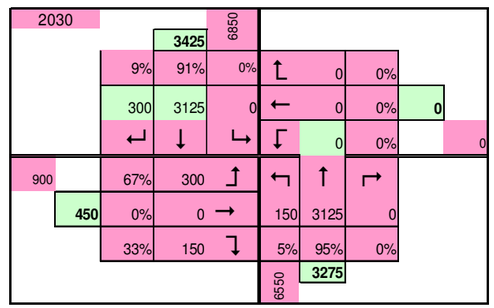
RS-0247/
Plymell Road



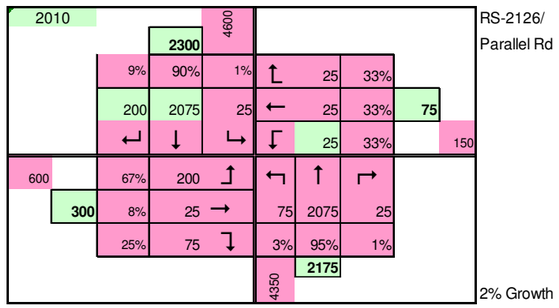
2% Growth



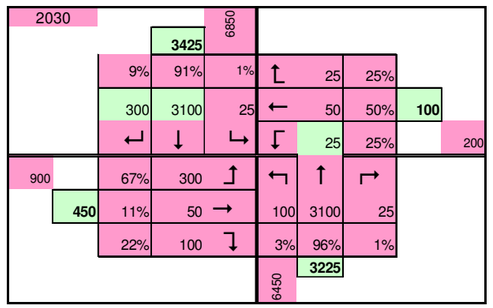
Buffalo Dunes
Golf Course



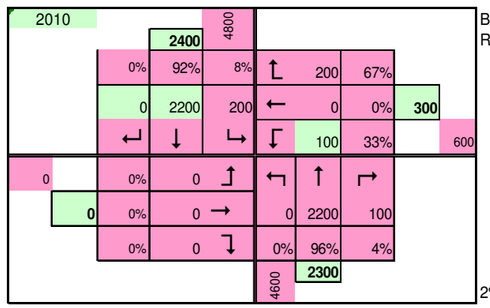
2% Growth



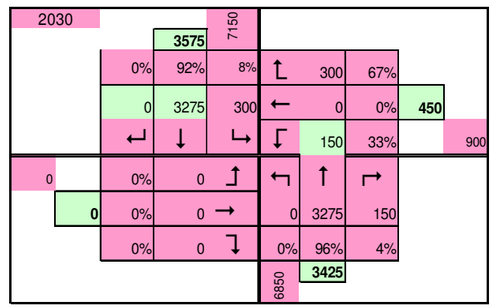
RS-2126/
Parallel Rd



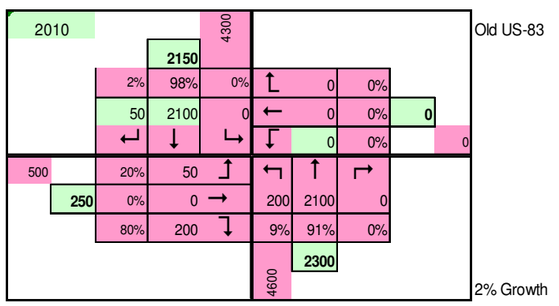
2% Growth



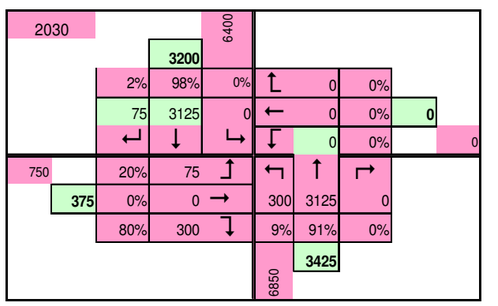
Brookover
Ranch



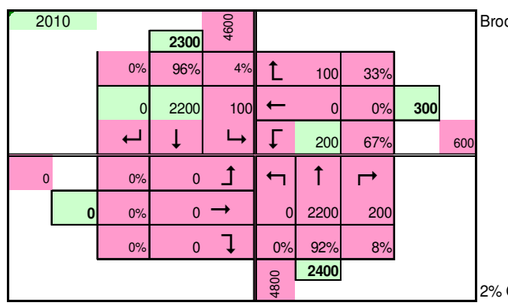
2% Growth



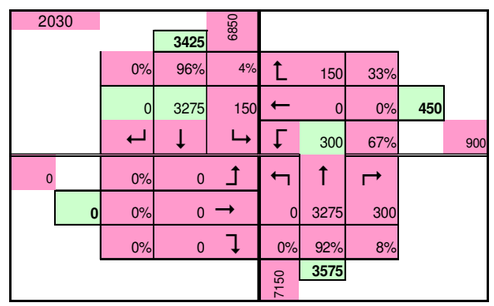
Old US-83



2% Growth

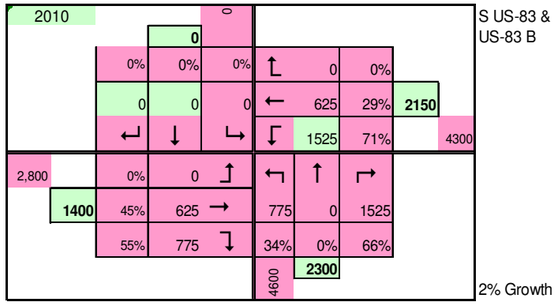


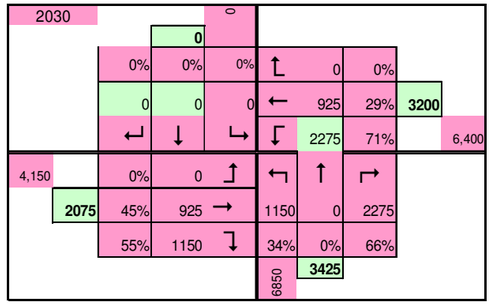
Brookside

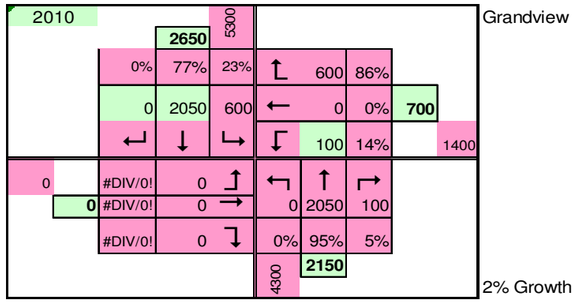


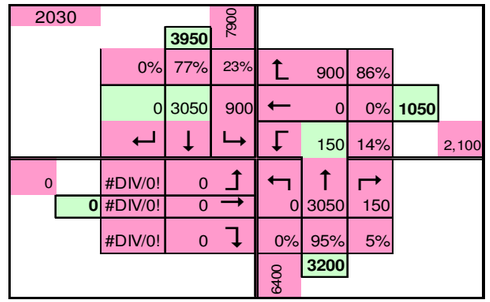
2% Growth

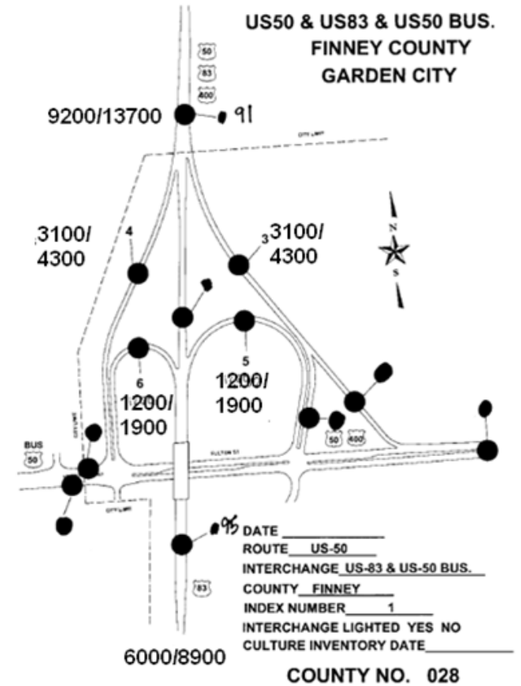
Finney County Intersection Traffic Counts (cont'd)

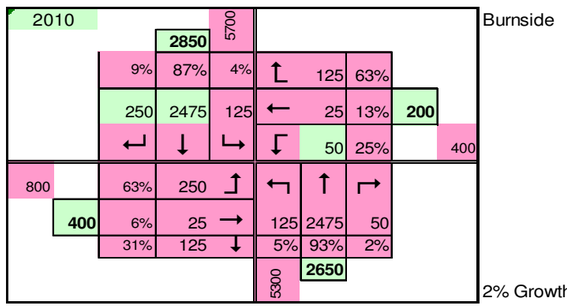


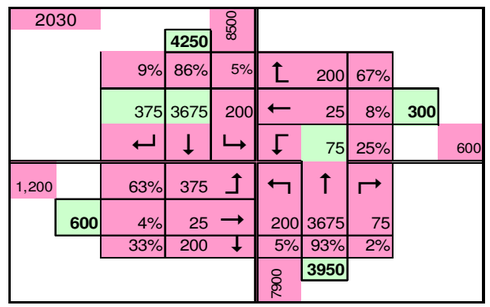


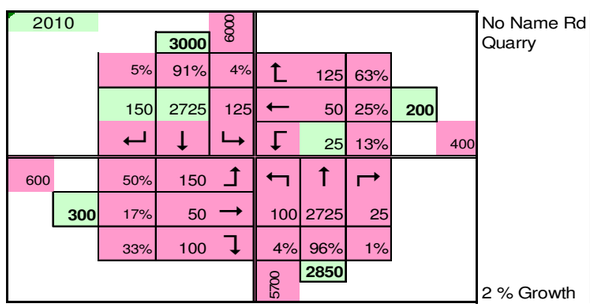


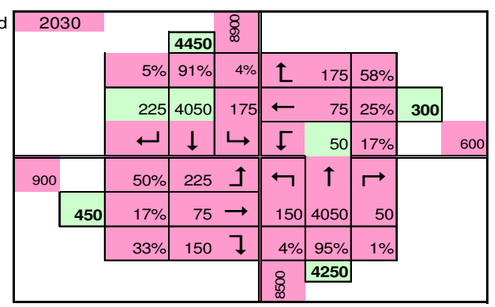


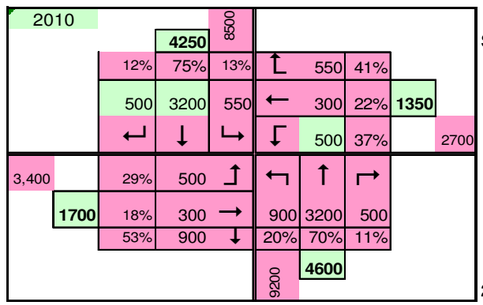


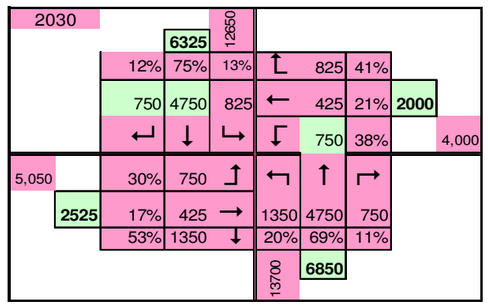


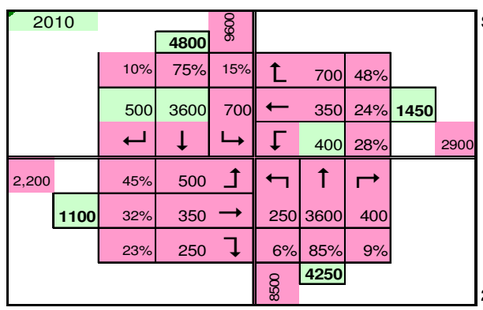


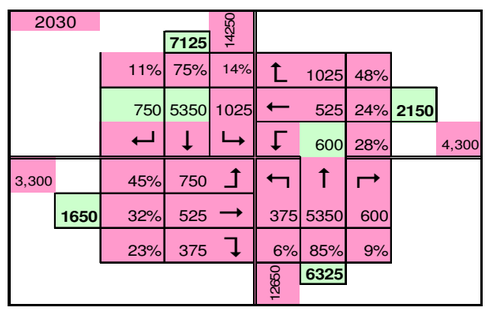




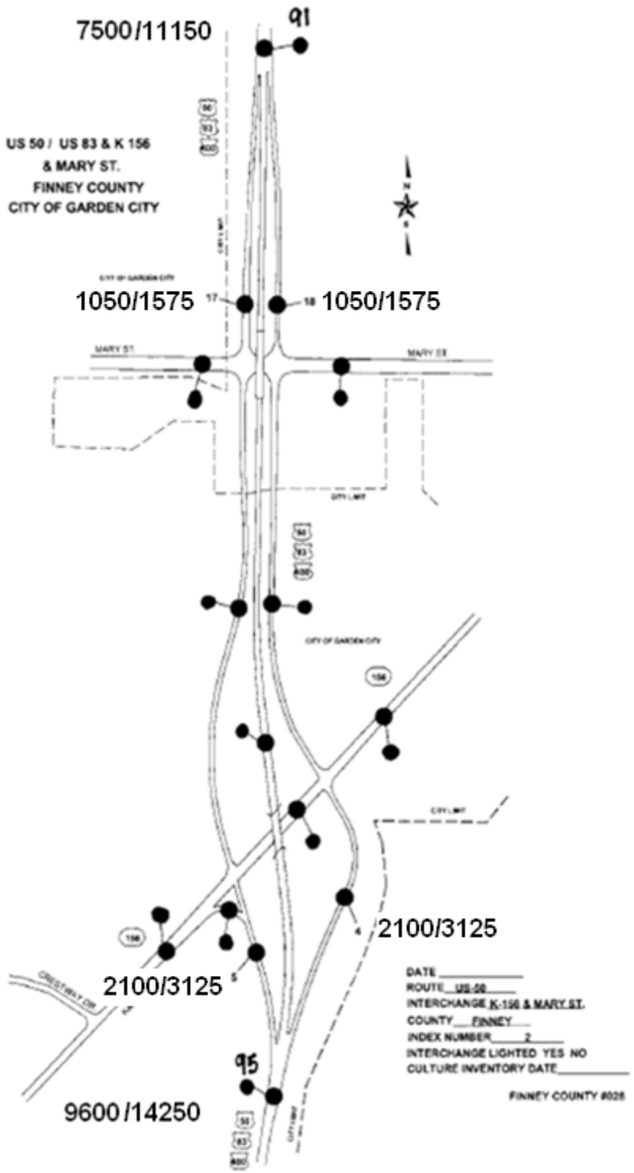




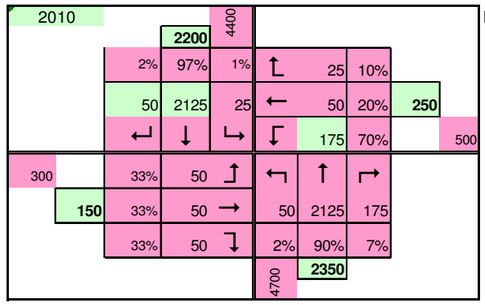




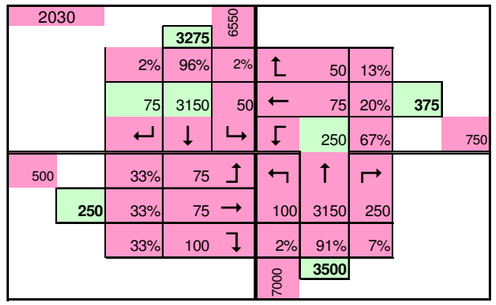
Finney County Intersection Traffic Counts (cont'd)

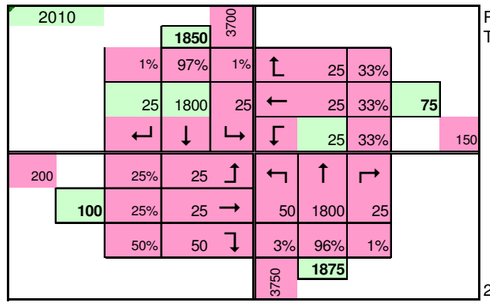


Finney County Intersection Traffic Counts (cont'd)



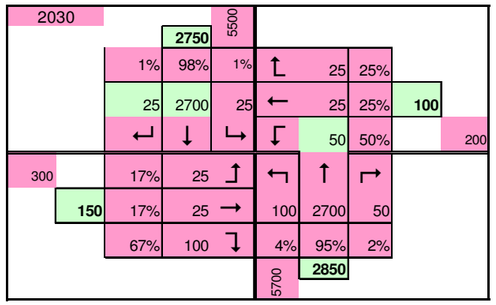
Rodkey Road

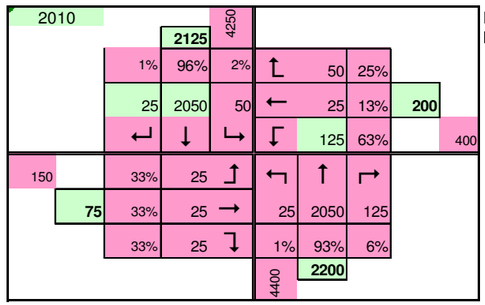




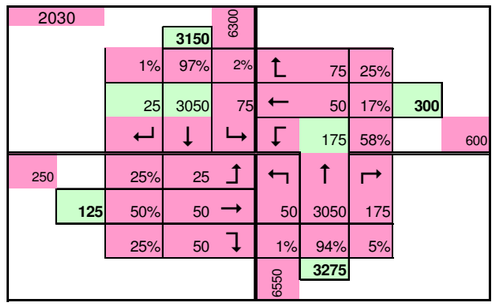
RS-0245/
Tennis Road

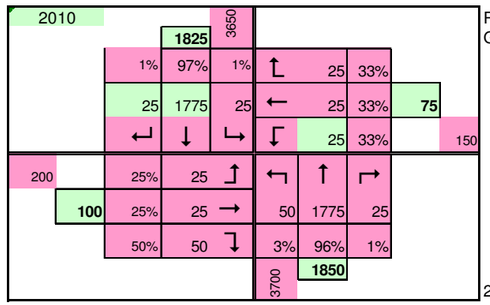
2% growth





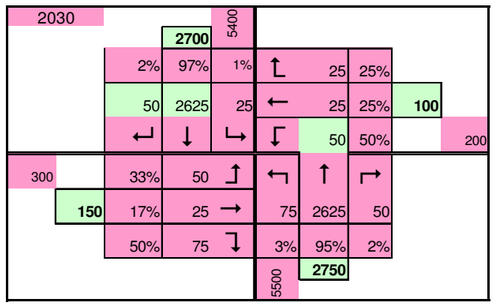
RS-0244/
Lowe Rd.

