

# **SH 88 ENVIRONMENTAL ASSESSMENT**

from Blue Starr Drive to Flint Road  
Claremore, Rogers County, Oklahoma

## **VOLUME 1 - TEXT**

U.S. Department of Transportation  
Federal Highway Administration  
Oklahoma Department of Transportation



**U. S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
AND  
OKLAHOMA DEPARTMENT OF TRANSPORTATION  
ENVIRONMENTAL ASSESSMENT**

**ON**

**SH 88 IN CLAREMORE**

**FROM BLUE STARR DRIVE SOUTHEAST  
APPROXIMATELY 4.5 MILES TO FLINT ROAD**

**ROGERS COUNTY, OKLAHOMA**

**FEDERAL AID PROJECT NO. STPY-166C(084)EC  
STATE JOB NO. 19153(04)**

The proposed project is described as improving SH 88 to a four-lane facility from Blue Starr Drive and proceeding southeast approximately 4.5 miles to Flint Road in the City of Claremore.

This highway project is proposed for funding under Title 23, United States Code. This statement for the improvement has been developed in consultation with the Federal Highway Administration and is submitted pursuant to 42 USC-4332(2) (c).

Submitted:

Date: 2/23/2006



\_\_\_\_\_  
Planning and Research Division Engineer  
Oklahoma Department of Transportation

Approved:

Date: 2/24/2006

for   
\_\_\_\_\_  
Division Administrator  
Federal Highway Administration

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**1.0 INTRODUCTION**

This Environmental Assessment examines the anticipated social, economic, and environmental effects of the proposed improvement of State Highway 88 (SH 88) in Claremore, beginning at Blue Starr Drive and proceeding approximately 4.5 miles southeast to Flint Road. This document has been prepared to comply with the National Environmental Policy Act of 1969, as amended, and was completed in conformance with the environmental regulations for highway projects developed by the Federal Highway Administration (FHWA), U.S. Department of Transportation, i.e., Code of Federal Regulations Title 23, Part 771. This assessment was developed in consultation with FHWA and has been coordinated with other federal, state and local agencies or organizations.

**2.0 LOCATION AND DESCRIPTION OF PROPOSED ACTION**

The proposed action is the improvement of SH 88 to a four-lane facility in the City of Claremore, beginning at Blue Starr Drive and proceeding southeast approximately 4.5 miles to just south of Flint Road. Figure 1 provides a location map of the study area.

**3.0 PURPOSE AND NEED FOR THE PROJECT**

**3.1 Introduction - Area Transportation System**

The Claremore area is served by the following transportation facilities:

- One (1) interstate route ..... I-44
- Three (3) state highways ..... SH 66, SH 20, SH 88
- Local street system ..... City and County streets

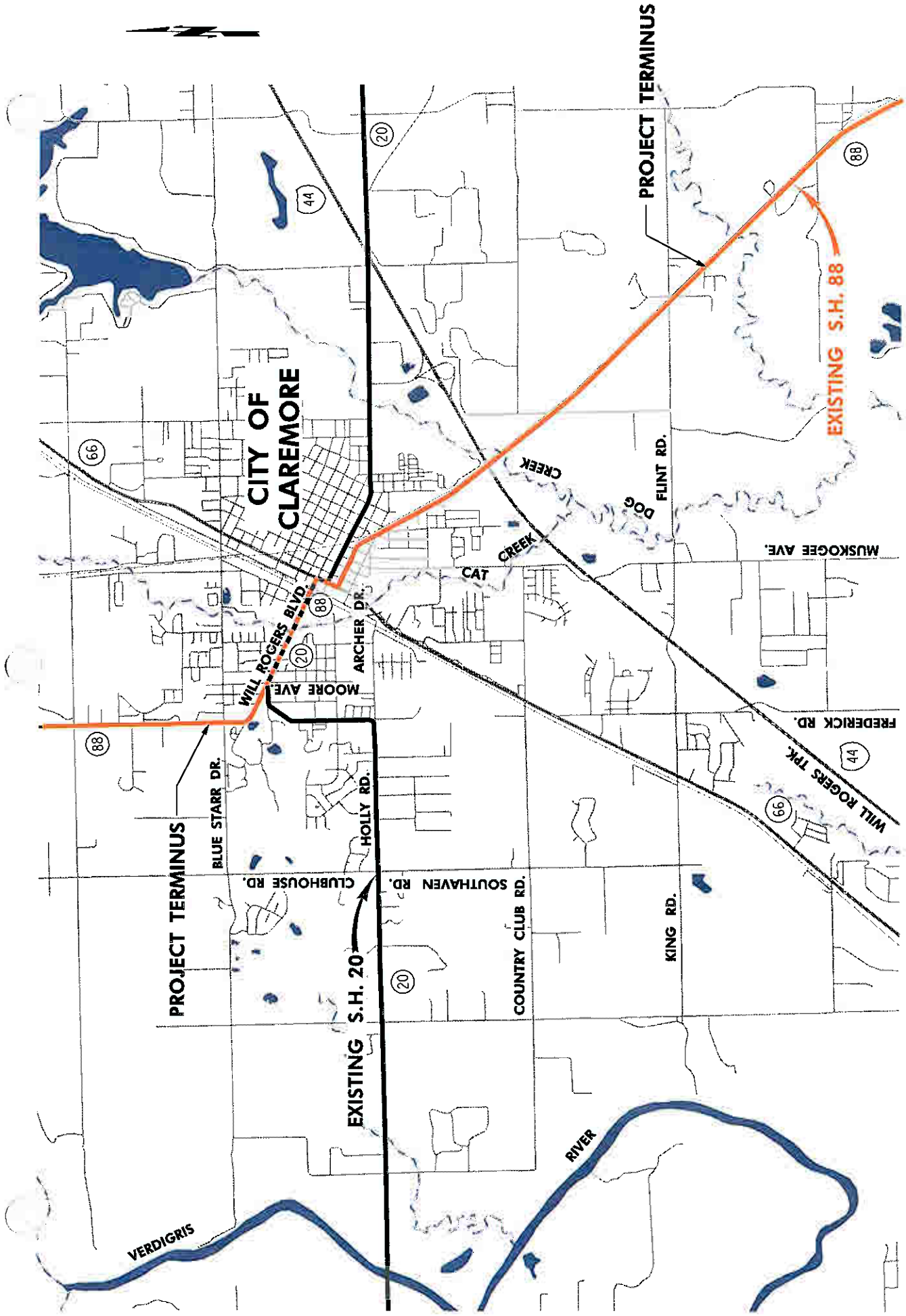
Interstate I-44 is a northeast to southwest facility that serves long-distance, high-speed through-travel service, with limited access points to the local road network. I-44 in this vicinity is a toll facility (i.e., Will Rogers Turnpike) operated by the Oklahoma Transportation Authority.

The three state highways providing service in Rogers County are operated by the Oklahoma Department of Transportation (ODOT). SH 66 through Claremore is a four-lane facility running southwest to northeast. It has signalized intersections at major cross streets, along with numerous median openings and driveways. Existing SH 20 is mostly a two-lane facility in Claremore, except in the downtown area where it is a five-lane facility. Future plans call for SH 20 to bypass Claremore to the south. The proposed segment of SH 20 from SH 66 to I-44, including interchanges, is scheduled for right-of-way and utilities in 2007-2008, and construction in 2010-2012. The local street system is primarily used for short-distance, low-speed travel and property access.

**3.2 Safety**

**3.2.1 Existing Facility Inadequacies**

A procedure has been established for rating highways in order to recommend improvements for planning purposes. These sufficiency ratings objectively indicate the overall adequacy of a roadway depending on its design, condition, and traffic. The final rating value ranges from 0 to 100 points. Roadways and bridges are then assigned an adequacy classification based upon the sufficiency rating, as indicated in Table 1.



**FIGURE 1 – SH 88 PROJECT AREA**



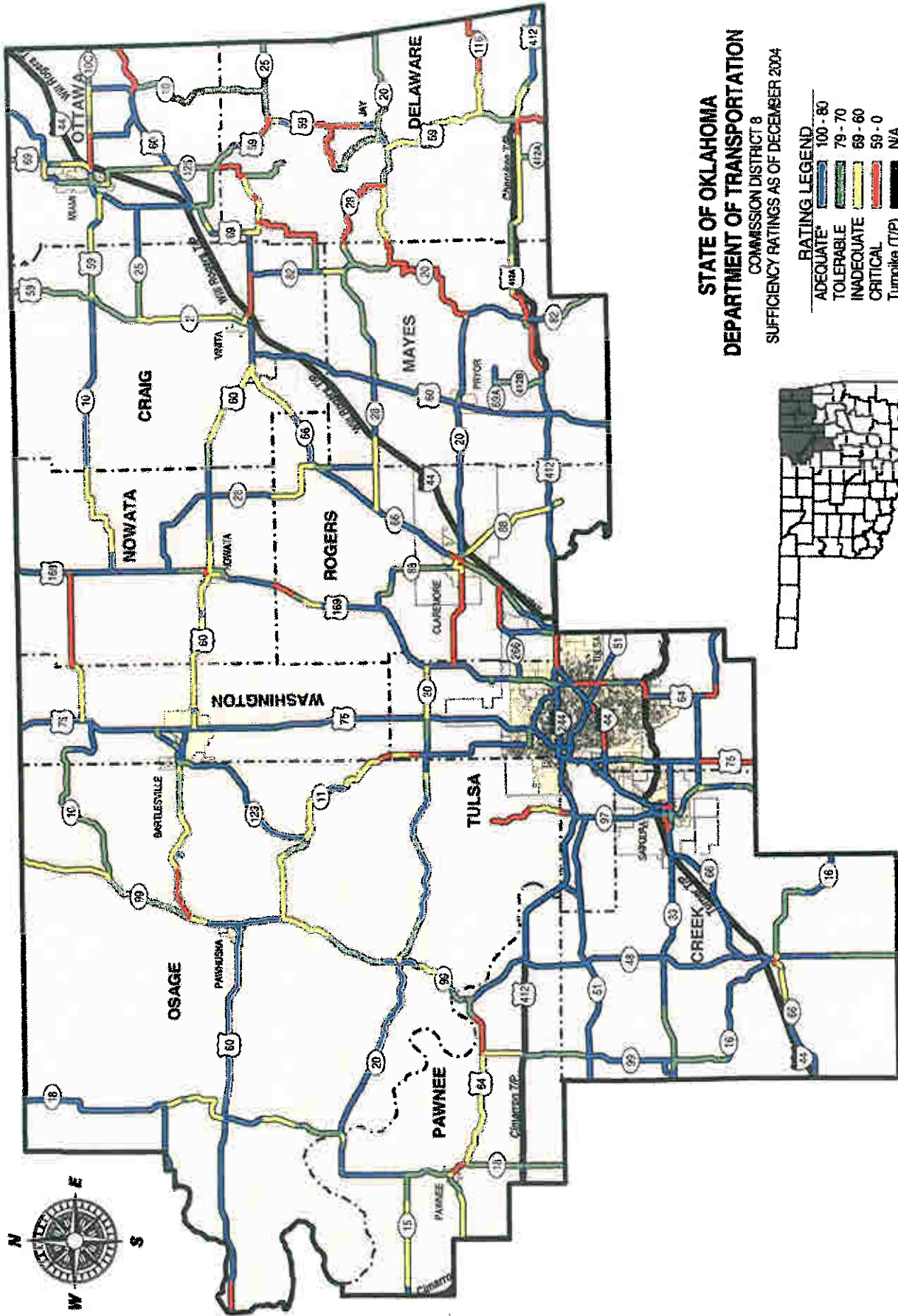
<b>Table 1: Sufficiency Ratings</b>	
<b>Sufficiency Rating</b>	<b>Classification</b>
80 - 100	Adequate
70 - 79	Tolerable
60 - 69	Inadequate
59 & below	Critical

Sufficiency ratings are frequently grouped into Adequate (70 - 100) and Critical (69 or less) categories when one or more miles of roadway are involved. The *2004 Needs Study and Sufficiency Rating Report* prepared by ODOT evaluates any roadway based on the present geometric design and physical condition. A sufficiency rating of "Inadequate" was assigned to most of the SH 88 segment through downtown Claremore. Figure 2 provides the sufficiency ratings for Commission District Eight, which includes SH 88. Therefore, improvements to SH 88 are merited to improve the design and condition of the facility.

A review of SH 88 through downtown Claremore indicates several areas where traffic is delayed due to intersection congestion, sharp turns, and railroad crossings, all of which reduce capacity by impeding the steady flow of traffic. Traffic traveling on SH 88 through downtown Claremore currently experiences congestion resulting from two rail lines, numerous city streets with no grade-separated crossings, and the merging of three state highways (i.e., SH 20, SH 88 and SH 66). Traffic from these highways causes congestion at several at-grade signalized intersections, including Will Rogers Boulevard (SH 20/SH 88) and Lynn Lane (SH 66), Will Rogers Boulevard (SH 20/SH 88) and Patti Page (SH 20), and Will Rogers Boulevard (SH 20/SH 88) and First Street (SH 88). Sub-standard intersections, such as those not intersecting at approximately 90-degree angles, cause drivers to hesitate as they negotiate the intersections due to maneuvering difficulties and limited ability to see oncoming traffic. These conditions exist on SH 88 at Will Rogers Boulevard near RSU and near Chickasaw Street.

SH 88 through the City of Claremore is also bisected by two railroads, the Burlington Northern and Santa Fe (BNSF) and the Union Pacific (UP). Train traffic counts conducted in 2003 indicated as many as 14 trains pass through Claremore in a typical day (i.e., 6:45 a.m. - 7:00 p.m.). Only limited street crossings of these railroads are currently provided, with no grade-separated structures (i.e., overpasses). These railroads form barriers across the city, limiting traffic flow and creating traffic backup. The City of Claremore commissioned a railroad overpass feasibility study in 2003. The study indicated that the major concern with the railroad is that fire, police, and ambulances cannot respond adequately to emergencies across town when train traffic blocks the east-west emergency routes. The City has built an additional fire station to decrease the delay in response times caused by passing trains which act as barriers to various parts of the city. However, the major hospital is on the east side.





XXX

Figure 2

Another major traffic concern is the existing intersection of Archer Drive, J.M. Davis Boulevard, and SH 66. The geometric configuration, indirect west-west connection, turning movements, and heavy traffic, combined with backups due to passing trains, creates a very dangerous as well as inconvenient condition.

Improvements to SH 88 are needed to reduce traffic congestion, improve sub-standard intersections, and relieve the existing traffic delay due to trains. Any proposed SH 88 improvements will include a grade-separated railroad crossing, as well as interchanges with state highways.

### **3.2.2 Collision History and Hazard Evaluation**

Data summarizing the most recent 3-year collision history available from ODOT was reviewed and summarized for the current SH 88 route through Claremore. (See Appendix A.) The period reviewed was December 2002 through November 2005. The study route began on the northwest side of the City at Blue Starr Drive and ended on the southeast side of the City at Flint Road.

The collision summary for the current SH 88 route is shown in Table 2. The study route was subdivided into four segments for analysis purposes. The upper part of the table lists the number of fatal, injury and property damage-only collisions, while the lower part of the table lists the total number of fatalities and persons injured. A total of 283 collisions occurred, resulting in 123 injuries and 1 fatality.

<b>Collision Type</b>	<b>Blue Starr to Moore</b>	<b>Moore to Railroad</b>	<b>Railroad to Chickasaw</b>	<b>Chickasaw to Flint</b>	<b>Total Study Area</b>
Fatal	0	1	0	0	1
Injury	10	39	30	8	87
Property Damage	23	71	93	8	195
Total Collisions	33	111	123	16	283
# of Fatalities	0	1	0	0	1
# Injured	13	53	45	12	123

Note: Source data from ODOT.

### **3.3 Transportation Demand**

The demand for transportation services is reflected in traffic volumes observed on roadways. Current average daily traffic volumes (2004 ADT) and forecast (2030) ADT's for SH 88 in the Claremore area are listed in Table 3. Appendix A contains the traffic report completed for this study.

<b>General Location</b>	<b>Existing Traffic ADT (2004)</b>	<b>Forecast Traffic ADT (2030)</b>
North of Blue Starr Drive	5,200	9,250
Just South of Blue Starr Drive	8,600	15,300
Along Will Rogers Boulevard (SH 20)	19,300	34,350
Just South of Flint Road	5,100	9,100

Figure 3 provides a map of the 2004 and forecast 2030 ADT's along SH 88 and other locations in and around the Claremore area. The forecast traffic volumes are based on a growth rate of 3 percent per year with no compounding growth, or a total increase of approximately 78%.

