

ENVIRONMENTAL ASSESSMENT

for

**Proposed Reconstruction of State Highway 9
from
24th Avenue SE to 84th Avenue SE
Within the Corporate Limits of the City of Norman
Cleveland County**



Oklahoma Department of Transportation

EA Addendum Dated March 31, 2011
Plus
Original EA Dated August 19, 2005
(revised March 26, 2006)

ADDENDUM

To the

ENVIRONMENTAL ASSESSMENT

Prepared for

**Proposed Reconstruction of State Highway 9
From 24th Avenue S.E. and Extending East to 84th Avenue S.E.
Within the Corporate Limits of the City of Norman
Cleveland County**

INTRODUCTION

A public hearing was held for the SH-9 project on September 27, 2005 as part of the Environmental Assessment (EA). The Oklahoma Department of Transportation (ODOT) submitted the EA to the Federal Highway Administration (FHWA) on March 26, 2006 requesting concurrence on a Finding of No Significant Impact (FONSI) on the SH-9 EA. On April 26, 2006, FHWA declined to issue the FONSI because of unresolved inconsistencies between the provision for bicycle traffic in the preferred alternative (use of a 12-foot paved shoulder for this purpose) and the City of Norman's long-range Bikeway Master Plan adopted June 25, 1996. Since 2006, ODOT has met with the City of Norman on numerous occasions to resolve the bike path issue along with other design aspects of the preferred alternate. The following is a summary of coordination between ODOT and the City of Norman in resolving design issues and updated environmental studies to present at the second public hearing.

CITY OF NORMAN COORDINATION

In the development of the SH-9 EA which began in 2003, the ODOT has received four (4) Resolutions of the Council of the City of Norman which supports the proposal and offer comments for consideration in the design of the project. These Resolutions are summarized below and included in *Attachment 1*:

R-0304-21 dated July 22, 2003

This resolution supported the SH-9 proposal and offered the following comments for the design of the project:

- (1) Provide intersections at the section line roads and other major existing roadways includes an exclusive left turn and right turn bays.
- (2) That the project be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of SH-9, between the west end of the proposed project and the easternmost entrance to the Lake Thunderbird State Park (as per the adopted City of Norman Bicycle Transportation Master Plan).
- (3) That full width paved shoulders be constructed throughout the project, including intersections.
- (4) That flashing yellow signals be constructed where appropriate (i.e., in advance of intersections or areas of pedestrian activity).
- (5) That special consideration be given to the design of the roadway in areas of high cross traffic or or pedestrian activity (i.e., lower design speed).

R-0506-75 dated October 25, 2005

This Resolution was received in response to the September 2005 public hearing which still supports the SH-9 proposal and offered the following comments for the design of the project:

- (1) That the City of Norman would prefer that the project design be modified to eliminate the flush median in favor of a grassed median providing greater separation between eastbound and westbound traffic to include dedicated turn lanes.
- (2) That the project be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of SH-9.

R-0809-50 dated September 23, 2008

After months of discussions involving previous requests made by the City of Norman, the Norman City Council has agreed by resolution to a possible compromise on the issues of roadway typical section and multi-modal path. The following are specific comments contained in this Resolution:

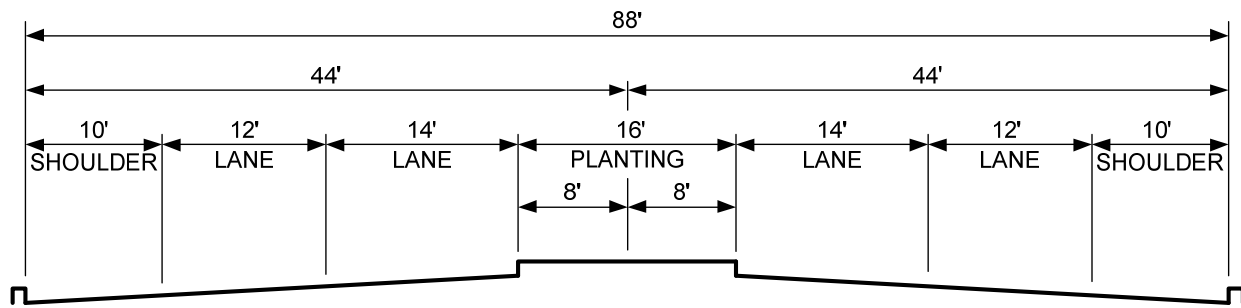
- (1) That the City of Norman hereby supports the use of a narrow dividing median, similar to the one constructed of US Highway 77 north of Robinson Street, on the roadway segments between 24th Avenue SE and 48th Avenue SE, and in the area between 156th Avenue NE and 168th Avenue NE near Thunderbird Casino, providing median openings where appropriate. A design speed of 50 mph is also recommended for the project design between 24th Avenue SE and 48th Avenue SE.
- (2) That the City of Norman accepts the ODOT proposal to construct a four-lane roadway with a paved median in the remaining segments of SH-9 east of 48th Avenue SE.
- (3) That the design of the multi-modal path along the north side of SH-9 be designed as part of the roadway improvement project.
- (4) That the grading of the multi-modal path be included in future roadway projects for the widening of SH-9, as long as it is possible to do so within the existing right-of-way.
- (5) That other funding sources be sought by the City of Norman and the ODOT (e.g., Transportation Enhancement Grants) to pave the multi-modal path.

R-1011-4 dated July 13, 2010

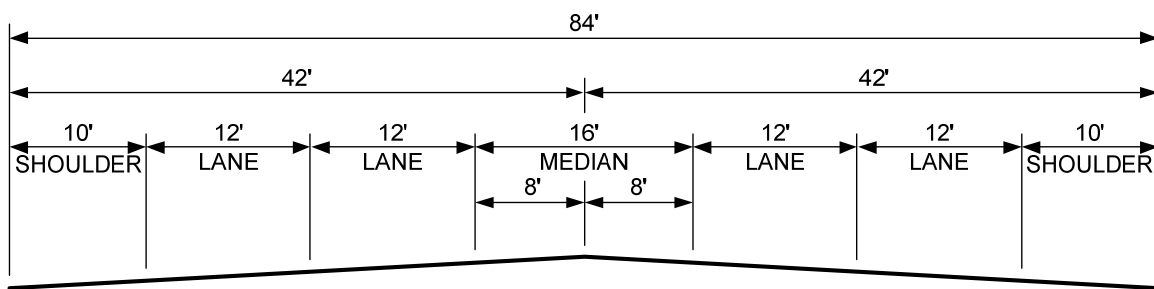
This serves to amend Resolution No. R-0809-50 that the design and construction of the multi-modal path along the north side of SH-9 will be pursued by the City of Norman as a separate project independent of the SH-9 widening project.

The ODOT has considered all these resolutions resulting in design changes as part of the final EA. The multi-modal path will be an independent project separate from the SH-9 EA. The City of Norman has received a Transportation Enhancement (TE) grant for the design and construction of the multi-modal path proposed along the north side of SH-9 and which would undergo a separate NEPA review and approval. There have been open public city council meetings regarding the TE project. The multi-modal path will be constructed after the completion of the SH-9 widening project.

In addition, the project includes revised typical roadway section for the preferred Alternate 4. Originally, the roadway design consisted of a four-lane facility with a paved flush median with striped left-turn bays. The revised roadway design consists of two roadway typical sections with one consisting of a divided curb/gutter four-lane facility with a raised median between 24th Avenue SE and 48th Avenue SE and the other being four-lanes facility with a paved flush median. *Figure 1* on the following page depicts the typical roadway sections as currently planned.



TYPICAL SECTION – 24TH TO 48TH



TYPICAL SECTION – 48TH TO 72ND

Figure 1

UPDATED ENVIRONMENTAL STUDIES

Due to the lapse time involved in completing the EA, ODOT has updated specific original environmental studies and summarized below.

Biological Resources

The Department biologist has completed an updated review and has coordinated with the U.S. Fish & Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA) and the National Environmental Policy Act (NEPA). The Department has determined that the project, as proposed, will have no effect on the federally-listed Interior least tern, Whooping Crane, Piping plover, the Arkansas River shiner, or its Critical Habitat. The project, as proposed, is unlikely to adversely affect black-capped vireo. The USFWS has concurred with the Department's findings. The proposed project is not expected to impact the bald eagle. In addition, to accommodate USFWS's concerns over impacts of the proposed construction on riparian zones, the right-of-way for the proposed project will be minimized as much as reasonably consistent with the needs of public mobility and safety to accommodate the design of the project to meet current design standards and accommodate any utility relocations. The project as proposed could adversely affect Cliff and Barn Swallows, a species protected by the Migratory Bird Treaty Act (MBTA), if construction activities occur during the nesting season of

nesting season will be added to the final construction plans. The proposed project involves work in Dave Blue Creek and several unnamed tributaries of the Dave Blue Creek, exhibiting the characteristics of jurisdictional waterways and potentially jurisdictional wetlands. When design plans are developed such that the linear extent and volume of dredge and/or fill operations below the ordinary high water mark of the channel may be determined, the proposed construction activities will be evaluated to ensure that the appropriate Clean Water Act Section 404 permit application is made to the U.S. Army Corps of Engineers (USACE). The updated biological review documentation is included in *Attachment 2*.

Cultural Resources

A cultural resources project re-evaluation report was completed September 29, 2010 (see *Attachment 3*). The original 2004 study was determined to remain valid and no additional cultural resources recorded within the project study area.

Hazardous Waste

A Hazardous Waste Initial Site Screening Report was completed for current programmed construction projects from just west of 24th Avenue SE and extending east to 72nd Avenue SE (see *Attachment 4*). No concerns were identified in the project area.


Noise

The original 2004 noise analysis utilized the FHWA TNM 2.5 computer model and determined that seventeen (17) residential dwellings would approach, meet or exceed the 67 dBA Leq(h) NAC Category B. The original traffic noise analysis concluded that noise abatement measures were not reasonable for any of the impacted receivers. Since that time, there have been no substantial traffic or design changes that would alter this conclusion; therefore, the original traffic noise analysis remains valid. See memorandum in *Attachment 5*.

A second public hearing will be conducted in the near future to present the changes involved regarding the multi-modal path and SH-9 design and the findings of the updated environmental studies.

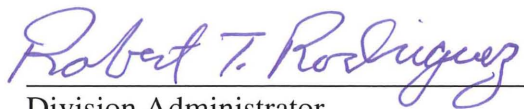
Submitted:

Date 3/29/2011


Environmental Programs Division Engineer
Oklahoma Department of Transportation

Concur:

Date 3/31/2011


Division Administrator
Federal Highway Administration

Attachment 1
EA Addendum

City of Norman Resolutions



The City of NORMAN

201 West Gray, Bldg. A • P.O. Box 370
Norman, Oklahoma 73069 • 73070

PUBLIC WORKS DEPARTMENT
CITY TRAFFIC ENGINEER
Phone: 405-366-5327

July 25, 2003

RECEIVED
ODOT

JUL 28 2003

PLANNING & RESEARCH
DIVISION

Mrs. Dawn Sullivan, P.E.
Planning and Research Division Engineer
Oklahoma Department of Transportation
200 N.E. 21st Street
Oklahoma City, OK 73105-3204

Dear Mrs. Sullivan:

Thank you very much for the opportunity to comment on your Department's proposal to widen State Highway 9 in Norman. Enclosed you will find Resolution No. R-0304-21 approved by the Council of the City of Norman during their July 22, 2003 meeting. This resolution shows local support for the project and offers five specific suggestions for the design of the new roadway.

Once again we thank you for the opportunity to offer our suggestions. Should you have any questions, please do not hesitate to contact me at 366-5327.

Sincerely,

Angelo A. Lombardo, P.E.
City Traffic Engineer

Enclosure

cc: Harold A. Anderson, City Manager
Jimmy D. Berry, Director of Public Works

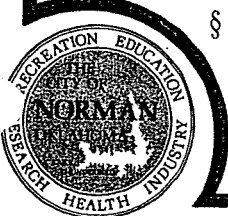
R-0304-21

A RESOLUTION OF THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA, SUPPORTING THE PROPOSAL FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION TO RECONSTRUCT AND WIDEN STATE HIGHWAY 9 FROM THE EXISTING FOUR-LANE DIVIDED SECTION JUST EAST OF THE JUNCTION OF STATE HIGHWAY 9 AND U.S. HIGHWAY 77 IN NORMAN, CLEVELAND COUNTY, TO THE JUNCTION OF STATE HIGHWAY 9 AND U.S. HIGHWAY 177 IN TECUMSEH, POTTAWATOMIE COUNTY, AND OFFERING COMMENTS FOR THE DESIGN OF THE PROJECT

- § 1. WHEREAS, State Highway 9 serves the City of Norman and the State of Oklahoma as an important local and regional transportation route; and
- § 2. WHEREAS, traffic volumes on State Highway 9 have steadily increased over the last decade making the existing two-lane facility obsolete for both the current and future traffic; and
- § 3. WHEREAS, the frequency and severity of traffic collisions on State Highway 9 support the need to widen the roadway; and
- § 4. WHEREAS, the Oklahoma Department of Transportation has recognized the need to widen and improve State Highway 9 from the current two-way roadway to a modern four-lane facility; and
- § 5. WHEREAS, the Oklahoma Department of Transportation is soliciting comments on a proposal to reconstruct and widen State Highway 9 between the end of the four lane divided section east of the junction of State Highway 9 and U.S. Highway 77 in Norman, Cleveland County, to the junction of State Highway 9 and U.S. Highway 177 in Tecumseh, Pottawatomie County (approximately 29 miles of which 15 miles fall within the City limits of Norman);

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA:

- § 1. That the City of Norman hereby supports the proposal to reconstruct and widen State Highway 9 and offers the following comments for consideration in the design of the new roadway facility:



- § 2. That in addition to the proposed four lanes on State Highway 9, intersections at section line roads and other major existing roadways include exclusive left turn and right turn lanes.
- § 3. That the project be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of State Highway 9, between the west end of the proposed project and the easternmost entrance to the Lake Thunderbird State Park (as per the adopted City of Norman Bicycle Transportation Master Plan).
- § 4. That full width paved shoulders be constructed throughout the project, including intersections.
- § 5. That flashing yellow signals be installed where appropriate (i.e., in advance of intersections or in areas of pedestrian activity).
- § 6. That special consideration be given to the design of the roadway in areas of high cross traffic or pedestrian activity (i.e., lower design speed).