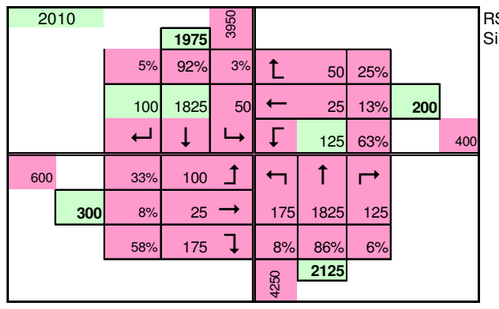




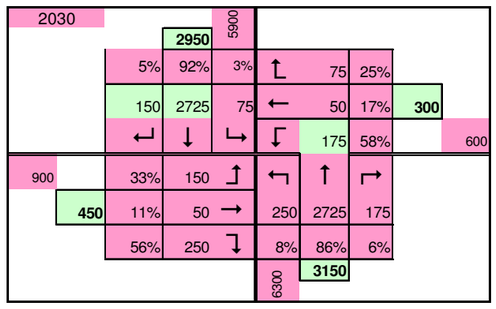
RS-0946/
Gano Road

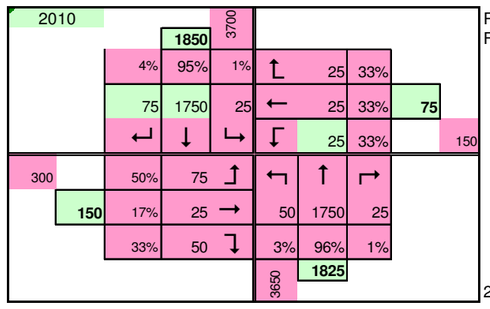
2% growth





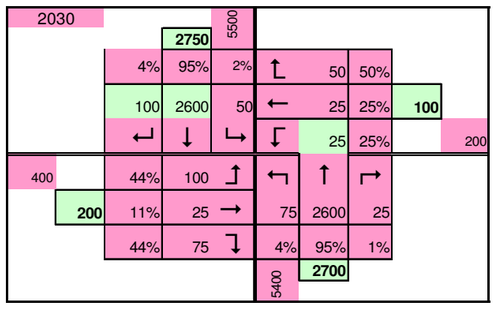
RS-1722/
Six Mile Rd



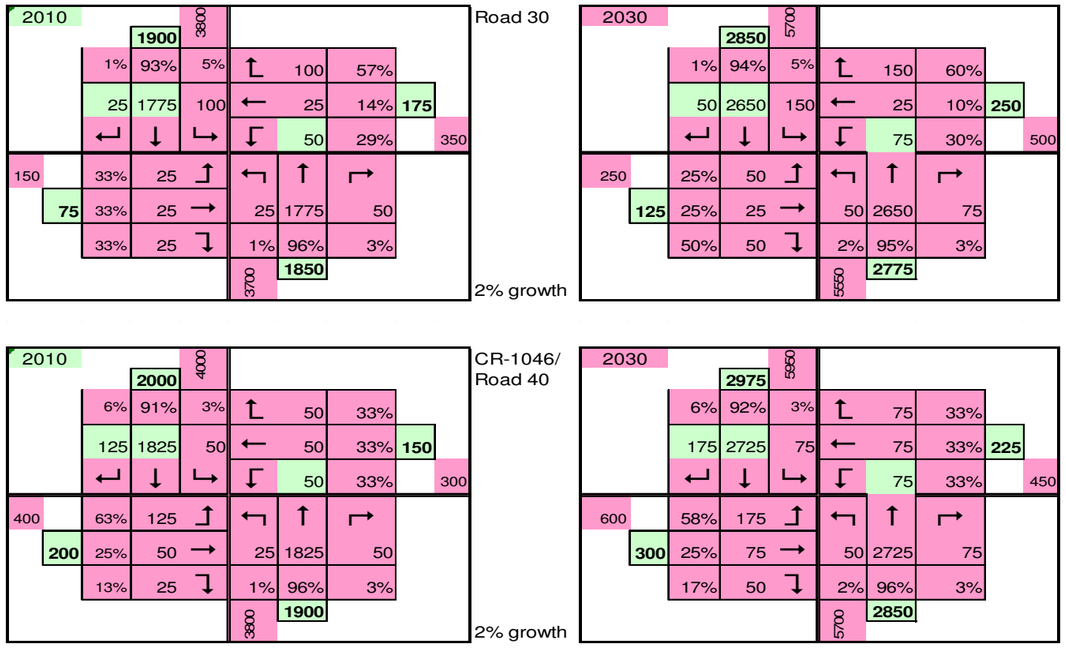


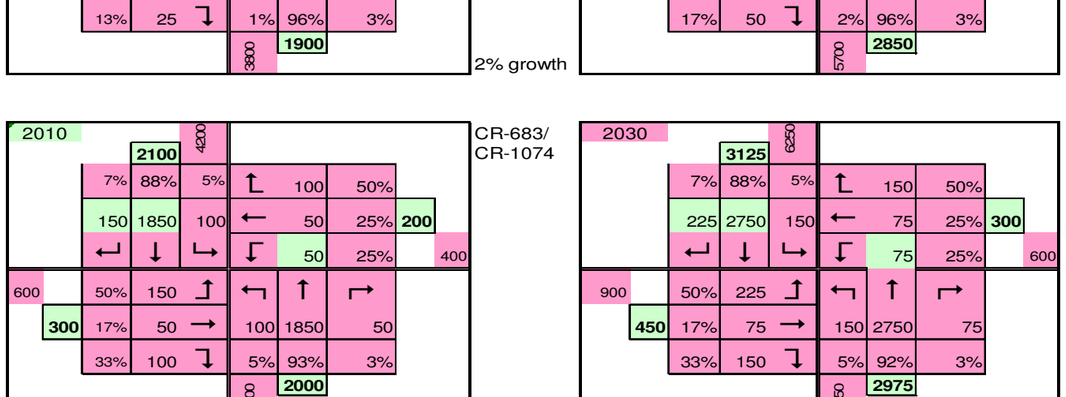
RS-1679/
Finney-Scott

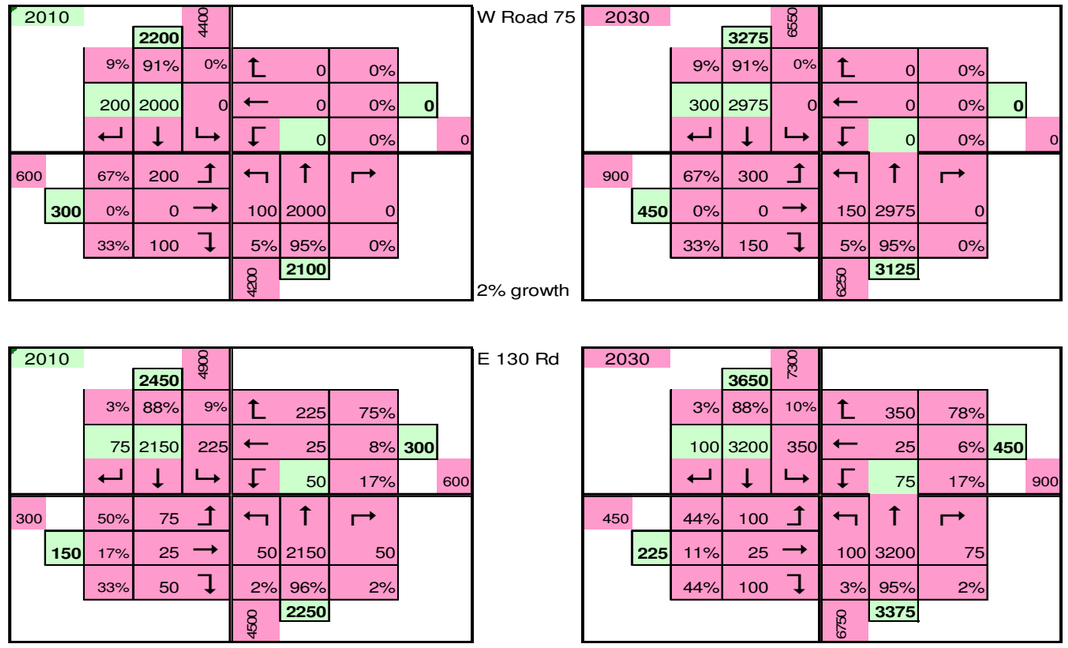
2% growth

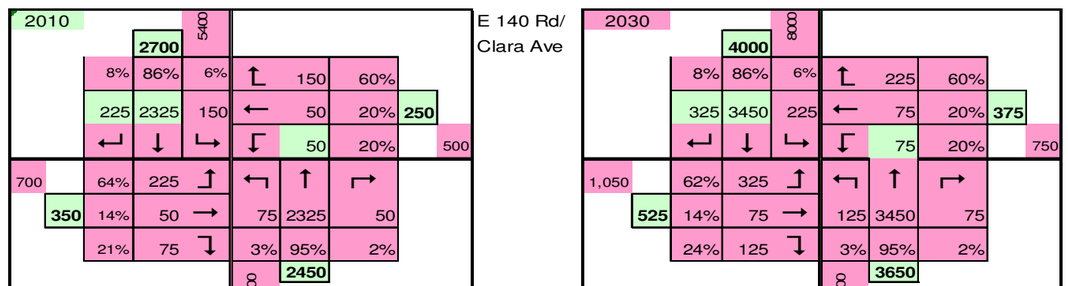


Scott County Intersection Traffic Counts

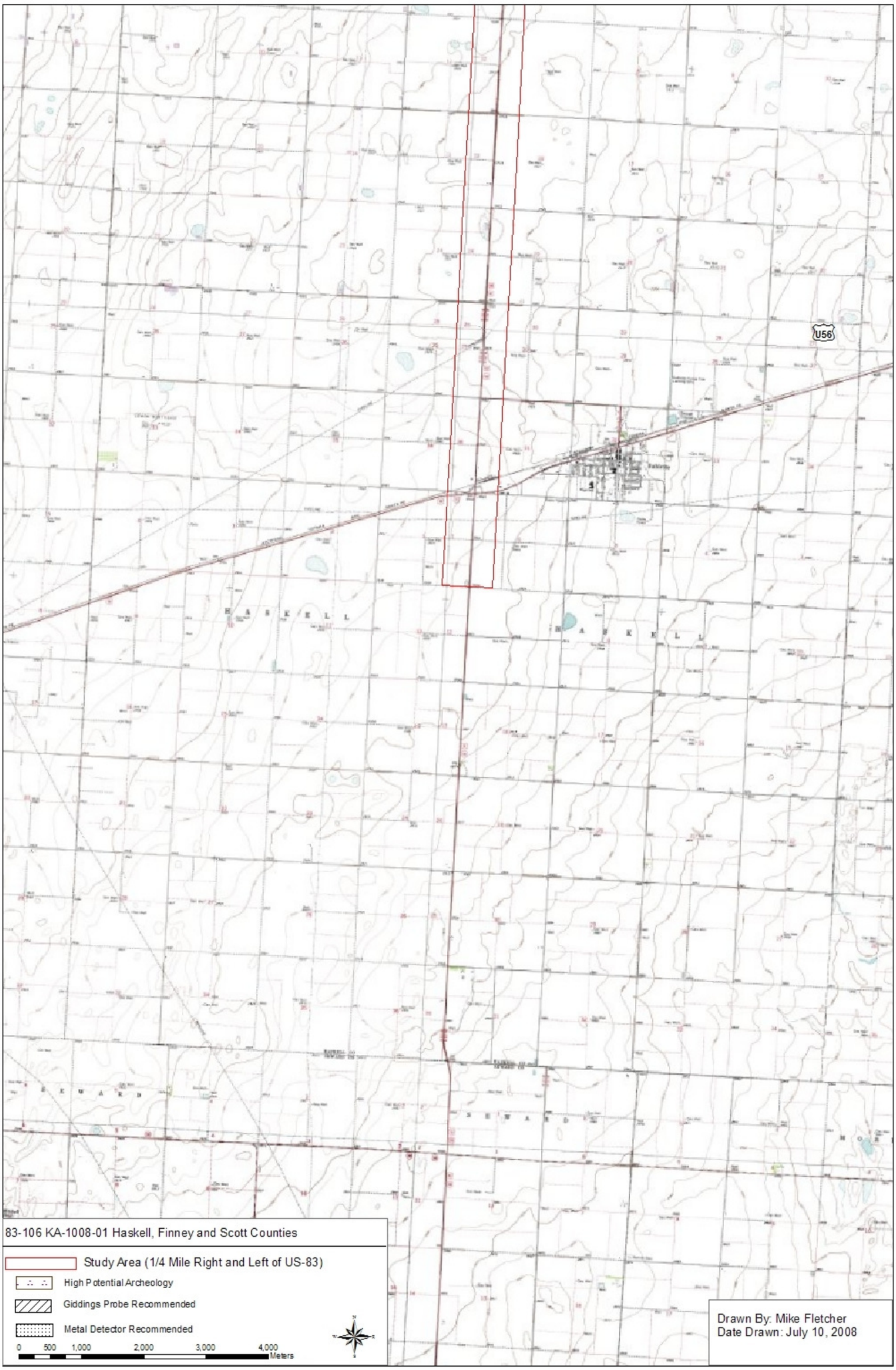






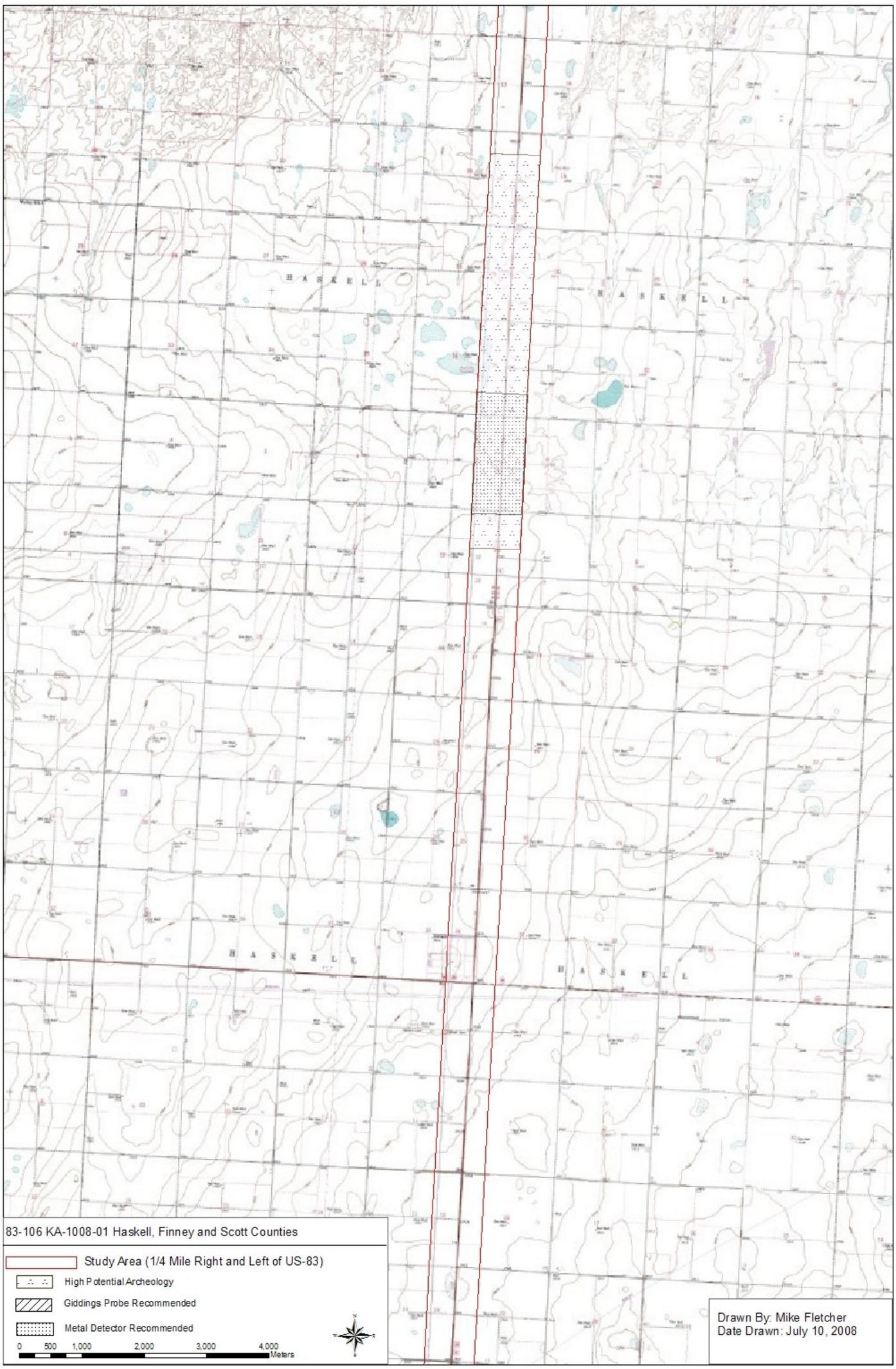