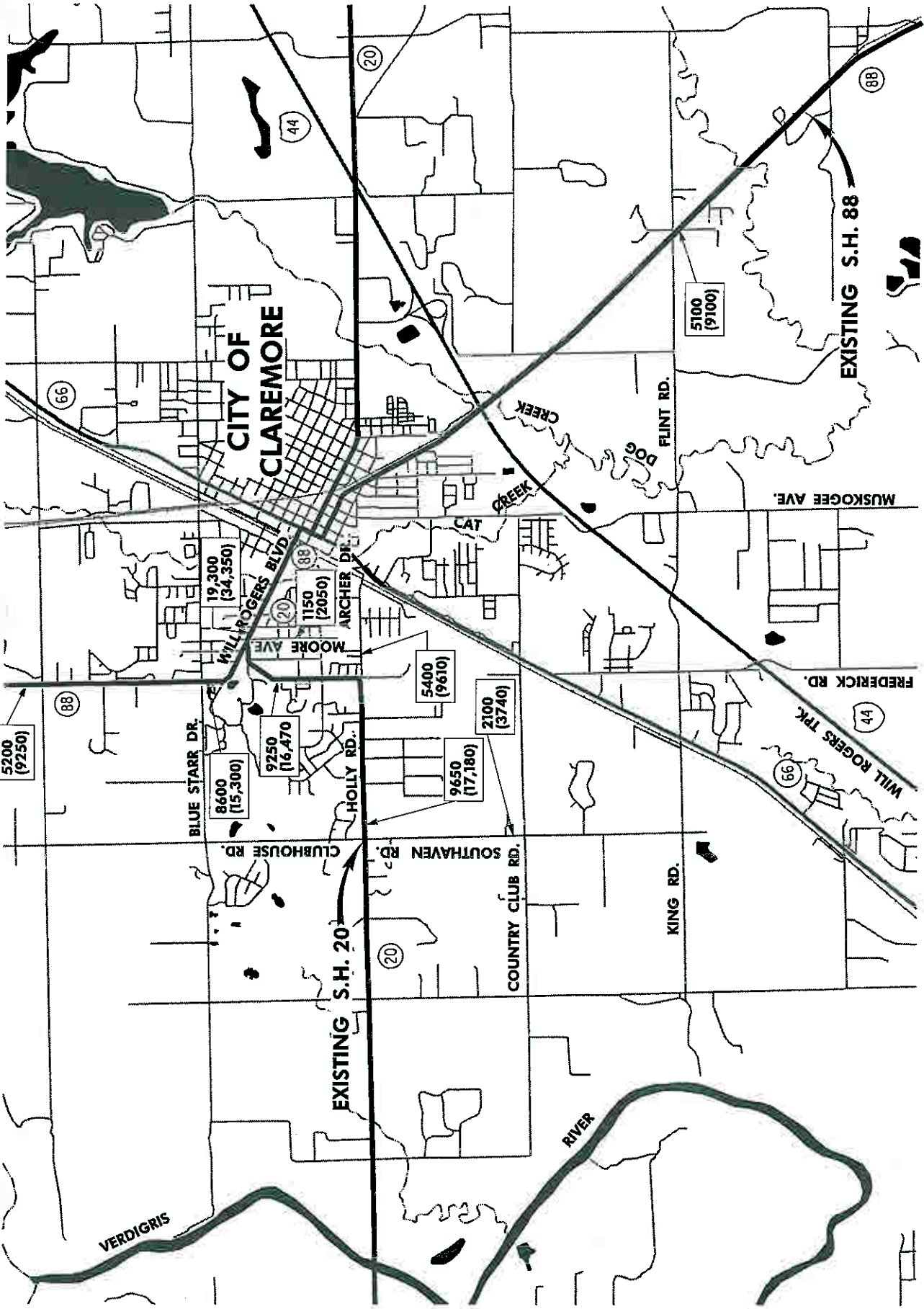
The City of Claremore's year 2020 population is expected to increase approximately 27% from the population recorded by the 2000 census. Data from the 2000 population census place the Claremore population at 15,873, an increase of 20% from the 1990 population, which indicates rapid growth in the area.

These projected increases in population suggest that travel demand will continue to increase, that travel patterns now observed will continue, and that traffic volumes will increase along SH 88 in the future. These projections indicate the current facility will be inadequate to handle expected future traffic flow and improvement of SH 88 to a four-lane facility is warranted.

### **3.4 Traffic Generators**

Several traffic generators in the Claremore area have been identified by City officials as being economically significant to the community. Providing improved access to these generators is another purpose of the proposed SH 88 project.

Rogers State University (RSU) was originally a community college whose mission was to serve the Claremore area. In January of 1999, the legislature changed the mission of the University to serve the northeast region of the State. The University is now a four-year college offering several degree programs. New campus housing has been built and a new library is under construction. The University now serves more than 4,000 students and experienced a 23% annual increase in student population in 2000, as compared to a statewide average annual increase of 4.7%. Commuters make up 70% to 80% of the students. The University's 120-acre Nature Reserve Center serves as an outdoor classroom, and is visited by thousands of school children every year. A new performing arts center and other improvements planned for the University will further increase travel to the campus. SH 88 is the major route serving the University.



**2004 AND FORECAST 2030 ADT TRAFFIC VOLUMES**

**FIGURE 3**



The Will Rogers Memorial Museums (WRM) estimates that 20,000 people per year visit the facility, which is located across the street from the RSU campus. This is a National Memorial receiving visitors from across the United States. WRM rests on property formerly owned by Will Rogers, and houses various exhibits on the life of this great public figure. WRM expects the number of visitors to increase in the future.

The Expo/Recreation Center. Although currently not on SH 88, The Expo/Recreation Center is another major traffic generator in the Claremore area. The Expo/Recreation Center is located on South Brady (existing SH 20) is experiencing growth as a special events venue. There were 70 events held at the Expo Center in 2003, and that number is expected to increase over the coming years. Each year large crowds attend such events as the Will Rogers Stampede PRCA (Professional Rodeo Cowboys Association) Rodeo, the Claremore State Native American Pow-Wow and Stomp Dance, Rogers County Fair, horse shows, and arts and crafts fairs. It is estimated that, on a normal day, more than 2,000 cars visit the Expo/Recreation Center. The Expo/Recreation Center offers swimming, racket ball, basketball, walking trail, exercise room and weights, and hosts numerous classes and other events. Safe and efficient access to the Expo/Recreation Center is a prime concern of the community. Although SH 20 presently provides access to the main entrance of the facility, plans are to relocate SH 20 south of the City of Claremore.

### **3.5 Statewide Intermodal Transportation Plan**

The 2025 Statewide Intermodal Transportation Plan prepared by ODOT presents major state and federal legislative and financial alternatives. The 2025 Statewide Intermodal Transportation Plan also developed modal and intermodal policies. These policies were developed after review and analysis of the 1995 policies, an extensive statewide public involvement process, and input from transportation providers through the Intermodal Advisory Committee. SH 88 is included in the 2025 Plan as a “Designated Connector Highway”. A Designated Connector Highway was described in the 2025 Plan as follows:

“Develop a Designated Connector Highway System not on the Transportation Improvement Corridor System to provide access to major National Highway System or Interstate Routes.”

## **4.0 ALTERNATES AND AFFECTED ENVIRONMENT**

### **4.1 SH 88 Alternates**

The current project to improve SH 88 began in 2002, when the original project termini were identified during preliminary meetings with ODOT, FHWA, and stakeholders representing the City of Claremore, Will Rogers Memorial Museums, Rogers State University and Claremore Chamber of Commerce. Several Build Alternates, in addition to the Upgrade of Existing Alignment, were defined through a collaborative process involving ODOT, FHWA, and stakeholders. A west bypass which totally bypassed the City of Claremore was considered in the November 1999 “State Highway 20 Corridor Study, from US 75 to I-44, Tulsa and Rogers Counties, Oklahoma” and was rejected from further consideration. Several other Build Alternates identified through this early coordination. These Build Alternates assumed partial control of access near Flint Road, with no control of access expected along the remainder of the Alternate. These Build Alternates have been refined and are considered in this Environmental Assessment. Therefore, this Environmental Assessment considers

the No-Build Alternate, Upgrade of Existing Alignment, and the additional Build Alternates for SH 88.

#### **4.1.1 No-Build Alternate**

The No-Build Alternate for the SH 88 project has been considered. The No-Build Alternate would continue the use of SH 88 in its current condition; however, the No-Build alternate would require continued maintenance of the existing facility. This alternate would avoid major relocations and environmental impacts of a build alternate, as well as the costs of major highway construction.

Traffic and accident analyses indicate that continued use of SH 88 throughout the four-mile study area under the No-Build Alternate would result in ever-increasing congestion, traffic delays, and accidents at the intersections in downtown Claremore. Also, overpasses of the two railroads would not be constructed, and no safety and public health benefits for ambulances, fire trucks and police would be provided.

The deficiencies of the existing corridor are pervasive throughout the corridor. The No-Build Alternate is not a viable long-term option for providing the capacity, safety or access necessary for anticipated economic development and traffic growth on this roadway. It is not consistent with local and state priorities for the SH 88 transportation corridor. The City, RSU, and WRM have for years expressed interest in improving SH 88 to provide improved access to key traffic generators. The No-Build Alternate would not satisfy these local interests.

Based upon the identified purpose and need for the project and an analysis of all social, economic, and environmental considerations, the No-Build Alternate is rejected as a viable solution for the SH 88 project's purposes and needs.

#### **4.1.2 Upgrade of Existing Alignment**

##### **4.1.2.1 Proposed Upgrade**

Upgrade of the existing SH 88 would include improving the current two-lane section from Flint Road to SH 66 to a four-lane section including standard sidewalks and commercial parking, adding turn lanes at signalized intersections from Chickasaw Avenue to Blue Starr Drive, and correcting a number of substandard curves along existing SH 88.

##### **4.1.2.2 Description of Existing Alignment**

The existing SH 88 corridor between Flint Road and Blue Starr Drive consists of several different roadway sections. The corridor from Flint Road to the intersection of SH 88 at 1st Street and Chickasaw Avenue is a two-lane rural section paralleling the Union Pacific Railroad with sod shoulders and uncontrolled access.

This section transitions into a two-lane semi-urban section approximately 40 feet in width at Chickasaw Avenue and proceeds west to a signalized intersection at SH 66, where it turns northerly for two blocks to the signalized intersection at Will Rogers Boulevard. At the first intersection north of 1st Street, after turning north (Patti Page Boulevard), the SH 88 route merges with the SH 20 route. Combined they proceed north to Will Rogers Boulevard for one block. There the designated

SH 88 and SH 20 corridor turns ninety (90) degrees and proceeds west to the signalized intersection of J.M Davis Boulevard and the Burlington Northern and Santa Fe (BNSF) railroad. The roadway section is a four-lane configuration with sidewalks and left turn lanes.

The SH 20/SH 88 roadway section along Will Rogers Boulevard after crossing the BNSF railroad has recently been improved to a four-lane section with center continuous turn lane. The section with turn lane is approximately three quarters of a mile and includes two at-grade signalized intersections.

The Will Rogers Boulevard section with turn lane proceeds westerly to the intersection with Moore Avenue, where SH 20 diverges to the west and southwest, with SH 88 continuing northwesterly along Will Rogers Boulevard. The roadway section transitions from the five-lane section to an undivided four-lane configuration without turn lane. This roadway section without turn lane continues to the terminus of the project at Blue Starr Drive. The SH 20/SH 88 intersection is stop controlled where SH 20 converges with SH 88 east bound, but is otherwise uncontrolled. At the easterly edge of RSU, SH 88 turns north on a nearly ninety (90) degree curve to the signalized intersection atop the hill where SH 88 intersects with Blue Starr Drive.

#### 4.1.2.3 Impacts of Existing Alignment Upgrade

SH 88 through traffic is currently forced to mix with local business traffic in the heart of the Claremore business district. As indicated by the description of the existing alignment, crossing through Claremore on SH 88 requires negotiation of two very restrictive ninety-degree turns with signalized intersection conditions, several other signalized at-grade intersections, an at-grade rail crossing, a sub-standard near ninety-degree curve, and numerous business and parking interferences. Upgrade of the existing alignment would not include significant improvements at the BNSF at-grade crossing, due to the close intersection spacing and the dense commercial development. Therefore, the existing alignment upgrade would be limited to a four-lane facility with standard sidewalks and parking in downtown Claremore, addition of turn lanes at signalized intersections, and correction of substandard curves. This upgrade would result in a prohibitively significant number of commercial displacements and utility relocations, would not significantly improve the safety problems, and would not resolve the problem of train traffic hindering emergency vehicle response. In addition, an upgrade would not improve access to the traffic generators identified previously. Therefore, Upgrade of the Existing Alignment is rejected as a viable solution for the SH 88 project's purposes and needs.

#### 4.1.3 Additional Build Alternates

Three additional build alternates for SH 88 were developed to find the best solution for improving SH 88, while considering social, economic, engineering and environmental issues. The potential impacts and cost associated with each SH 88 alternate are evaluated in following sections of this document. The proposed roadway for each alternate will be designed to accommodate four traffic lanes, continuous left-turn lane where needed, two shoulders, and new bridge(s) as needed. All three alternates will satisfy logical termini requirements.

The three build alternates for SH 88 were denoted as Alternates A, B, and C. Any of these alternates will include a bridge over SH 88 joining RSU and WRM. Also, any of these alternates will proceed past the Expo/Recreation Center via one of three potential "Expo Area Alternates"--to the east of

Brady Avenue (i.e., Brady East), to the west of Brady Avenue (i.e., Brady West), or along Moore Avenue (i.e., Moore). Alternates A, B, and C are shown on Figure 4, and Expo Area Alternates Brady East, Brady West, and Moore are shown on Figure 5.

**Alternate A:** Alternate A begins along the existing SH 88 alignment just south of Flint Road and heads west to connect with the future SH 20/I-44 interchanges just south of Claremore. Alternate A follows the future alignment of SH 20 west from I-44 to Southaven Road. Alternate A then extends from the future SH 20/Southaven Road intersection north along the existing street right-of-way of Southaven Road to Holly Road (SH 20), then east to the Expo Area where it turns north to Blue Starr Drive. (See Figure 4.)

**Alternate B:** Alternate B begins at the same point as Alternate A, following the same corridor west to Southaven Road. Here, Alternate B turns east across unimproved lands for approximately 2/3 mile, then northeast to the Expo Area and then north to Blue Starr Drive. (See Figure 4.)

**Alternate C:** Alternate C follows the existing SH 88 alignment from Flint Road to Archer Drive in Claremore. Here the alternate turns west, following Archer Drive. After crossing SH 66 and the BNSF railroad, the alternate will proceed west to the Expo Area where it turns north to Blue Starr Drive. (See Figure 4.)