PASSED AND ADOPTED THIS 22nd day of July, 2003.


Mayor

ATTEST:


City Clerk



The City of NORMAN

201 West Gray, Bldg. A • P.O. Box 370
Norman, Oklahoma 73069 • 73070

PUBLIC WORKS DEPARTMENT
CITY TRAFFIC ENGINEER
Phone: 405-366-5327

October 27, 2005

Mrs. Dawn Sullivan, Planning Engineer
Oklahoma Department of Transportation
Planning and Research Division
200 NE 21st Street
Oklahoma City, OK 73105-3204

Dear Mrs. Sullivan:

Thank you very much for the State Highway 9 project special presentation on environmental impacts you made to the Norman City Council and staff. We are very supportive of any initiative to improve traffic safety along this vital regional transportation corridor.

As part of the environmental review process for the project, the City of Norman is requesting that a number of items and issues be addressed in the design. The Norman City Council, during their October 25, 2005 meeting articulated the community's concerns and desires as they relate to the current design proposal with the adoption of Resolution No. R-0506-75. We are enclosing this resolution as part of the written comment period and ask that changes in the proposed design be made to fully incorporate our suggestions.

Should you have any questions or need additional information, please do not hesitate to contact me at 366-5327.

Sincerely,

Angelo A. Lombardo, P.E.
City Traffic Engineer

AAL

Enclosure

cc: Jimmy D. Berry, Director of Public Works
Wayne Albury, Triad Design Group

2005 OCT 27 PM 4:10
Received - Research

A RESOLUTION OF THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA, SUPPORTING THE PROPOSAL FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION TO RECONSTRUCT AND WIDEN STATE HIGHWAY 9 FROM JUST WEST OF 24TH AVENUE SOUTHEAST TO 84TH AVENUE SOUTHEAST, AND OFFERING COMMENTS FOR THE DESIGN OF THE PROJECT.

- § 1. WHEREAS, State Highway 9 serves the City of Norman and the State of Oklahoma as an important local and regional transportation route; and
- § 2. WHEREAS, traffic volumes on State Highway 9 have steadily increased over the last decade making the existing two-lane facility obsolete for both the current and future traffic; and
- § 3. WHEREAS, the frequency and severity of traffic collisions on State Highway 9 support the need to widen the roadway; and
- § 4. WHEREAS, the Oklahoma Department of Transportation has recognized the need to widen and improve State Highway 9 from the current two-way roadway to a modern four-lane facility; and
- § 5. WHEREAS, the City of Norman, Oklahoma, City Council submitted Resolution R-0304-21 to the Oklahoma Department of Transportation during the Summer of 2003 and that resolution called for "the project to be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of State Highway 9"; and
- § 6. WHEREAS, the high volume of traffic on State Highway 9 and the potential for catastrophic accidents caused by drivers being allowed to make left and u-turns throughout the length of the project deserves additional attention; and
- § 7. WHEREAS, the Oklahoma Department of Transportation hired the engineering firm of Triad Design Group to prepare an environmental assessment for this project; and
- § 8. WHEREAS, the NORMAN 2025 Land Use and Transportation Plan calls for most of the lands fronting both sides of this road section to be low density, mostly rural estates types of development except for a single, small commercial node, contrary to the stated future land uses indicated by Triad Design; and
- § 9. WHEREAS, safe access points onto Highway 9 can be better achieved through City of Norman efforts to limit future access points than the proposed design of a paved median with two-way continuous left turn lane; and
- §10. WHEREAS, this project is intended to improve safety, which would be significantly reduced through the availability of a paved median/two way continuous left turn lane AND this project does not contain the minimum physical conditions that the Oklahoma Department of Transportation uses for justifying a paved median/ two way continuous left turn lane.



NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA:

- §11. That the City of Norman hereby supports the proposal to reconstruct and widen State Highway 9 and offers the following comments for consideration in the design of the new roadway facility:
- §12. That the City of Norman would prefer that the project design be modified to eliminate the flush median in favor of a grassed median providing greater separation between eastbound and westbound traffic to include dedicated turn lanes.
- §13. That the project be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of State Highway 9.

PASSED AND ADOPTED THIS 25th day of October 2005.

Harold Harbison
Mayor

ATTEST:

Mary Hatley
City Clerk





The City of **NORMAN**

201 West Gray, Bldg. A • P.O. Box 370
Norman, Oklahoma 73069 • 73070

PUBLIC WORKS DEPARTMENT
CITY TRAFFIC ENGINEER
Phone: 405-366-5327

October 6, 2008

Mr. Paul Rachel, Division Engineer
Oklahoma Department of Transportation
P.O. Box 549
Ada, OK 74820

Dear Mr. Rachel:

Enclosed you will find Resolution No. R-0809-50 from the Norman City Council requesting certain design changes as a possible compromise for the State Highway 9 widening and reconstruction project in Norman, Cleveland County.

After months of discussions involving previous requests made by the City of Norman, the Norman City Council has agreed by resolution to a possible compromise on the issues of roadway typical section and multi-modal path. The compromise suggests the use of a narrow median along two segments of roadway and the design and grading of the bike path (where it is possible to do so within existing right-of-way) as part of your project. With this proposal, the paving of the path and acquisition of additional right-of-way for its construction will be pursued by the City of Norman as a separate project.

The City of Norman specifically requests that State Highway 9 proposed roadway design be modified as follows:

Typical Section

1. Change design of the segment between 24th Avenue SE and 48th Avenue SE, using a narrow median (e.g. Flood Avenue north of Robinson Street). A design speed of 50 mph is recommended for this segment of roadway.
2. Use the same narrow median design in the area next to the Thunderbird Casino (between 156th Avenue NE and 168th Avenue NE)
3. Accept ODOT's recommendation for the remaining roadway segments and request that the shoulder width be reduced from 12 feet to 10 feet.

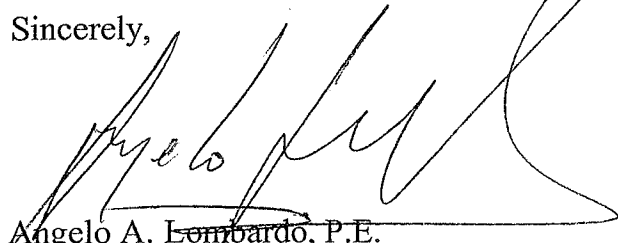
Mr. Paul Rachel, P.E.
State Highway 9 Widening and Reconstruction Project
October 6, 2008
Page 2

Multimodal Path

1. ODOT to design the path in conjunction with the roadway project(s)
2. ODOT to include grading of path, where possible, in all SH 9 roadway projects

Should you have any questions or need additional information, please do not hesitate to contact me at (405) 366-5327.

Sincerely,

A handwritten signature in black ink, appearing to read "Angelo A. Lombardo", written over a horizontal line.

Angelo A. Lombardo, P.E.
City Traffic Engineer

AAL

Enclosure

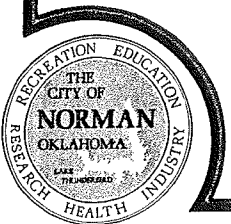
cc: Shawn O'Leary, Director of Public Works

A RESOLUTION OF THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA, SUPPORTING THE OKLAHOMA DEPARTMENT OF TRANSPORTATION PLAN TO RECONSTRUCT AND WIDEN STATE HIGHWAY 9 FROM THE EXISTING FOUR-LANE DIVIDED SECTION JUST EAST OF THE JUNCTION OF STATE HIGHWAY 9 AND U.S. HIGHWAY 77 IN NORMAN, CLEVELAND COUNTY, TO THE JUNCTION OF STATE HIGHWAY 9 AND U.S. HIGHWAY 177 IN TECUMSEH, POTTAWATOMIE COUNTY, AND REQUESTING DESIGN MODIFICATIONS FOR THE PROJECT

- § 1. WHEREAS, State Highway 9 serves the City of Norman and the State of Oklahoma as an important local and regional transportation route; and
- § 2. WHEREAS, traffic volumes on State Highway 9 have steadily increased over the last decade making the existing two-lane facility obsolete for both the current and future traffic; and
- § 3. WHEREAS, the frequency and severity of traffic collisions on State Highway 9 support the need to widen the roadway; and
- § 4. WHEREAS, the Oklahoma Department of Transportation has recognized the need to widen and improve State Highway 9 from the current two-lane roadway to a modern four-lane facility; and
- § 5. WHEREAS, the Council of the City of Norman has previously requested certain design features which remain outstanding for the project; and
- § 6. WHEREAS, the Federal Highway Administration has asked that the Oklahoma Department of Transportation and the City of Norman develop a compromise on the outstanding design issues prior to the approval of the Environmental Impact Statement; and
- § 7. WHEREAS, Oklahoma Department of Transportation and City of Norman staffs have developed a compromise arrangement.

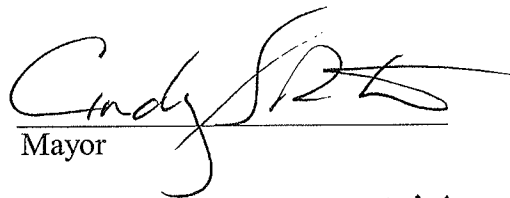
NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA:

- § 1. That the City of Norman hereby supports the use of a narrow dividing median, similar to the one constructed on US Highway 77 north of Robinson Street, on the roadway segments between 24th Avenue SE and 48th Avenue SE, and in the area between 156th Avenue NE and 168th Avenue NE near the Thunderbird Casino, providing median openings where appropriate. A design speed of 50 mph is also recommended for the project design between 24th Avenue SE and 48th Avenue SE.



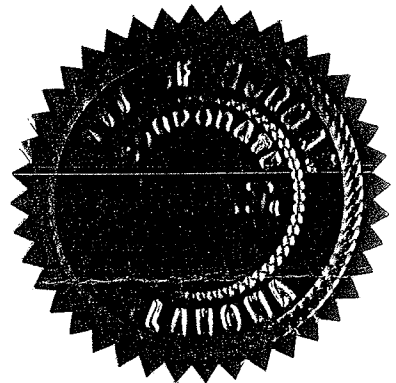
- § 2. That the City of Norman accepts the Oklahoma Department of Transportation proposal to construct a four-lane roadway with a paved median in the remaining segments of State Highway 9 east of 48th Avenue SE.
- § 3. That the design of the multi-modal path along the north side of State Highway 9 be designed as part of the roadway improvement project.
- § 4. That the grading of the multimodal path be included in future roadway projects for the widening of State Highway 9, as long as it is possible to do so within the existing right-of-way.
- § 5. That other funding sources be sought by the City of Norman and the Oklahoma Department of Transportation (e.g., Transportation Enhancement Grants) to pave the multimodal path.

PASSED AND ADOPTED THIS 23rd day of September, 2008.


Mayor

ATTEST:


City Clerk





The City of NORMAN

201 West Gray, Bldg A • P.O. Box 370
Norman, Oklahoma 73069 • 73070

PUBLIC WORKS DEPARTMENT
CITY TRAFFIC ENGINEER
Phone: 405-366-5327

RECEIVED

JUL 15 2010

ODOT
Director of Engineering

July 15, 2010

Mr. David Streb, P.E., Assistant Director for Pre-Construction
Oklahoma Department of Transportation
200 N.E. 21st Street
Oklahoma City, OK 73105

Dear Mr. Streb:

On July 13, 2010, the Norman City Council adopted Resolution No. R-1011-4 amending Resolution R-0809-50, supporting your Department's efforts to reconstruct and widen State Highway 9 from the existing four-lane divided section, just east of U.S. Highway 77 in Norman, to the junction of State Highway 9 and U.S. Highway 177 in Tecumseh, Pottawatomie County, and acknowledging the City's intent to pursue the previously requested multimodal path construction as a separate project. Please find enclosed an original copy of this resolution.

Should you have any questions or need additional information, please do not hesitate to contact me at (405) 366-5327.