83-106 KA-1008-01
Preliminary Environmental Screening
Archeological Resources

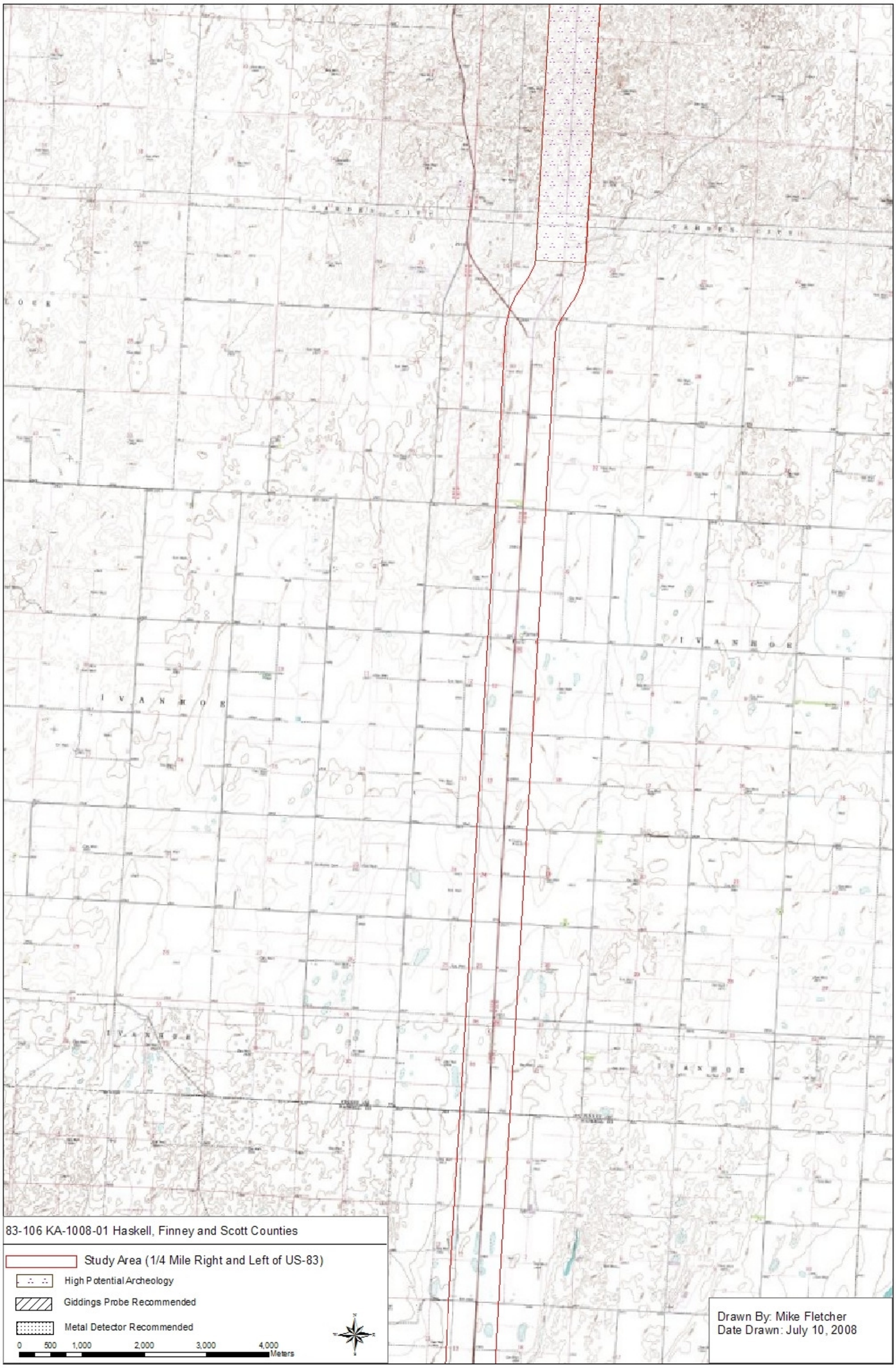


5.2 – Environmental Elements Exhibits & Maps

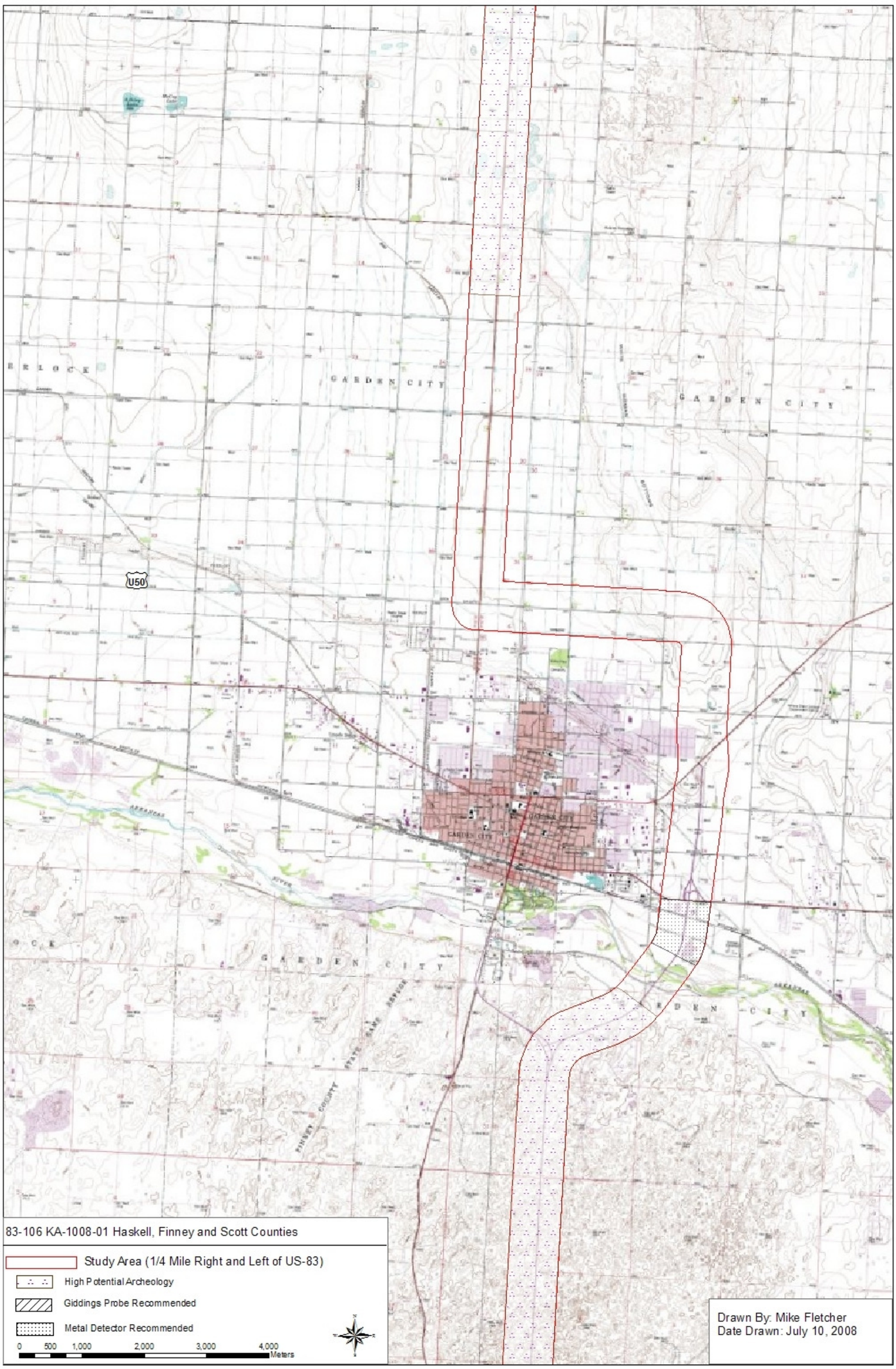
83-106 KA-1008-01
Preliminary Environmental Screening
Archeological Resources



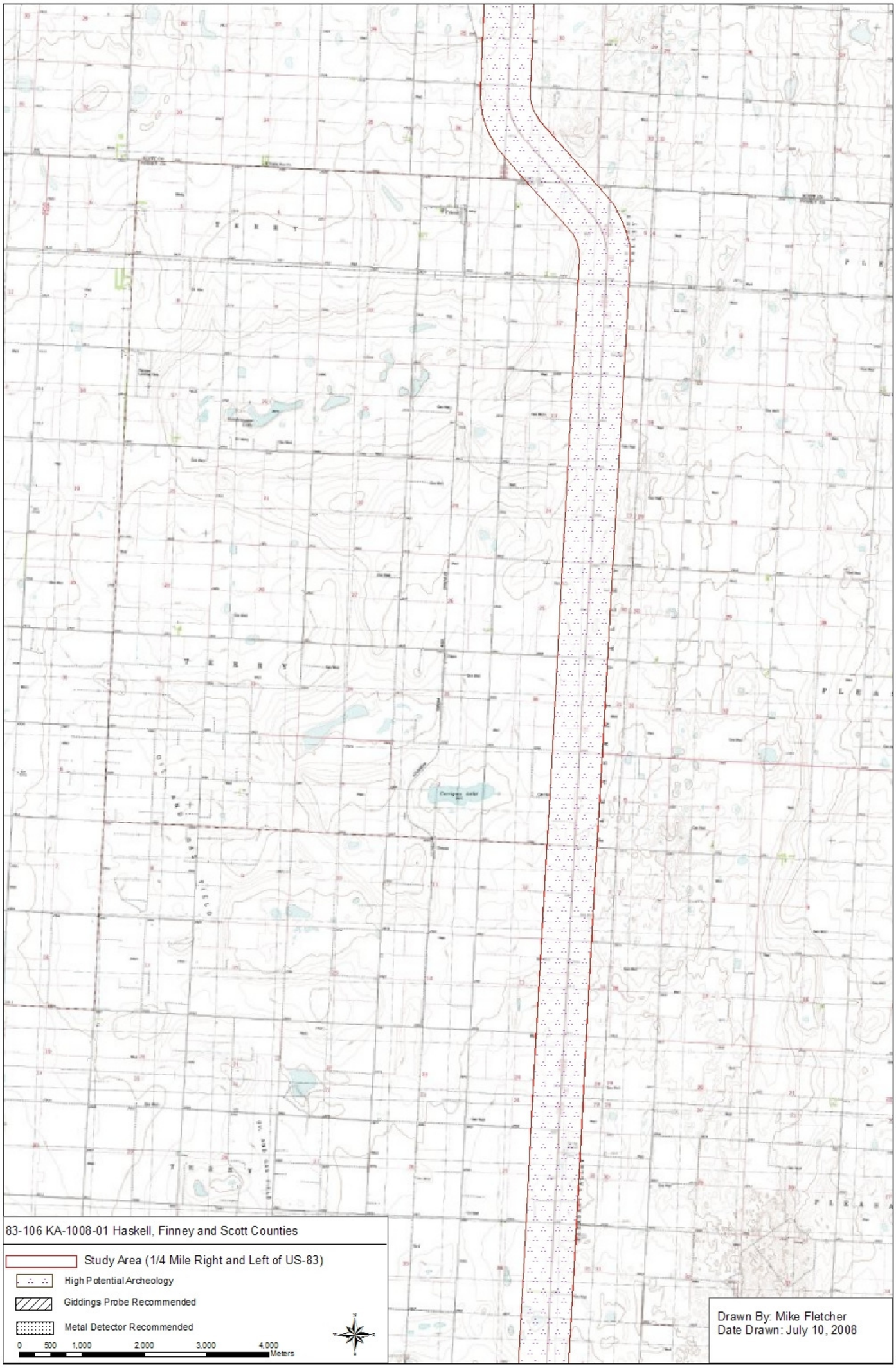
83-106 KA-1008-01
Preliminary Environmental Screening
Archeological Resources



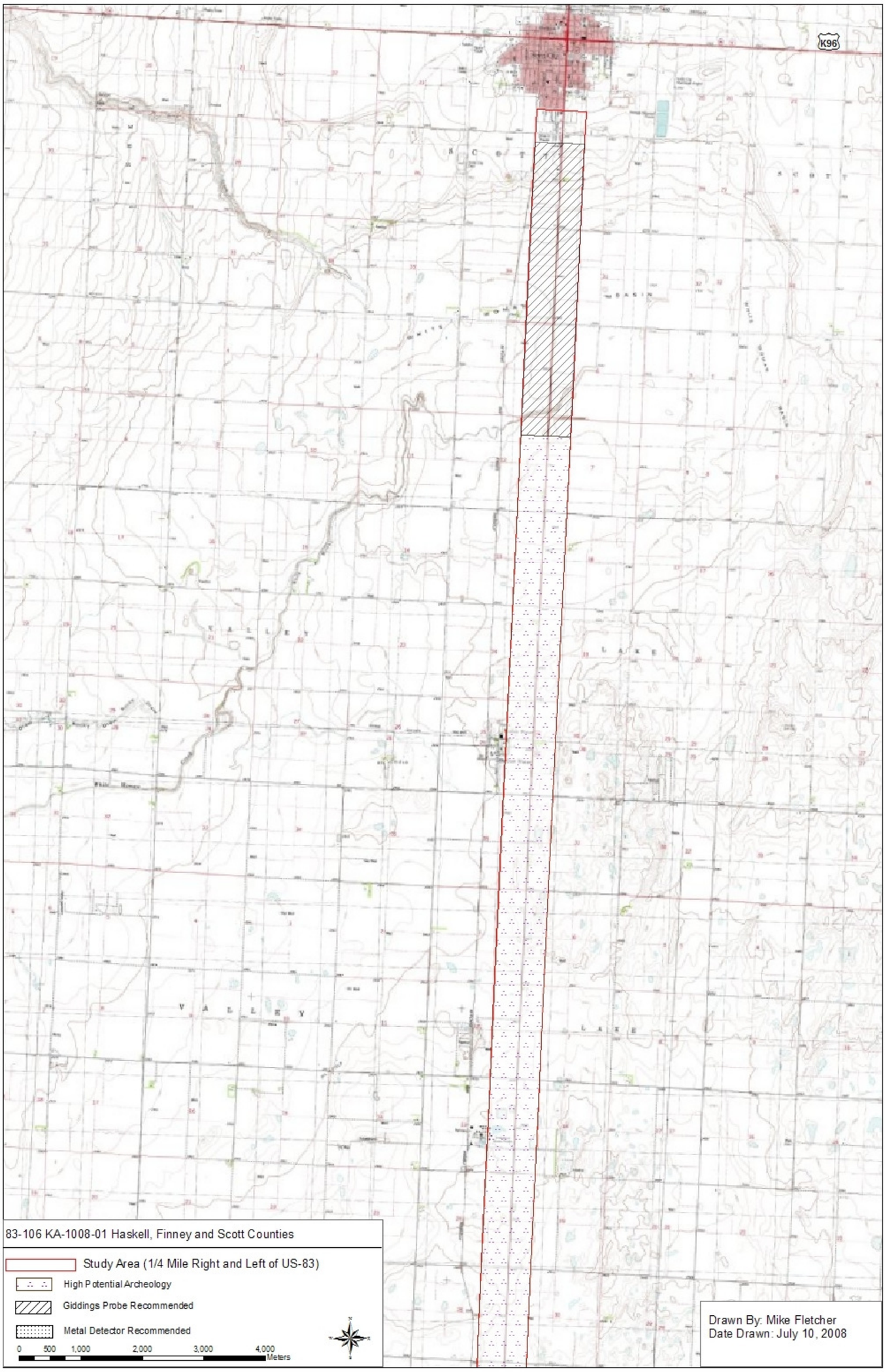
83-106 KA-1008-01
Preliminary Environmental Screening
Archeological Resources