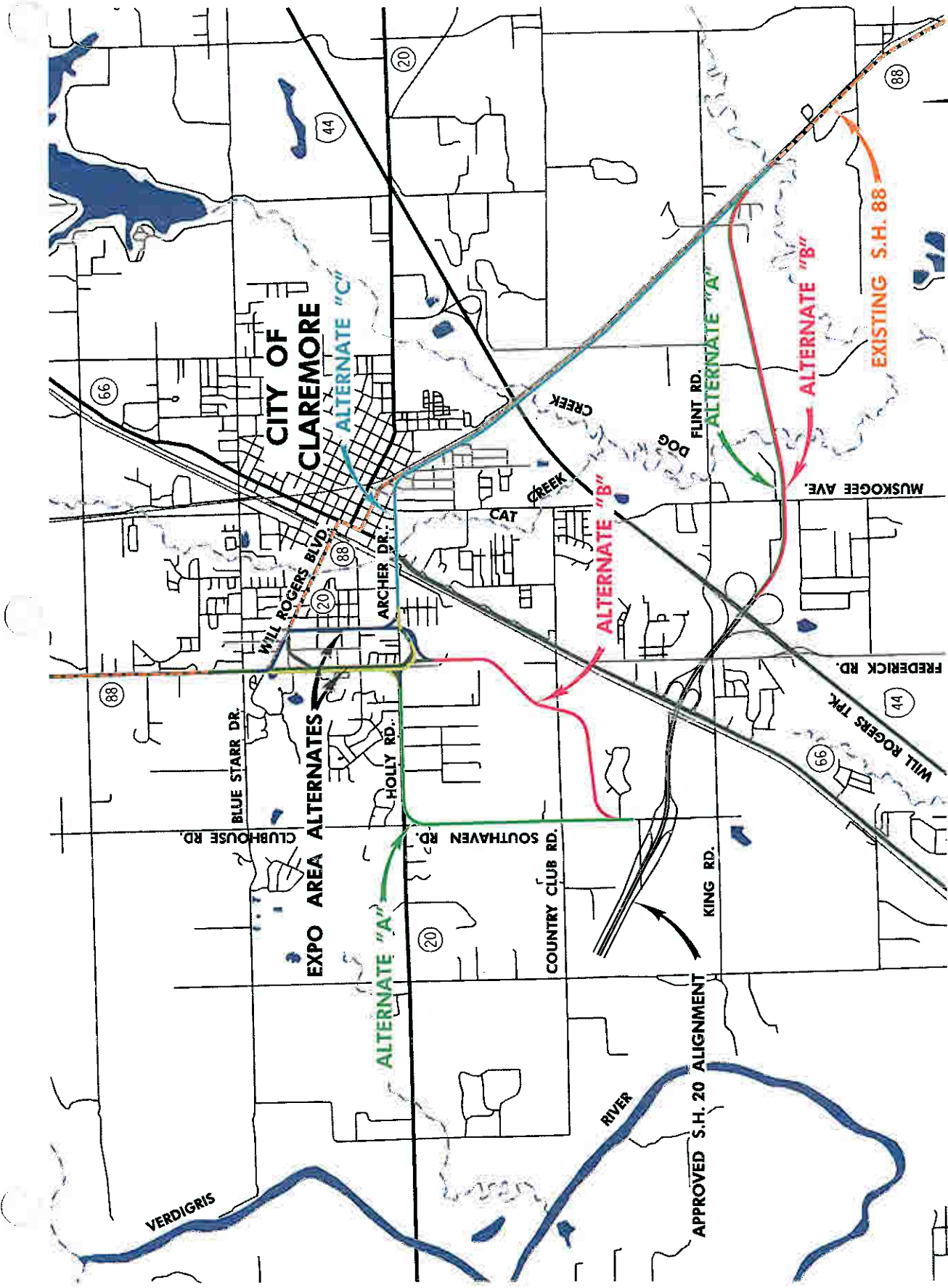
**Expo Area Alternates:** The Expo Area Alternates considered are referred to as Brady West, Brady East, and Moore. Brady West begins near the entrance to RSU and proceeds southerly along an alignment on or just west of existing Brady Avenue to Holly Road. Brady East also begins near the RSU entrance, but proceeds southerly along an alignment just east of existing Brady Avenue to Holly Road. Moore begins at the RSU entrance and proceeds to the southeast along Will Rogers Boulevard, then proceeds southerly along Moore Avenue to Archer Drive. (See Figure 5.)

As indicated previously, Alternate A, B, and C will use one of the three Expo Area Alternates to proceed through the Expo/Recreation Center area. The three (3) primary Alternates and the three (3) Expo Area Alternates result in a total of nine (9) SH 88 Build Alternates for evaluation.

## **4.2 Affected Environment**

Typically, an environmental assessment presents the social, economic, and environmental effects of only the Preferred Alternate. However, due to the complexity of the various SH 88 alternates considered and the degree of public interest in this project, this document presents the anticipated effects associated with all the SH 88 alternates. Appendix B contains a list of the social, economic and environmental factors examined by the Department in the development of this project. Based on this examination, the major environmental issues associated with the proposed alternates for SH 88 were identified, and are discussed in this section of text. A study corridor of 600 feet was established about each alternate to evaluate the environmental constraints. The final design of the preferred alternate will likely require less than a 600-foot corridor, so the actual impacts of this project may be somewhat less than described in this assessment.





**STATE HIGHWAY 88  
PROPOSED ALTERNATES  
FIGURE 4**





**STATE HIGHWAY 88  
EXPO AREA ALTERNATES  
FIGURE 5**



#### 4.2.1 Displacement of People, Businesses and Farms

A substantial human impact that can occur with any transportation improvement is the displacement of people, businesses and farms. During project development activities, only general design information is available and exact property impacts are not known. Therefore, until final design plans are available, no exact information with regard to needed right-of-way can be provided. Impacts to properties will be minimized as much as possible as long as the final design plan meets all state and federal standards to improve safety.

The number of residential and commercial structures that might be displaced by each alternate was estimated for the project using proposed preliminary right-of-way requirements. These right-of-way requirements are subject to change after final plans are prepared. The full width of the Environmental Assessment corridor footprint established for the environmental and cultural studies was not utilized to estimate structure displacement, due to the exaggerated number of displacements that would have resulted. The estimated displacements were visually verified by trained staff. Table 4 lists the residential, commercial, and church structures estimated for displacement. Alternate B with either Brady East or West would result in the least number of potential displacements.

Acquisition and relocation assistance will be conducted in accordance with the Uniform Relocation Assistance and Real property Acquisition Policies Act of 1970, as amended, effective February 3, 2005. This assistance will be provided to all displacees without regard to race, color, or national origin. Replacement dwellings shall be decent, safe, and sanitary. Housing of last resort will be provided if sufficient comparable replacement housing is not available within the financial means of displacees.

<b>Table 4: Estimated Displacements for SH 88 Alternates</b>				
<b>Location Limits</b>	<b>Residential</b>	<b>Commercial</b>	<b>Church</b>	<b>Total</b>
Alternate A, Brady West	42	13	1	56
Alternate A, Brady East	43	17	1	61
Alternate A, Moore	56	10	0	67
Alternate B, Brady West	44	6	0	50
Alternate B, Brady East	39	9	0	48
Alternate B, Moore	55	3	0	58
Alternate C, Brady West	96	19	2	117
Alternate C, Brady East	95	15	2	112
Alternate C, Moore	95	16	1	112

#### 4.2.2 Noise Analysis

A noise study was completed that complies with the ODOT 's Policy Directive "Highway Noise Abatement" and Federal Highway Administration (FHWA) Regulation 23 CFR 772. The purpose of the noise study is to determine the noise impacts and the possible mitigation of these impacts from the proposed highway improvement. Noise impacts were determined by modeling future noise levels for the preferred alignment and comparing these levels with the existing noise levels and the noise abatement criteria established in 23 CFR 772. Table 5 lists the FHWA noise abatement criteria. A noise impact is considered to be: (1) noise levels approaching or exceeding 66 dBA Leq(h) are project to occur along the project area, or (2) a 15 dBA Leq increase in projected future traffic noise levels over existing noise levels.

<b>Activity Category</b>	<b>Noise Level (Leq)</b>	<b>Description of Activity Category</b>
A	57 (Exterior)	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of these qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

The study corridor was divided into five distinct geographic areas (Noise Study Areas), as illustrated in Figure 6. No 15 dBA Leq increases in traffic noise levels were predicted for any of the Noise Study Areas. Brief summaries of the noise assessment results are presented in the following sections of text, and a copy of the noise assessment report is in Appendix C.

Because the actual alignments of roadways within the study corridor will not be determined during this planning level corridor study, a noise mitigation analysis at this point in time would be premature. Once the preferred alternate is selected, a noise mitigation analysis will be performed as part of the preferred alternate's roadway design.

##### 4.2.2.1 Expo Noise Study Area

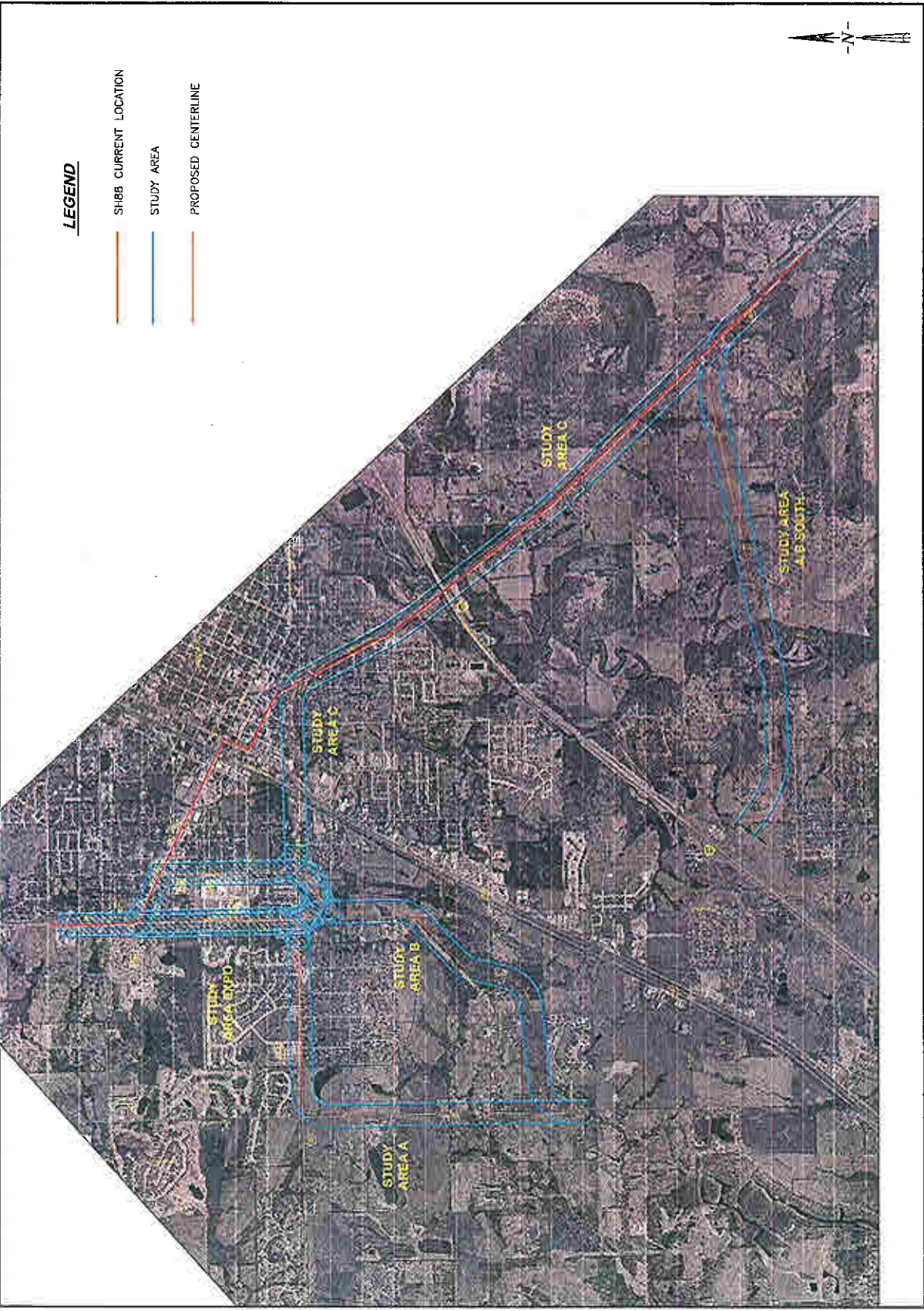
The Expo Noise Study Area encompasses the Brady West Expo Area Alternate, the Brady East Expo Area Alternate, and the Moore Expo Area Alternate, which are all located in the vicinity of the Claremore Exposition Center. In brief, the Expo Noise Study determined:



FIGURE TITLE	SH-98 NOISE STUDY AREAS
DOCUMENT TITLE	SH-98 ENVIRONMENTAL ASSESSMENT
CLIENT	OKLAHOMA DEPARTMENT OF TRANSPORTATION
LOCATION	CITY OF CLAREMORE, ROGERS COUNTY, OKLAHOMA

DATE	11/18/05
SCALE	1"=200'
DESIGNED BY	DA
APPROVED BY	DA
DRAWN BY	SKG

PROJECT NUMBER	1103199001
FIGURE NUMBER	6



**LEGEND**

- SHBB CURRENT LOCATION
- STUDY AREA
- PROPOSED CENTERLINE

#### *Moore Expo Area Alternate*

- Portions of 20 residential yards fronting Moore Avenue and the northern edge of Will Rogers Park fronting Will Rogers Boulevard (SH88) would experience a NAC exceedance. However, these properties may be included in the final right-of-way.
- Portions of the Claremore Indian Hospital's grounds, the Claremore Expo/Recreation Center's grounds, and the Expo/Recreation Center's RV Park's grounds lie within the 66 dBA contour. However, these portions of land use would not experience frequent human activity.

#### *Brady West Expo Area Alternate*

- Portions of seven residential yards, the western edge of Will Rogers Park, the western edge of WRM, the eastern edge of the RSU campus, and two churches would experience a NAC exceedance.

#### *Brady East Expo Area Alternate*

- Portions of nine residential yards, the western edge of Will Rogers Park, the western edge of WRM, the eastern edge of the RSU campus, and two churches would experience a NAC exceedance.

#### 4.2.2.2 Noise Study Area A

Noise Study Area A - corresponds to a partial segment of Alternate A beginning at the terminus of the Expo Noise Study Area on Holly Road on the north and ending on the south at the intersection of the planned SH 20 and King Road. Results of the Area A noise study included:

- The Westside Elementary School and single family residences would not experience a substantial increase in noise level.
- Portions of 18 residential yards fronting Holly Road, portions of 12 residential yards fronting Southhaven Road, and the southern edge of the Westside Elementary School playground would experience a NAC exceedance.

#### 4.2.2.3 Noise Study Area B

Noise Study Area B corresponds to a partial segment of Alternate B. This segment begins at the terminus of the Expo Noise Study Area on Archer Drive on the north and ends on the south at the intersection of the planned SH 20 and King Road. Results of this study included:

- No single family residence would experience a substantial increase in noise level.
- Portions of three residential yards fronting Southhaven Road and a portion of one residence's yard located 210 feet south of Country Club Road and 3720 feet east of Southhaven Road would experience a NAC exceedance.

#### 4.2.2.4 Noise Study Area C

Noise Study Area C corresponds to a partial segment of Alternate C beginning at the terminus of Expo Noise Study Area at Archer Drive on the north and ending at the intersection of Flint Road and

the current SH 88 on the south. The Area C noise study concluded:

- No single family residences or church would experience a substantial increase in noise level.
- Portions of three residential yards fronting Archer Drive, portions of three residential yards between Muskogee Street and the current SH 88, and portions of 11 residential yards and one a segment of one church's property fronting SH 88 would experience a NAC exceedance.

#### 4.2.2.5 Noise Study Area A/B South

Noise Study Area A/B South encompasses the geographic area starting on the west at the planned SH 20 / I-44 interchange and ending on the east approximately 1,500 feet south of the intersection of Flint Road and the current SH 88. Because Alternates A and B both utilize the same route through this southern portion of the study corridor, it is referred to as Noise Study Area A/B South. Category B land uses either within or adjacent to Noise Study Area A/B South are limited to single family residences. A summary of the noise study results follows:

- No single family residence will experience a substantial increase in noise level.
- Portions of three residential yards adjacent to Alternate A/B South would experience a NAC exceedance.