Sincerely,

Angelo A. Lombardo, P.E.
City Traffic Engineer

AAL

Enclosure

cc: Shawn O'Leary, Director of Public Works
Paul Rachel, ODOT - Division 3

A RESOLUTION OF THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA, AMENDING RESOLUTION R-0809-50, SUPPORTING THE OKLAHOMA DEPARTMENT OF TRANSPORTATION PLAN TO RECONSTRUCT AND WIDEN STATE HIGHWAY 9 FROM THE EXISTING FOUR-LANE DIVIDED SECTION JUST EAST OF THE JUNCTION OF STATE HIGHWAY 9 AND U.S. HIGHWAY 77 IN NORMAN, CLEVELAND COUNTY, TO THE JUNCTION OF STATE HIGHWAY 9 AND U.S. HIGHWAY 177 IN TECUMSEH, POTTAWATOMIE COUNTY, AND ACKNOWLEDGING THE CITY'S INTENT TO PURSUE THE PREVIOUSLY REQUESTED MULTIMODAL PATH CONSTRUCTION AS A SEPARATE PROJECT

- § 1. WHEREAS, State Highway 9 serves the City of Norman and the State of Oklahoma as an important local and regional transportation route; and
- § 2. WHEREAS, traffic volumes on State Highway 9 have steadily increased over the last decade making the existing two-lane facility obsolete for both the current and future traffic; and
- § 3. WHEREAS, the frequency and severity of traffic collisions on State Highway 9 support the need to widen the roadway; and
- § 4. WHEREAS, the Oklahoma Department of Transportation has recognized the need to widen and improve State Highway 9 from the current two-lane roadway to a modern four-lane facility; and
- § 5. WHEREAS, the Council of the City of Norman has previously requested certain design features which included a new multimodal transportation path; and
- § 6. WHEREAS, the City of Norman has since received a federal transportation enhancement grant for the construction of the multimodal path; and
- § 7. WHEREAS, the Oklahoma Department of Transportation has requested that previous references to the design and grading of the multimodal path as part of the State Highway 9 widening project be removed now that the City of Norman has secured other funding sources for this purpose.



NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA:

- § 1. That the design and construction of the multi-modal path along the north side of State Highway 9 will be pursued by the City of Norman as a separate project independent of the State Highway 9 widening project.

PASSED AND ADOPTED THIS 13th day of July, 2010.



Kug Cobbley
Mayor Pro Tem

Brenda Hall
City Clerk

Attachment 2
EA Addendum

Updated Biological Review

Oklahoma Department of Transportation
Endangered Species Act Section 7 Biological Assessment
Bald Eagle Assessment
Swallow Assessment
and
Jurisdictional Waters and Wetlands Evaluation

County: Cleveland
J/P Numbers: 20266(04)(05)(07)(08)

NEPA PM: Kevin Larios
Project Numbers: STPY-114A(099)SS;
SSP-144A(100); SSP-144B(108)SS
SSP-114B(109)SS

Report Prepared by: Phillip Crawford
USFWS Concurrence Date: December 20, 2010
Cover Form Prepared by: Phillip Crawford

Report Date: October 25, 2010
ROW or Let Date: R/W FFY 2010
Date Submitted: January 10, 2011

PTZ

1. Project Description:
 - a. Project Name: Widening on SH-9, extending from 0.23 miles west of the intersection of SH-9 and SE 24th Street to the intersection of SH-9 and SE 84th Street, in Norman, OK
 - b. Work Description: Grading, drainage, surfacing and bridge replacement plans
 - c. Footprint acreage: 380.55 acres
2. Federally Listed Species Effect Determinations:

<u>Species</u>	<u>Listing Status</u>	<u>Effect Determination & Concurrence</u>	<u>USFWS Concurrence Requirements</u>
Black-capped Vireo	Endangered	May affect, unlikely to adversely affect	Erosion control BMPs
Interior Least Tern	Endangered	No effect	None
Whooping Crane	Endangered	No effect	None
Piping Plover	Threatened	No effect	None
Arkansas River shiner and designated critical habitat	Threatened	No effect	None

3. Acres of ABB suitable habitat: N/A
4. Bald Eagle Assessment: X not expected to impact *or* _____ may impact
5. Swallow Assessment: _____ not expected to impact *or* X will likely impact
6. Migratory Birds: Species that are present during the breeding season will be addressed by implementing measures, designed in coordination with the USFWS, to avoid impacts to active nests. This will be done prior to letting the project for construction. If necessary, plan notes will be provided.

7. Plan Notes:

a. Swallow Plan Note for Bridge Replacement Projects: Cliff Swallows and Barn Swallows are small colonial nesting birds protected by the federal Migratory Bird Treaty Act. These species commonly use bridges and culverts for nesting. Barn Swallow or Cliff Swallow use of six of the structures involved in this project has been observed. In order to avoid impacts to swallows, removal of existing bridges must be completed between September 1 and March 31, when nests are not occupied. If removal activity cannot be completed between September 1 and March 31, the bridges must be protected from new nest establishment prior to April 1 by means that do not result in death or injury to these birds. Options include the exclusion of adult birds from suitable nest sites on or within a structure by the placement of netting prior to April 1. Methods other than netting must be preapproved by the Department's Biologist.

8. Jurisdictional Waters and Wetlands Evaluation:

Wetlands and Impoundments

<u>Field Site</u>	<u>Type</u>	<u>Description</u>	<u>Acres (within study area)</u>
3, 4, 6, 11, 15, 16, 17, 19	Pond	PUBHx (palustrine, unconsolidated bottom, permanently flooded, excavated); PUBHh (palustrine, unconsolidated bottom, permanently flooded, diked/impounded); PUBA (palustrine, unconsolidated bottom, temporarily flooded)	2.888
2	Emergent wetland	PEM1A (palustrine, emergent, persistent, temporarily flooded)	0.074
21	Emergent and scrub/shrub wetland	PEM/SS1C (palustrine, emergent, persistent / scrub-shrub, broad-leaved deciduous, seasonally flooded)	0.361
5, 8, 10, 14	Forested wetlands	PFO1A - palustrine, forested, broad-leaved deciduous, temporarily flooded	1.005
Total wetlands	PEM, PSS, PFO	Emergent, scrub/shrub and forested wetlands	1.44

Streams and Drainage features

<u>Field Site</u>	<u>Name</u>	<u>Type</u>	<u>Acres (within study footprint)</u>	<u>Linear Feet</u>
26	Dave Blue Creek	Mapped perennial	1.080	1519.4
9, 12, 22, 25, 27	Unnamed tributaries of Dave Blue Creek	Mapped intermittent	1.566	3989.0
1, 18, 28, 30	Unnamed tributaries of Dave Blue Creek	Mapped intermittent, but apparently ephemeral	0.316	3452.6
7, 13, 20, 23, 24, 29	Unnamed tributaries of Dave Blue Creek	Unmapped ephemeral (not likely jurisdictional)	0.366	2843.5

cc: Project Management Division 3



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Division of Ecological Services

9014 East 21st Street

Tulsa, Oklahoma 74129

918/581-7458 / (FAX) 918/581-7467



In Reply Refer To:
FWS/R2/OKES/
21440-2011-CPA-0013
21440-2011-I-0022

December 20, 2010

Ms. Julianne W. Hoagland
Oklahoma Department of Transportation
200 Northeast 21st Street
Oklahoma City, Oklahoma 73105-3204

Dear Ms. Hoagland:

Thank you for your letter dated October 25, 2010, requesting that the U.S. Fish and Wildlife Service (Service) provide comments regarding the proposed improvements to State Highway 9 [Project Numbers SSP-114A(099)SS, SSP-144A(100)SS, SSP-144B(108)SS, and SSP-114B(109)SS; J/P 20266(04)(05)(07)(08)]. The proposed project is located in secs. 1, 2, 3, 9, 10, 11, and 12, T. 08 N., R. 02 W., and secs. 5, 6, 7, and 8, T. 08 N., R. 01 W., of the Indian Meridian in Cleveland County, Oklahoma. The proposed project consists of reconstruction of the existing facility, the replacement of the Dave Blue Creek Bridge, and multiple culverts would be extended to accommodate the wider roadway. New rights-of-way would likely be required.

There would be clearing of vegetation and topsoil from terrestrial areas lying within the proposed work zone, as well as associated grading, drainage and leveling activities involving the excavation or placement of fill material within and/or near the wetted portions of stream channels, and the construction of erosion control structures and storm water diversionary channels. These activities would be accomplished largely with the use of heavy machinery.

The Service provides the following comments in accordance with section 7 of the Endangered Species Act, the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA) and the National Environmental Policy Act. In addition, the Service is providing comments with respect to wetlands and other important fish and wildlife resources.

Clearing of vegetation and topsoil from terrestrial areas within and near the wetted portions of stream channels would expose substantial areas of soil to the effects of erosion and potentially increase sedimentation downstream from the project site. Appropriate storm water, erosion and dust control, and chemical/fuel handling measures are dictated by Federal regulation and ODOT's Standard Specifications for Highway Construction (SSfHC). These measures should be implemented with due diligence during and following the construction activities, including ensuring these structures remain in good repair and functional until the area is stabilized and erosion and sediment controls are no longer necessary. Additionally, ODOT should review,

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Ms. Hoagland

incorporate, and implement the Service's Best Management Practices (BMPs) for Streamside Management Zones; for Rivers, Streams, and Tributaries available from our website at < <http://www.fws.gov/southwest/es/oklahoma/sect7.htm> >.

Endangered, Threatened and Candidate Species

Provided ODOT adheres to the above SSfHCs, and Service BMPs with due diligence, the Service concurs that the implementation of the proposed project **may affect, but is unlikely to adversely affect** the endangered black-capped vireo *Vireo atricapilla*. Also, pursuant to the above criteria the proposed project should have **no effect** on the endangered interior least tern *Sternula (Sterna) antillarum*, the endangered whooping crane *Grus americana*, on the threatened piping plover *Charadrius melodus*, the threatened Arkansas River shiner *Notropis girardi*, nor its critical habitat.

Bald Eagle

The bald eagle *Haliaeetus leucocephalus* is protected by BGEPA and MBTA. Currently, the Service has no documented records of any bald eagle nests or roosts within your project area. However, given the eagles' continuously expanding range across Oklahoma, there is a chance that bald eagles could occur within your action area. The Service recommends that surveys for eagles and their nests be conducted not more than one year prior to initiation of project construction. If active nests are found, an appropriate buffer should be established around the nest and activities within the buffer cease until nesting activity concludes. Provided ODOT adheres to the National Bald Eagle Management Guidelines, the Service concurs that the implementation of the proposed project **is unlikely to adversely impact** the bald eagle.

Migratory Birds

Migratory bird species are protected under the MBTA (16 U.S.C. 703-712: Ch. 128 *as amended*). The MBTA prohibits the take of any migratory bird without authorization from the Service. Because riparian areas often provide important breeding and nesting habitat for migratory birds, we recommend that construction be scheduled prior to or after the migratory bird nesting season. For most species in Oklahoma, nesting activity typically commences in April and continues through July.

If proposed actions would occur during the nesting season, we recommend a qualified biologist survey for the presence of nesting migratory birds. If active nests are found, a buffer should be established around the nest and activities within the buffer should cease until nesting activity concludes. Appropriately sized buffers can differ in size depending on the species of bird detected. Please contact us if you perform construction during April–July and if nesting birds are detected.

Ms. Hoagland

Multiple cliff swallow *Petrochelidon pyrrhonota* and barn swallow *Hirundo rustica* nests were observed at the project site. Cliff and barn swallows are migratory birds that receive federal protection under the MBTA. The ODOT should protect the existing structures from nest establishment prior to construction by means that do not result in death or injury to these birds, such as the exclusion of adult birds from suitable nest sites on or within a structure by the placement of netting. If this is not accomplished before nesting occurs, ODOT should not begin construction until after nesting has concluded.

Wetlands and Other Important Fish and Wildlife Resources

Wetland, stream, and riparian zone habitats provide cover, breeding and foraging areas for native species of birds, mammals, amphibians and reptiles. Riparian areas are geographically delineated areas with distinct resource values that occur adjacent to streams, lakes, ponds, wetlands, and other specified water bodies (Oklahoma Cooperative Extension Service 1998). Riparian vegetation serves as a buffer to protect the watercourse from non-point source pollution by filtering sediments and capturing and breaking down nutrients and water pollutants, and increasing soil strength and stability (FISRWG, 1998).

Riparian buffers also provide shade for the stream channel, stabilize streambanks, and serve as important movement corridors for wildlife. Even small ephemeral water features are important ecosystems for maintaining healthy wildlife populations. Additionally, drainages also are important features of semiarid landscapes because they are areas where surface water, groundwater, and terrestrial and aquatic ecosystems converge (Newman *et al.* 2006). Increased sediment levels, erosion and degradation of water quality can adversely impact these areas.

Impacts to wetland/riparian areas should be avoided or minimized and mitigated to the greatest extent practicable. The applicable standard environmental measures as dictated by Federal regulation and ODOT's SSfHC, and the above referenced BMPs should be maximized within the action area for any water feature encountered. Implementation of these measures often ensures that environmental impacts are avoided or minimized.

For all future proposed projects submitted to the Service for review, please provide a statement describing how ODOT would compensate for any adverse impacts that are reasonably certain to occur to aquatic resources (*e.g.* streams, rivers, wetlands, lakes, riparian areas). There should be no-net-loss of wetland habitat.

The Service suggests ODOT contact the U.S. Army Corps of Engineers (918/669-7400) concerning any Section 404 permit requirements associated with this project. Before submitting a 404 permit application to the Corps, we recommend that all practicable alternatives be assessed and included in any permit application. We recommend any proposed project utilize the least

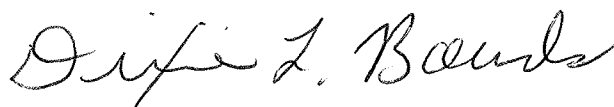
Ms. Hoagland

environmentally damaging alternative. The Service will seek mitigation for unavoidable impacts to wetlands and other important fish and wildlife habitats.