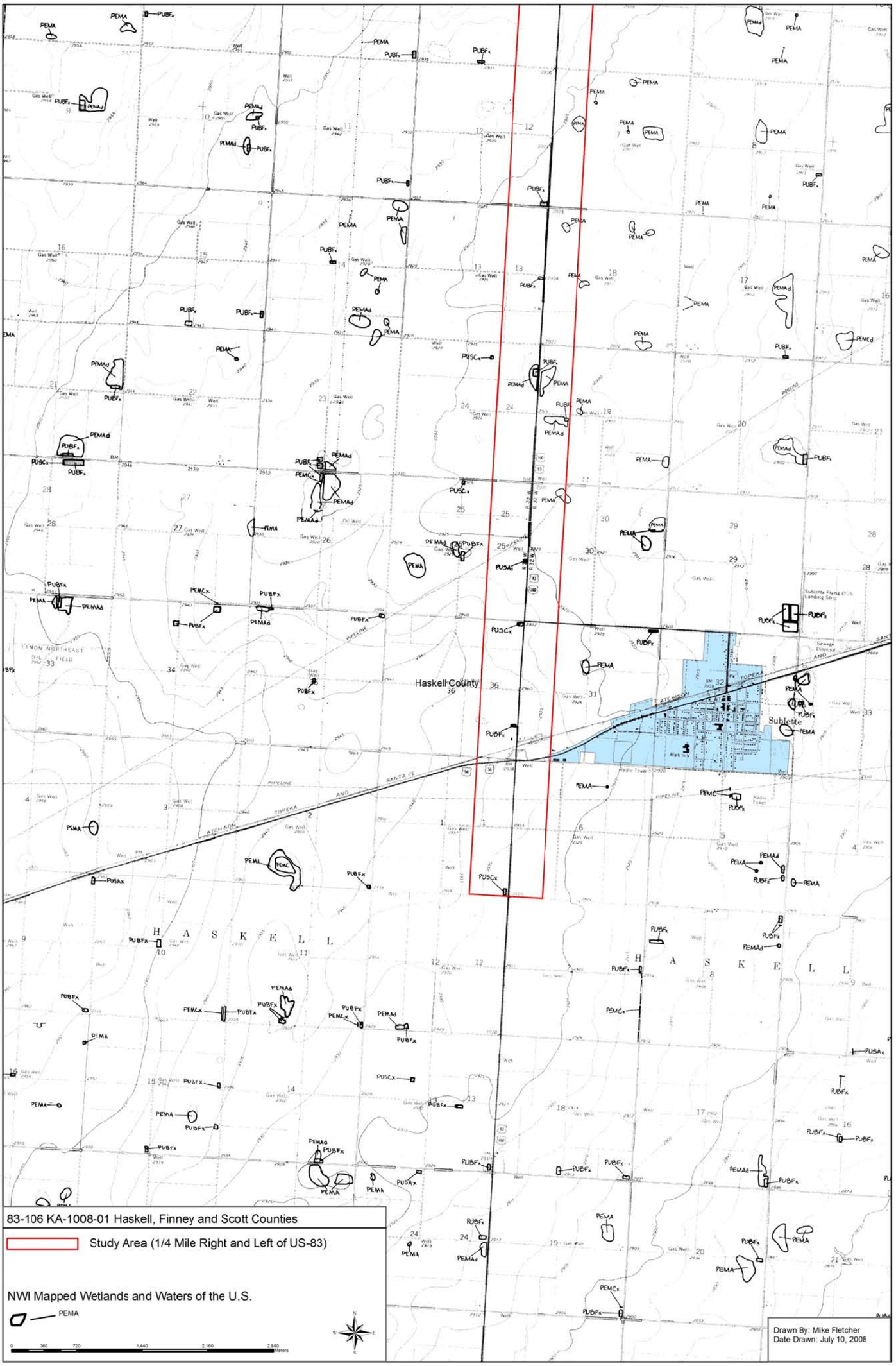
83-106 KA-1008-01
Preliminary Environmental Screening
Archeological Resources



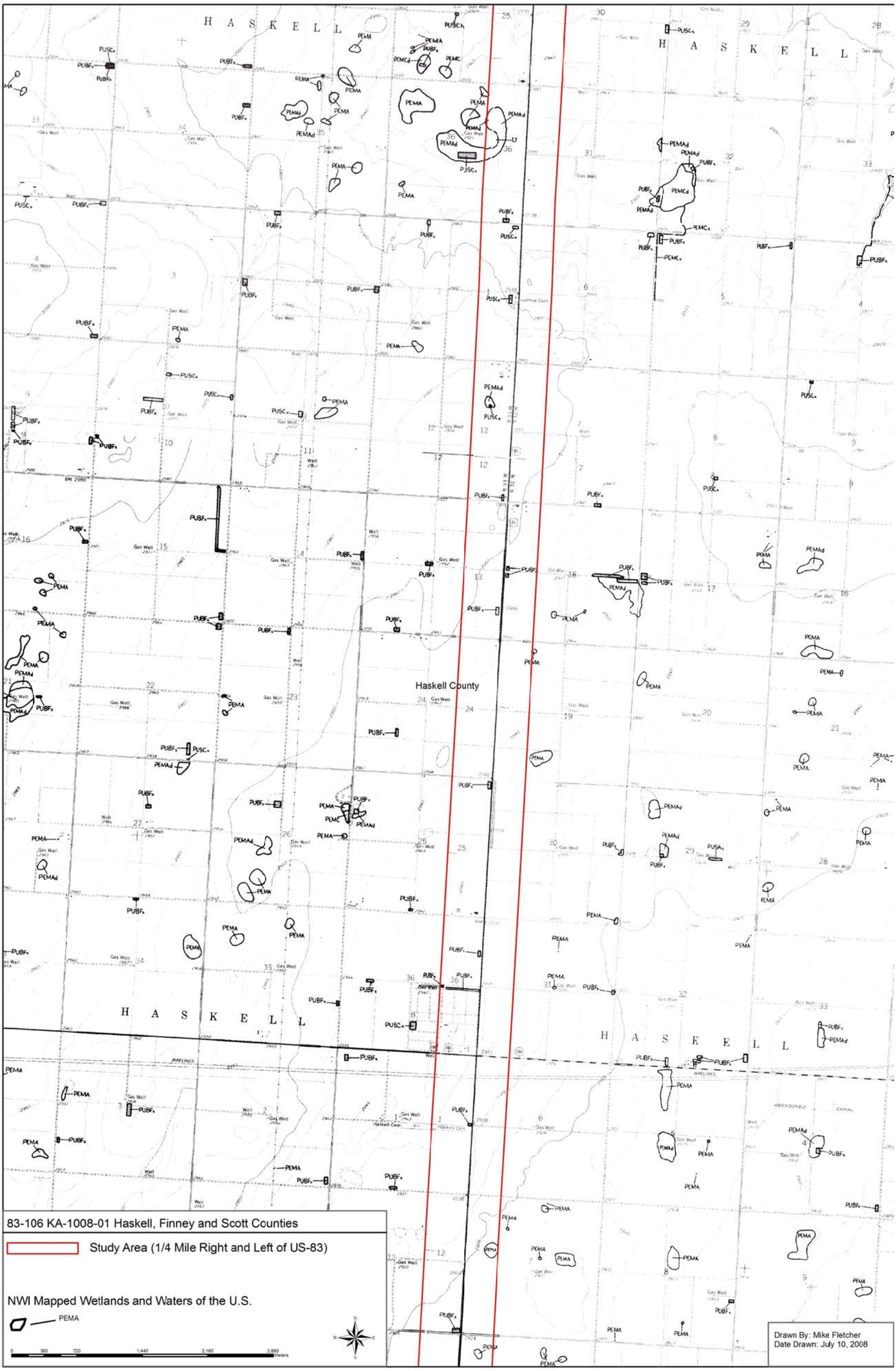
83-106 KA-1008-01
Preliminary Environmental Screening
Archeological Resources



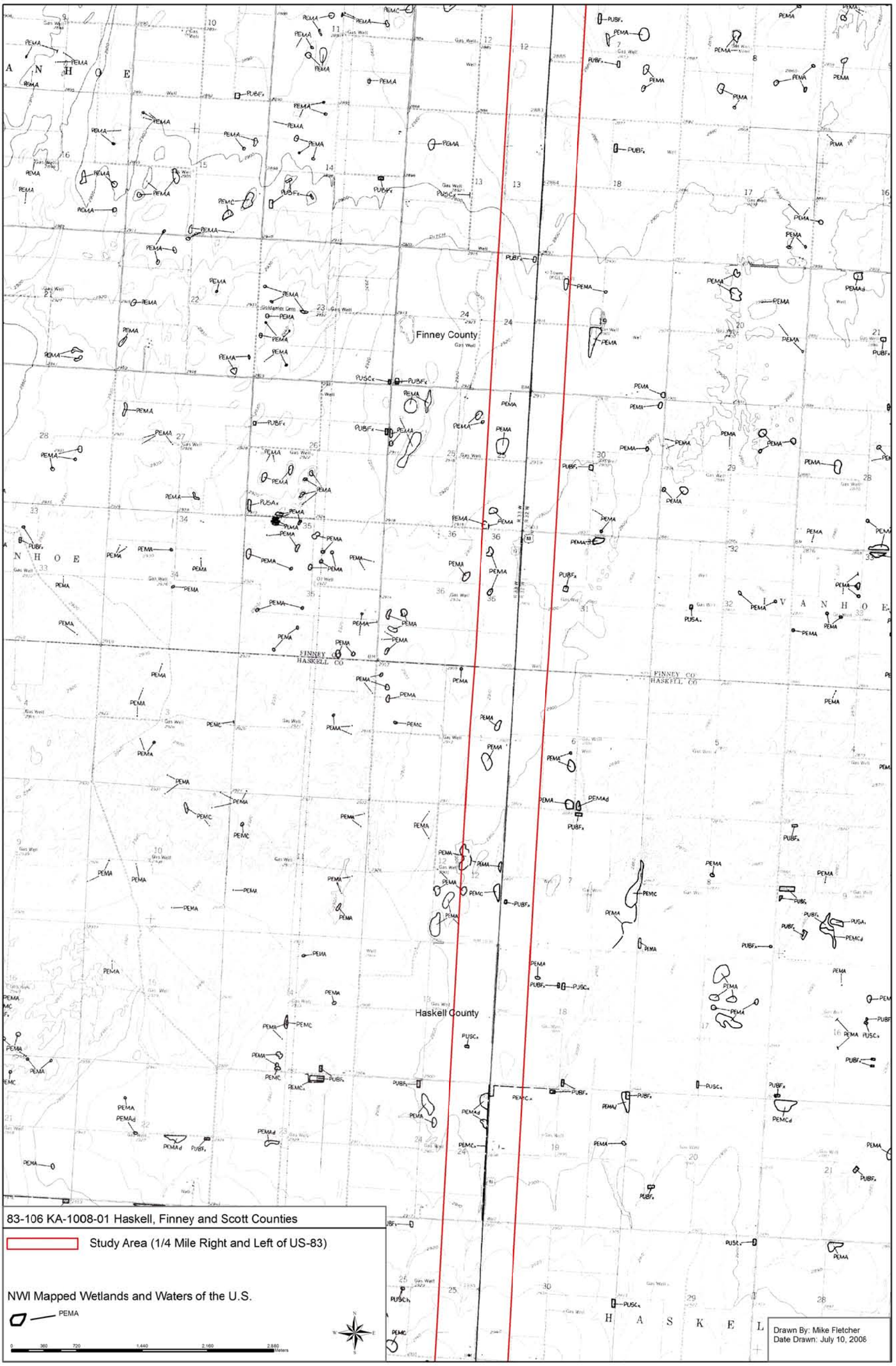
83-106 KA-1008-01
Preliminary Environmental Screening
NWI Mapped Wetlands and Waters of the U.S.



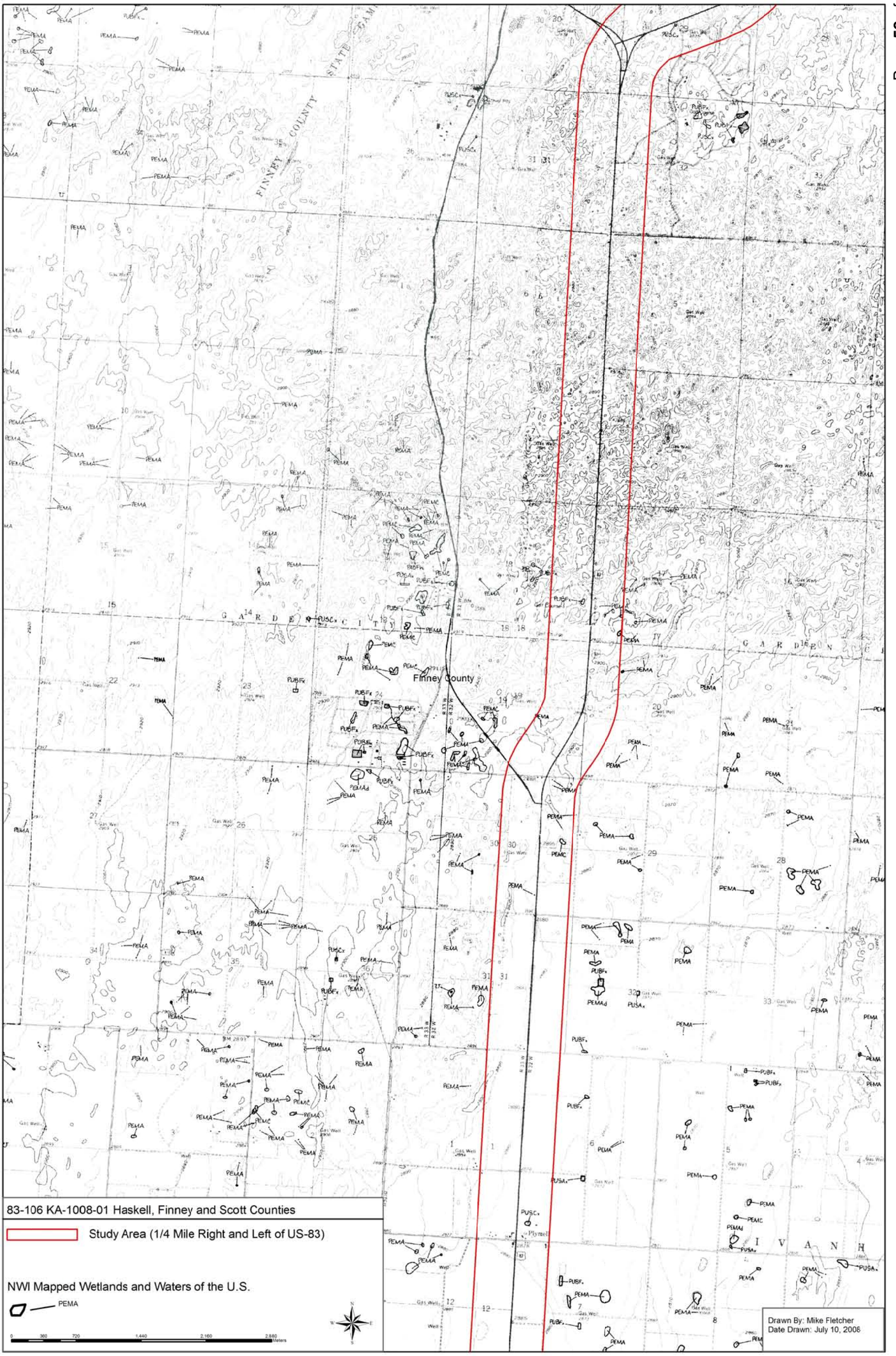
83-106 KA-1008-01
Preliminary Environmental Screening
NWI Mapped Wetlands and Waters of the U.S.