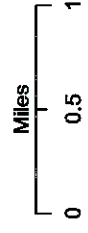
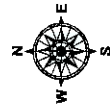
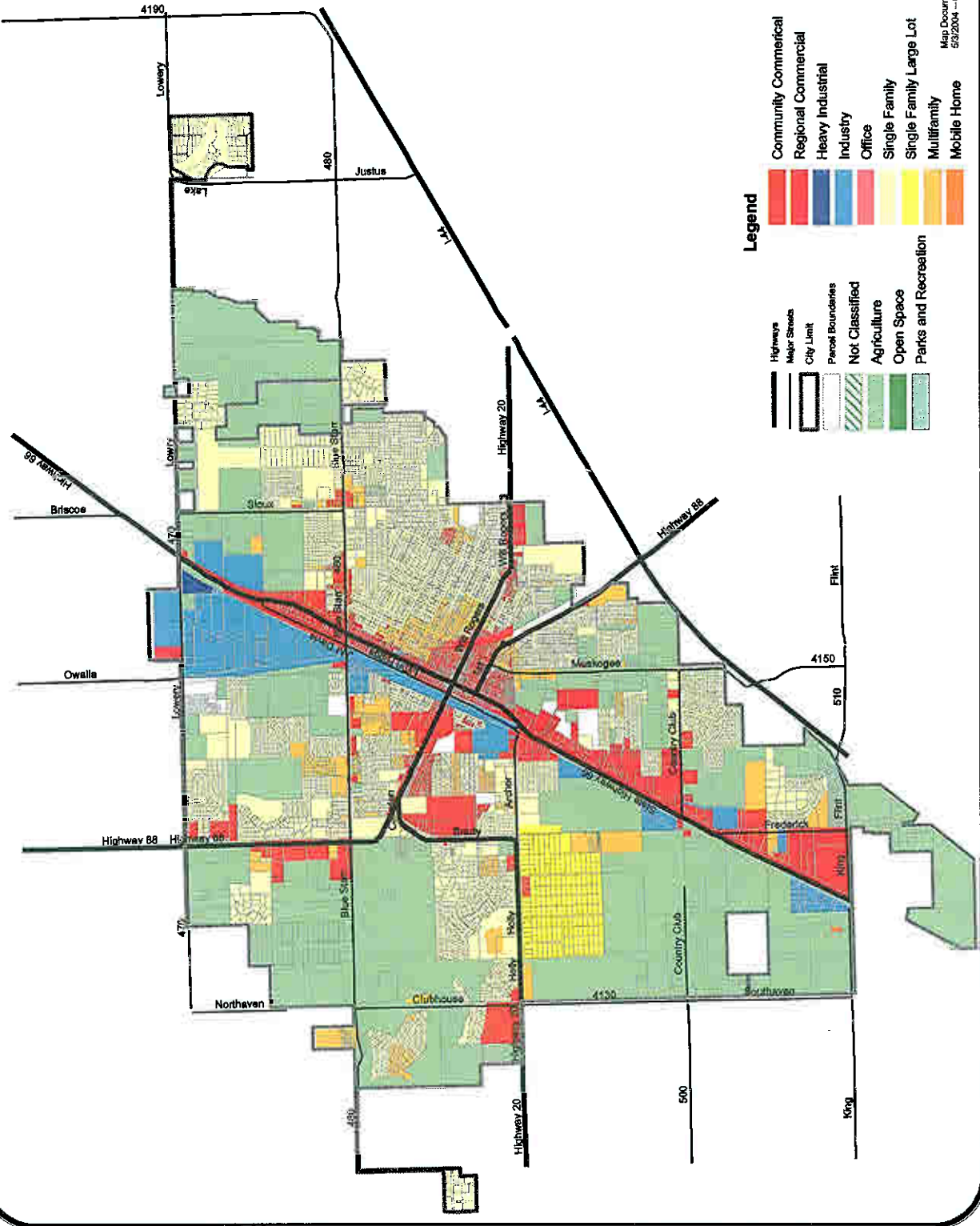
#### 4.2.3 Zoning and Land Use

The zoning patterns within the city limits of Claremore are somewhat typical, with commercial-office zoning dominant within the central business district and at the intersection of major streets. Higher density residential zoning begins at the edges of the central business district and continues outward, gradually decreasing in intensity at the edges. Industrial zoning patterns are usually combined near railroads or other major transportation facilities, and are generally separated from residential zoning. Figures 7 and 8 provide the current land use and zoning for the City of Claremore.

Existing land use in the Claremore area parallels the zoning patterns and is generally commercial around the state highways, especially SH 66. The eastern section of Claremore is largely single family and multifamily in nature, while the western section ranges from undeveloped to multifamily and single family. Industrial to heavy industrial land use is centered mostly in the north section of Claremore to the west of SH 66. This area is called the Claremore Industrial Park and encompasses 460 acres. Additional scattered industrial land use is located on the west side of SH 66, within four miles of Claremore city limits.

Future land use must be consistent with the comprehensive plans of the City of Claremore and Rogers County. The Indian Nation Council of Government (INCOG) (which encompassed the Claremore area when the 2000 census data was revealed) has been working with the City of Claremore and Rogers County to develop a new comprehensive plan for future land use. However, this plan is not complete.

# Current Land use City of Claremore

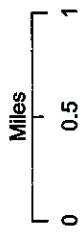
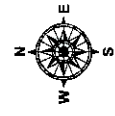
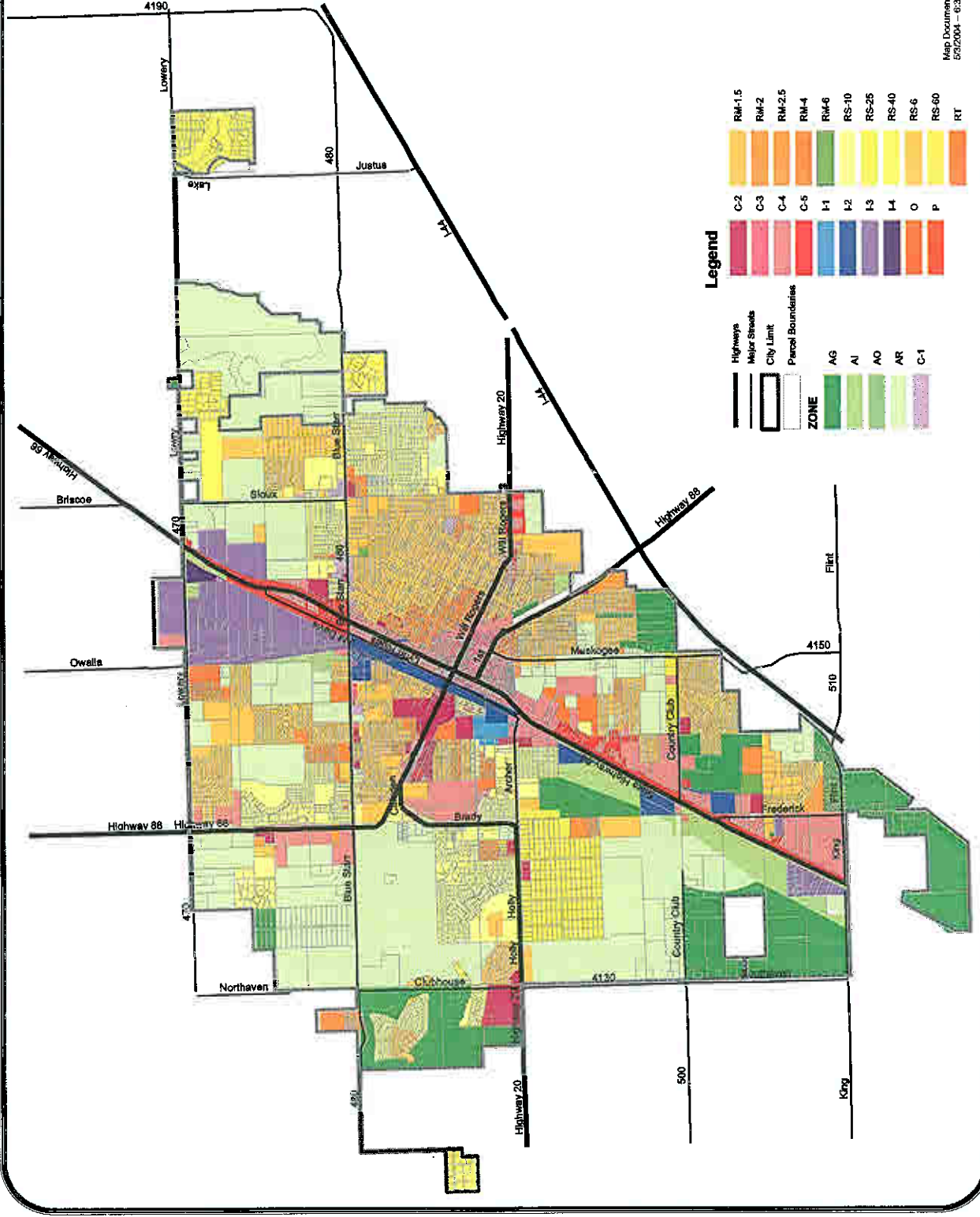


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Figure 7



# Current Zoning City of Claremore



**Legend**

Highways	RM-1.5
Major Streets	RM-2
City Limit	RM-2.5
Parcel Boundaries	RM-4
	RM-6
	RS-10
	RS-25
	RS-40
	RS-6
	RS-60
	RT
	C-2
	C-3
	C-4
	C-5
	I-1
	I-2
	I-3
	I-4
	O
	P
	AG
	AI
	AO
	AR
	C-1

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Figure 8

The two main elements of any comprehensive plan are intensity and land use. Intensity relates the amount of allowed activity to the level of public facilities, services, and utilities presently available or expected to be available in the future. Higher intensity uses would require a greater amount of public facilities and services than medium or low intensity uses. Land use is designated by broad categories or uses, or the various mixes of those uses. It directly relates the desired utilization of the land to the compatibility with the environment and adjacent land uses.

Medium intensity commercial-office development is planned for the intersections of the primarily arterial streets in Claremore, and within the Claremore central business district. Medium intensity development is defined as areas of moderate activity and physical impact, which require a high level of accessibility and services. Examples of activities that fit in this category are service, retail, and other commercial establishments; office complexes; and other uses that generate pedestrian or vehicular traffic. Therefore, uses such as a college and museum which generate pedestrian and vehicular traffic are considered medium intensity and require a high level of access.

The Claremore area and parts of Rogers County were added to the Indian Nations Council of Governments (INCOG) metropolitan planning area after the 2000 Census Data was distributed.

The *2025 Mobility* long range transportation plan completed by INCOG does not include this area. INCOG is currently updating its plan for 2030 which will include this area. INCOG is aware of the proposed project and has been invited to participate as a stakeholder.

Any alternate selected which is totally on new alignment (i.e., Alternate A or B) may affect the future land use and zoning over time. Alternate C would have the least effect on future land use, as a significant portion of Alternate C is along existing SH 88. It is anticipated that any new interchange proposed may increase commercial development in the area. Therefore, the proposed land uses surrounding Alternate A or B are deemed marginally compatible with highway development, while the proposed land uses surrounding Alternate C are deemed compatible with highway expansion.

#### **4.2.4 Community Cohesion**

The majority of the study area is within the city limits of Claremore, although several areas lie outside the city limits. Social life in the study area revolves around family, school, church and community. While the area has many long-term residents and some families have been in the area for several generations, many newcomers have moved into the area, primarily into the suburban residential developments with a density of one housing unit per 1/4 to ten acres. Those newcomers are often retirees, families seeking more space at affordable prices, or those interested in engaging in activities that require space, such as horses or livestock. Some sections of the study area are undeveloped with small to medium-sized ponds which also have attracted new residents.

Claremore is the county seat of Rogers County and is a thriving medium-sized city, which combines the pleasures of small-town living with most of the services and amenities of a metropolitan area. Claremore provides a wide variety of retail services and is the point where several state highways intersect.

The recent population growth has brought economic prosperity to the area while placing demands on public services such as education and health care. Attitudes and community perceptions of long-time

residents often contrast with those of more recent arrivals. However, the size of the population is such that neighbors still know each other. The community is closely-knit and focused on community and school events.

Each of the alternates will result in some displacements from established residential developments or recognized neighborhoods. Such displacement may result in community disruption or a break in the social network of a neighborhood. Long-term residents who are dislocated may especially experience some social dysfunction as they move to a new location and ultimately adjust to a new neighborhood environment.

Judging from the comments received in writing and at public meetings, residents of these recognized neighborhoods and established developments have strong feelings of community. They cherish the rural characteristics of the area. Dislocations from these neighborhoods or even an alternate in close proximity to these neighborhoods would result in a sense of neighborhood disruption.

Any selected alternate on primarily new alignment (i.e., Alternate A or B) would result in greater neighborhood disruption. Alternate C, because it includes more of the existing alignment than do Alternates A or B, would result in the least neighborhood disruption.

#### **4.2.5 Public Facilities and Services**

Health care in the study area is provided by numerous institutions, clinics, and medical professionals. In Claremore, three (3) hospitals serve as the hub of medical care. The Claremore Indian Hospital (US Public Health Service) is a 50-bed facility with an outpatient clinic managing 140,000 patient visits annually. The location of the Indian Hospital is Will Rogers Boulevard and Moore, immediately adjacent to the Moore Expo Area alternate. Columbia Claremore Regional Hospital, currently with eighty-nine (89) beds, is a fully accredited, acute care facility. Its current location at Blue Star Drive and Muskogee is not within or adjacent to any of the alternates. The 250-bed Oklahoma Veterans Center is one (1) of three (3) veterans centers in the State of Oklahoma. The Veterans Center is located on Blue Starr Drive and Clubhouse Drive. This location is not within or adjacent to any of the alternates, but the Veterans Center would benefit from any of the Build Alternates.

The Claremore Public School District serves the study area student population, providing grades K-12. The school system is governed by a 5-member School Board. Claremore Public Schools' average enrollment is about 3,500 students per year. Westside Elementary School is located on the north side of Southhaven Road, within the Alternate A study corridor. RSU is located on SH 88 just south of Blue Starr Drive and would be affected by any of the alternates.

The Claremore Police Department has over 30 officers and 20 police vehicles. Police headquarters is located in downtown Claremore, not adjacent to any of the alternates. The Claremore Fire Department has three (3) fire stations, over 30 full-time fire personnel and over 10 vehicles. The Department has an insurance rating of Class 4 and an average response time of two minutes within the city limits. An extra fire station was added in Claremore to address the lack of railroad overpasses. Each of the build alternates would include a railroad crossing, which would greatly benefit public safety.

Museums located within the study area include the J.M. Davis Arms and Historical Museum located on J.M. Davis Boulevard, and the Will Rogers Memorial Museums (WRM), located on SH 88 just south of Blue Starr. The J.M. Davis Museum is not within or adjacent to any of the alternates. However, WRM would be affected by all of the alternates, and is considered a significant traffic generator. Public officials have indicated that SH 88 improvement may be the stimulus needed to relocate the J.M. Davis Museum to a consolidated campus with WRM.

In summary, the following schools, hospitals, police department, and fire stations are within or adjacent to the alternate study corridors

#### *Alternate A*

Westside Elementary School is located on the north side of SH 20, and both RSU and WRM are on SH 88 south of Blue Starr Drive. None of the other sensitive areas described previously are affected by Alternate A. Alternate A will include a railroad crossing.

#### *Alternate B*

WRM and RSU are on SH 88 south of Blue Starr Drive. None of the other sensitive areas described previously are affected by Alternate B. Alternate B will include a railroad crossing.

#### *Alternate C*

This alternate is near the existing Police Station in downtown Claremore. WRM and RSU are on SH 88 south of Blue Starr Drive. Addition of a central community rail crossing (grade separation) will provide significant improvements and benefits to emergency services. None of the other sensitive areas described previously are affected by Alternate C. As with Alternates A and B, Alternate A will include a railroad crossing; however, the Alternate C railroad crossing would be located more centrally in downtown Claremore.

#### *Expo Area Alternates*

RSU and WRM may be affected by any of the Expo Area Alternates. The Indian Hospital and the Claremore Fire Station may be affected by the Moore Alternate. None of the other sensitive areas described previously are affected by the Expo Area Alternates. The potential affects on 4(f) properties are discussed in Section 4.2.17.

### **4.2.6 Bicycle and Pedestrian Issues**

Figure 9 indicates the Trails and Linkages Plan for Claremore and Rogers County as prepared by the City. Each state highway and several primary arterials are identified as existing or future bike trails. Any of the SH 88 alternates will consider improved bicycle and/or pedestrian trails.

### **4.2.7 Cultural Resources**

A cultural resources study was completed for this project in compliance with Section 106 of regulations implementing the National Historic Preservation Act. Significant historic properties are also protected by Section 4(f) of the Department of Transportation Act, which allows use of historic properties by a transportation facility only if there are no feasible and prudent alternatives. Cultural resources review involved coordination and consultation with the Oklahoma State Historic



Preservation Office (SHPO), the Oklahoma State Archaeologist, the Cherokee Nation, and the Wichita and Affiliated Tribes, as well as public involvement through the NEPA process. A detailed cultural resources survey report was prepared and submitted to SHPO, the State Archaeologist, the Cherokee Nation, and the Wichita and Affiliated Tribes. This included a pedestrian archaeological survey and the documentation of 209 pre-1957 standing structures in the area of potential effect for all the considered alternatives. Subsequent to completion and agency review of the cultural resources report, additional input regarding possible cultural resources issues was obtained from local citizens through the NEPA public involvement process. As a result of these contacts, some additional documentary research and field re-visits were completed to clarify these issues and supplemental reports were provided for review by appropriate agencies. All reports and correspondence regarding cultural resources review is included in Appendix D.