Please provide the Service with a copy of all final decision documents associated with this project. Final decision documents include the issued permit or license, final environmental impact statement, record of decision, integrated natural resource management plan, or similar document. These decision documents advise the Service of the final specifications of the proposed project and indicate which of the measures recommended for the conservation of fish and wildlife resources were implemented. We also request that if any of the Service's recommended measures cannot be implemented, ODOT provide us with a written narrative explaining why these measures were not implemented or were not feasible.

We appreciate the opportunity to provide comments. If you have any questions or need additional assistance with this project, please contact Ms. Anita L. Barstow of this office at 918/581-7458.

Sincerely,

A handwritten signature in black ink that reads "Dixie L. Bounds". The signature is written in a cursive, flowing style.

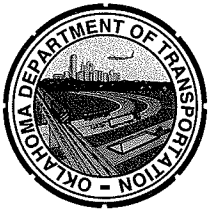
Dixie L. Bounds, Ph.D.
Field Supervisor

cc: Army Corps of Engineers, Tulsa District:

Ms. Hoagland

References

- FISRWG. 1998. Stream Corridor Restoration: Principles, Processes, and Practices. By the Federal Interagency Stream Restoration Working Group (FISRWG) (15 Federal agencies of the U. S. Government). GPO item No. 0120.A; SupDocs No. A 57.6/2:EN 3/PT.653. ISBN-0-934213-59-3.
- Newman, B. D., E. R. Vivoni, A. R. Groffman. 2006. Surface water-groundwater interactions in semiarid drainages of the American southwest. *Hydrological Process* 20(15):3371-3394.
- Oklahoma Cooperative Extension Service. 1998. Riparian Area: management handbook. Oklahoma State University. E-952, pp97.



OKLAHOMA DEPARTMENT OF TRANSPORTATION

200 N. E. 21st Street

Oklahoma City, OK 73105-3204

October 25, 2010

Dr. Dixie Bounds, Field Supervisor
U. S. Fish and Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, Oklahoma 74129

Dear Dr. Bounds:

The Oklahoma Department of Transportation (ODOT) is proposing to make improvements to approximately 5.23 miles of SH-9 in central Cleveland County. This project is located within the Sections 01, 02, 03, 09, 10, 11 and 12 of T08N R02W, and within Sections 05, 06, 07 and 08 of T08N R01W; the site occurs on and adjacent to SH-9, and extends from a point approximately 0.23 miles west of the intersection of SH-9 and SE 24th Street to the intersection of SH-9 and SE 84th Street, in Norman, OK. The proposed federal-aid action (Project Numbers SSP-114A(099)SS, SSP-144A(100)SS, SSP-144B(108)SS and SSP-114B(109)SS; J/P 20266(04)(05)(07)(08)) will consist of the reconstruction of the existing facility (consisting of a two-lane roadway with center turn lanes at intersecting section tie roads) to yield a four-lane facility with a paved flush median and striped left-turn bays, and will involve grading, drainage and surfacing activities. The existing bridge spanning Dave Blue Creek will be replaced with a new bridge structure, and multiple roadway-sized culverts will be extended or replaced to clear zone to accommodate the new (wider) roadway. New permanent rights-of-way will likely be required to make the proposed improvements.

A letter from the ODOT requesting comments on the proposed reconstruction of SH-9 from US-77 (Norman) east approximately 29 miles to US-177 (Tecumseh) was sent to the Service on July 1, 2003; to our knowledge, no response was received from the Service. The acting ODOT biologist determined (on June 9, 2005) that the proposed widening of SH-9 (from a point approximately 0.23 miles west of the intersection of SH-9 and SE 24th Street to the intersection of SH-9 and SE 84th Street) would have no effect on any federally-listed threatened, endangered or candidate species. The Federal Highway Administration approved an Environmental Assessment prepared for the widening of that stretch of SH-9 in Cleveland County on August 19, 2005. The projects associated with this stretch of highway reconstruction are currently undergoing reevaluation.

The Oklahoma Department of Transportation (ODOT), acting as the duly authorized agent for the Federal Highway Administration, is hereby initiating the informal section 7 consultation process for the above mentioned project as a component of the agency's implementation of the procedural provisions of the National Environmental Policy Act. The information contained in this letter and the enclosed documents constitutes the ODOT's report of our biological evaluation of the proposed project site. Please find enclosed a biological evaluation, labeled photographic images of the site, marked aerial photographs delimiting the environmental study area discussed in the biological evaluation, and marked topographic and NWI quad maps. Given the implementation of the impact avoidance and minimization measures discussed in the

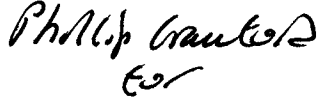
"The mission of the Oklahoma Department of Transportation is to provide a safe, economical, and effective transportation network for the people, commerce and communities of Oklahoma."

AN EQUAL OPPORTUNITY EMPLOYER

attached biological evaluation, this project may affect, but will be unlikely to adversely affect the Black-capped Vireo.

Your concurrence in this matter is hereby respectfully requested. If you have any questions or comments regarding this request or need additional information, please contact Phillip Crawford at (405) 325-7013 or Julianne W. Hoagland at (405) 521-2515.

Sincerely,

Handwritten signature of Phillip Crawford in black ink.

Julianne W. Hoagland
ODOT Biological Resources Program Coordinator

Attachments

**Threatened and Endangered Species Assessment
Bald Eagle Assessment
Swallow Assessment
and
Potential Jurisdictional Waters and Wetlands Evaluation**

**Cleveland County, Oklahoma
Job/Piece: 20266(04)(05)(07)(08)
Project Number: SSP-114A(099)SS; SSP-144A(100)SS;
SSP-144B(108)SS; SSP-114B(109)SS**

**SH-9 Widening
Grade, Drain, Surface, Erosion Control and Bridge Construction**

Prepared For:
Oklahoma Department of Transportation
Environmental Programs Division
200 NE 21st Street
Oklahoma City, OK 73105

Report Prepared By:
Phillip Crawford
ODOT Highway Biological Studies Program
Oklahoma Biological Survey
111 E. Chesapeake Street
University of Oklahoma
Norman, OK 73019-5112

Report Date: October 25, 2010

Field Investigation Conducted By: Phillip Crawford
Field Investigation Date: September 29-30, October 4 and 7, 2010

I. LOCATION AND DESCRIPTION OF PROPOSED ACTION AND STUDY AREA

The Oklahoma Department of Transportation (ODOT) is proposing to make improvements to approximately 5.23 miles of SH-9 in central Cleveland County (see Figures 1 and 2). This project is located within the Sections 01, 02, 03, 09, 10, 11 and 12 of T08N R02W, and within Sections 05, 06, 07 and 08 of T08N R01W; the site occurs on and adjacent to SH-9, and extends from a point approximately 0.23 miles west of the intersection of SH-9 and SE 24th Street to the intersection of SH-9 and SE 84th Street, in Norman, OK. The western and eastern ends of the site lie at 35.1874°N 97.4098°W and 35.1892°N 97.3179°W (NAD83), respectively. The proposed federal-aid action will consist of the reconstruction of the existing facility (consisting of a two-lane roadway with center turn lanes at intersecting section line roads) to yield a four-lane facility with a paved flush median and striped left-turn bays, and will involve grading, drainage and surfacing activities. The existing bridge spanning Dave Blue Creek will be replaced with a new bridge structure, and multiple roadway-sized culverts will be extended or replaced to clear zone to accommodate the new (wider) roadway. New permanent rights-of-way will likely be required to make the proposed improvements. The environmental study area discussed in this document includes 5.23 linear miles of SH-9, and extends 300 feet north and south of the centerline of the existing facility (see Figure 6).

The proposed action will include the clearing of vegetation and topsoil from terrestrial areas lying within the proposed work zone, grading and leveling activities (involving the excavation or placement of fill material), and the construction of erosion control structures and storm water diversionary channels; these activities are commonly conducted with heavy machinery. Additionally, project construction will involve other activities that could result in temporary impacts to aquatic areas within and downstream of the proposed work zone; these include the excavation or placement of fill material within and near the wetted portions of stream channels (Dave Blue Creek and multiple unnamed tributaries of Dave Blue Creek), and increased turbidity within those streams during and immediately following construction activities. The action area for the proposed action will include that area affected by the construction of the proposed roadway and drainage structures, where direct and indirect effects to federally-listed species may reasonably be expected to occur. The action area for the proposed action includes those areas directly affected by construction activities within the study area depicted in the attached figures, and may include indirect effects to the channels of Dave Blue Creek and its tributaries downstream of the facility, and to areas immediately adjacent to the site.

A field survey of the proposed project site was performed by Phillip Crawford of the ODOT Highway Biological Studies Program on September 29 and 30 and October 4 and 7, 2010. A pedestrian survey of the entire study area was made during the site visit. The proposed project site is described below; in addition, labeled photographic images of the site are attached, and the locations from which the images were taken are referenced as photo sites on the attached marked aerial photograph (see Figure 6).

The study area encompasses approximately 380.55 acres. The study area occurs in a partially developed (and partly rural) area in southeast Norman, and is occupied by the maintained rights-of-way surrounding the highway and intersecting section line roadways, lawns and drives associated with residential areas, improved pastureland, grass hay meadows, brushy pastureland with scattered trees, and woodland. Ten mapped drainage features (Dave Blue Creek and its unnamed tributaries) occur within the study area, as do numerous unmapped drainage features.

The study area occurs within the Post oak - Blackjack Forest and Tallgrass Prairie Game Types (Duck and Fletcher 1943). The Post oak - Blackjack Forest Game Type encompasses an ecotone between grassland

and deciduous forest, and exhibits species common to both vegetational assemblages. The rolling and dissected terrain generally consists of coarse textured soils, though areas bordering the major rivers in the region (including this project site) occur on deep sandy soils. Cultivation and overgrazing has resulted in severe erosion over much of this Game Type, and the productivity of these areas - with respect to wild and domesticated plants and animals - has correspondingly declined. Numerous small farms historically occupied this area, with cotton, small grains and peanuts being the most important crops. The majority of this Game Type has remained in woodland, which was historically utilized for livestock grazing and browsing. The Tallgrass Prairie Game Type has largely been converted to cultivation. The fertile, loamy and clayey soils of this flat to gently rolling terrain formerly supported extensive grasslands, with woody vegetation occurring in association with streams; the majority of this area has been plowed and devoted to the production of cereal grains, cotton and hay (Duck and Fletcher 1945).

The study area lies within the Cross Timbers Transition (EPA Level IV Ecoregion 27o) of the Central Great Plains and the Northern Cross Timbers (EPA Level IV Ecoregion 29a) of the Cross Timbers. Potential natural vegetation of the Cross Timbers Transition includes mixed grass prairie (dominated by bluestem and grama grasses, and Indiangrass), cross timbers (dominated by blackjack, post oak and hickory, with an understory of grasses), and tallgrass prairie (dominated by bluestem grasses, Indiangrass and switchgrass). Currently, prairie grasses and eastern redcedar occupy much of the rough plains of this Ecoregion. The suppression of fire over the past century has led to an increase in the abundance and diversity of trees in drier upland areas, while changes in land use and the channelization of streams has resulted in the loss of large areas of riparian woodlands and wetlands. The most common use of land is for the production of livestock, alfalfa, small grains and soybeans. Today, streams in this area are substantially more incised than in previous centuries, due in part to channelization and overgrazing; the riparian woodlands that remain are dominated by American elm, black walnut, cottonwood, green ash, pecan and willow. Potential natural vegetation of the Northern Cross Timbers includes cross timbers (dominated by blackjack and post oaks, with an understory of grasses), tallgrass prairie (dominated by bluestem grasses, Indiangrass and switchgrass), and oak savanna communities with the species cited above, as well as black hickory. Currently, oak savanna, scrubby oak-hickory forest and tall grass prairie occur on rolling, occasionally dissected topography underlain by highly erodible soils; the suppression of fire has led to an increase in woody plant cover in many areas, and eastern redcedar is increasingly common, as is abandoned farmland. The most common use of land is for livestock production, although substantial areas are devoted to the production of cereal grains, soybeans and alfalfa. Streams in this area are generally shallow and exhibit sandy substrates; activities associated with oil production have increased levels of salts and other pollutants in many streams. Riparian woodlands are dominated by American elm, black walnut, cottonwood, green ash, hackberry, post oak, sycamore and willow (Woods et al. 2005).