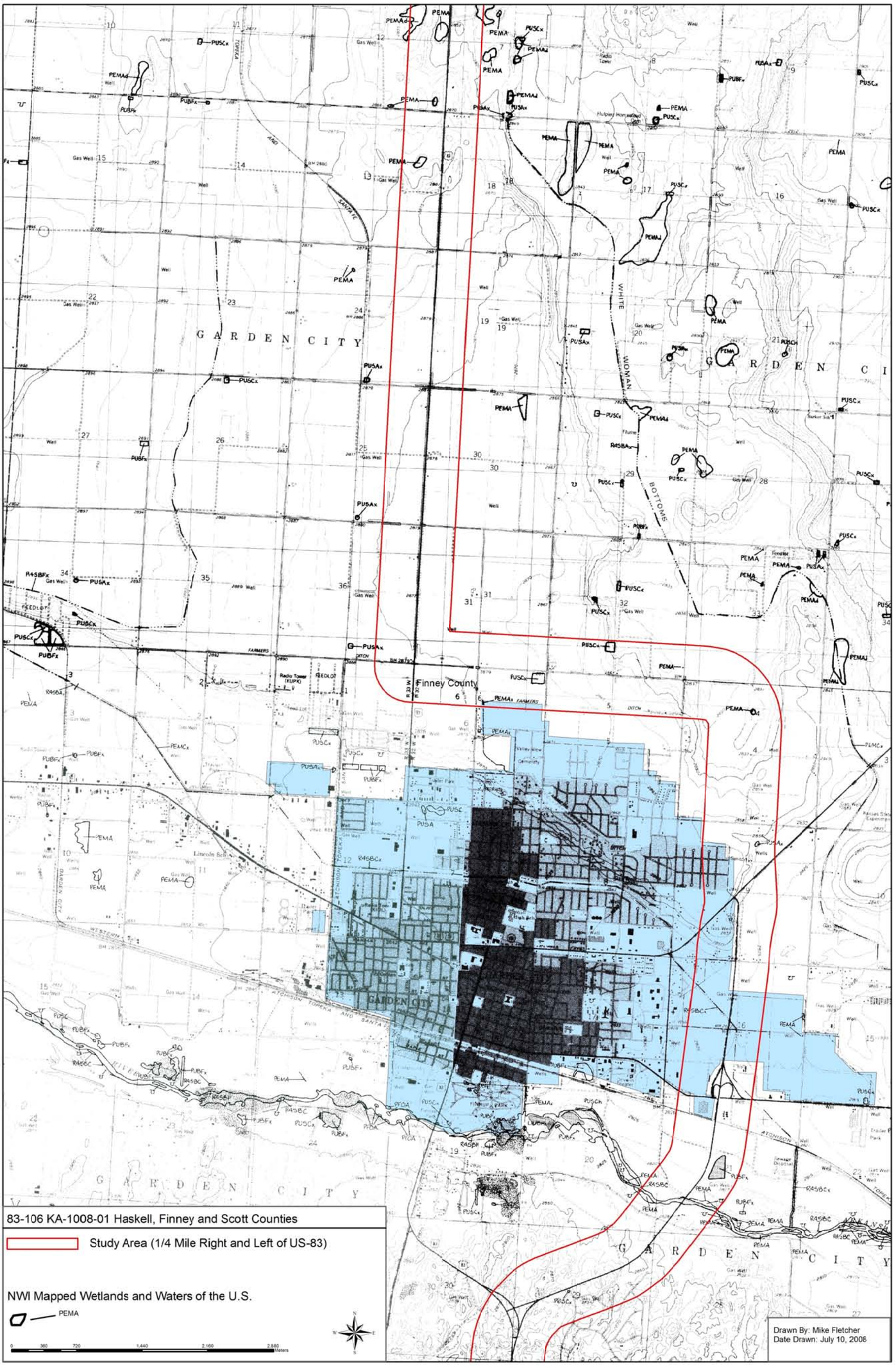
83-106 KA-1008-01
Preliminary Environmental Screening
NWI Mapped Wetlands and Waters of the U.S.



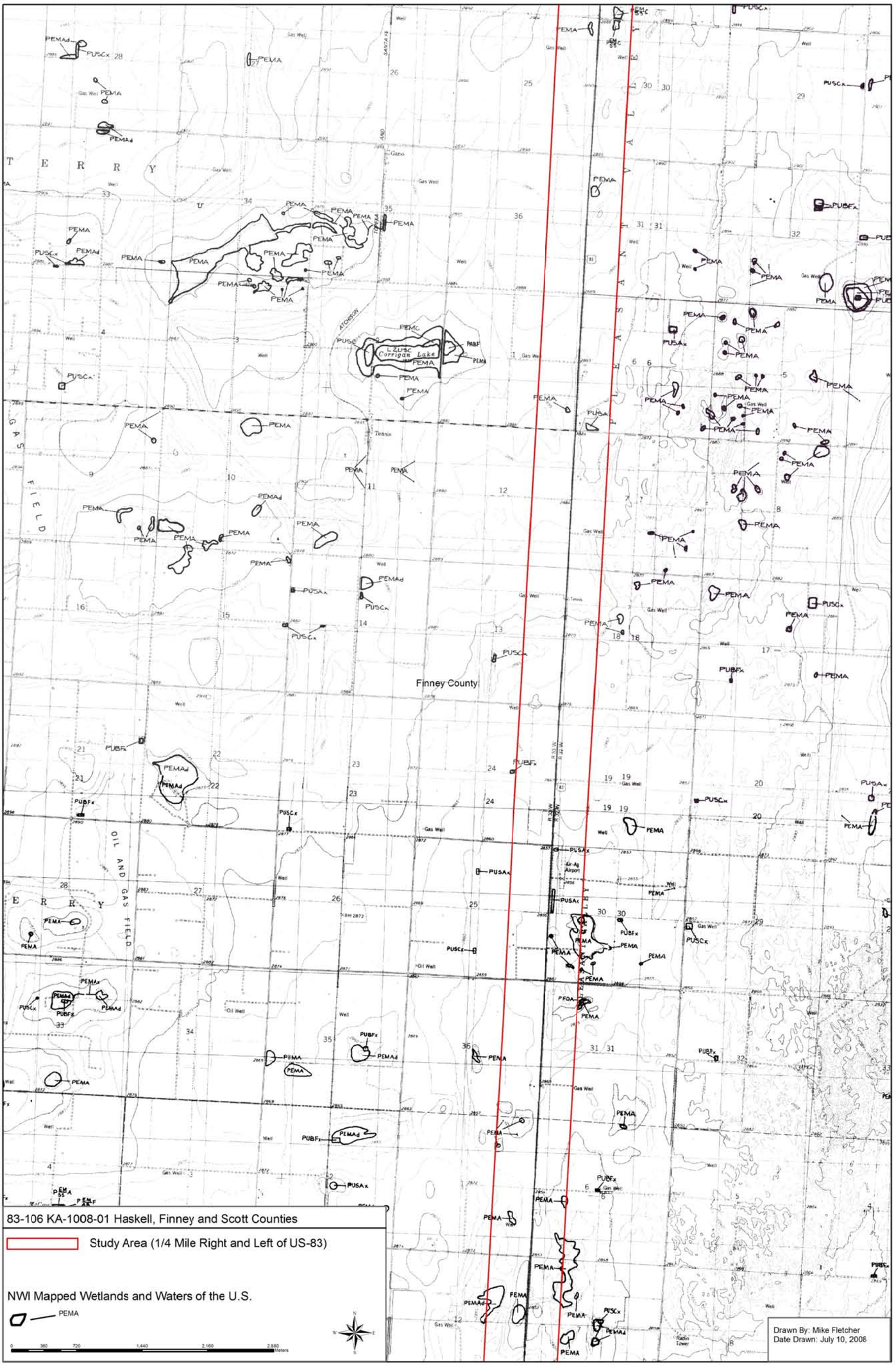
83-106 KA-1008-01
Preliminary Environmental Screening
NWI Mapped Wetlands and Waters of the U.S.



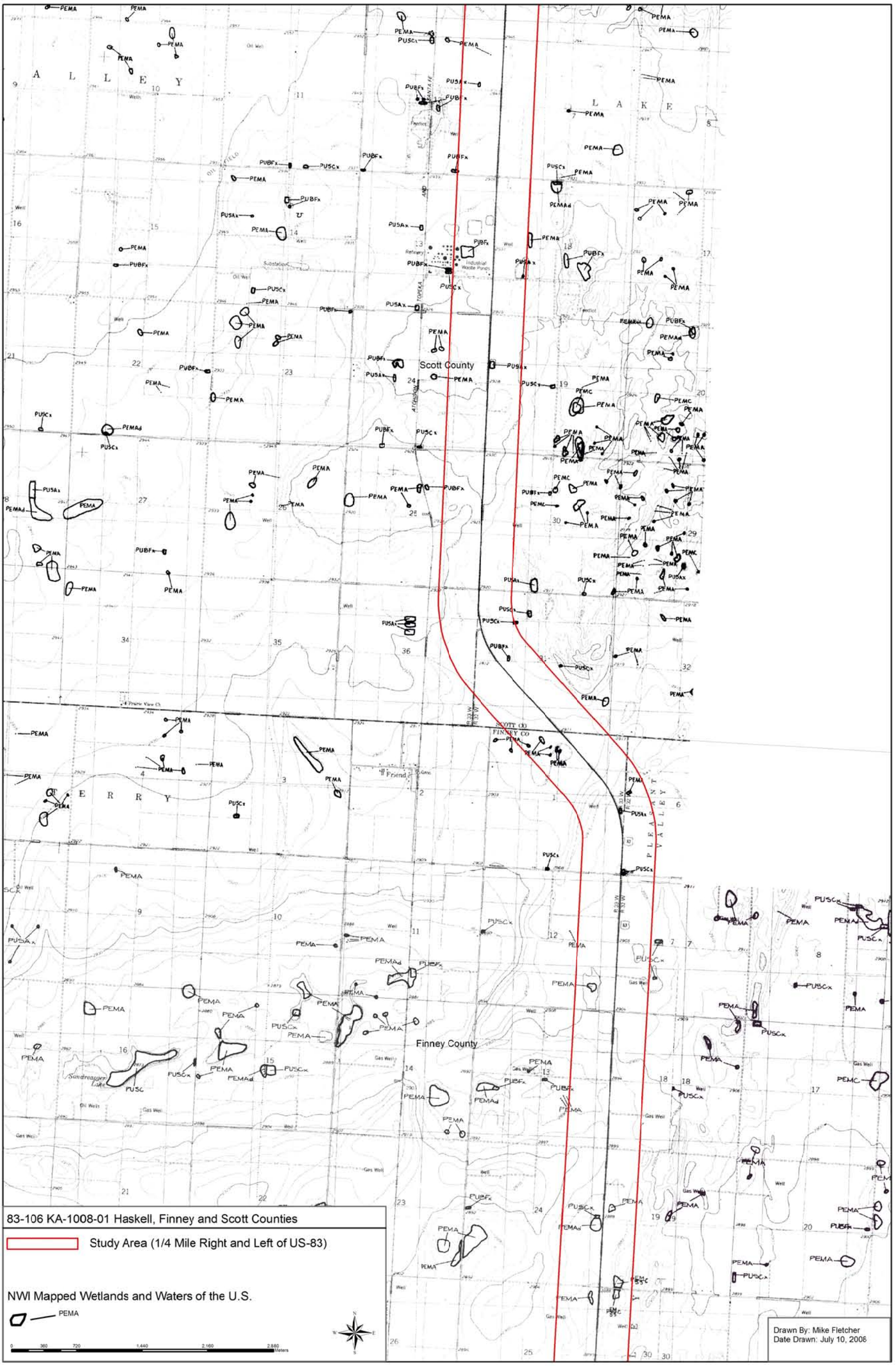
83-106 KA-1008-01
Preliminary Environmental Screening
NWI Mapped Wetlands and Waters of the U.S.



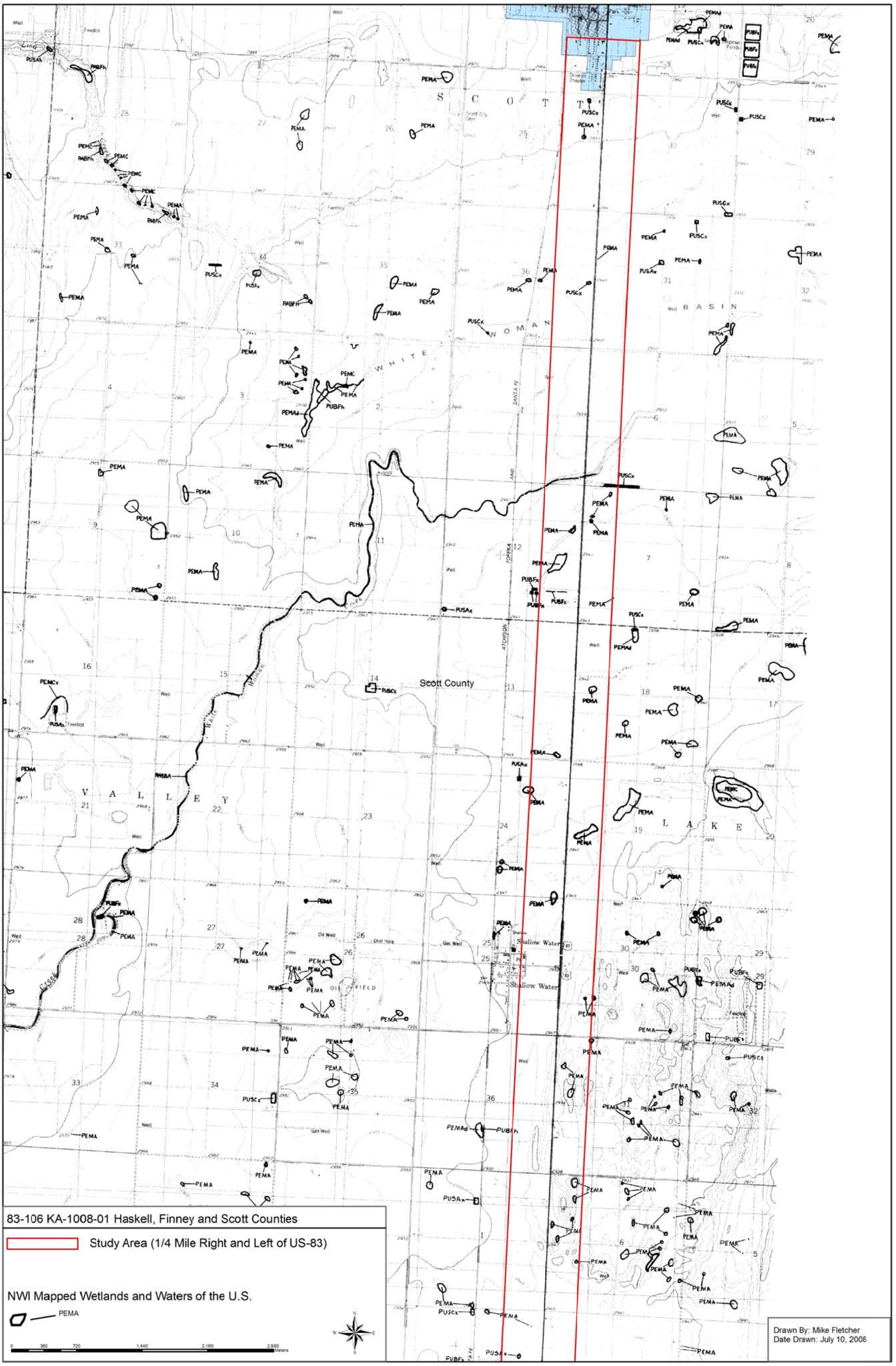
83-106 KA-1008-01
Preliminary Environmental Screening
NWI Mapped Wetlands and Waters of the U.S.