Based upon the above studies, none of the alternates will affect archaeological resources on or eligible for inclusion on the National Register of Historic Places (NRHP). Two historic standing structures in the project area of potential affect have been determined eligible for inclusion in the NRHP. One, an excellent local example of a Free Style house at 523 South Chickasaw Avenue (identified as Structure #25 in the cultural resources report), is within the Alternate C study corridor. The other, a residence at 1775 Camden associated with J.B. Milam, first Principal Chief of the Cherokee Nation permanently elected after Oklahoma Statehood (Structure #180), is located within the area of potential effect for the Brady West Expo Alternate for all three evaluated "action" corridors. Preliminary design studies for the Brady West Expo Alternate suggest that, although the house itself will not be subject to removal, there may be some visual intrusion on the setting of the structure as well as a limited take from the associated property. The Department is currently consulting with the Oklahoma SHPO to determine if this would constitute an adverse effect to any factors which contribute to the J.B. Milam House's eligibility for inclusion in the NRHP. If it is determined the effect on this property will be adverse, it will be included among the issues considered in the Section 4(f) evaluation for this project (see Section 4.2.17).

#### **4.2.8 Biological Evaluation**

The American Burying Beetle, Interior Least Tern, Whooping Crane, Bald Eagle, Piping Plover, Western Prairie Fringed Orchid, Arkansas Darter, and Neosho Mucket are listed as threatened and/or endangered species for Rogers County. Informal consultation with the U.S. Fish and Wildlife Service (USFWS) determined that of these species, only the Western Prairie Fringed Orchid and American Burying Beetle have the potential for occurrence within the project area. The USFWS requested to be notified in the event the Western Prairie Fringed Orchids is discovered during any field activities. The USFWS determined that the USFWS recommended conservation approach for the American Burying Beetle should be implemented prior to construction. Accordingly, ODOT will perform the appropriate survey for the American Burying Beetle under appropriate climatic conditions and prior to project construction. Minimization measures will be implemented as necessary.

During the August 10, 2004 public meeting and in written comments submitted following the meeting, the public raised a number of questions about the biological evaluation process. ODOT's evaluation of these issues and response to questions was summarized in a memorandum, included in Appendix E. The memorandum indicates that ODOT will ensure impacts to wetlands are minimized by working with the appropriate Federal agencies, clarified the responsibility for and status of

environmental studies, and addressed potential habitat fragmentation along the proposed southern portion of Alternates A and B. Appendix E also contains all pertinent regulatory correspondence.

#### 4.2.9 Wetlands

The Clean Water Act of 1972 gives the USACE jurisdiction over activities involving "Waters of the United States", which includes jurisdictional wetlands and other special aquatic sites. The important features in the definition of a wetland are the consideration of three environmental parameters: presence of wetland hydrology, evidence of hydric soil, and dominance of hydrophytic plant species. Two sources of data were utilized to initially evaluate the corridor: the U.S. Fish and Wildlife National Wetlands Inventory Maps (NWI) and the Soil Surveys for Tulsa, Rogers and Wagoner Counties.

A field survey was conducted to identify potentially jurisdictional wetlands and waterways, per the protocols outlined in the *US Army Corps of Engineers (USACE) Wetlands Delineation Manual*. A copy of the resulting wetlands report is contained in Appendix F. A total of 90 sites were identified as potential jurisdictional wetlands, as depicted in Figures 10 through 14. Of these, 64 were potential wetlands, with sizes ranging from several sites of approximately 0.1 acres to 5.0 acres (i.e., FS-83). The U.S. Army Corps of Engineers (USACE) will make the final determination of which sites are jurisdictional wetlands. However, as seen in Table 6, a comparison of those sites which are considered "most likely" to be jurisdictional sites indicates that Alternate C has the most potential to impact wetlands (i.e., 5.80 acres). Alternate B has the potential to impact 4.27 acres of wetlands, and Alternate A has the least potential impacts to wetlands (i.e., 3.80 acres).

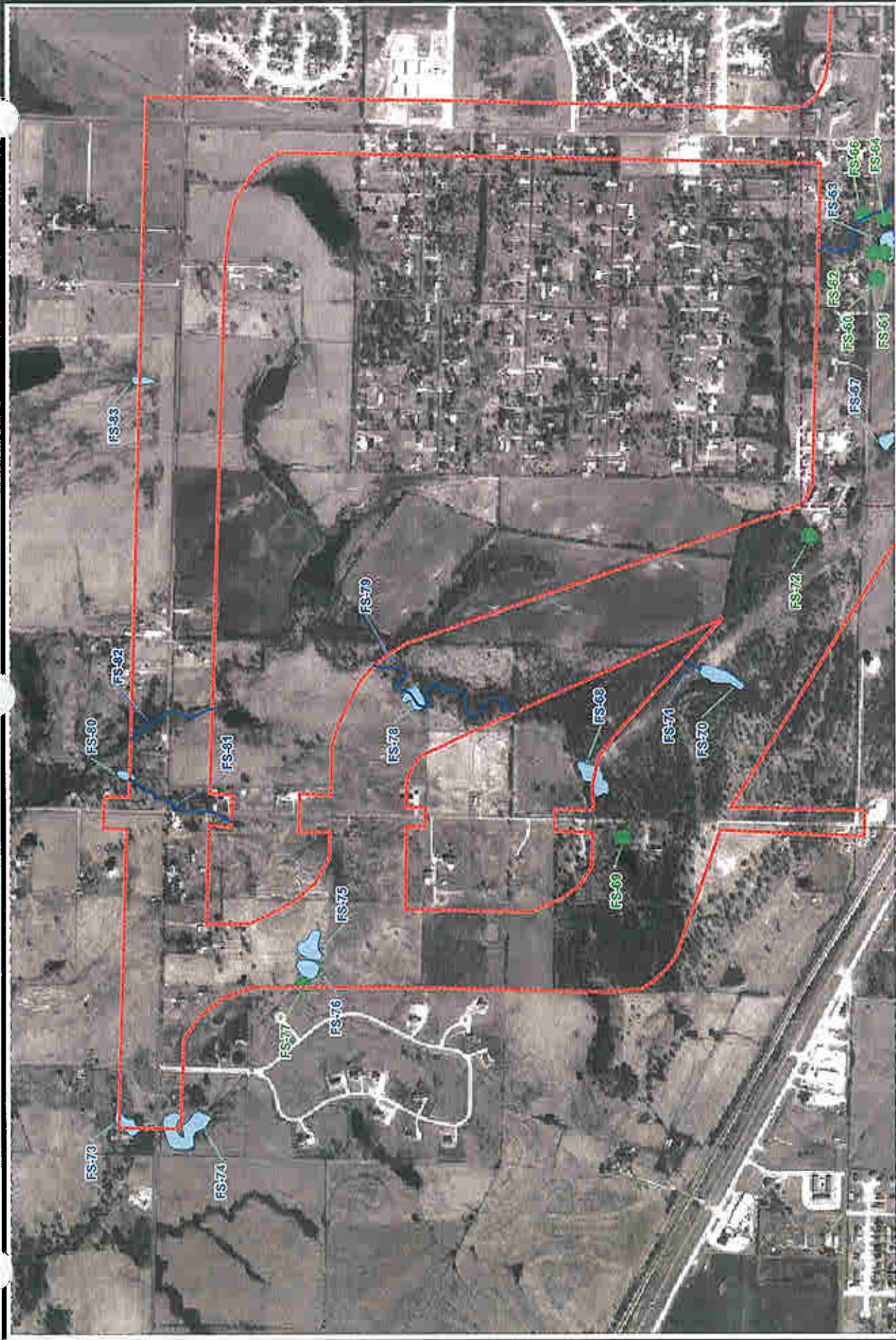
Alternate Corridor	Total Potential Wetlands Area (acres)		Total Potential Waterways Length (feet)	
	Minimum <sup>1</sup>	Maximum <sup>2</sup>	Minimum <sup>1</sup>	Maximum <sup>2</sup>
A	3.80	11.90	13,609	16,384
B	4.27	9.73	14,851	16,737
C	5.80	8.72	15,688	18,828

**Notes:**

1. These totals exclude those areas likely to be considered "not jurisdictional" by the USACE.
2. These totals include all identified areas, including those areas likely to be considered "not jurisdictional" by the USACE.

#### 4.2.10 Section 404 Permits

Section 404 of the Clean Water Act (CWA) of 1972 regulates the discharge of dredged or fill material into "Waters of the United States." The United States Army Corps of Engineers (USACE) has reviewed the project in regard to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899. They have determined that the existing highway proposed alternates cross several jurisdictional waterways. Authorization by the USACE pursuant to Section 404 will be required. The field survey discussed previously identified potential jurisdictional waterways per



**EAGLE ENVIRONMENTAL CONSULTING, Inc.**

**WETLAND & WATERWAY LOCATION MAP**

**Proposed State Highway 88 Improvement Project**  
**Oklahoma Department of Transportation**  
 Claremore, Rogers County, Oklahoma

Scale: 1:12,000    Date: 07/16/04    Hwy 88-Map001

**Legend**

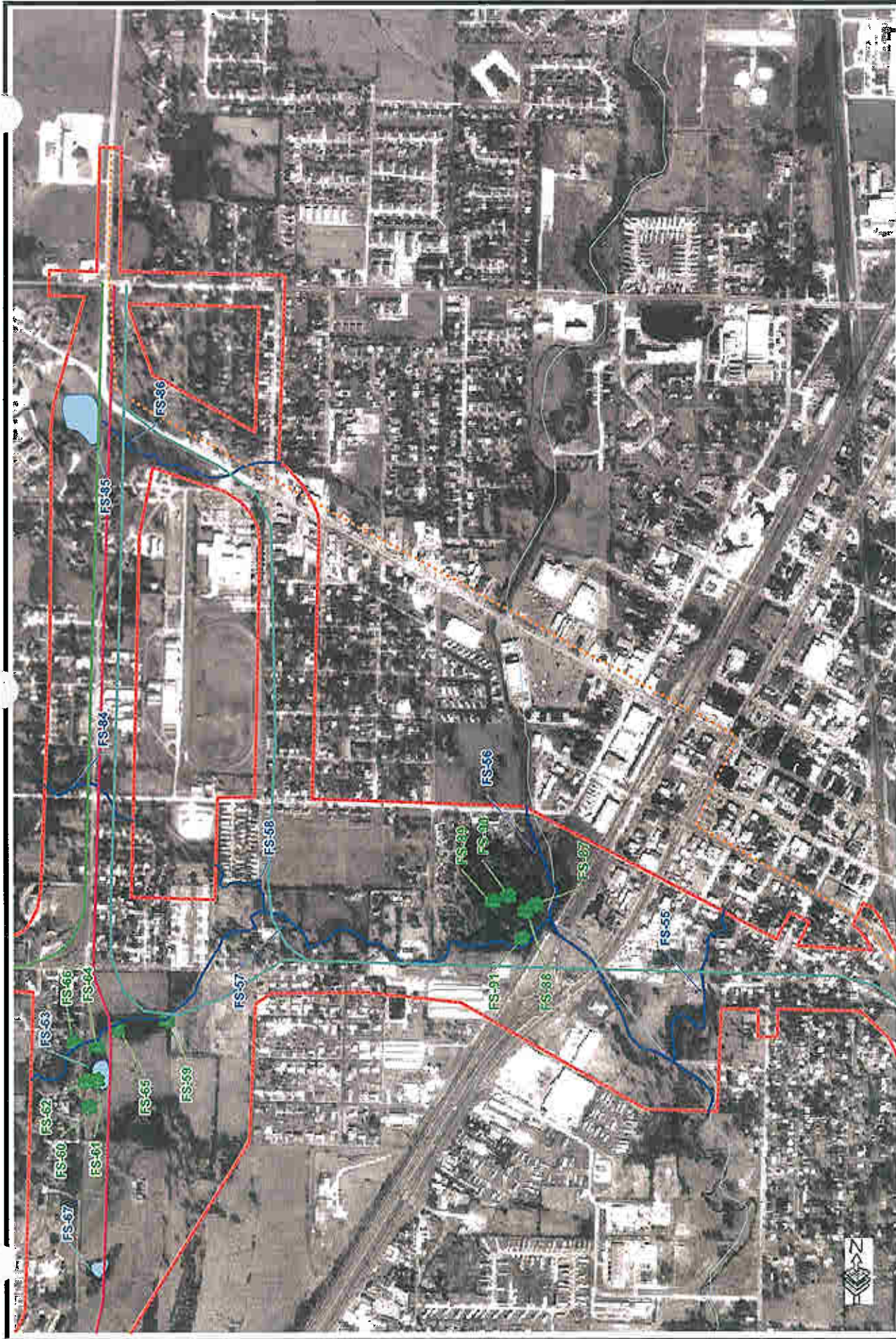
- Waterways
- ▭ Pond
- ▭ Wetland
- Match Line
- ROW

Oklahoma Vicinity Map

QUADRANGLE  
Sagecyah & Claremore

Figure 10





**WETLAND & WATERWAY LOCATION MAP**

**Proposed State Highway 88 Improvement Project**  
**Oklahoma Department of Transportation**  
 Claremore, Rogers County, Oklahoma

Scale: 1:12,000 Date: 07/16/04 Hwy 88-Map002

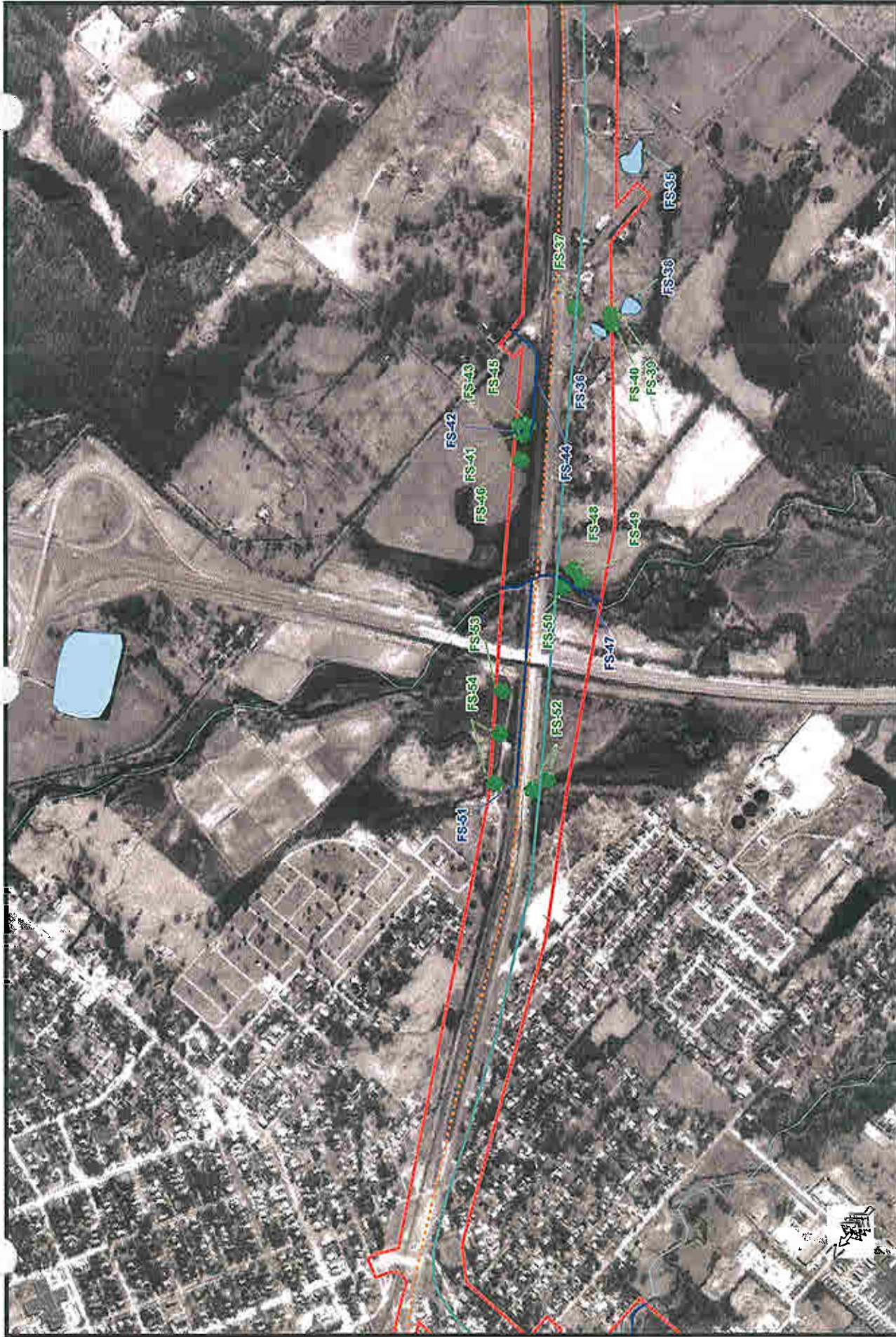


- Legend**
- Waterways
  - Alignment "A"
  - Alignment "B"
  - Alignment "C"
  - Existing S.H. 88
  - Wetland
  - Pond
  - ROW