The study area is occupied largely by the maintained rights-of-way surrounding the highway and intersecting section line roadways, lawns and drives associated with residential areas, improved pastureland, grass hay meadows, brushy pastureland with scattered trees, and woodland. The existing roadway rights-of-way appear to be frequently mowed, and are vegetated with native and introduced grasses and forbs, with the mix of species varying with position in the landscape; the most commonly observed species include bermuda grass (*Cynodon dactylon*), green bristlegrass (*Setaria viridis*), marsh bristlegrass (*Setaria parviflora*), hairy crabgrass (*Digitaria sanguinalis*), dallisgrass (*Paspalum dilatatum*), Johnsongrass (*Sorghum halepense*), perennial ryegrass (*Lolium perenne*), silver bluestem (*Bothriochloa saccharoides*), tumble windmill grass (*Chloris verticillata*), downy brome (*Bromus tectorum*), rescuegrass (*Bromus catharticus*), little barley (*Hordeum pusillum*), purple threeawn (*Aristida purpurea*), stinkgrass (*Eragrostis cilianensis*), little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), Indiangrass (*Sorghastrum nutans*), hairy grama (*Bouteloua hirsuta*), sideoats

grama (*Bouteloua curtipendula*), buffalo grass (*Buchloe dactyloides*), witchgrass (*Panicum capillare*), barnyardgrass (*Echinochloa crus-galli*), prairie broomweed (*Amphiachyris dracunculoides*), annual ragweed (*Ambrosia artemisiifolia*), Cuman ragweed (*Ambrosia psilostachya*), great ragweed (*Ambrosia trifida*), Canadian horseweed (*Conyza canadensis*), white sagebrush (*Artemisia ludoviciana*), Spanish gold (*Grindelia papposa*), common sunflower (*Helianthus annuus*), western horsenettle (*Solanum dimidiatum*), buffalobur nightshade (*Solanum rostratum*), Carolina horsenettle (*Solanum carolinense*), field bindweed (*Convolvulus arvensis*), tuberous desert-chicory (*Pyrrhopappus grandiflorus*), common dandelion (*Taraxacum officinale*), yellow salsify (*Tragopogon dubius*), lambsquarters (*Chenopodium album*), carelessweed (*Amaranthus palmeri*), yellow sweetclover (*Melilotus officinalis*), common yellow oxalis (*Oxalis stricta*), spreading hedgeparsely (*Torilis arvensis*), blue fieldmadder (*Sherardia arvensis*), white clover (*Trifolium repens*), suckling clover (*Trifolium dubium*), Japanese clover (*Kummerowia striata*) and eastern annual saltmarsh aster (*Symphyotrichum subulatum*). Extensive areas of maintained lawn occur in the western portion of the study area, which encompasses several commercial and residential developments; these areas are occupied largely by bermuda grass and common lawn weeds, with scattered horticultural plantings. The grass hay meadows within and adjacent to the study area also vary in species composition, but are dominated by bermuda grass and/or tall fescue (*Schedonorus phoenix*); scattered individuals of other grasses also occur, with the more conspicuous species being little bluestem, big bluestem and Indiangrass. Large areas of improved pasture occur throughout the study area; these sites are generally dominated by bermuda grass, although most of the grass and forb species observed within the SH-9 right-of-way also occur sporadically. The remainder of the study area is occupied by unimproved pastureland and woodland. The pastureland is occupied largely by those species of grasses and forbs observed within the SH-9 right-of-way, with native grasses being more abundant; scattered copses of smooth sumac (*Rhus glabra*) and Chickasaw plum (*Prunus angustifolia*) also occur in these pastures, as do saplings and small trees of eastern redcedar (*Juniperus virginiana*). In some areas eastern redcedars occur in dense stands with little undergrowth. Extensive areas of woodland within the study area (particularly on uplands) are also dominated by saplings and small trees of eastern redcedar, with scattered individuals of other arborescent species, including blackjack oak (*Quercus marilandica*), post oak (*Quercus stellata*), bur oak (*Quercus macrocarpa*), black hickory (*Carya texana*), osage orange (*Maclura pomifera*), honey locust (*Gleditsia triacanthos*), black locust (*Robinia pseudoacacia*), eastern redbud (*Cercis canadensis*), common persimmon (*Diospyros virginiana*), winged elm (*Ulmus alata*) and gum bully (*Sideroxylon lanuginosum*). Saplings, small and medium-sized trees of American elm (*Ulmus americana*), sugarberry (*Celtis laevigata*), chinkapin oak (*Quercus muehlenbergii*), Shumard's oak (*Quercus shumardii*), pecan (*Carya illinoensis*), black walnut (*Juglans nigra*), box elder (*Acer negundo*), white mulberry (*Morus alba*), eastern cottonwood (*Populus deltoides*) and black willow (*Salix nigra*) occur in more mesic sites on lowlands, generally in association with the streams and ponds in the area. A considerable amount of down timber is present in many of these wooded areas, due to ice-storm damage and possibly to the tornado that touched down in the area the previous spring; in areas where the tree canopy was opened up by ice breakdown in previous years, a dense growth of saplings, shrubs and vines now occur. Ten mapped drainage features (Dave Blue Creek and its unnamed tributaries) occur within the study area, as do numerous unmapped drainage features, ponds, and associated emergent, scrub-shrub and forested wetlands (as described in Section III below).

The soil map units described for the study area by the Natural Resources Conservation Service (Soil Survey Geographic Database accessed at <http://soildatamart.nrcs.usda.gov/> on September 28, 2010) are cited below, and are depicted in Figure 4. Six of the map units cited (Harrah fine sandy loam, Tribbey fine sandy loam, Brewless silty clay loam, Norge-Ashport complex, Port fine sandy loam and Pulaski fine sandy loam) are listed on the National Hydric Soils list as potentially containing hydric soil inclusions in small proportions, averaging 1% to 5% within those map units.

<u>Symbol</u>	<u>Map unit name</u>
1	Stephenville-Darsil-Newalla complex, 3 to 8 percent slopes
2	Harrah fine sandy loam, 5 to 8 percent slopes
3	Grainola-Ashport complex, 0 to 8 percent slopes
5	Harrah fine sandy loam, 5 to 8 percent slopes, gullied
6	Grainola-Ironmound complex, 5 to 12 percent slopes
7	Stephenville-Darsil complex, 1 to 5 percent slopes
9	Kingfisher-Ironmound complex, 1 to 5 percent slopes
20	Tribbey fine sandy loam, 0 to 1 percent slopes, frequently flooded
30	Brewless silty clay loam, 0 to 1 percent slopes, rarely flooded
33	Norge-Ashport complex, 0 to 8 percent slopes
35	Stephenville-Darsil-Newalla complex, 3 to 8 percent slopes, eroded
37	Harrah fine sandy loam, 5 to 8 percent slopes, eroded
53	Kirkland-Pawhuska complex, 0 to 3 percent slopes, eroded
63	Renfrow silt loam, 3 to 5 percent slopes
64	Renfrow silty clay loam, 3 to 5 percent slopes, eroded
65	Renfrow-Huska complex, 3 to 5 percent slopes, eroded
81	Norge silt loam, 1 to 3 percent slopes
82	Norge silt loam, 3 to 5 percent slopes
84	Grant-Huska complex, 1 to 5 percent slopes
92	Port fine sandy loam, 0 to 1 percent slopes, occasionally flooded
94	Port silt loam, 0 to 1 percent slopes, frequently flooded
95	Pulaski fine sandy loam, 0 to 1 percent slopes, occasionally flooded

II. SPECIES ASSESSMENT

Endangered, Threatened, Candidate Species and Critical Habitat

The Endangered Species Act (ESA) of 1973 directs all federal agencies to participate in the conservation of endangered species; section 7 of the ESA requires that those agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any federally-listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat. Under the ESA, it is the responsibility of the federal action agency to determine the effects of a given action on federally-listed species or designated critical habitat. The Federal Highway Administration (FHWA) has delegated to the ODOT the authority to make such determinations, and to conduct informal consultation with the U. S. Fish and Wildlife Service (Service) under section 7 of the ESA. Although species that are candidates for listing are not afforded protection under the ESA, FHWA policy states that impacts on candidate species should be addressed in federal-aid highway project environmental documents.

The Oklahoma Ecological Services Field Office maintains a list of threatened, endangered and candidate species likely to occur in individual counties in Oklahoma; the known status of these species in a given county is also noted, as is the presence of designated critical habitat. The citations in Table 1 (below) were obtained from the Service's "species list by county" available on September 28, 2010 at URL <http://www.fws.gov/southwest/es/oklahoma>. These species are discussed individually below.

A letter from the ODOT requesting comments on the proposed reconstruction of SH-9 from US-77 (Norman) east approximately 29 miles to US-177 (Tecumseh) was sent to the Service on July 1, 2003; to our knowledge, no response was received from the Service. The acting ODOT biologist determined (on June 9, 2005) that the proposed widening of SH-9 (from a point approximately 0.23 miles west of the intersection of SH-9 and SE 24th Street to the intersection of SH-9 and SE 84th Street) would have no

effect on any federally-listed threatened, endangered or candidate species. The Federal Highway Administration approved an Environmental Assessment prepared for the widening of that stretch of SH-9 in Cleveland County on August 19, 2005. The projects associated with this stretch of highway reconstruction are currently undergoing reevaluation.

Table 1. Threatened, Endangered, Proposed and Candidate Species – Cleveland County, OK

Species/Critical Habitat	Listing status	Status of Species/Critical Habitat within Cleveland County	Species' Status within and adjacent to the Proposed Project Biological Study Area
Black-capped Vireo (<i>Vireo atricapilla</i>)	Endangered	County with documented occurrences, including breeding activities; and County situated within the probable migratory pathway between breeding and winter habitats, and contains sites that could provide stopover habitat during migration.	Migratory stopover (foraging) habitat occurs within the study area.
Interior Least Tern (<i>Sterna antillarum</i>)	Endangered	County with documented occurrences, including breeding activities; and County situated within the probable migratory pathway between breeding and winter habitats, and contains sites that could provide stopover habitat during migration.	No preferred loafing, foraging or nesting habitat occurs within or near the study area; the extreme western end of the study area occurs within an HUC 11 watershed known to harbor this species.
Whooping Crane (<i>Grus americana</i>)	Endangered	County with documented current occurrences (current defined as within the last 25 years); and County situated within the probable migratory pathway between breeding and winter habitats, and contains sites that could provide stopover habitat during migration.	No suitable roosting or foraging habitat occurs within or near the study area.
Piping Plover (<i>Charadrius melodus</i>)	Threatened	County situated within the probable migratory pathway between breeding and winter habitats, and contains sites that could provide stopover habitat during migration.	No suitable loafing or foraging habitat occurs within or near the study area.
Arkansas River shiner (<i>Notropis gerardi</i>)	Threatened	Known to occur in the Canadian River in Cleveland County.	No suitable habitat occurs within the study area; the extreme western end of the study area occurs within an HUC 11 watershed known to harbor this species.
Arkansas River shiner critical habitat	designated	Includes the main channel of the Canadian River in Cleveland County and adjacent riparian areas.	Designated critical habitat lies approximately 1.3 linear miles from the project site, at closest approach.

A query of element records housed at the Oklahoma Natural Heritage Inventory (ONHI) revealed recent records of the Interior Least Tern and the Arkansas River shiner (ONHI 2010); these records are from the Canadian River and adjacent areas to the west and south of the study area, and are discussed below. No historical or recent sightings of any other federally-listed species are known from within 5 miles of the study area. A pedestrian survey of the entire study area was conducted on September 29 and 30 and October 4 and 7, 2010. The habitat requirements of these species were reviewed and qualitatively compared with the environments observed during the pedestrian survey; the comparison was based upon a number of ecological characteristics, including the vegetation, topography and soils (and geological and hydrological features, where present) observed at the site, and the current land use of the site and surrounding areas. No federally-listed species was observed within or in areas adjacent to the study area on the survey date.

Black-capped vireo:

The Black-capped Vireo is a small migratory bird indigenous to mixed deciduous and evergreen shrubland in Kansas, Oklahoma, Texas and Mexico. Historically, this species is believed to have bred in suitable habitat throughout much of central Oklahoma; individuals arrive in Oklahoma as early as mid-April, and generally migrate south in late-August or early September (Collar et al. 1992). By the early 1990s Oklahoma populations of the Black-capped Vireo were apparently confined to several small areas in west-central Oklahoma; this species is believed to have been extirpated from intermediary portions of its current range (Grzybowski 1990). Breeding vireos utilize arid shrubland habitats with small and intermediate sized trees and shrubs and with vegetative cover that extends to ground level; in Oklahoma, oaks - particularly blackjack oak (*Quercus marilandica*) and post oak (*Quercus stellata*) - are the most common tree species in existing vireo habitat (U. S. Fish and Wildlife Service 1991). The Black-capped Vireo appears to prefer areas exhibiting a high degree of variation in the density of woody vegetation, and may avoid areas with an abundant growth of *Juniperus* species (Grzybowski et al. 1994). This species forages low in areas of scrubby vegetation, and consumes insects and spiders, as well as fruits (U. S. Fish and Wildlife Service 1991). Migrating vireos may utilize more mesic habitats, but they appear to prefer areas of dense shrubby vegetation.

Recent sightings of the Black-capped Vireo have been made to the north of the study area, on the east side of Stanley Draper Lake; the closest of these observation points lies approximately 9.3 linear miles from the study area. All areas within and adjacent to the environmental study area were examined during the field survey effort for the presence of suitable Black-capped Vireo foraging and nesting habitat. The environmental study area does not possess the nesting habitat characteristics apparently preferred by the Black-capped Vireo; those wooded areas with blackjack and post oaks exhibit these species in low numbers, and are dominated by eastern redcedar. Additionally, most of these areas exhibit trees of relatively uniform size and height, with little shrubby undergrowth. However, some areas (particularly the riparian zones of small streams in the western half of the study area) exhibit a greater degree of variation in the density of woody vegetation; the tree canopy in these areas has been opened up by the pruning effects of ice storms in the winters of 2007 and 2008, and possibly by tornado damage in the spring of 2010. A dense growth of saplings, shrubs and vines now occurs in many of these sites, where woody vegetative cover varying in height and density (and often extending to ground level) grows adjacent to intermittent and ephemeral streams; small openings occupied by herbaceous vegetation also occur sporadically. These sites generally encompass small streams and associated emergent wetlands, and are more mesic than nesting sites preferred by Black-capped Vireos. Black-capped Vireos could transit the study area during migration to sites near Lake Stanley Draper, and these areas could provide suitable foraging habitat for this species. However, given the small areas of potentially-suitable foraging habitat that will be disturbed by the proposed construction, and the short-lived and transitory nature of these areas

(which appear to have been created by relatively unusual storm events), the extent of suitable migratory stopover habitat available to the Black-capped Vireo should not be significantly affected by the proposed action. If Black-capped Vireos are observed within the study area at any point prior to or during construction, the ODOT will notify and further consult with the Service regarding this species. Any adverse impact to this species due to construction of this project would be extremely unlikely to occur, and should be discountable. This project, may affect, but will be unlikely to adversely affect the Black-capped Vireo.