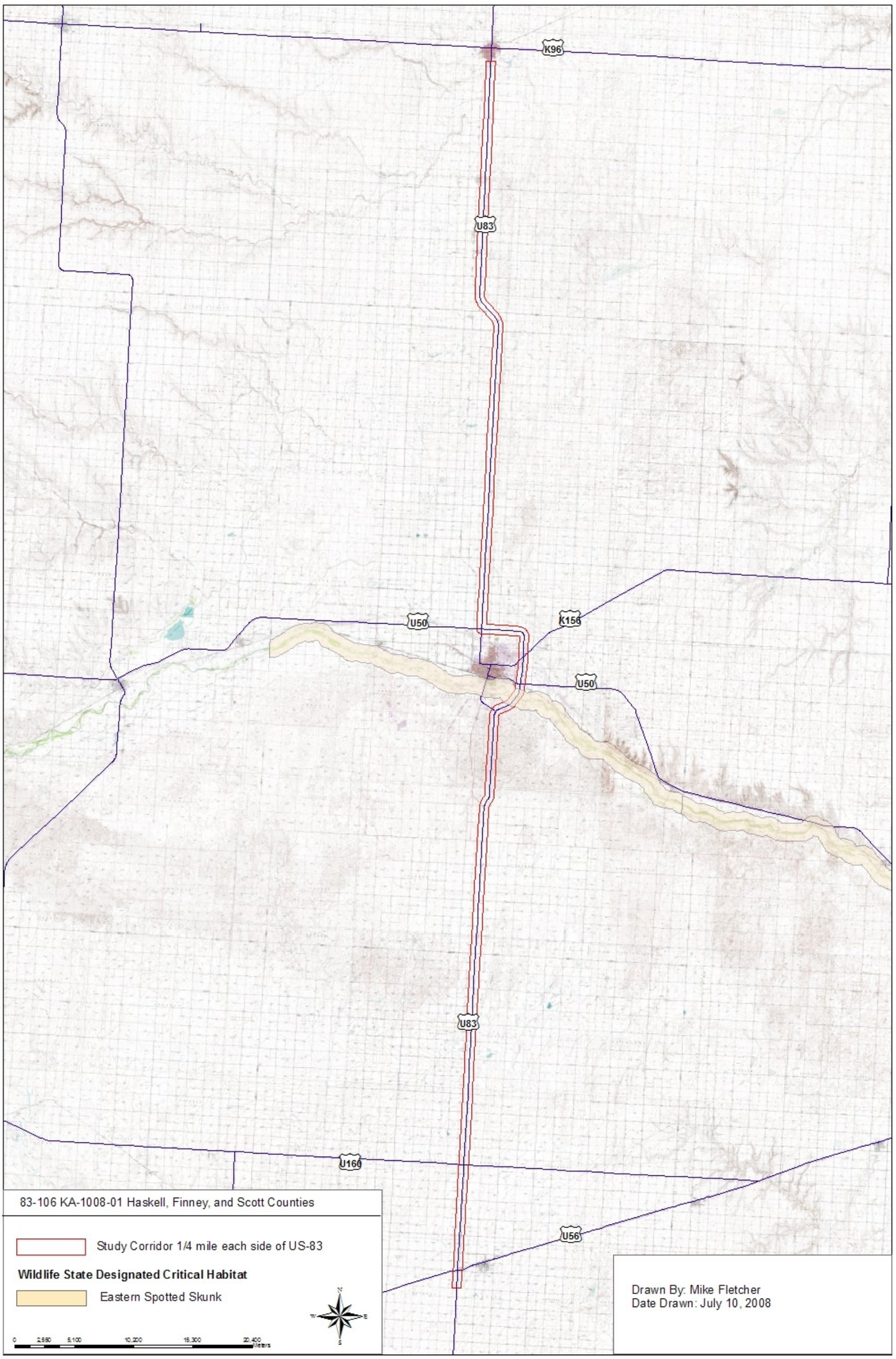


83-106 KA-1008-01
Preliminary Environmental Screening
NWI Mapped Wetlands and Waters of the U.S.

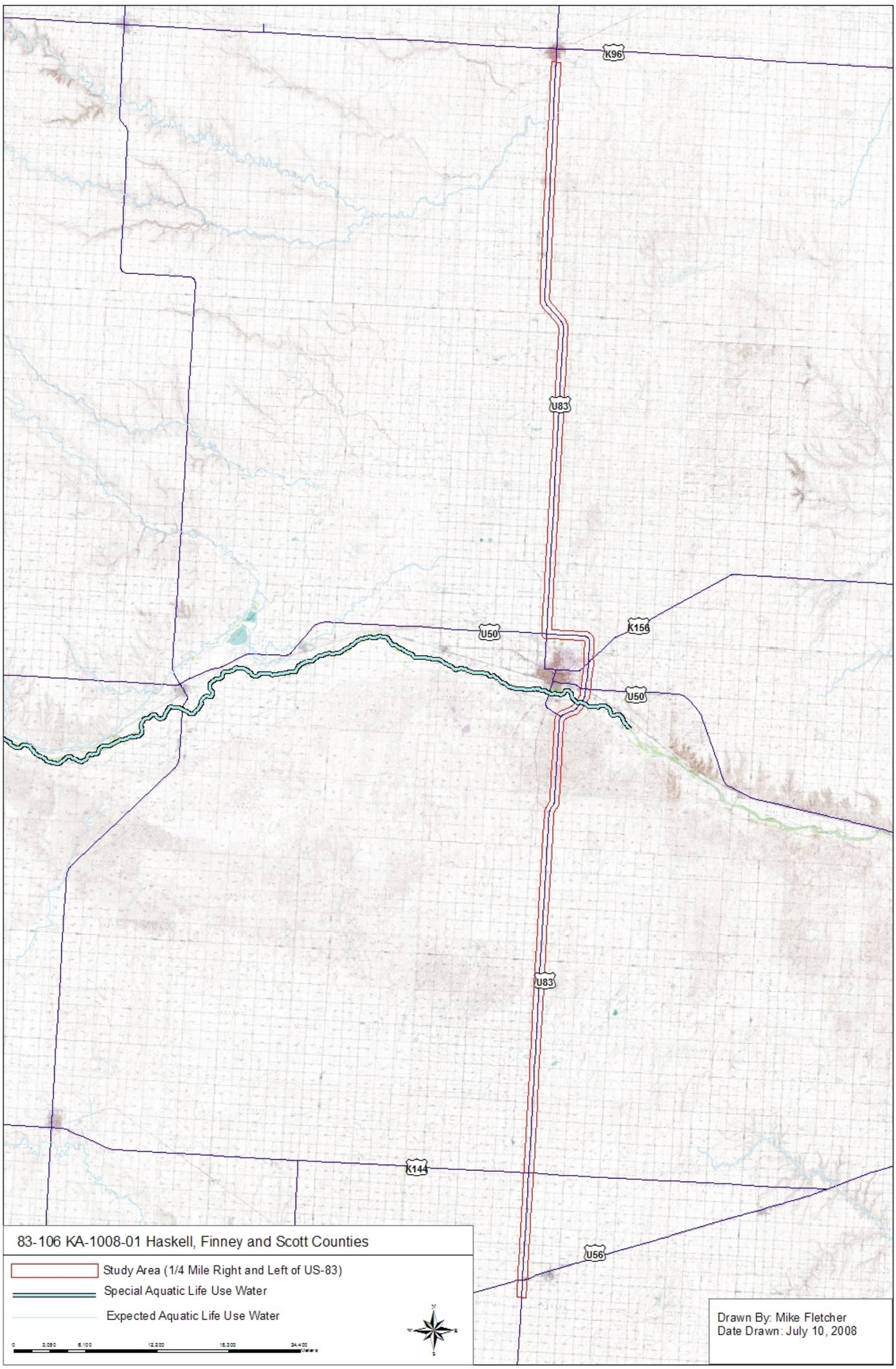


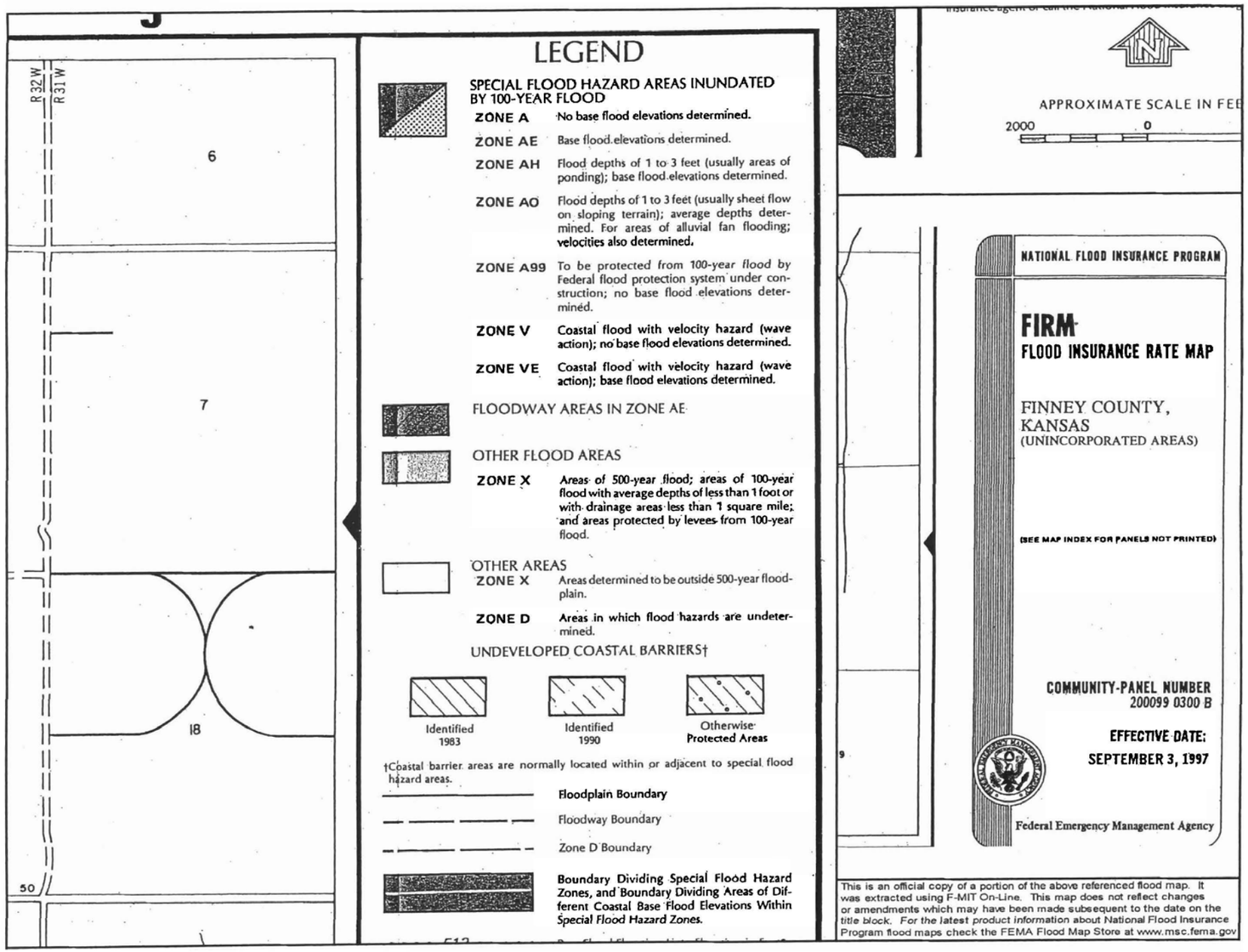
83-106 KA-1008-01
Preliminary Environmental Screening
NWI Mapped Wetlands and Waters of the U.S.

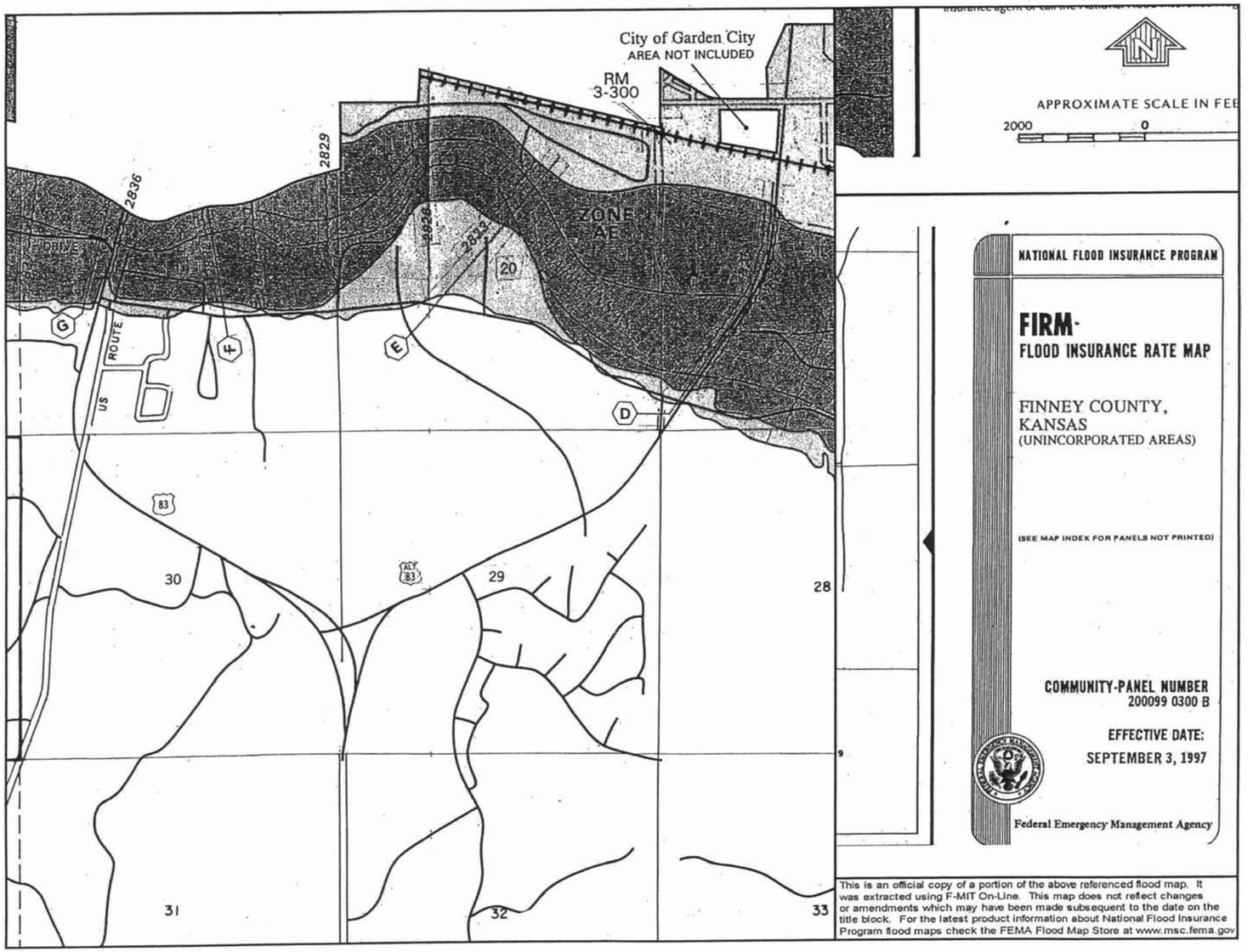



K96
U83
U50
K156
U50
U83
U160
U56
83-106 KA-1008-01 Haskell, Finney, and Scott Counties
Study Corridor 1/4 mile each side of US-83
Wildlife State Designated Critical Habitat
Eastern Spotted Skunk
0 2,550 5,100 10,200 15,300 20,400 Meters
N
W
E
S
Drawn By: Mike Fletcher
Date Drawn: July 10, 2008

83-106 KA-1008-01
Preliminary Environmental Screening
Water Uses




R 32 W
R 31 W
6
7
18
50
LEGEND
SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
ZONE A No base flood elevations determined.
ZONE AE Base flood elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding; velocities also determined.
ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.
ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.
ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.
FLOODWAY AREAS IN ZONE AE
OTHER FLOOD AREAS
ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.
OTHER AREAS
ZONE X Areas determined to be outside 500-year floodplain.
ZONE D Areas in which flood hazards are undetermined.
UNDEVELOPED COASTAL BARRIERS†
Identified 1983
Identified 1990
Otherwise Protected Areas
†Coastal barrier areas are normally located within or adjacent to special flood hazard areas.
Floodplain Boundary
Floodway Boundary
Zone D Boundary
Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
APPROXIMATE SCALE IN FEE
2000
0
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
FINNEY COUNTY, KANSAS
(UNINCORPORATED AREAS)
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY-PANEL NUMBER
200099 0300 B
EFFECTIVE DATE:
SEPTEMBER 3, 1997
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov


City of Garden City
AREA NOT INCLUDED
RM
3-300
2829
2836
2833
ZONE
AE
20
ROUTE
US
83
ALT
83
30
29
28
31
32
33
APPROXIMATE SCALE IN FEE
2000
0
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
FINNEY COUNTY,
KANSAS
(UNINCORPORATED AREAS)
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY-PANEL NUMBER
200099 0300 B
EFFECTIVE DATE:
SEPTEMBER 3, 1997
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

5.3 – Public Involvement Information

MEETINGS SUMMARY

US-83 Projects Identification & Needs Study
Public Officials Meetings &
Public Information Open House Meetings
August 24, 2009 – Sublette Christian Church, Sublette
August 25, 2009 – Finney County Fairgrounds, Garden City
August 26, 2009 – Law Enforcement Center, Scott City

The Kansas Department of Transportation (KDOT) hosted a series of meetings to obtain feedback on the preliminary alternatives developed to date and to obtain input on important study area elements. The series of meetings included a public officials meeting at 1:00 p.m. followed by a public meeting from 6:00 to 8:00 p.m. on the dates and locations shown above. KDOT staff explained the purpose of the study, the identified needs, and the preliminary alternatives to the local officials prior to the public meetings. KDOT provided informational handouts, typical sections, and aerial maps of Alternatives 1, 2, and 3 displayed on tables for those attending to view, discuss with KDOT staff, and provide feedback. Input from these meetings helped KDOT in the decision making process on a preferred alternative to carry forward for projects development.