**EAGLE ENVIRONMENTAL CONSULTING, Inc.**

1,000 500 0 1,000 Feet

Figure 11



**WETLAND & WATERWAY  
LOCATION MAP**

**Proposed State Highway 88 Improvement Project**  
Oklahoma Department of Transportation  
Claremore, Rogers County, Oklahoma

Scale: 1:12,000 Date: 07/16/04 Hwy 88-Map003

Oklahoma Vicinity Map

QUADRANGLE  
Sageeayah & Claremore

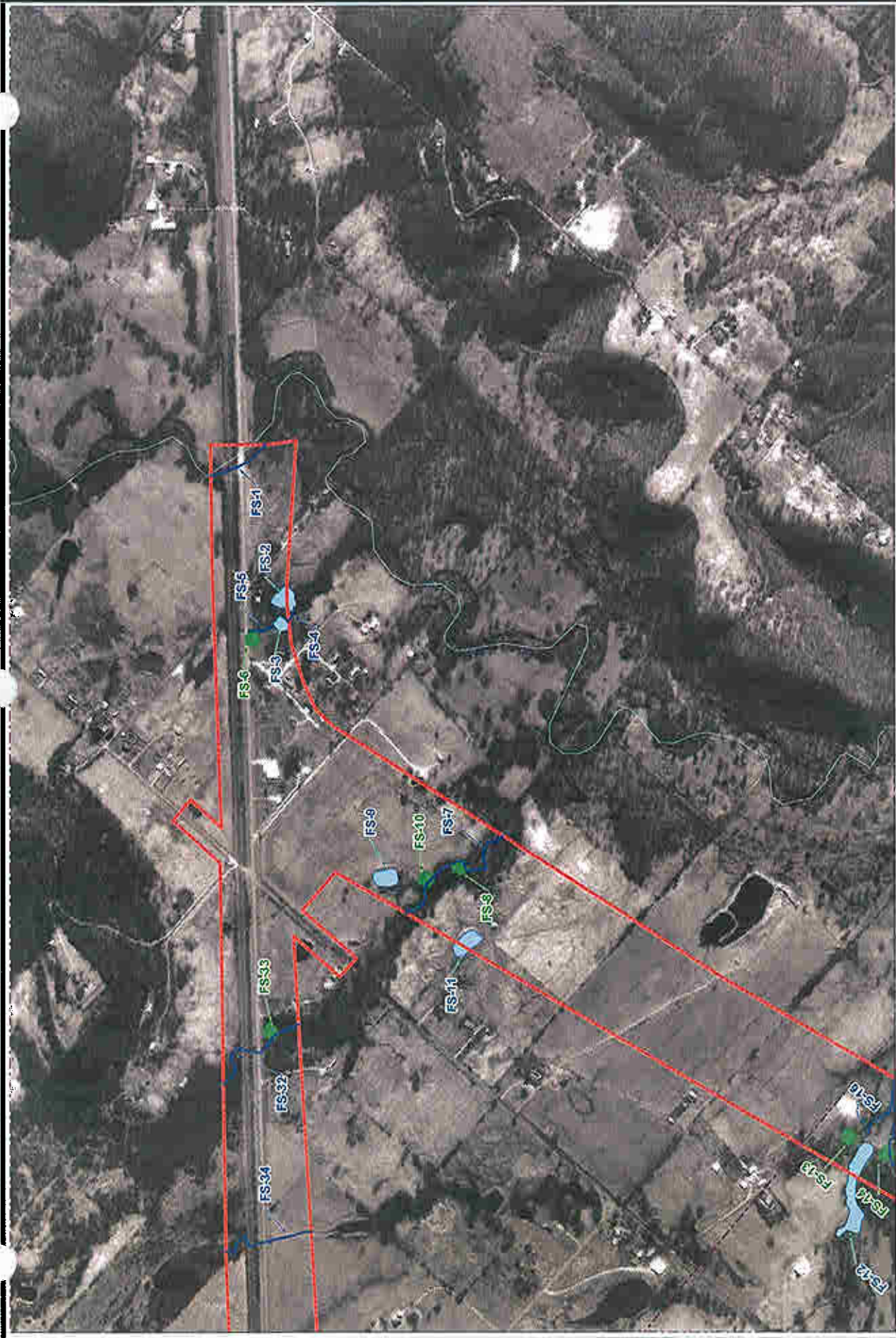
**Legend**

- Waterways
- Alignment "B"
- Alignment "C"
- Alignment "A"
- Existing S.H. 88
- Wetland
- Pond
- ROW

**EAGLE ENVIRONMENTAL  
CONSULTING, Inc.**

1,000 500 0 1,000 Feet

Figure 12



**EAGLE ENVIRONMENTAL CONSULTING, Inc.**

**WETLAND & WATERWAY LOCATION MAP**

**Proposed State Highway 88 Improvement Project**  
**Oklahoma Department of Transportation**  
 Claremore, Rogers County, Oklahoma

Scale: 1:12,000 Date: 07/16/04 Hwy 88-Map004

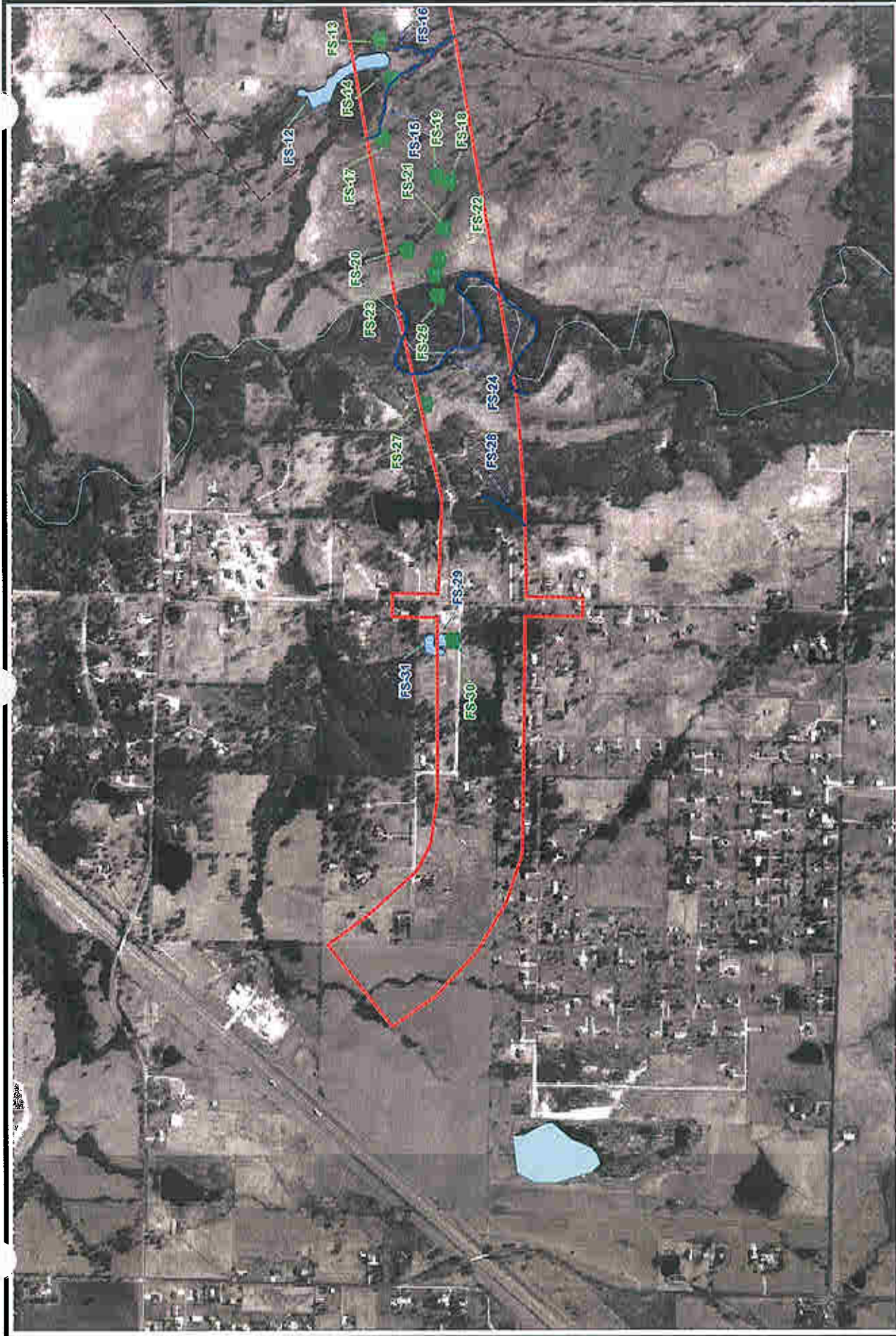
Oklahoma Vicinity Map  
 QUADRANGLE  
 Sageeyah & Claremore

**Legend**

- Waterways
- Wetland
- Pond
- Match Line
- ROW

1,000 500 0 1,000 Feet

Figure 13



 <p><b>EAGLE ENVIRONMENTAL CONSULTING, Inc.</b></p>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li> Waterways</li> <li> Wetland</li> <li> Pond</li> <li> Match Line</li> <li> ROW</li> </ul>	
	<p>Oklahoma Vicinity Map</p>  <p>QUADRANGLE Sageeyah &amp; Claremore</p>	
<p><b>WETLAND &amp; WATERWAY LOCATION MAP</b></p>		
<p><b>Proposed State Highway 88 Improvement Project</b>  <b>Oklahoma Department of Transportation</b>          Claremore, Rogers County, Oklahoma</p>		
Scale: 1:12,000	Date: 07/16/04	Hwy 88-Map005
<p>1,000 500 0 1,000 Feet</p> 		

Figure 14

the protocols outlined in the *US Army Corps of Engineers (USACE) Wetlands Delineation Manual*. A total of 26 sites were identified as potential jurisdictional waterways, as depicted in Figures 11 through 15. These sites range in length from approximately 17 feet (i.e., FS-42) to 5,280 feet (i.e., FS-57). The U.S. Army Corps of Engineers (USACE) will make the final determination of which sites are jurisdictional waterways. However, as seen in Table 6, a comparison of those sites which are considered "most likely" to be jurisdictional sites indicates that Alternate C has the most potential to impact waterways (i.e., 15,688 feet). Alternate B has the potential to impact 14,851 feet of waterways, and Alternate A has the least potential impacts to waterways (i.e., 13,609 feet).

The Department will continue to coordinate with the USACE once preliminary and/or final plans are available in obtaining the appropriate permit(s).

#### **4.2.11 Floodplain Issues**

Elevations which have a 1% chance of flooding in any given year are called 100-year floodplains. Protection of floodplains and floodways is mandated by Executive Order 11988 "Floodplain Management" and is implemented under 23 CFR 650, Subpart A. The intent of these regulations is to avoid or minimize highway encroachments within the 100-year floodplain, where practicable, and to avoid supporting land use development that is incompatible with floodplain values. Parts of 100-year floodplains shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Rogers County are located within the project corridor. The general areas of these known floodplains are Dog Creek, Cat Creek, and Panther Creek.

Measures which minimize floodplain impacts include: 1) avoiding longitudinal encroachments, 2) sufficient bridging to avoid or minimize adverse effects from backwater, 3) sufficient bridging to avoid or minimize increases in water velocity, 4) minimizing or avoiding channel alterations, 5) installing adequate and timely erosion control to minimize erosion and sedimentation, and 6) utilizing standard specifications for controlling work in and around streams to minimize adverse water quality impacts. The proposed crossings of these surface waterways will be designed to convey the 100-year flood event, and the new roadway surface will be designed above the 100-year floodplain. Roadway construction will not raise the backwater more than one foot and will not cause flooding on adjacent properties. Any improvements to SH 88 will be designed to minimize impacts to the floodplain.

The following text lists the potential impact to floodplains within or adjacent to each of the alternates.

##### *Alternates A and B*

At the point where Alternates A and B are proposed to cross the Dog Creek floodplain, the floodplain is approximately 3,200 feet long. Alternates A and B would also result in minimal impacts to the Panther Creek floodplain.

##### *Alternate C*

This alternate will cross both the Cat Creek and the Dog Creek floodplains. The width of the Dog Creek floodplain at the proposed point of crossing is approximately 3,200 feet. At the point where Alternate C is proposed to cross the Cat Creek floodplain, the floodplain is approximately 1,500 feet wide.

*Expo Area Alternates*  
No floodplains impact.

#### **4.2.12 Water Quality**

The study area is within the watersheds of Cat and Dog Creeks. These waterways, along with many waterways in Oklahoma, are listed on the State's 303(d) list as high priority TMDL watersheds. To protect the quality of these water bodies and their tributaries, heavy equipment should be kept out of the streambed(s) during construction. An improved roadway, whether on new alignment or existing alignment, is not expected to add any new or significant amounts of pollutants that will affect existing water quality.

The implementation of any of the alternates will require earthwork, which in turn will result in some erosion and sedimentation. However, erosion control measures will be implemented throughout the project to minimize erosion and sedimentation. Measures employed will include temporary and permanent sodding, sprigging, watering, mulching, fertilizing, silt fencing, stilling basins, and other measures deemed necessary by the Resident Engineer in charge of the project. The amount of disturbed soil to be exposed at any one time will be controlled. These measures, developed in conformance with "Standard Specifications for Highway Construction in Oklahoma", will minimize the temporary water quality impacts caused by highway construction.

#### **4.2.13 Hazardous Waste/Underground Storage Tanks (USTs)**

A hazardous waste site inventory was prepared to evaluate the potential detrimental environmental conditions that may impact the proposed project. The Initial Site Assessment (ISA) was conducted within the project area to identify these environmental conditions. The assessment consisted of a database search for known environmental issues as reported by Federal, State and/or Local regulatory agencies, and a field review along each proposed SH 88 alternate. Appendix G contains the *SH 88 ISA Report*, and Table 7 summarizes the environmental concerns.

The database search and field survey conducted indicated that no known significant hazardous waste sites are currently located within the study limits. The primary concern is with several active and inactive underground storage tank (UST) locations in the corridors for all the alternates, as well as an abandoned site with the potential for historical organic compound releases. All UST and leaking UST (LUST) sites should be considered as areas with the potential of hydrocarbon impacts to the soil and/or groundwater. Notes will be placed on the construction plans for health and safety aspects and identification of the responsible party for each UST and LUST location. If the abandoned site is determined to be in an area to be acquired for the proposed facility, additional evaluation of the site should be performed prior to the acquisition and, if necessary, notes placed on the construction plans.

Table 7: Hazardous Waste Sites and UST Summary	
SH 88 Alternate	Number of Sites Located in Corridor
A	2
B	1
C	3

#### 4.2.14 Prime Farmland Impacts

The Farmland Protection Policy Act (FPPA) authorized the U.S. Department of Agriculture (USDA) to establish criteria for identifying the impacts of Federally-funded programs upon the conversion of farmland to uses other than agricultural and authorized the agency to protect "FPPA land." A Form AD-1006, *Farmland Conversion Impact Rating*, was completed and submitted to the Natural Resource Conservation Service (NRCS) to evaluate potential impacts to prime farmland, and resulted in a rating of less than 160. Based on this rating, the impacts to prime farmland are not expected to be significant. Additionally, no irrigation facilities are impacted by any alternate. Because no areas were identified by the NRCS as prime farmland, evaluation of potential impacts were based on undeveloped land. The following text describes the possible impacts to potential prime farmland within or adjacent to the each alternate.