Interior Least Tern and Piping Plover:

The Interior Least Tern and the Piping Plover are small migratory shorebirds. The Interior Least Tern breeds along inland river systems in the United States (including those in Oklahoma) and winters along the Central American and northern South American coastline (NatureServe 2008). Migrating terns may arrive in Oklahoma as early as late April, and generally occupy breeding sites by early June; the breeding season is usually complete by late August, and these birds are gone from Oklahoma by the end of September. Interior Least Terns forage for small fish in shallow water; low bars of wet sand or gravel associated with large rivers and reservoirs (particularly at the mouths of tributary streams) and floodplain wetlands are preferred feeding areas. Nesting habitat for this species includes bare or sparsely vegetated bars of sand and gravel, islands, and salt flats associated with wide, unobstructed river channels and reservoirs (U. S. Fish and Wildlife Service 1990). These birds prefer open habitat, and generally avoid narrow or heavily-vegetated beaches. While nesting Piping Plovers have been observed in Oklahoma (Boyd 1991), most have been sighted during spring and fall migration periods. Plovers begin their northward migration from wintering areas on the Gulf Coast of the southern U. S. in late February, and most individuals have arrived at their nesting grounds in the northern U. S. and Canada by mid-May. Plovers begin fall migration in mid- to late summer, with most individuals arriving at their Gulf Coast wintering areas by late September (NatureServe 2008). Piping Plovers may loaf and forage on sparsely vegetated sandy or gravelly shorelines and islands associated with the major river systems in Oklahoma; they forage near the waterline where their invertebrate prey are most readily available (U. S. Fish and Wildlife Service 1985).

All areas within and adjacent to the study area were examined during the field survey effort for the presence of suitable Interior Least Tern and Piping Plover loafing, foraging and nesting habitat. No habitat suitable for Interior Least Tern or Piping Plover loafing, foraging or nesting was observed within or in areas adjacent to the study area, and the aquatic features within the study area would not provide suitable habitat for these species. Breeding colonies of the Interior Least Tern are known to occur on the Canadian River in Cleveland County; the Service cites the Canadian River in Oklahoma as occupied by the Interior Least Tern (see Figure 3), and the extreme western end of the study area lies within an HUC 11 watershed adjacent to the River (Federally-Listed Aquatic Dependent Species Watersheds of Oklahoma, USFWS - Oklahoma Ecological Services Field Office – April 2010). The closest recently-observed Interior Least Tern breeding colony of which we are aware lies approximately 2.6 linear miles from the western end of the study area. The River is known to provide loafing, foraging and nesting habitat for Snowy Plovers, and may also provide loafing and foraging habitat for the Piping Plover. However, no drainage features occur within that portion of the study area that lies within the HUC 11 watershed adjacent to the Canadian River; this small area (lying west of 24th Street SE) is occupied by the existing SH-9 facility, private drives, and frequently-mowed lawn and grass hay meadow occurring on shaped soils. Although some surface runoff from this area may occur during precipitation events, the area appears to drain to small impoundments associated with residential developments. The remainder of the study area does not occur within an HUC 11 watershed known to harbor the Interior Least Tern (but instead drains to the Little River and Lake Thunderbird). Consequently, no changes in water quality in the

Canadian River will result from the proposed construction, and the aquatic food base of the Interior Least Tern and the Piping Plover will be unaffected by the proposed action. This project, as proposed, will have no effect on the Interior Least Tern and the Piping Plover.

Whooping Crane:

The Whooping Crane is a large, omnivorous wading bird which travels through Oklahoma during spring and fall migration periods. Whooping Cranes are known to utilize a wide variety of habitats during migration, feeding primarily on croplands and roosting in palustrine wetlands and in riverine habitats close to feeding areas (Howe 1987, U. S. Fish and Wildlife Service 1994). Whooping Cranes roost on shallowly-submerged sandbars in large river channels, primarily in areas that are isolated from anthropogenic disturbance (Armbruster 1990); in addition, cranes roost and feed in large palustrine wetlands.

All areas within and adjacent to the study area were examined during the field survey effort for the presence of suitable Whooping Crane roosting and foraging habitat. Small areas of open water and herbaceous palustrine wetlands will be affected by the proposed construction; however, these areas are too small to provide preferred roosting habitat for the crane. Additionally, these sites lie immediately adjacent to the existing, heavily-trafficked facility, and would not provide suitable migratory foraging habitat for this species. The Canadian River may provide suitable roosting and foraging habitat for the Whooping Crane, but the proposed construction will have no adverse impact on water quality in the River (as discussed above, with respect to the Interior Least Tern and Piping Plover). This project will have no effect on the Whooping Crane.

Arkansas River shiner:

The Arkansas River shiner is a small minnow indigenous to turbid, shallow waters of the primary channels of sandy-bottomed rivers and their tributaries in the Arkansas River drainage of Kansas, New Mexico, Oklahoma and Texas (Gilbert 1980). The historical range of the Arkansas River shiner included the Arkansas River basin in Kansas, New Mexico, Oklahoma, and Texas; this species is currently thought to be largely confined to the Canadian River in New Mexico, Oklahoma and Texas, although small populations may occur in the Cimarron and North Canadian/Beaver Rivers (U. S. Fish and Wildlife Service 2004).

All areas within and adjacent to the study area were examined during the field survey effort for the presence of suitable Arkansas River shiner foraging and breeding habitat; no suitable habitat for this species was observed within or in areas adjacent to the study area. The Arkansas River shiner is known to occur on the Canadian River in Cleveland County; the Service cites the Canadian River in Oklahoma as occupied by this species (see Figure 3), and the extreme western end of the study area lies within an HUC 11 watershed adjacent to the River (Federally-Listed Aquatic Species Watersheds of Oklahoma, USFWS - Oklahoma Ecological Services Field Office – April 2010). However, no drainage features occur within that portion of the study area that lies within the HUC 11 watershed adjacent to the Canadian River (as discussed above, with respect to the Interior Least Tern and Piping Plover) and the remainder of the study area does not occur within an HUC 11 watershed known to harbor the Arkansas River shiner, but instead drains to the Little River and Lake Thunderbird. Consequently, no changes in water quality in the Canadian River will result from the proposed construction. This project, as proposed, will have no effect on the Arkansas River shiner.

Critical habitat for the Arkansas River shiner is designated for the main channel of the Canadian River in

Cleveland County, extending upstream from the Indian Nation Turnpike Canadian River bridge to the SH-33 Canadian River bridge in Oklahoma. Designated critical habitat for the Arkansas River shiner encompasses the Canadian River channel within the line of bankfull discharge, as well as 300 linear feet of riparian zone (measured laterally from the line of bankfull discharge) adjacent to and on each side of that channel. This project does not involve construction-related activities in (or immediately adjacent to) designated Arkansas River shiner critical habitat (see Figure 3), which lies in excess of 2.0 linear miles from the study area, at closest approach. Although the extreme western end of the study area lies within an HUC 11 watershed adjacent to the River, no drainage features occur within that portion of the study area, and the proposed construction will have no adverse impact on water quality in the River (as discussed above, with respect to the Interior Least Tern and Piping Plover). This project will have no effect on designated critical habitat for the Arkansas River shiner.

Bald eagle

Bald eagles construct large nests of sticks (lined with softer materials) in large trees with relatively open canopies, or on cliffs; nests may be used for several consecutive years by the same mating pair (Buehler 2000). This long-lived species usually nests in large trees located within one to two miles (1.6 to 3.2 km) of large rivers and reservoirs, most often in areas that are relatively free of human disturbance (U. S. Fish and Wildlife Service 1999) and that provide an abundant source of food. Bald eagles prefer to feed on fish, but will consume a wide range of amphibian, avian and mammalian prey species. Bald eagles are most common in Oklahoma in the winter months (December through March); although nesting eagles are concentrated in eastern Oklahoma, their range appears to be expanding and they are known to occur in Cleveland County (ONHI 2003; pers. obs.).

The Service removed the Bald Eagle from the Federal List of Endangered and Threatened Wildlife and Plants on June 29, 2007; however, the Bald Eagle still receives federal protection under the Bald and Golden Eagle Protection Act (Eagle Act). Destruction or degradation of habitat that will disturb eagles is prohibited under the Eagle Act, as is the taking of any eagle nest, whether active or inactive. Although formal consultation under section 7 of the Endangered Species Act is no longer required for the Bald Eagle, the Service strongly encourages other state and federal agencies to abide by the National Bald Eagle Management Guidelines, which provide recommendations for avoiding disturbance around active, inactive, and alternate nest sites.

All areas within and adjacent to the study area were examined during the field survey effort for the presence of Bald Eagle nests and suitable eagle foraging and nesting habitat. No eagles, Bald Eagle nests or evidence of use of the study area by the Bald Eagle were observed during the survey periods. No preferred foraging habitat for eagles was observed within the study area. The proposed construction is not expected to impact the Bald Eagle.

Swallows

The existing drainage structures and bridges within the study area were examined during the field survey effort for the presence of Swallow nests. Cliff Swallow (*Petrochelidon pyrrhonota*) nests were observed on the lower surface of the existing SH-9 bridge spanning Dave Blue Creek (Field Site 26) and within the RCB serving an unnamed tributary of Dave Blue Creek (Field Site 9) during the field survey of the study area; Barn Swallow nests were observed within the SH-9 RCBs serving Field Sites 13, 18, 22 and 27. Cliff Swallows are gregarious migratory birds which commonly nest in large colonies; the gourd-shaped mud nests are often constructed on cliffs and under bridges. The insectivorous birds catch their prey in flight, often over water. Cliff Swallows may be present in Oklahoma from March until early October.

Nest building and repair generally occurs by mid-May, and most young swallows fledge and begin the fall migration in July and August; however, late nesters may not leave until September. Barn Swallows are a widely-distributed migratory bird which once nested in caves, but now constructs nests almost entirely on artificial structures, including under bridges and in culverts. The insectivorous birds catch their prey in flight, often over water. Barn Swallows may be present in Oklahoma from late February to early November; most arrive in early March, and depart by mid-October. Nest building and repair generally occurs soon after arrival, and many young swallows fledge and begin the fall migration in July and August; however, late nesters may not leave until early November.

Cliff Swallows and Barn Swallows receive federal protection under the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128 as amended). The take of any migratory bird (including any body part, nests or eggs) is prohibited under the Act, although the alteration or destruction of migratory bird habitat is not. The Service strongly encourages other state and federal agencies conducting actions during the nesting season (generally, from April through September) to survey for the presence of nesting migratory birds, and to avoid activity near active nests until nesting activity concludes. If work on a structure harboring nesting birds must occur during the nesting period, existing structures may be protected from nest establishment by means that do not result in death or injury to these birds; suitable means include the exclusion of adult birds from suitable nest sites on or within a structure by the placement of netting, deterrent spike strips, or bird deterrent liquid or gel prior to the beginning of the nesting season.

III. POTENTIAL JURISDICTIONAL WATERS AND WETLANDS EVALUATION

The study area occurs within Land Resource Regions H (Central Great Plains Winter Wheat and Range Region) and J (Southwestern Prairies Cotton and Forage Region) (NRCS 2010). The entire study area was visually inspected to locate areas of potentially-jurisdictional wetlands and waterways. Each potential area of wetland was evaluated according to the United States Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual, and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region. Waterways were characterized on the basis of channel morphology, estimated flow patterns, and associated vegetation; indications of an ordinary high water mark (such as a clear, natural line impressed on the bank, the presence of water-deposited litter or debris, shelving, the destruction of terrestrial vegetation, or pronounced changes in vegetation types) were also noted. This finding has been performed and prepared in compliance with Executive Order 11990, "Protection of Wetlands" and is in compliance with 23 CFR 771, 777 and Technical Advisory T6640.8A. The USACE 1987 Wetland Delineation Manual and the Interim Regional Supplements are limited in scope to those wetlands that may be considered to be "waters of the United States" and are thus subject to the Clean Water Act section 404 regulatory program. The Manual and Supplements specify that, under normal circumstances, three positive wetland indicators - a predominance of hydrophytic vegetation, the presence of hydric soils and verifiable wetland hydrology - must be present at a given site for that site to be identified as a jurisdictional wetland subject to regulation by the USACE. The identification of jurisdictional waterways is predicated on the verification in the field of characteristics generally associated with non-wetland aquatic ecosystems, such as channel and watershed characteristics, water flow rates and patterns, and associated vegetation.

Ten mapped drainage features (Dave Blue Creek and its unnamed tributaries) occur within the study area. Six unmapped ephemeral drainage features, eight ponds, and six small areas of emergent, scrub-shrub and forested wetlands associated with these streams were observed within the study area; these aquatic and semi-aquatic features are described below. The referenced Field Sites are depicted on the attached site map (Figure 6), and are pictured in the attached photographs. Wetland data collection forms are also included with this document. No other potentially-jurisdictional waters or wetlands were observed within

the study area.