KDOT team members at these meetings included: Larry Thompson, Gerald Bennett, Chuck Oldaker, Kirk Hutchinson, Sue Stringer, Jeffrey Sims, and Kris Norton.

Public Official Attendees

1. Gene Ochs, Haskell County Commissioner
2. Bill Lower, Haskell County Commissioner
3. Larry Love, Haskell County Road Supervisor
4. Lawrence Herman, Sublette City Council
5. Pete Olson, Finney County Administrator
6. Sam Curran, Garden City - Public Works Director
7. Reynaldo Mesa, Garden City – City Commissioner
8. David Crase, Garden City – City Commissioner
9. Matt Allen, Garden City – City Manager
10. Steve Cottrell, Garden City – City Engineer
11. Dave Jones, Finney County Commissioner
12. Larry Jones, Finney County Commissioner
13. Cliff Mayo, Finney County Commissioner
14. Roman Halbur, Finney County Commissioner
15. John Ellermann, Finney County Public Works Director
16. Rich Cramer, Scott County Public Works Director
17. Larry Hoeme, Scott County Commissioner
18. Jack Frick, Scott County Commissioner
19. Pam Faurot, Scott County Clerk
20. Mike Todd, Scott City - Public Works Manager

Public Information Open House Meetings

At our series of public information open houses, we had seventy registered guests including media representatives from the Garden City Telegram and the Scott County Record. We received twenty-one written comments and two e-mail comments, including those from local officials. A breakdown of the comments* received follows:

Rural Section Comments

Will the right-of-way necessary for future lanes be available for farming by the current landowner until the actual construction of the lanes or will it be fenced off and dormant when acquired by KDOT? Even if it affects irrigated pivots?	*1*
The traffic turning movements seem too high for Parallel Road & Burnside Drive with US-83.	*2*
Need traffic counts/turning movements at some of the US-83 intersections	*3*
How was traffic information gathered?	*2*
Do four-lane highways encourage more traffic?	*2*
Are accident rate statistics available for comparable two lane highways compared to highways with passing lanes and/or four lane highways?	*2*
Oppose expansion of US-83 at present time and near future.	*2*
With adequate visibility along US-83 (for Passing), is the cost of millions of dollars of taxpayers' money worth so much disruption of homes and farming operations?	*2*
Concern about closure of driveways and some public roads along US-83.	*1*
Concern about access to wells, farm, ground, and highway.	*2*
Alt. 3, phased construction will be difficult at intersections.	*1*
Prefer Alt. 1	*4*
Prefer Alt. 2	*2*
Prefer Alt. 3.	*4*
Visibility on highway good, but more and more traffic, difficult to pass.	*1*
Local unit of government not interested in maintaining more roads than necessary. Opposed to local unit of government maintaining access roads that serve only one residence or farmstead.	*1*
Prefers moving highway further away from homes.	*1*
Acquisition of farm ground and irrigated ground detrimental to livelihoods and income.	*4*
Support passing lanes.	*4*

Rural Section Comments (cont'd)

Just re-build existing road for now and build another road later.	*1*
Don't move highway too close to houses. If so, acquire houses.	*2*
Don't impact Plymell School and church.	*1*
Make highway safer for Plymell School and church.	*1*
Big challenge at Plymell Road/US-83 intersection.	*1*
US-83 projects should be a priority in Western Kansas.	*1*
Looks like a great project.	*1*
Support 4-lane highway	*2*
Look long-range and acquire right-of-way for 4-lanes	*2*
Highway is in sore need of repair. Spend the money.	*1*
Support additional entrance into the Stockade Travel Plaza in Sublette for safer and more efficient ingress/egress for tractor-trailers and passenger vehicles.	*2*

Urban Section Comments

Traffic signals work fine; don't need grade separation at Spruce for some time.	*1*
Consider split interchange at Spruce/US-50 south. Alt. 2 curves N.E. of Garden City - swing further north a little more and use existing US-50 as access from Campus west to Fleming/gas station access. Eliminates need for Fleming access.	*1*
Make sure medians are wide enough at Campus Drive to accommodate 1 tractor trailer. More truck traffic will be going to new Crazy House.	*1*
Don't like proposed curves on N.E. bypass on Alt. 1. Single interchange for 3rd/Fleming/Campus needs to be revisited.	*1*
Prefer overpasses at Schulman and Spruce and getting the highway further away from new high school. Concern with high school traffic and at-grade intersections with US-50.	*3*
Prefer construction of freeway. Much cheaper now than 10 or 20 years down the road.	*1*

*In most cases each person who commented made several points. This breakdown of comments only serves as a gauge to help KDOT focus on key messages and is not considered a vote.

US-83 Projects Identification and Needs Study

US-83 between Sublette and Scott City Project 83-106 KA 1008-01

August, 2009

About The Study

The Kansas Department of Transportation (KDOT) hosted a series of statewide meetings in 2006 to partner with local officials in selecting and programming transportation projects. As a result of the local and regional input from these meetings, along with KDOT's engineering data, US-83 from Sublette to Scott City was identified as a regionally significant corridor that needed improvements.

In addition to pavement conditions and capacity issues, local officials raised concerns about increasing volumes of truck and limited passing opportunities. KDOT selected this corridor for a study in May, 2007.

Study Purpose

The purpose of this US-83 Projects Identification & Needs Study is twofold:

1. Evaluate and identify current and anticipated long-range needs of the corridor.

2. Identify and prioritize improvement projects to address the needs.

The Study Scope

The study area is approximately one mile wide centered on existing US-83, and approximately 70 miles long extending from the US-56/ US-83 junction west of Sublette, to the beginning of the four-lane curbed section in Scott City.

The study will identify current and long-range needs along the corridor. Based on these needs, the study will identify and prioritize improvement projects; including passing lanes or a four-lane improvement. The study will provide information that is needed for the agency to make an informed decision about project programming when funding becomes available.

Study Coordination

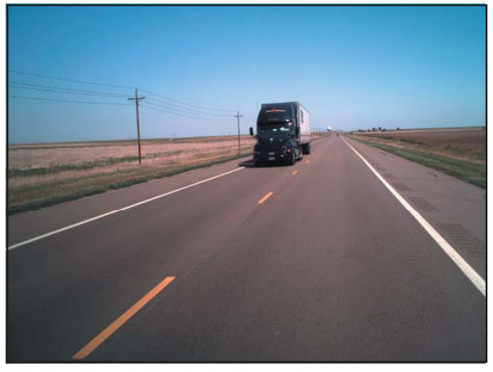
In the summer of 2007, KDOT Southwest District Staff met to discuss the project with officials from Haskell, Finney and Scott counties and the cities of Sublette, Garden City and Scott City.

The officials told KDOT about their concerns with the road as related to:

- Increasing development including manufacturing and industrial facilities and ethanol plants.

- Increasing truck volumes carrying such things as cattle, grain, ethanol and manufacturing products.

Officials also expressed interest in extending the study corridor south to Liberal and north from Scott City to K-4.

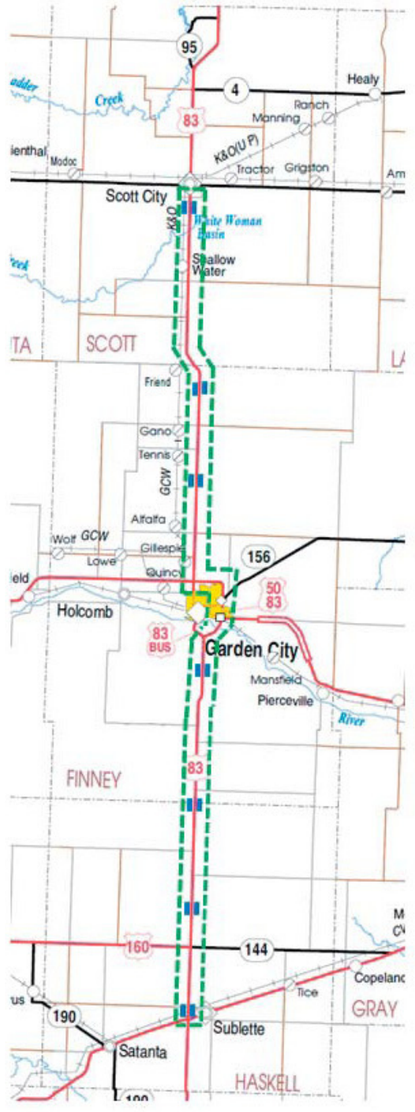


US-83 in Haskell County, looking north

US-83 Projects Identification and Needs Study

US-83 between Sublette and Scott City Project 83-106 KA 1008-01

August, 2009



Kansas Department of Transportation, Eisenhower State Office Building, 700 SW Harrison, Topeka, KS 66604, 785-296-3583

US-83 Projects Identification and Needs Study

US-83 between Sublette and Scott City Project 83-106 KA 1008-01

August, 2009

Rural Sections of US-83

The rural sections of US-83, are the segments with less dense commercial, industrial, and residential development. KDOT will work with local officials and the public to keep these characteristics in mind during the study.

- Thanks to ongoing maintenance and resurfacing, the surface of US-83 is in adequate condition. However, the pavement beneath the surface is old and incapable of carrying the traffic loads. The pavement needs to be fully rebuilt. KDOT will make pavement repairs and rehabilitations as needed until major improvement projects can be funded and programmed.

- Adding passing lanes will improve traffic flow, reduce delay, and provide an acceptable level of service for some time into the future. However, long-range traffic projections indicate that the highway should be four-lanes in the future when a two-lane road with passing lanes becomes inadequate.

- Acquiring right-of-way for a future four-lane road would preserve the corridor so additional lanes, when needed, can easily and economically be constructed with minimal disruption to adjacent development that may occur.

- Control of intersection and driveway locations (access) is one of the most effective ways to provide safe, free-moving traffic flow along a corridor. KDOT's crash data and experiences around the nation shows that the more access control, the lower the crash rate becomes.

A balance must be struck between free-flowing travel (mobility) and the number and spacing of locations to get onto and off of the highway (access) for improved and sustainable highway operations, safety, service quality, economic development and growth.

The recommended level of access is to provide local road intersections at least one mile apart. Intersections of major crossroads will be improved and others will be evaluated for improvements as well.

Rural Roadway Type Alternatives

Many factors such as those heard in our discussions with local officials, as well increased traffic volumes, speed, safety, crashes, land use and rural or urban conditions are considered when developing a roadway type. Long range needs must also be addressed.

These are the roadway types evaluated so far include:

- Two-lane road with passing lanes and intersection improvements.

- Two-lane road with passing lanes, intersection improvements, and adequate right-of-way to upgrade to a four-lane roadway facility in the future. (This alternative is shown on the aerial maps at the public meetings and may be viewed at the Southwest District Office in Garden City.)

- Four-lane road (freeway, expressway or upgradeable expressway); defined right-of-way limits to address the ***long-range needs***.

Combinations of these alternatives along different parts of the rural sections may be studied further. Other alternatives or modifications may be developed with input from public officials and through the public involvement process.

US-83 Projects Identification and Needs Study

US-83 between Sublette and Scott City Project 83-106 KA 1008-01

August, 2009

Rural Roadway Alignment Alternatives

Several alternatives have been studied for aligning the improvements along or near the current corridor.

When determining alignment alternatives, KDOT considers how to avoid or minimize impacts to sites such as businesses, farmsteads, homes, feedlots, churches, schools, cemeteries, irrigation circles and natural features.

Another important consideration in determining an alignment is how to safely and economically handle traffic during construction. For instance, should there be a complete detour, or carry traffic through construction or use temporary roads to detour traffic around the construction zones?

Study Schedule

The US-83 Study will be completed by Spring of 2010. If funds should become available, individual segments may be selected for construction.

US-83 at Garden City

The study ***is not*** considering a new bypass around Garden City. The study includes the existing US-83 bypass around the eastern side of the city (called the "urban section" in this study) along the US-83 bypass from the east US-50/US-400/US-83 junction to the west US-50/US-400/US-83 junction.

- The US-83 bypass pavement in Garden City is in poor to adequate condition. One segment needs to be reconstructed and the remaining segments need rehabilitation.

- Right-of-way for four lanes with partial access control has been acquired along this portion but may be insufficient for a four-lane divided highway.

- The US-83 bypass in Garden City is currently operating at a poor level of service, resulting in congestion which raises safety concerns for drivers along the route. In the future, as traffic volumes increase, the service and operational quality of the highway will continue to degrade.

US-83 at Garden City, Cont'd

- The intersection of US-83 and Spruce Street has a traffic signal. As economic development and growth continues and traffic volumes increase, additional traffic signals may become necessary at other intersections along the route. Traffic signals can reduce capacity by up to 50 percent, further degrading the service and operational quality of the highway.

- A four-lane upgradeable expressway or freeway is justified and should be considered for the current US-83 bypass in Garden City.

US-83 Bypass and Spruce Street in Garden City, looking north

For more information contact Kirk Hutchinson, Southwest District Public Affairs Manager in Garden City.
Phone 620-276-3241, e-mail: kirkh@ksdot.org or
Sue Stringer, Public Involvement Liaison, 785-296-8669, email: stringer@ksdot.org.

Kansas Department of Transportation, Eisenhower State Office Building, 700 SW Harrison, Topeka, KS 66604, 785-296-3583

MEETINGS SUMMARY (2nd Series)

US-83 Projects Identification & Needs Study
Public Officials Meetings &
Public Information Open House Meetings
May 18, 2010 – Sublette Christian Church, Sublette
May 19, 2010 – Finney County Fairgrounds, Garden City
May 20, 2010 – Law Enforcement Center, Scott City

The Kansas Department of Transportation (KDOT) held a series of meetings to obtain feedback on the preferred roadway type and alignment alternative developed subsequent to the first series of public meetings and to obtain input on important study area elements. The series of meetings included a public officials meeting at 3:30 p.m. followed by a public meeting from 5:00 to 7:00 p.m. on the dates and locations shown above. A brief presentation was made to the local officials in regard to the study background, identified needs, and the preferred roadway type and alignment alternative developed. At all the meetings, informational handouts were provided, typical sections, and aerial maps of the preferred roadway type and alignment alternative were laid out on tables for viewing and comments. The input gathered from the local officials and general public helped KDOT in making decisions on a preferred alternative to carry forward for projects development and costs.

KDOT team members at these meetings included: Larry Thompson, Gerald Bennett, Chuck Oldaker, Calvin Carter, Sue Stringer, Nancy Shepard, Jeffrey Sims, and Kris Norton.

Public Official Attendees

1. Troy Briggs, Haskell County Sheriff
2. David T. Hudgens, Haskell County Under Sheriff
3. Jacob Holloway, Sublette City Council
4. Lawrence Herman, Sublette City Council
5. William Bell, Moscow Mayor
6. Dave Jones, Finney County Commissioner
7. Larry Jones, Finney County Commissioner
8. Cliff Mayo, Finney County Commissioner
9. Don Doll, Finney County Commissioner
10. John Ellermann, Finney County Public Works Director
11. Glenn Anderson, Scott County Sheriff
12. Larry Hoeme, Scott County Commissioner
13. Dylan Spencer, Scott County Commissioner
14. Chris Jurgens, Scott City Chief of Police
15. Gary Eitel, Scott City Council
16. Jerry Snyder, Scott City Council
17. Mike Todd, Scott City Public Works Manager

Public Information Open House Meetings

A total of 69 people signed in at the series of public information open house meetings with reporters from the Garden City Telegram and the Southwest Times also attending. A total of 3 written comments were submitted, including those from local officials. The following page is a breakdown* of the comments received.

Rural Section Comments	
Keep it simple; passing lanes and turning exit lanes are most important.	*1*
Question need to be so wide at Plymell. Would like to keep road straight…but if not going east might be best? East better than original west alternative at Plymell.	*1*
North of Garden City, question reality of ditch water future? Get State to close ditch, buy out or permit wells. Should be better options than going out around ditch area.	*1*
Why go over a railroad that isn't used enough to merit. Sometimes it is best to close down items that aren't economically active? Railroad – Ditches – Schools – churches, etc.?	*1*
Thanks for keeping the public informed.	*1*
Limit the number of roads built that will be turned over to the counties for maintenance.	*1*

*In most cases each person who commented made several points. The breakdown counts serve as a gauge to help KDOT focus on key messages. It is not considered a vote.