##### *Alternate A*

This alternate contains two miles of existing county road with scattered residential development, in addition to new construction through approximately two miles of undeveloped land from I-44 to existing SH 88. The potential prime farmland impacts are considered to be "moderate".

##### *Alternate B*

This alternate includes the same two miles of new construction through undeveloped land from I-44 to existing SH 88 as Alternate A, plus approximately two additional miles of new construction through undeveloped land. Therefore, this alternate has the most potential for prime farmland impacts.

##### *Alternate C*

This alternate has the least potential for prime farmland impacts, due to the alternate being primarily along existing SH 88 alignment, which includes mostly scattered residential and commercial development.

##### *Expo Area Alternates*

Due to the existing commercial and residential development in this area, no prime farmland impacts are anticipated.

#### 4.2.15 Socioeconomic and Environmental Justice

SH 88 is located in Rogers County in northeastern Oklahoma. Block level data from the 2000 Census was compiled to evaluate the impacts of each alternate on racial minorities. Based upon a map of the alternates, those census blocks in the vicinity of an alternate were identified for evaluation purposes. If the alternate coincided with a block boundary, then information from both of the abutting blocks was included in the evaluation. If the alternate was located within a block, then

only the data from that block was used. Results of the evaluation showed the largest percentage of minorities to be located along the existing alignment (i.e., 26%), followed closely by Alternate C with 25%. Alternates A and B both have a minority percentage of 20%.

For comparative purposes, the same minority information was compiled for Rogers County and the State of Oklahoma. Minorities comprised 20% of the population of Rogers County and 24% of the State population (see Table 8).

Due to the geographic spacing of the block groups, income information was compiled at the census tract level. The study area included some or all of five census tracts, as noted in Table 9. The census tract information indicates that 10% of the households within the study area had an income below the poverty level. For comparative purposes, 9% of Rogers County households and 15% of Oklahoma households were below the poverty level.

A December 1998 Federal Highway Administration policy states that the actions to address environmental justice in minority and low-income populations will prevent "disproportionately high and adverse effects." As a result of census data analysis and review of the census maps showing block and census tract boundaries, the anticipated right-of-way, and the displacements necessitated by the proposed improvements, none of the proposed alternates would result in disproportionately high or adverse effects for minority and/or low-income populations in the area of the proposed improvements.



**TABLE 8: RACE AND ETHNICITY EVALUATION**

**RACE AND ETHNICITY FOR EACH ALTERNATE**

<b>Alternate</b>	<b>Total Population</b>	<b>White</b>	<b>Black</b>	<b>Native American</b>	<b>Asian</b>	<b>Other*</b>	<b>Two or More Races</b>	<b>Total Minority</b>	<b>% Minority</b>
<b>Existing</b>	2,325	1,722	69	341	16	21	156	603	26%
<b>A</b>	3,325	2,661	27	407	14	19	197	664	20%
<b>B</b>	2,885	2,319	27	357	9	6	167	566	20%
<b>C</b>	2,810	2,112	54	447	10	13	174	698	25%
<b>TOTAL</b>	11,345	8,814	177	1,552	49	59	694	2,531	22%

**RACE AND ETHNICITY FOR ROGERS COUNTY**

<b>County</b>	<b>Total Population</b>	<b>White</b>	<b>Black</b>	<b>Native American</b>	<b>Asian</b>	<b>Other*</b>	<b>Two or More Races</b>	<b>Total Minority</b>	<b>% Minority</b>
<b>Rogers</b>	70,641	56,427	512	8,533	228	419	4,522	14,214	20%

**RACE AND ETHNICITY FOR STATE OF OKLAHOMA**

<b>State</b>	<b>Total Population</b>	<b>White</b>	<b>Black</b>	<b>Native American</b>	<b>Asian</b>	<b>Other*</b>	<b>Two or More Races</b>	<b>Total Minority</b>	<b>% Minority</b>
<b>Oklahoma</b>	3,450,654	2,628,434	260,968	273,230	46,767	85,270	155,985	822,220	24%

1. \*: While "Native Hawaiian" numbers were presented separately in the 2000 Census, they are combined with the "Other" category in this table.
2. Note: "Hispanic-origin" numbers are available separately; however, they have been included in one of the column totals in this table.

Source: 2000 U.S. Census

<b>TABLE 9: INCOME EVALUATION</b>			
<b>Census Tract No.</b>	<b>Total Households in Census Tract</b>	<b>Households Below Poverty Level</b>	<b>Percentage Below Poverty Level</b>
501.01	1,418	203	14%
501.04	945	185	20%
501.05	1,144	35	3%
506.03	730	18	2%
506.04	1,166	112	10%
Total of 5 Tracts	5,403	553	10%
Rogers County	25,747	2,427	9%
State of Oklahoma	1,343,506	196,684	15%

Source: 2000 U. S. Census

#### **4.2.16 Air Quality**

Section 176 (c) of the Clean Air Act Amendments requires that no Federal agencies engage in, or support in any way, activities that do not conform to pre-established goals for maintaining air quality or mitigate existing air quality problems. The Tulsa metropolitan area, which includes the Claremore area, is currently an attainment area for carbon monoxide (CO) with the U.S. Environmental Protection Agency and the Oklahoma Department of Environmental Quality Air Quality Division.

An air quality historical assessment was conducted for the proposed improvement by reviewing air quality modeling completed for US 75 and SH 20, facilities with similar physical and traffic characteristics to SH 88. The air quality assessments were both conducted in sections of Tulsa County which have the same climates and the assessments used the same monitoring inventory networks. In the SH 20 and US 75 air quality assessments, projecting the worst case of carbon monoxide concentrations in the future design year, no exceedances of the national 1-hour and 8-hour standards occurred. These studies concluded the following:

“Future CO levels are projected to increase over existing whether a proposed project will take place or not. Without transportation improvements during peak hour, the traffic would be above capacity levels. With a proposed project however, the air quality is projected to improve since it would

relieve traffic congestion, and hence, the air emissions. The amount of emission improved cannot be quantified. The project, however, would have a positive benefit on the regional air quality. No exceedance of the NAAQS for Carbon Monoxide is anticipated. No mitigation measures for local and regional emissions are recommended.”

Given the similarities involved, it is logical to assume an air quality model for SH 88 would arrive at similar results.

#### **4.2.17 Section 4(f) Issues**

Federal “Section 4(f)” provisions of the Department of Transportation Act (49 USC 303), as implemented by the Department of Transportation under 23 CFR 1, §771.135, prohibits approval of using land from public parks, recreation areas, historic sites, or wildlife and waterfowl refuges of national, state, or local significance unless certain types of determinations are made. These determinations include consideration of all feasible and prudent alternatives and all measures to minimize harm. Governmental authorities having jurisdiction over park, recreation, or refuge sites may determine them excepted as not significant, with federal approval. Federal multiple use lands not designated in the above categories may also be excepted. Other exceptions may apply in special circumstances as defined in the above-referenced regulations.

Four 4(f) resources are located in the vicinity of the SH 88 improvement project. These resources are located in the Expo/Recreation Center area, and are thus impacted to various degrees by the different Expo Area Alternates. The 4(f) resources are described in the following text.

Will Rogers Park (WRP) is a municipal park located directly east of and adjoining Rogers State University, south of SH 88, RSU and south of and adjoining Will Rogers Memorial Museums (WRM). The original dedicated park was land donated to the City of Claremore by WRM in 1957. The City originally constructed a swimming pool, bathhouse and parking facilities. The swimming pool was recently closed by the City and there are no plans to reopen it in the future. Over the years, various picnic tables, shelters and playground equipment were added. Some of these improvements were completed with LWCA funds; hence, 6(f) regulations would also apply. All of these facilities were apparently built within the limits of the dedicated park. By the legal description provided by the City, this area is 4.09 acres. North of the dedicated park, the land is still owned by WRM. However, in the absence of any fences or other delineation, the land north of the dedicated park and south of existing SH 88 has functioned as an extension of WRP. Similarly, areas to the west of the dedicated park and WRM are open lands which belong to RSU. However, in the absence of any fencing or other delineation, this land has been available for public use as a part of the park area.

Therefore, the original dedicated park area of approximately 4 acres, together with an additional 4.8 acres of land technically belonging to WRM and RSU, has functioned as WRP for almost 50 years. The total area is considered as a 4(f) resource.

J.B. Milam House (1775 Camden Street). This is a NRHP-eligible building located in the Brady Expo alternate for all three major “action” corridors. As an historic property, it is subject to protection under Section 4(f). Preliminary design studies for the Brady Expo alternate suggests that, although the main house itself will not be subject to removal, there could be some visual intrusion on the setting of the structure as well as a limited take from the associated property. The Department is

currently consulting with the Oklahoma SHPO to determine if this would constitute an adverse effect to any factors which contribute to the J.B. Milam House's eligibility for inclusion in the NRHP. If the effects are judged to not be adverse, the Section 4(f) use of this property would be adjudged to be "di minimus" and the property need not be further considered for avoidance under Section 4(f).

The Expo Center and Recreation Center (Expo/Rec Center) are two facilities owned and operated by the City of Claremore. They are situated on a 48.8-acre parcel of land bounded by Moore Avenue on the east, Dupont on the south, Brady Avenue (existing SH 20) on the west, and a mix of SH 20, private property and the Indian Hospital on the north. The Expo Center occupies the eastern half of the property, and was formerly fairground. The Rec Center occupies the western half of the property. The Federal Highway Administration (FHWA) has determined that 4(f) does not apply to the Expo Center, but does apply to the Rec Center. Because the Expo Center and Rec Center are contiguous and share parking, roads, drives and access, the Rec Center and miscellaneous shared facilities are referred to as the Expo/Rec Center for 4(f) considerations.

A proposed Water Park complex, as well as some trail system improvements, are being planned by the City on lands east of Moore and north of Archer, along with other non-recreational uses. Per Federal Highway Administration guidance, these planned recreational facilities will be considered 4(f) resources. However, only the proposed Water Park parking area is located within the SH 88 improvement corridor with regard to impacts to 4(f) resources.

The No-Build Alternate and the Upgrade of Existing Alignment have been rejected as viable solutions. Only the Expo Area of the remaining Build Alternates is in the proximity of the 4(f) resources. Therefore, the potential 4(f) impacts of the Moore, Brady West, and Brady East Expo Area Alternates were evaluated.

Moore was eliminated due to City of Claremore and Cherokee Tribal opposition. Brady East has greater impacts to the WRP and the Expo/Rec Center than does Brady West. However, Brady West has greater impacts to the 1775 Camden Street Residence than does Brady East. Therefore, this 4(f) impact evaluation led to the identification of a new Expo Area Alternate which combines features of Brady East and West, resulting in minimized impacts to the 4(f) resources in the area. This new Expo Area Alternate, the Brady West Modified, results in the least impacts to the WRP and the 1775 Camden Street residence, and no impacts to the Expo/Rec Center or the Water Park. Therefore, as a result of all possible planning to minimize harm and because the Brady West Modified results in the least impacts to the 4(f) resources, the Brady West Modified is the preferred Expo Area Alternate with regard to impacts to 4(f) resources.

As mitigation for impacts of Brady West Modified to approximately 2.2 acres of WRP and adjacent RSU and WRM lands, ODOT has entered into an agreement with RSU, the City of Claremore, and WRM for RSU to allow a total of 2.2 acres of open land in the vicinity of the impacted lands to be preserved and made available for use by the public for recreational/park purposes. The intended "mitigation lands", which surround and include Douglas Lake, are immediately adjacent to WRP on the west. The public currently has full access to these lands.

In the event the Department and the Oklahoma SHPO determine the proposed Brady West Modified alternate will have an adverse effect on any factors which contribute to the eligibility of the residence

at 1775 Camden Street for inclusion in the NRHP, the Department will negotiate a Memorandum of Agreement with the SHPO and any other consulting parties to minimize and mitigate these adverse effects.

Any 6(f) mitigation determined to be necessary will be addressed in an appropriate manner, in compliance with all applicable rules and regulations.

The complete 4(f) statement is included as Appendix H.

## **5.0 ALTERNATE ANALYSIS**

### **5.1 Comparison Matrix**

In order to initially compare and evaluate the alternates, a matrix was developed that included parameters such as performance and engineering, cost and economics, and environmental and community impacts. A copy of the matrix is included in Appendix I. The matrix allowed conversion of information from many sources and formats into a "common denominator", and allowed variable weighting of the parameters to reflect their relative importance. The draft matrix was provided and explained in detail at the March 2005 public meeting, as well as in other forums.

The matrix is primarily a screening tool, intended to provide a semi-graphical and semi-quantified comparison of multiple alternates in terms of numerous engineering, economic and environmental parameters. The matrix is not intended to solely support selection of a preferred alternate.

As the matrix indicates, the No-Build Alternate scored well behind any Build Alternate, and all A Alternates scored relatively low. Compared to the other Build Alternates, the B Alternates scored better than the C Alternates.

### **5.2 Alternate Evaluation**

A simplified table comparing the Alternates in terms of environmental factors, cost, and public input is provided as Table 10. In considering the A, B, and C Alternates, Alternate A was eliminated from further consideration due to the associated safety impacts to the Westside Elementary School on Holly Road, cost considerations, and public and stakeholder input.

A comparison of the remaining Alternates, Alternate B and C, leads to the recommendation of Alternate B as the preferred alternate. As indicated in Table 10, Alternate B will result in fewer displacements, fewer noise impacts, potential impacts to fewer public facilities, less floodplain crossed, and fewer potential impacts to UST/hazardous waste sites than will Alternate C. Alternate B is less expensive to construct than Alternate C, and the City of Claremore strongly supports Alternate B.

Of the three Expo Area Alternates, the City of Claremore and the Cherokee Nation strongly oppose Moore, based on concerns that it would pose safety issues to pedestrian traffic crossing Moore to and from the Indian Hospital; that Moore would sever the Indian Hospital, WRM, RSU, and the Expo/Recreation Center from the remainder of the City; and that it would have negative impacts on their proposed Tax Increment Financing (TIF) district. Based upon this opposition, Moore was eliminated from further consideration as the preferred Expo Area Alternate.

**Table 10: Comparison of Environmental Factors, Cost, and Public Input Alternates A, B, and C with Expo Area Alternates**

Factor	Alternate A	Alternate B	Alternate C
Noise impacts	NAC exceedance at school and 33 residences	NAC exceedance at 7 residences	NAC exceedance at church and 17 residences
Zoning issues	Potential effects on future land use	Potential effects on future land use	Least effect on future land use
Cohesion	Some Impacts	Some Impacts	Least Impacts
Nearby Public Facilities	School, RSU, WRM	RSU, WRM	Police Station, RSU, WRM
Biological Resource	American Burying Beetle consideration	American Burying Beetle consideration	American Burying Beetle consideration
Wetlands, Waterways	11.9 acres; 16,384 feet	9.73 acres; 16,737 feet	8.72 acres; 18,828 feet
Floodplain Crossing	3,200 feet at Dog Creek	3,200 feet at Dog Creek	3,200 feet at Dog Creek; 1,500 feet at Cat Creek
Hazardous Waste and USTs	2 UST sites	1 UST site	2 UST sites; 1 HW site
Prime Farmland	Moderate Impacts	Most Impacts	Least Impacts
Socioeconomic	No disproportionate impacts	No disproportionate impacts	No disproportionate impacts
Air Quality	No substantial impacts	No substantial impacts	No substantial impacts

**Table 10: Comparison of Environmental Factors, Cost, and Public Input Alternates A, B, and C with Expo Area Alternates**

Factor	Alternate A				Alternate B				Alternate C			
	With Moore	With Brady West	With Brady East	With Brady West Modified	With Moore	With Brady West	With Brady East	With Brady West Modified	With Moore	With Brady West	With Brady East	With Brady West Modified
Displacements	67	56	61	54	58	50	48	48	112	117	112	115
Cultural Resource	None	1775 Camden Street residence	1775 Camden Street residence	1775 Camden Street residence?	None	1775 Camden Street residence	1775 Camden Street residence	1775 Camden Street residence?	None	1775 Camden Street residence	1775 Camden Street residence	1775 Camden Street residence?
4(f) Resource Impacts	0.9 ac of WRP 0.8 ac of Expo/Rec Center 0.6 ac of Water Park	1.2 ac of WRP 0.8 ac of 1775 Camden Street?	2.2 ac of WRP 0.2 ac 1775 Camden Street? 2.9 ac of Expo/Rec Center	2.2 ac of WRP 0.2 ac of 1775 Camden Street?	0.9 ac of WRP 0.8 ac of Expo/Rec Center 0.6 ac of Water Park	1.2 ac of WRP 0.8 ac of 1775 Camden Street?	2.2 ac of WRP 0.2 ac 1775 Camden Street? 2.9 ac of Expo/Rec Center	2.2 ac of WRP 0.2 ac of 1775 Camden Street?	0.9 ac of WRP 0.8 ac of Expo/Rec Center 0.6 ac of Water Park	1.2 ac of WRP 0.8 ac of 1775 Camden Street?	2.2 ac of WRP 0.2 ac 1775 Camden Street? 2.9 ac of Expo/Rec Center	2.2 ac of WRP 0.2 ac of 1775 Camden Street?
Cost (million)	51.4	51.1	49.2	47.6	42.4	44.6	45.1	41.1	45.2	52.6	53.0	49.1
Comments and Coordination	Strong opposition by City of Claremore, Cherokee Nation, and CAR 88*	Strong CAR 88 opposition	Strong CAR 88 opposition	Strong CAR 88 opposition	Strong opposition by City of Claremore, Cherokee Nation, and CAR 88	Strong CAR 88 opposition	Strong CAR 88 opposition	Strong CAR 88 opposition	Strong opposition by City of Claremore and Cherokee Nation	Strong opposition by City of Claremore	Strong opposition by City of Claremore	Strong opposition by City of Claremore
		Some opposition to WRP impacts	Some opposition to WRP impacts	Some opposition to WRP impacts		Some opposition to WRP impacts	Some opposition to WRP impacts	Some opposition to WRP impacts		Some opposition to WRP impacts		
		Strong support by City				Strong support by CAR 88						

Note: CAR 88 is Citizens Against Route 88 South Bypass, a landowner group.