Field Site 1 is an ephemeral drainage feature (an unnamed tributary of Dave Blue Creek) which originates in an occasionally mowed area surrounded by residential developments a short distance north of the study area (see images from Photo Sites 5, 6 and 7). North of SH-9, the feature is a maintained drainage ditch which carries runoff from bordering city streets and paved areas, and occasionally receives overflow from an excavated landscape pond (FS 3) associated with the Postal Training Center. South of SH-9 the feature extends between mowed lawn and improved pastureland, and flows into ponds associated with a residential development to the south. That reach of this feature within the study area occupies a shaped (and occasionally maintained) drainage swale; the bed of the feature is vegetated with southern cattail (*Typha domingensis*), common threesquare (*Schoenoplectus pungens*), bushy bluestem (*Andropogon glomeratus*), barnyardgrass (*Echinochloa crus-galli*) and spikerush (*Eleocharis* sp.). The stream was largely dry on the survey date. This feature is mapped as an intermittent stream on the Norman (3509724) 7.5 minute topographic quad map; the mapped segment of the stream extends slightly within the southern portion of the study area. Although this feature appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events, segments of this stream exhibit an ordinary high water mark (OHWM, as evidenced by changes in terrestrial vegetation), and it drains an adjacent wetland (FS 2) and an excavated pond (FS 3). This feature may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this drainage feature, the placement of fill material into the stream would be a permit-required activity. An estimated 882.0 linear feet (0.214 acre) of Field Site 1 occurs within the study area.

Field Site 2 consists of a shallow depression in an occasionally mowed area surrounded by residential developments, and is associated with an ephemeral drainage feature (FS 1); see image from Photo Site 6. This wetland is vegetated with a near-monoculture of southern cattail (*Typha domingensis*). This area receives surface flow from adjacent uplands and roadside drainage, and overflows into FS 1. This wetland would be classified as PEM1A (palustrine, emergent, persistent, temporarily flooded) following the Cowardin system. This area is vegetated with herbaceous wetland species occurring on hydric soils, and the feature directly abuts a potentially-jurisdictional waters. This site may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this area, the placement of fill material into the site would be a permit-required activity. An estimated 0.074 acre of Field Site 2 occurs within the study area.

Field Site 3 consists of an excavated (landscaped and maintained) pond associated with the Postal Training facility, and which appears to receive runoff from the developed portions of that facility. The pond overflows into FS 1 when filled to capacity. This feature would be classified as PUBHx (palustrine, unconsolidated bottom, permanently flooded, excavated) following the Cowardin system. This feature appears to have been excavated in uplands; consequently, the USACE may exclude it from jurisdiction under section 404 of the Clean Water Act. However, if the USACE assumes jurisdiction over this feature, the placement of fill material into the site would likely be a permit-required activity. An estimated 1.25 acres of Field Site 3 occurs within the study area.

Field Site 4 consists of an excavated pond which appears to receive runoff from the highway, and from a commercial development to the south (see image from Photo Site 8). The pond overflows into FS 5 when filled to capacity. The pond is bordered by developed and maintained areas, and is fringed with southern cattail (*Typha domingensis*). This feature would be classified as PUBHx (palustrine, unconsolidated bottom, permanently flooded, excavated) following the Cowardin system. This feature appears to have been excavated in uplands, and does not appear to be associated with any likely-jurisdictional waters; consequently, the USACE may consider this feature to be isolated, and may exclude it from jurisdiction

under section 404 of the Clean Water Act. However, if the USACE assumes jurisdiction over this feature, the placement of fill material into the site would likely be a permit-required activity. An estimated 0.330 acre of Field Site 4 occurs within the study area.

Field Site 5 consists of shallow depression which receives overflow from FS 4, and runoff from the paved private drive immediately to the west (see image from Photo Site 9). This small site is occupied by a dense growth of saplings and small trees of black willow (*Salix nigra*) and green ash (*Fraxinus pennsylvanica*) occurring among eastern poison ivy (*Toxicodendron radicans*); the site is bordered by eastern cottonwood (*Populus deltoides*), American elm (*Ulmus americana*), eastern redbud (*Cercis canadensis*), eastern redcedar (*Juniperus virginiana*) and roughleaf dogwood (*Cornus drummondii*). This site drains eastward via a small ephemeral drainage feature with a discontinuous OHWM, ultimately flowing into FS 7. This wetland would be classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded) following the Cowardin system. This area is vegetated with woody wetland species occurring on hydric soils; however, the site is connected to a likely-jurisdictional waters via an ephemeral drainage feature with no continuous evident OHWM. Consequently, the USACE may consider this feature to be isolated, and may exclude it from jurisdiction under section 404 of the Clean Water Act. However, if the USACE assumes jurisdiction over this feature, the placement of fill material into the site would likely be a permit-required activity. An estimated 0.034 acre of Field Site 5 occurs within the study area.

Field Site 6 is a small artificial pond (see image from Photo Site 10); this feature is an impoundment of an unmapped ephemeral stream (FS 7). The pond is bordered by commercial and residential developments, with pastureland to the north. The pond appears to receive primarily runoff from the adjacent developed areas, and exhibited a heavy algal bloom on the survey date. This feature would be classified as PUBHh (palustrine, unconsolidated bottom, permanently flooded, diked/impounded) following the Cowardin system. This feature is an impoundment of a potentially-jurisdictional waters; if the USACE assumes jurisdiction over the stream (FS 7) associated with this pond, the placement of fill material into the pond may be a permit-required activity. An estimated 0.206 acre of this feature occurs within the study area.

Field Site 7 is an unmapped ephemeral stream (an unnamed tributary of Dave Blue Creek) which receives overflow from Field Site 6 (and possibly seep drainage from below the pond dam); see images from Photo Sites 11, 12, 13 and 14. This narrow, shallow stream exhibits a temporarily flooded bed of silt, sand and clay. North of SH-9 the bed and low banks of the feature are vegetated with southern cattail (*Typha domingensis*), common threesquare (*Schoenoplectus pungens*), bushy bluestem (*Andropogon glomeratus*), barnyardgrass (*Echinochloa crus-galli*) and spikerush (*Eleocharis* sp.). South of the highway the narrow stream bed is scoured and largely lacking in vegetation, and extends through forested wetlands (FS 8). Although this feature is not mapped on the Norman (3509724) 7.5 minute topographic quad map, and appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events, the stream exhibits an evident OHWM (evidenced by changes in vegetation and the destruction of terrestrial vegetation), and it drains a pond (FS 6) and an adjacent wetland (FS 8). This feature may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this drainage feature, the placement of fill material into the stream would be a permit-required activity. An estimated 779.8 linear feet (0.143 acre) of Field Site 7 occurs within the study area.

Field Site 8 consists of a forested wetland which occurs within a broad swale to the south of SH-9, and is associated with an ephemeral drainage feature (FS 7); see images from Photo Sites 12, 13 and 14. This wetland is vegetated with saplings and small trees of sugarberry (*Celtis laevigata*), American elm (*Ulmus americana*) and green ash (*Fraxinus pennsylvanica*) occurring among whitegrass (*Leersia virginica*),

Canada wildrye (*Elymus canadensis*), Indian woodoats (*Chasmanthium latifolium*), barnyardgrass (*Echinochloa crus-galli*), fall panicgrass (*Panicum dichotomiflorum*) and devil's beggartick (*Bidens frondosa*). This wetland receives overflow from an ephemeral stream (FS 7), as well as from the highway, and is connected to a mapped stream via FS 7. This wetland would be classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded) following the Cowardin system. This area is vegetated with woody and herbaceous wetland species occurring on hydric soils, and the feature directly abuts a potentially-jurisdictional waters. This site may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this area, the placement of fill material into the site would be a permit-required activity. An estimated 0.388 acre of Field Site 8 occurs within the study area.

Field Site 9 is a mapped intermittent stream (an unnamed tributary of Dave Blue Creek) which originates in pastureland just over 1.5 miles north of SH-9, and which flows into Dave Blue Creek approximately 1.5 miles downstream of the study area (see images from Photo Sites 15, 16 and 17). This stream exhibits a seasonally- or semi-permanently flooded bed of silt, sand and clay. North of SH-9 the bed and low banks of the stream have been shaped, and are largely vegetated with southern cattail (*Typha domingensis*), common threesquare (*Schoenoplectus pungens*), bushy bluestem (*Andropogon glomeratus*), barnyardgrass (*Echinochloa crus-galli*), spikerush (*Eleocharis* sp.) and saplings of black willow (*Salix nigra*) and narrowleaf willow (*Salix exigua*). South of the highway the narrow stream bed appears to be scoured and is largely lacking in vegetation; the stream is impounded behind a small beaver dam located near the southern edge of the study area. The west bank of the stream is bordered by a low, narrow bench occupied by forested wetland; the high banks of the stream are flanked by upland woodland. This stream will likely be considered jurisdictional by the USACE. An estimated 637.8 linear feet (0.528 acre) of Field Site 9 occurs within the study area.

Field Site 10 consists of a forested wetland which occurs on a low bench adjacent to the west low bank of FS 9 (see image from Photo Site 16). This wetland is vegetated with saplings and small trees of box elder (*Acer negundo*), sugarberry (*Celtis laevigata*), American elm (*Ulmus americana*) and green ash (*Fraxinus pennsylvanica*) occurring among whitegrass (*Leersia virginica*), Canada wildrye (*Elymus canadensis*), Indian woodoats (*Chasmanthium latifolium*), barnyardgrass (*Echinochloa crus-galli*), fall panicgrass (*Panicum dichotomiflorum*), wingstem (*Verbesina alternifolia*), lateflowering thoroughwort (*Eupatorium serotinum*) and devil's beggartick (*Bidens frondosa*). This wetland receives overflow from an intermittent stream (FS 9). This wetland would be classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded) following the Cowardin system. This area is vegetated with woody and herbaceous wetland species occurring on hydric soils, and the feature directly abuts a likely-jurisdictional waters. This site may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this area, the placement of fill material into the site would be a permit-required activity. An estimated 0.108 acre of Field Site 10 occurs within the study area.

Field Site 11 is an artificial pond (see image from Photo Site 20); this feature is an impoundment of a mapped intermittent stream (FS 12), and is surrounded by improved pasture. The pond appears to receive surface runoff from the adjacent pasturelands, as well as overflow from a series of smaller ponds to the north. This feature would be classified as PUBHh (palustrine, unconsolidated bottom, permanently flooded, diked/impounded) following the Cowardin system. This feature is an impoundment of a likely-jurisdictional waters; if the USACE assumes jurisdiction over the stream (FS 12) associated with this pond, the placement of fill material into the pond may be a permit-required activity. An estimated 0.288 acre of this feature occurs within the study area.

Field Site 12 is a mapped intermittent stream (an unnamed tributary of Dave Blue Creek) which

originates in a series of small ponds a short distance north of SH-9, and which is impounded a short distance south of the highway (see images from Photo Sites 21, 23 and 24). This narrow, shallow stream exhibits a seasonally flooded bed of silt, sand and clay. North of SH-9 the stream channel extends through brushy woodland, and considerable amounts of down timber occlude the stream channel in many areas, resulting in numerous small shallow impoundments. Portions of the stream bed are lacking in vegetation, while other areas are vegetated with whitegrass (*Leersia virginica*), barnyardgrass (*Echinochloa crus-galli*), devil's beggartick (*Bidens frondosa*), sweetscent (*Pluchea odorata*) and smartweed (*Polygonum* spp.); southern cattail (*Typha domingensis*) occurs in the stream bed in some areas. South of the highway the narrow stream bed appears to be scoured and is largely lacking in vegetation; the stream occupies a broad, shallow swale and is bordered by forested wetland. This stream will likely be considered jurisdictional by the USACE. An estimated 1424.7 linear feet (0.412 acre) of Field Site 12 occurs within the study area.

Field Site 13 is an unmapped ephemeral stream (an unnamed tributary of Dave Blue Creek) which originates in pastureland immediately north of the study area, and which flows into Field Site 12 near the northern edge of the existing SH-9 right-of-way. This narrow gully exhibits a temporarily flooded bed of silt, sand and clay, steeply-inclined banks largely lacking in vegetation, and is bordered by improved pasture and brushy woodland; the stream was dry on the survey date. Although this stream exhibits an OHWM (evidenced by the destruction of terrestrial vegetation), it is not mapped on the Norman (3509724) 7.5 minute topographic quad map, and appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events. This feature is not likely to be subject to regulation by the USACE, which generally does not assert jurisdiction over such erosional features (United States Army Corps of Engineers and United States Environmental Protection Agency 2007). An estimated 238.4 linear feet (0.047 acre) of Field Site 13 occur within the study area.