US-83 Projects Identification and Needs Study

US-83 between Sublette and Scott City Project 83-106 KA 1008-01

May 2010

Where We've Been

In 2006 when the Kansas Department of Transportation (KDOT) hosted statewide meetings in partnership with local officials to select potential transportation projects. US-83 was one of the projects selected regionally as a significant corridor that needed improvements. Based on pavement conditions, capacity issues and limited passing opportunities, KDOT selected US-83 for a project identification and needs study in May 2007.

The purpose of the US-83 study is to evaluate and identify current and anticipated long-range needs of the corridor and identify and prioritize improvement projects to address the needs. KDOT will use this information to make an informed decision about project programming when funding becomes available. The study area is about a 70-mile corridor extending from the US-56/US-83 junction west of Sublette to the beginning of the four-lane curbed section in Scott City.

KDOT District staff met with local officials from Haskell, Finney and Scott Counties as well as officials from Sublette, Garden City, and Scott City in the summer of 2007 to listen to their concerns. KDOT Design staff also began reviewing data regarding current and future traffic volumes and types and began design work on preliminary alternatives for the study area on US-83.

Public Involvement

Following the development of preliminary alternatives, KDOT presented these alternatives in a series of local officials meetings and public open houses in August 2009 to obtain feedback on the study.

Consistent comments from the officials and the public were the need for passing lanes to provide increased and safer passing opportunities. Attendees voiced concern on how improvements would affect homes, businesses and farm ground including irrigation systems and the need for KDOT to avoid or minimize these impacts whenever possible.

Meeting participants acknowledged traffic and truck volumes have and will continue to increase along the corridor and the highway needs improvement.

Though some in attendance felt passing lanes are the only need for the corridor, others including KDOT feel though passing lanes would work for some time into the future, there is a need to address the long-range needs of the highway including the acquisition of right of way for a future four-lane highway.

Based on the analysis of data including traffic volumes, safety, access, minimal impact to existing development, existing highway conditions, costs, and input from the public over the past two years, the study team has identified potential projects along the 70 mile study area of the US-83 corridor.

Series of local officials meetings & public open houses August 2009.

Urban Sections

KDOT and local officials agree the urban section around Garden City needs to be four-lanes and consistent with the US-83 Corridor Master Plan as signed off by Finney County and Garden City officials in March 1999.

This study considered and identified the urban sections needs, but no specific projects or costs are identified, including the evaluation and planning needed for alternatives such as a by-pass to the US-83 corridor around Garden City or Scott City

Moving Forward

Projects 1, 2 and 3

Now that specific projects are identified, KDOT has authorized and funded, *for preliminary design only,* Projects 1, 2 and 3 (see middle pages). Currently there is no funding for right of way acquisition or construction. Based on experience and previous history of similar projects it will take an estimated minimum of 3 1/2 - 4 years before construction may begin.

KDOT staff is appreciative of the local officials and public for their participation in this study and look forward to continued work on US-83.

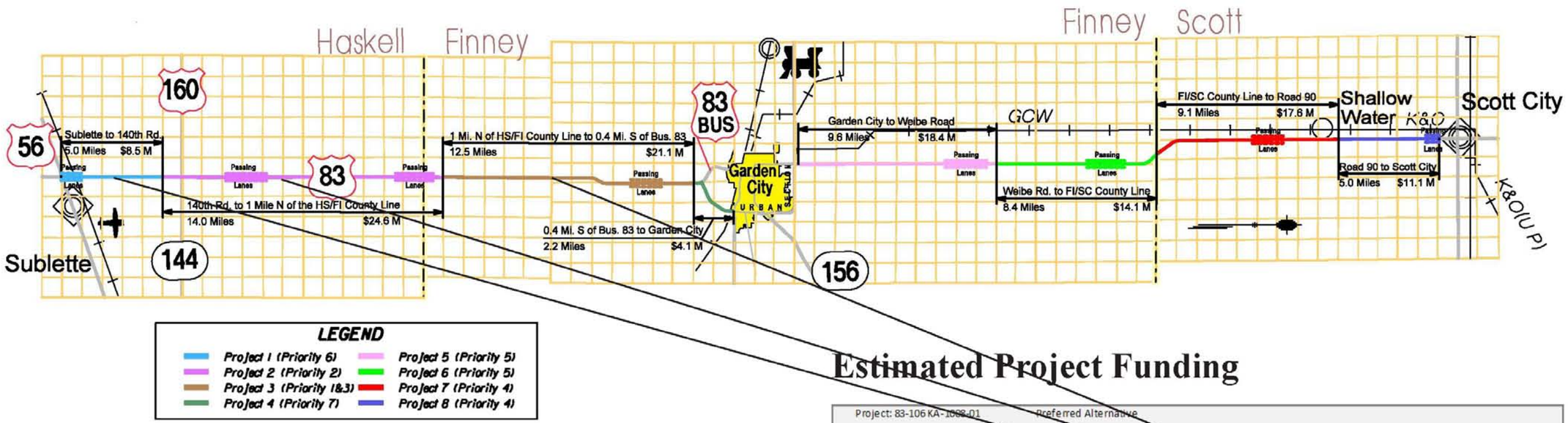
If you have any comments or suggestions, please complete the comment form or contact us using the information provided below.

Intersection of US-83 & Spruce Street in Garden City.

For more information, contact Calvin Carter, Southwest District Public Affairs Manager in Garden City, at 620-276-3241, e-mail: carter@ksdot.org; or Sue Stringer, Public Involvement Liaison, 785-296-8669, email: stringer@ksdot.org.

This information is available in alternative accessible formats. To obtain an alternative format, contact KDOT Transportation Information, Eisenhower Building 700 SW Harrison, 2nd Floor West, Topeka, Kan., 66603-3754, or (785) 296-3585 (Voice)/Hearing Impaired - 711.

Identification of Potential Projects



LEGEND

- Project 1 (Priority 6)
- Project 2 (Priority 2)
- Project 3 (Priority 1&3)
- Project 4 (Priority 7)
- Project 5 (Priority 5)
- Project 6 (Priority 5)
- Project 7 (Priority 4)
- Project 8 (Priority 4)

Preferred Roadway Type and Alignment Rural Sections

The study team evaluated the alternative roadway types and alignments using the most relevant evaluation factors to arrive at the preferred roadway type and preferred alignment for the rural sections along the US-83 corridor within the study area.

The preferred roadway type is a two-lane with passing lanes (four-lanes of right of way) and includes partial access control with minimum access spacing of one mile.

The preferred alignment is a combination of the three alignment alternatives developed and shown at previous public meetings.

The preferred alternative:

- ***Provides the best balance between reduced construction cost and reduced right of way impacts.***
- ***Avoids or minimizes impacts to established development whenever possible, including irrigated circles.***
- ***Considers public input provided at the public meetings.***
- ***Utilizes the existing US-83 highway (retains present travel patterns).***

Estimated Project Funding

Project: 83-106 KA-1068-01 Preferred Alternative

Projects	Project 1	Project 2	Project 3	Project4	Project 5	Project 6	Project 7	Project 8
Priority	6	2	1 & 3	7	5	5	4	4
Grading & Drainage	$914,170	$3,102,719	$2,999,326	$311,014	$3,641,854	$1,456,472	$3,608,263	$2,236,856
Paving/Surfacing	$6,137,520	$17,333,997	$14,623,597	$2,292,128	$11,694,465	$10,273,815	$11,063,690	$6,277,467
Mainline Length (Miles)	5.02	14.04	12.48	2.17	9.56	8.39	9.07	4.99
Side & Access Roads (Miles)	1.09	2.83	2.22	0.00	2.86	1.54	3.61	3.31
Bridges	$0	$0	$0	$787,532	$0	$0	$0	$706,312
Total Construction Cost*	**$8,462,028**	**$24,524,059**	**$21,147,508**	**$4,068,809**	**$18,403,582**	**$14,076,344**	**$17,606,343**	**$11,064,762**
Right-of-Way	$260,440	$1,458,678	$2,250,740	$20,201	$1,431,992	$1,048,821	$1,022,402	$264,060
Dryland/Pasture (Acres)	73.58	105.87	96.32	28.86	92.47	64.80	154.74	88.61
Flood Irrigated (Acres)	0.00	0.00	11.45	0.00	79.68	0.00	27.27	28.79
Pivot Irrigated (Acres)	6.90	147.63	128.56	0.00	86.34	84.87	48.21	13.18
Pivot Irrigation Adj. (No.)	1	21	17	0	8	19	4	2
Irrigated to Dryland (Acres)	16.97	363.69	348.21	0.00	302.67	242.06	89.95	44.01
Irrigation Wells (No.)	1	6	2	0	0	1	1	2
Oil/Gas Wells (No.)	0	0	1	0	0	0	0	0
Oil Tank Batteries (No.)	5	0	1	0	0	0	0	0
Feed Lots (Acres)	0.00	0.00	0.00	0.00	0.00	1.79	0.00	0.00
Commercial (Acres)	1.13	1.14	1.85	0.00	0.00	0.00	2.61	1.49
Residential (Acres)	1.31	2.71	4.94	0.00	6.39	4.52	15.07	0.00
Residential Displacement (No.)	0	1	3	0	2	0	3	0
Utilities	$393,500	$822,000	$622,500	$71,750	$640,500	$515,250	$64,500	$32,250
P.E. (10%)	$846,203	$2,452,406	$2,114,751	$406,881	$1,840,358	$1,407,634	$1,760,634	$1,106,476
C.E. (7.5%)	$634,652	$1,839,304	$1,586,063	$305,161	$1,380,269	$1,055,726	$1,320,476	$829,857
Total Project Cost	**$10,596,823**	**$31,096,447**	**$27,721,562**	**$4,872,801**	**$23,696,701**	**$18,103,776**	**$21,774,356**	**$13,297,405**

* Figured with a 20% Contingency in Fiscal Year 2010

5.4 – US-83 Corridor Master Plan (Urban Section)

Phase I US-83 Master Plan
Garden City Corridor System
Finney County, Kansas

This document sets forth the US-83 Corridor Master Plan, hereinafter referred to as the Plan, and defines the agreement entered into this 26 day of MARCH, 1999, by and between the Secretary of Transportation, hereinafter referred to as the Secretary, Finney County, hereinafter referred to as the County, and the City of Garden City, hereinafter referred to as the City.

The purpose of this Plan is to define parameters for transportation management, access control and access management, along the designated US-83 corridor commonly know as the US-83 Bypass at Garden City. The limits of the corridor on US-83 are from the east junction with US50, north and west, to the west junction with US-50.

It is not the purpose of this Plan to identify specific projects. It is the purpose to define corridor management parameters and identify retrofit and improvement opportunities. From this information, specific projects and project agreements may be drawn.

I. **The planning and operation of the designated corridor is as follows:**
Phase I US-83: The US-83 corridor is further subdivided as follows:

Phase IA: This phase consists of the segment of US-83 from the US-50/US-83 interchange north to the junction of US-50/US83/US-83Bus.

Operation and retrofit of phase IA of this corridor will include the following items:

1. The Secretary will undertake construction of a grade separation at Spruce Street as a means of accommodating both highway and local cross traffic at this location. Spruce Street will not access US-83. Temporary measures including traffic signals to address immediate safety concerns will be allowed. It is explicitly understood that temporary measures will be removed upon completion of the grade separation project.

2. The Secretary and the City will undertake the necessary construction at Schulman Road to accommodate through highway traffic and limit the turning movements to right turns on and off US-83 and protected left turns onto Schulman. Frontage/access road connecting Schulman Road to Spruce Street on the East Side of US-83/50 will be constructed as development warrants.

3. The Secretary and the City will undertake construction of a grade separation at Mary Street to accommodate through highway traffic as well as cross traffic in this area. Mary Street will access US-83 through a contiguous interchange ramp system with the existing K-156 interchange. Temporary measures, including traffic signals to address immediate safety concerns will be allowed. It is explicitly understood that temporary measures will be removed upon completion of the grade separation project.

4. It is recognized that the City will have access to the bypass at a future date for Sandstone Ave., a preliminarily platted street, located north of Mary Street on the west side of US-83. Access will be limited to right turns on and off US-83 and a protected left turn onto Sandstone for northbound traffic on US-83/50.

5. The Secretary, the City and the County will, at the appropriate time, undertake construction of grade separations and frontage roads to serve Campus Blvd, Fleming Street and Third Street. Full and direct access will be provided at one location with frontage roads utilized to provide access to the remaining streets. Advance acquisition of right of way for future interchange construction may occur as available funds permit.

6. The Secretary, the City and the County will undertake at the appropriate time, construction at Eighth Street to accommodate through highway traffic and limit turn movements at this intersection to right turns on and off US-83 and protected left turns onto Eighth Street. Frontage/access roads connecting to other US-83 access points east and west of Eighth Street will be constructed as development warrants.

7. The Secretary will undertake at the appropriate time, the construction of a grade separation with full access at the west junction of US-83/50. Advance acquisition of right of way for the future interchange construction may occur as available funds permit.

8. Notwithstanding the above, temporary traffic control measures to address safety concerns will be allowed at identified location along the corridor as warranted. It is explicitly understood that these measures will be removed upon completion of permanent improvements.

9. When the corridor Plan is adopted by the parties, no new points of ingress or egress on US-83, other than those previously listed above, will be allowed within the defined US-83 corridor. Existing points of access; commonly agricultural or residential entrances, will be redirected or eliminated as opportunities for improvements arise.

10. The partners recognize the growth of the area, and the likelihood that the existing US-83 corridor will, eventually, be unable to meet the needs of the community or the region. Thus, the Secretary, County and City agree to jointly fund the planning process for a future high capacity, high speed, fully access controlled highway alternative to the US-83 corridor. This process will include a variety of alignment options. A corridor preservation plan is required for the option chosen by the partners. The corridor preservation plan will be incorporated into this document by reference at an appropriate time.

II. The general parameters for implementation of the Garden City US-83 Corridor Master Plan follow.

1. It is understood that this Plan may be appended, amended or vacated by the written agreement of all signatory parties.

2. It is further understood that this Agreement and all contracts entered into under the provisions of this Agreement are binding upon the Secretary, the City, the County and their successors in office.

3. The City and the County agree to undertake the procedures to adopt all necessary ordinances and/or resolutions as may be required to give full effect to the terms of this Plan.

4. No third parties beneficiaries are intended to be created by this Agreement, nor do the parties herein authorize anyone not a party to this Agreement to maintain a suit for damages pursuant to the terms of provisions of this Agreement.

In Witness Thereof, the parties hereto have caused this Plan, as of the date and year first above written, to be made and executed by their proper officials.

E. Dean Carlson
Secretary of Transportation

By: W. M. Lackey

W.M. Lackey, P.E.
Assistant Secretary and State
Transportation Engineer

City of Garden City, Kansas

Steven K. Frost, Mayor

Attest:

Jean E. Solze, City Clerk

County of Finney, Kansas

Jerry Davis, Chairman
Board of County Commissioners

Attest:

Carol Brown, County Clerk

FINNEY COUNTY ATTACHMENT TO

PHASE I US-83 MASTER PLAN

On March 1, 1999, the Board of County Commissioners of Finney County, Kansas, authorized the execution of the Phase I US-83 Master Plan, Garden City Corridor System, Finney County, Kansas, after reviewing the matter with Garden City City Manager Robert Halloran, who was present. At the meeting in which the matter was discussed the Board noted that certain points of the Master Plan require clarification of intent. A summary of those clarifications of intent between the City and County is as follows:

(1) That inasmuch as the improvements anticipated in paragraphs 5 and 6 may not be done for many years, that at the time the improvements are agreed to and methods of funding are required, the Secretary, the City and the County will attempt to agree as to the financial obligations of each.

(2) That in the event that the parties are unable to agree as to the financial obligation of each, none of the parties shall be obligated to participate in any fashion and none of the parties shall be obligated to the other(s), and that portion of the agreement that implies financial participation shall be of no force or effect.

In light of the foregoing statements and the understanding reached as a result thereof, the Board of County Commissioners of Finney County executed the agreement with the clarifications above made.

5.5 – KDOT Contact Information

Kansas Department of Transportation
Bureau of Design
Harrison Center
700 S.W. Harrison Street, 13th Floor
Topeka, Kansas 66603-3745

Phone: (785) 296-3531

Kansas Department of Transportation
Bureau of Public Involvement
Harrison Center
700 S.W. Harrison Street, 2nd Floor – West Wing
Topeka, Kansas 66603-3745

Phone: (785) 296-3769

Harrison Center - Topeka

Kansas Department of Transportation
District Six Headquarters
121 N. Campus Drive
Garden City, Kansas 67846-6603

Phone: (620) 276-3241

District Six Headquarters – Garden City