As indicated in Table 10, a comparison of the remaining Expo Area Alternates (i.e., Brady West and East) focuses on impacts to 4(f) resources and construction costs. With respect to 4(f) impacts, Brady East impacts the Expo/Rec Center and the WRP more than Brady West does. However, Brady West has greater impacts to the 1775 Camden Street Residence than does Brady East. Therefore, a new Expo Area Alternate, Brady West Modified, was identified. Brady West Modified combines features of both Brady East and West, resulting in the least harm to 4(f) resources.

In addition to minimizing 4(f) impacts, Brady West Modified is the least expensive Expo Area Alternate to construct. Therefore, as a result of all possible planning to minimize harm to 4(f) resources and a comparison of other environmental factors, construction cost, and public input, Brady West Modified is the preferred Expo Area Alternate.

The Preferred Alternate, consisting of Alternate B and the Brady West Modified Expo Area Alternate, is depicted in Figure 15.

## **6.0 PREFERRED ALTERNATE**

### **6.1 Description**

The Preferred Alternate is Alternate B, with the Brady West Modified Expo Area Alternate. The Preferred Alternate begins on the north at Blue Starr Drive and proceeds southerly down existing SH 88. Near the entrance to RSU, the Preferred Alternate proceeds southerly via Brady West Modified along the west side of Will Rogers Park and east of the 1775 Camden Street residence. At existing Brady Avenue, Brady West Modified continues to the south, avoiding the Expo/Rec Center and the existing overhead power lines along Brady Avenue, to Holly Road (SH 20). At Holly Road, the Preferred Alternate proceeds south and west across unimproved lands to connect to the future SH 20/I-44 interchanges just south of Claremore. From the future SH 20/I-44 interchanges, the Preferred Alternate proceeds east along new alignment to existing SH 88 just south of Flint Road.

### **6.2 Advantages**

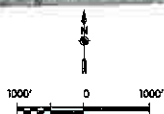
The Preferred Alternate meets the purpose and need of this project, i.e., improved safety, ability to meet projected future transportation demand, and improved access to key traffic generators, and is also in compliance with the Statewide Intermodal Transportation Plan. The Preferred Alternate will result in fewer displacements, noise impacts, and 4(f) impacts than the other alternates considered. The Preferred Alternate will cost less to construct than the other alternates, and is strongly supported by the City of Claremore.

### **6.3 Impacts**

The Preferred Alternate will result in slight impacts to WRP, a 4(f) and potential 6(f) resource. A mitigation plan for these impacts has been created and agreed to by all appropriate entities. While the Preferred Alternate was strongly opposed by a local landowner group, it will result in fewer residential and total displacements than the other alternates considered. The Preferred Alternate is strongly supported by the City of Claremore, and does not conflict with the Cherokee Nation's existing and future facilities.



**STATE HIGHWAY 88  
PREFERRED ALTERNATE  
FIGURE 15**



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GENERAL NOTES



#### **6.4 RSU/WRM Bridge**

The Preferred Alternate will include some type of bridge between RSU and WRM: either a bike/pedestrian facility, or a full-size bridge accommodating auto/bike/pedestrian traffic. A bike/pedestrian crossing would greatly facilitate the Claremore/Rogers County Comprehensive Plan for Trails and Linkages, while a full-size bridge connecting WRM and RSU would offer additional benefits.

The proposed bridge facility offers several opportunities that significantly benefit safety, mobility, access improvement and traffic congestion in the RSU-WRM vicinity. These concepts would facilitate other improvements and enhancements presently contemplated by the local officials and civic leaders.

#### **7.0 COMMENTS AND COORDINATION**

A public involvement program has been an integral part of the project development for completing this Environmental Assessment. Public discussion with local leaders regarding project development, the purpose and need for the study, study area definition, and identification of potential alternates to study took place. Local leaders have had a strong sense of the planned improvements and their input has been vital to this proposed project and alternate development. The Department also conducted public meetings and has initiated coordination with tribal, local, state and federal agencies. Interagency meetings with the City of Claremore, Cherokee Tribe and Indian Nations Council of Governments (INCOG) have been instrumental in identifying problems, project approach and ultimately a preferred solution.

#### **7.1 City Coordination**

Coordination meetings were held with City leaders to discuss project development; define the purpose and need for the study, as well as the study area; and identify potential alternates to study. As the study progressed, additional meetings were held to discuss issues and obtain their input. Invited to the meetings were City officials, Mayor of Claremore, RSU personnel, Executive Director for WRM, INCOG, state legislators, Federal Highway Administration personnel, and local leaders of the Claremore area. Meetings were held:

- February 28, 2002 at the Claremore Expo Center
- April 24, 2002 at the Division VIII Headquarters in Tulsa
- February 10, 2004 at the Claremore Expo Center
- September 22, 2004 at the Claremore City Hall
- March 23, 2005 at the Claremore City Hall

Following the September 22, 2004 meeting, the City of Claremore summarized their opinions of the various alternates in a letter dated November 15, 2004. They did not support Alternate A, due to its proximity to the Westside Elementary School, nor Alternate C, due to their perception that it did not adequately address the purpose and need of the project. Therefore, the City's preferred alternate was B. The City also noted that Alternate B from Blue Starr Road to its junction with the future SH 20 bypass would sufficiently address the project purpose and need, and by deleting the segment of Alternate B from future SH 20 to Flint Road, significant environmental impacts could be avoided.

Following the March 23, 2005 meeting, the City of Claremore submitted a letter dated March 24, 2005 stating their objections to Alternate C as well as the Moore Expo Alternate. The City summarized that they supported Alternate B as the preferred alternate. Appendix J contains the meeting minutes and pertinent correspondence.

## **7.2 Tribal Coordination**

Early and up-front information and comments were requested May 29, 2002, from the Cherokee Nation, due to particular interests the Nation has in the area. On July 9, 2002, the Cherokee Nation provided comments regarding the proposed SH 88 project. A meeting was held with the Cherokee Nation March 30, 2004, to discuss the SH 88 project development process and the comments received from the Nation.

A second meeting was held with the Cherokee Nation on March 22, 2005 to discuss the Cherokee's plans for the area near the Moore Alternate. Concern was expressed regarding the potential safety impacts to pedestrian traffic crossing Moore Avenue to reach the Claremore Indian Hospital, as well as incompatibility with future plans for a senior living and retirement area in the vicinity. The Cherokee Nation submitted a letter dated March 28, 2005 providing input regarding the project purpose and need, and the alternate matrix. In this letter, the Cherokee Nation summarized their support of Alternate B with the Brady Street East Expo Area Alternate.

The Housing Authority of the Cherokee Nation submitted a letter dated January 7, 2005 stating their objections to the Moore Street Expo Area Alternate.

In correspondence dated March 26 and April 15, 2005, the Claremore Indian Hospital stated their objection to the Moore Street Expo Area Alternate, and indicated their preference for Alternate B with the Brady East Expo Area Alternate.

Additional coordination with the Cherokee Nation and the Wichita Tribes has been conducted as part of the Cultural Resources review.

Copies of related correspondence and meeting minutes are included as Appendix K.

## **7.3 Solicitations**

As part of the Environmental Assessment process, letters soliciting comments related to anticipated social, economic and environmental effects of the proposed SH 88 improvement were mailed May 29, 2002, to 46 tribal, local, city, state and federal agencies. Eight (8) replies were received. The form letter, recipient addresses, and copies of the responses are included as Appendix L. Comments and responses are summarized as follow:

**Comment 1:** The Oklahoma Archeological Survey stated that they have reviewed the project and have cross checked it with the state site files containing approximately 17,500 archaeological sites which are currently recorded for the state of Oklahoma. One site was listed in the project area and, based on the topographic and hydrologic setting of the project, archeological materials are likely to be encountered. An archaeological field inspection is considered necessary prior to project

construction in order to identify significant archaeological resources that may exist in the project area. The listed site (RO-320) is the Mosley Cemetery.

**Response 1:** A Cultural Resources Survey for this project has been performed by the Department and accepted by the Oklahoma State Archaeologist in consultation with the SHPO. See Appendix D for documentation regarding cultural resources. The project, as proposed, will have no impact to prehistoric cultural resources. The Mosley Cemetery is located south of Flint Road and not within the study boundaries.

**Comment 2:** The Oklahoma Tourism and Recreation Department (OTRD) examined their records for parks and recreation areas in Claremore. There have been a number of park projects within Claremore that have utilized federal funds under the Land and Water Conservation (LWC) Fund program. OTRD provided a list of these projects, and a map of their locations. Project #4000713 at RSU, and Project #4001039 at Will Rogers Park were both funded by the LWC program, and may be impacted by SH 88 improvements. A conversion may result that would require compensation for acquired lands under the Land and Water Conservation Act.

**Response 2:** A meeting was held with OTRD on February 20, 2004 to further discuss the potential effect of the SH 88 project on Claremore parks and improvements which were financed with LWC funds. At the meeting, OTRD clarified that no LWC funds were used for WRM or the Expo/Recreation Center. At RSU, LWC funds were used only for the amphitheater (i.e., Project #4000713). Minutes of the meeting are included in Appendix H.

**Comment 3:** The Oklahoma Scenic Rivers Commission stated the proposed project will have no adverse impact on any of Oklahoma's "Scenic River Areas."

**Response 3:** This comment is noted and consistent with the project findings.

**Comment 4:** The United States Department of the Interior National Park Service determined there are no National Park Service Units in the vicinity. They had no further comment on the project.

**Response 4:** This comment is noted and consistent with the project findings.

**Comment 5:** The Federal Aviation Region Office stated they had no comments.

**Response 5:** This comment is noted and consistent with the project findings.

**Comment 6:** The Oklahoma Conservation Commission stated it would be at least thirty days before they could complete an environmental review of wetlands.

**Response 6:** No further response was received from the Oklahoma Conservation Commission. A wetlands survey was conducted and a summary report prepared and submitted to USFWS for their review.

**Comment 7:** The USFWS provided a listing of endangered and threatened species, candidate species and rare species that occur in Roger County. They indicated that the threatened western

prairie fringed orchid once occurred in the vicinity of the project, but it is unlikely that the proposed project will adversely impact the orchid. USFWS requested that the biologist working on the project become familiar with this species. They also indicated that if additional information on the occurrence of the listed or proposed species becomes available, this determination may be reconsidered. In fact, since the date of that determination, the American Burying Beetle was listed for Rogers County.

USFWS referenced the National Wetlands Inventory maps information, which indicate the presence of numerous wetlands in the vicinity of the three route alternates. The USFWS recommended avoiding wetlands and contacting the USACE. They also requested the opportunity to review any habitat study performed by ODOT. Lastly, USFWS, indicated that Alternate C would require the least amount of disturbance in undeveloped areas, and that they preferred Alternate C.

**Response 7:** The SH 88 wetlands survey report was forwarded to USFWS for their review and comment. A survey will be performed by individuals with the appropriate Section 10 permits for the American Burying Beetle. This survey will be conducted under appropriate climatic conditions and prior to project construction. Minimization measures will be implemented as necessary. Additionally, ODOT will work with the USACE to obtain all necessary 404 permits and address any required mitigation.

**Comment 8:** The Cherokee Nation provided comments on the three alternates under consideration. The written comments stated that Alternates A and B would reduce the highway's functional effectiveness to the southeast part of Claremore. The Nation stated that they preferred Alternate C to reduce congestion, while preserving the functional effectiveness of the existing alignment. In addition to their preference for Alternate C, they supported an extra connection from the existing SH 88 to the junction of SH 20/SH 66 interchange southwest of Claremore. The reason was the lack of adequate access due to unopened section lines over Dog Creek. The Nation also recommended a "super-two-lane" facility from Flint Road south to US 412. Finally, they requested that the Department exercise caution when traversing through and encroaching upon tribal and individual Indian lands. They expressed concerns with increased noise, odor, smoke, and insufficient building setback.

**Response 8:** Due to the concerns expressed in the solicitation response, a meeting was held with the Cherokee Nation to discuss the project and their comments. Appendix K contains the Tribal coordination material.

#### **7.4 Miscellaneous Issues**

Throughout the course of the project, various questions and comments have been received from members of the public. Appendix M contains information relative to these issues.

#### **7.5 Public Meetings**

Public meetings were held for the purposes of providing information on the proposed alternate improvements and receiving input for consideration in the selection of a preferred alternate. The first public meeting was held on May 23, 2002, in the RSU auditorium located at 1701 West Will Rogers, with 97 people in attendance. The purpose of the meeting was to receive input regarding the

proposed alternate improvements, present potential environmental consequences, and present the proposed alternate improvements for SH 88. Thirteen (13) written comments were received. Appendix N contains the meeting minutes, sign-in sheets, and the written comments received.

A second public meeting was held on August 10, 2004, at the Claremore Community Center located at 2301 North Sioux Avenue, Claremore. Because it had been more than two years since the first public meetings was held, ODOT held the second public meeting to update the public on the status of the SH 88 project, to share the engineering and environmental collected to date, and to solicit comments from the public. Two hundred seventy-seven (277) people attended the meeting, and 54 written comments were received. Summary minutes of the meeting, sign-in sheets, and the written comments are included as Appendix N.

A third public meeting was held on March 29, 2005 at the Claremore High School Field House located at 1910 North Florence, Claremore, Oklahoma. A total of 192 people signed the attendance roster, and 32 written comments were received. Summary minutes of the meeting, sign-in sheets, and the written comments are included in Appendix N.

Based on public comments at the March 29, 2005 public meeting, the addition of ramps allowing access to and from the east at the I-44/SH 20 interchange was evaluated. The evaluation indicated that, due to the limited space between SH 66 and I-44, any conventional clover-leaf interchange design would result in substandard weave lengths. The clover-leaf design would function, but only due to limited traffic volumes projected to and from the east of I-44. As the area east of I-44 develops, the design would cease to function adequately with the associated increase in traffic volumes. Therefore, the conclusion was that, because the interchange would be very costly to construct and would likely only function adequately for a limited traffic volume, construction of ramps to accommodate traffic to and from SH 88 east of the I-44/SH 20 interchange could not be justified. Appendix O contains the associated traffic study of the ramp designs.

Comments regarding the residence at 1775 Camden Street made by citizens attending the third public meeting resulted in additional documentary research and field re-visits by ODOT, a re-assessment by the SHPO, and the determination by the SHPO that the structure is eligible for inclusion in the NRHP.

Various other comments received were evaluated and considered in the development and evaluation of the build alternates.

## **7.6 Public Hearing**

A public hearing will be scheduled following approval of this Environmental Assessment by the Federal Highway Administration. Comments and concerns generated from the hearing will be taken into consideration before a final decision is made on the Preferred Alternate. The comments and responses will be included with the Environmental Assessment.