Field Site 14 consists of a forested wetland which occurs within a broad swale to the south of SH-9, and is associated with an intermittent stream (FS 12); see images from Photo Sites 23 and 24. This wetland is vegetated with saplings, small and medium-sized trees of green ash (*Fraxinus pennsylvanica*), pecan (*Carya illinoensis*), black walnut (*Juglans nigra*), black willow (*Salix nigra*) and narrowleaf willow (*Salix exigua*), occurring among a dense undergrowth of Canada wildrye (*Elymus canadensis*), whitegrass (*Leersia virginica*), marsh bristlegrass (*Setaria parviflora*), barnyardgrass (*Echinochloa crus-galli*), spikerush (*Eleocharis* sp.), lateflowering thoroughwort (*Eupatorium serotinum*) and flatsedge (*Cyperus* sp.), with scattered individuals of tall fescue (*Schedonorus phoenix*), lanceleaf fogfruit (*Phyla lanceolata*), desert false indigo (*Amorpha fruticosa*), devil's beggartick (*Bidens frondosa*) and sweetscent (*Pluchea odorata*). This wetland receives overflow from an intermittent stream (FS 12), as well as from the highway, and may occasionally be flooded by backwater from the large pond immediately downstream. This wetland would be classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded) following the Cowardin system. This area is vegetated with woody and herbaceous wetland species occurring on hydric soils, and the feature directly abuts a likely-jurisdictional waters. This site may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this area, the placement of fill material into the site would be a permit-required activity. An estimated 0.475 acre of Field Site 14 occurs within the study area.

Field Site 15 is an artificial pond (see image from Photo Site 25); this feature appears to capture surface runoff from surrounding lawns, pastureland and the highway. The pond likely drains (when filled to capacity) into Field Site 12, but this occurrence appears to happen very rarely. The pond is bordered by maintained lawn, mowed pasture, and scattered trees, and is fringed with southern cattail (*Typha domingensis*) and spikerush (*Eleocharis* sp.). This feature would be classified as PUBHh (palustrine, unconsolidated bottom, permanently flooded, diked/impounded) following the Cowardin system. This

feature does not appear to be directly associated with any likely-jurisdictional waters; consequently, the USACE may consider this feature to be isolated, and may exclude it from jurisdiction under section 404 of the Clean Water Act. However, if the USACE assumes jurisdiction over this feature, the placement of fill material into the site would likely be a permit-required activity. An estimated 0.315 acre of Field Site 15 occurs within the study area.

Field Site 16 is an artificial pond (see image from Photo Site 26); this feature appears to capture surface runoff from surrounding lawns, pastureland and the highway. The pond likely drains to the north (when filled to capacity) into the south-side SH-9 drainage ditch, but this occurrence appears to happen very rarely. The pond is bordered by maintained lawn, mowed pasture, and scattered trees, and is fringed with southern cattail (*Typha domingensis*) and spikerush (*Eleocharis* sp.). This feature would be classified as PUBHh (palustrine, unconsolidated bottom, permanently flooded, diked/impounded) following the Cowardin system. This feature does not appear to be directly associated with any likely-jurisdictional waters; consequently, the USACE may consider this feature to be isolated, and may exclude it from jurisdiction under section 404 of the Clean Water Act. However, if the USACE assumes jurisdiction over this feature, the placement of fill material into the site would likely be a permit-required activity. An estimated 0.455 acre of Field Site 16 occurs within the study area.

Field Site 17 is a small artificial pond (see image from Photo Site 28); this feature is an impoundment of an unmapped ephemeral stream (FS 18). The pond is bordered by pastureland, and appears to primarily receive runoff from improved pastures and lawns associated with residences located to the west of 48th Street SE; the dam of the pond is cut (washed out) and it currently ponds water only shallowly. The lowest elevations of the basin are lacking in vegetation, while higher slopes are occupied by rough cocklebur (*Xanthium strumarium*) and giant goldenrod (*Solidago gigantea*). The shallow basin that currently exists would be classified as PUBA (palustrine, unconsolidated bottom, temporarily flooded) following the Cowardin system. This feature is an impoundment of a potentially-jurisdictional waters; if the USACE assumes jurisdiction over the stream (FS 18) associated with this pond, the placement of fill material into the pond may be a permit-required activity. An estimated 0.030 acre of this feature occurs within the study area.

Field Site 18 is an unmapped ephemeral stream (an unnamed tributary of Dave Blue Creek) which originates in improved pasture a short distance north of the study area, and flows into Dave Blue Creek less than 0.5 mile south of the study area (see images from Photo Sites 29 and 30). North of the existing SH-9 right-of-way the feature occupies a broad swale in a small stand of brushy woodland and lacks a continuous evident OHWM; within and downstream of the study area the feature exhibits an evident OHWM (evidenced by the destruction of terrestrial vegetation). This narrow gully exhibits a temporarily flooded bed of silt, sand, clay and gravel, steeply-inclined banks largely lacking in vegetation, and is bordered by pasture and brushy woodland; the stream was dry on the survey date. Although this feature is not mapped on the Denver (3509723) 7.5 minute topographic quad map, and appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events, segments of the stream exhibit an evident OHWM (evidenced by changes in vegetation and the destruction of terrestrial vegetation), and it drains a series of small ponds (including FS 17). This feature may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this drainage feature, the placement of fill material into the stream would be a permit-required activity. An estimated 772.8 linear feet (0.102 acre) of Field Site 18 occurs within the study area.

Field Site 19 is an artificial pond (see image from Photo Site 34); this feature is an impoundment of a mapped intermittent stream (FS 22), and is surrounded by grass hay meadow. The pond appears to receive surface runoff from the adjacent pasturelands, as well as overflow from a series of smaller ponds to the

north. This feature would be classified as PUBHh (palustrine, unconsolidated bottom, permanently flooded, diked/impounded) following the Cowardin system. This feature is an impoundment of a likely-jurisdictional waters; if the USACE assumes jurisdiction over the stream (FS 22) associated with this pond, the placement of fill material into the pond may be a permit-required activity. An estimated 0.014 acre of this feature occurs within the study area.

Field Site 20 is an unmapped ephemeral stream (which lies below the spillway of FS 19), and which receives overflow from FS 19; see image from Photo Sites 35 and 36. This narrow, shallow gully exhibits a temporarily flooded bed of silt, sand and clay. This narrow gully exhibits a temporarily flooded bed of silt, sand, clay and gravel, steeply-inclined banks largely lacking in vegetation, and is bordered by hay meadow and brushy woodland; the stream was dry on the survey date. Although this feature is not mapped on the Denver (3509723) 7.5 minute topographic quad map, and appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events, segments of the stream exhibit an evident OHWM (evidenced by the destruction of terrestrial vegetation), and it drains a series of small ponds (including FS 19). This feature may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this drainage feature, the placement of fill material into the stream would be a permit-required activity. An estimated 228.0 linear feet (0.048 acre) of Field Site 20 occurs within the study area.

Field Site 21 consists of an emergent and scrub-shrub wetland which occurs within a broad shallow depression immediately north of the existing SH-9 right-of-way, and is associated with ephemeral and intermittent streams (FS 20 and 22); see image from Photo Site 37. This wetland is vegetated with southern cattail (*Typha domingensis*), bushy bluestem (*Andropogon glomeratus*), whitegrass (*Leersia virginica*), Canada wildrye (*Elymus canadensis*) and spikerush (*Eleocharis* sp.), with saplings of black willow (*Salix nigra*) and eastern cottonwood (*Populus deltoides*). The lowest elevations within the basin were flooded on the survey date; the ponded water was occupied by a dense bloom of green algae. The feature impounds water behind a low dam, receives runoff from adjacent uplands and SH-9, as well as overflow from the pond upstream, and may receive seep drainage from below the dam of FS 19. The basin drains (when filled to capacity) into FS 22. This wetland would be classified as PEM/SS1C (palustrine, emergent, persistent / scrub-shrub, broad-leaved deciduous, seasonally flooded) following the Cowardin system. This area is vegetated with woody and herbaceous wetland species occurring on hydric soils, and the feature exhibits a surface connection to a likely-jurisdictional waters. This site may be subject to jurisdiction under section 404 of the Clean Water Act. If the USACE assumes jurisdiction over this area, the placement of fill material into the site would be a permit-required activity. An estimated 0.361 acre of Field Site 21 occurs within the study area.

Field Site 22 is a mapped intermittent stream (an unnamed tributary of Dave Blue Creek) which originates in a series of small ponds a short distance north of SH-9, and which flows into Dave Blue Creek a short distance south of the highway (see images from Photo Sites 31 and 32). This narrow, shallow stream exhibits a seasonally flooded bed of silt, sand and clay. North of SH-9 the feature is impounded behind a low dam (to form FS 21); south of SH-9 the stream channel extends through brushy woodland. Portions of the stream bed are lacking in vegetation, while other areas are vegetated with whitegrass (*Leersia virginica*), devil's beggartick (*Bidens frondosa*) and smartweed (*Polygonum* sp.). This stream will likely be considered jurisdictional by the USACE. An estimated 395.6 linear feet (0.094 acre) of Field Site 22 occurs within the study area.

Field Site 23 is an unmapped ephemeral stream (an unnamed tributary of Dave Blue Creek) which originates in improved pasture and a residential development a short distance north of the study area, and which is impounded a short distance downstream of the study area (see images from Photo Sites 38 and

39). North of the existing SH-9 right-of-way the feature occupies a broad swale in a small stand of eastern redcedar trees and lacks a continuous evident OHWM; within and downstream of the study area the feature exhibits an evident OHWM (evidenced by the destruction of terrestrial vegetation). This narrow, shallow stream exhibits a temporarily flooded bed of silt, sand and gravel, the low banks are largely lacking in vegetation, and are bordered by brushy woodland of eastern redcedar (*Juniperus virginiana*) and post oak (*Quercus stellata*). The stream was dry on the survey date. Although this stream exhibits an OHWM (evidenced by the destruction of terrestrial vegetation), it is not mapped on the Denver (3509723) 7.5 minute topographic quad map, and appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events. This feature is not likely to be subject to regulation by the USACE, which generally does not assert jurisdiction over such erosional features (United States Army Corps of Engineers and United States Environmental Protection Agency 2007). An estimated 627.7 linear feet (0.074 acre) of Field Site 23 occur within the study area.

Field Site 24 is an unmapped ephemeral stream (an unnamed tributary of Dave Blue Creek) which originates in the existing SH-9 right-of-way, and which flows into Dave Blue Creek a short distance south of the highway (see image from Photo Site 40). North of the existing SH-9 right-of-way no drainage feature exhibiting an OHWM was observed; within and downstream of the study area the feature exhibits an evident OHWM. This narrow gully exhibits a temporarily flooded bed of silt, sand and gravel, the steeply-inclined banks are lacking in vegetation, and are bordered by brushy woodland. The stream was dry on the survey date. Although segments of this stream exhibit an OHWM (evidenced by the destruction of terrestrial vegetation), it is not mapped on the Denver (3509723) 7.5 minute topographic quad map, and appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events. This feature is not likely to be subject to regulation by the USACE, which generally does not assert jurisdiction over such erosional features (United States Army Corps of Engineers and United States Environmental Protection Agency 2007). An estimated 354.3 linear feet (0.054 acre) of Field Site 24 occur within the study area.

Field Site 25 is a mapped intermittent stream (an unnamed tributary of Dave Blue Creek) which originates in a residential development a short distance north of SH-9, and which flows into Dave Blue Creek approximately 0.5 mile south of the highway (see images from Photo Sites 41 and 42). This stream exhibits a seasonally flooded bed of silt, sand, clay and gravel; the stream was dry on the survey date. North of SH-9 the narrow, shallow feature is bordered by maintained lawns and scattered trees and brush. Immediately south of SH-9 the stream bed is heavily degraded, and the deep channel extends through brushy woodland; the steeply-inclined to overhanging banks are sparsely vegetated with roughleaf dogwood (*Cornus drummondii*), eastern poison ivy (*Toxicodendron radicans*), saw greenbrier (*Smilax bona-nox*) and Indian woodoats (*Chasmanthium latifolium*). This stream will likely be considered jurisdictional by the USACE. An estimated 639.6 linear feet (0.171 acre) of Field Site 25 occurs within the study area.

Field Site 26 is a mapped perennial stream (Dave Blue Creek) which originates in largely-developed uplands several miles northwest of the study area, and which flows into Lake Thunderbird approximately 2.3 stream miles downstream of the highway (see images from Photo Sites 45, 46, 47 and 48). This stream exhibits a permanently flooded bed of silt, sand, clay, gravel and rubble. Small quantities of slowly-flowing water were observed in portions of the stream bed on the survey date; large pools of standing water were impounded behind accumulated drift both upstream and downstream of the highway. Within the study area the stream is bordered by a narrow riparian zone of saplings, small trees and brush, and extends through woodland, grass hay meadow and residential areas. The steeply-inclined to vertical banks are generally lacking in vegetation, though some small areas of slumping soils adjacent to the stream bed are vegetated with Johnsongrass (*Sorghum halepense*), whitegrass (*Leersia virginica*),

barnyardgrass (*Echinochloa crus-galli*), rough cocklebur (*Xanthium strumarium*), false daisy (*Eclipta prostrata*), swamp smartweed (*Polygonum hydropiperoides*), and saplings of box elder (*Acer negundo*) and eastern cottonwood (*Populus deltoides*). This stream will likely be considered jurisdictional by the USACE. An estimated 1519.4 linear feet (1.080 acre) of Field Site 26 occurs within the study area.

Field Site 27 is a mapped intermittent stream (an unnamed tributary of Dave Blue Creek) which originates in a wooded uplands approximately 2 miles upstream of the study area, and which flows into Dave Blue Creek a short distance north of the highway (see images from Photo Sites 49 and 50). This stream appears to have been artificially straightened in the vicinity of the study area, and exhibits a seasonally flooded bed of silt, sand and gravel; the stream was dry on the survey date. Within the study area the stream is bordered by a very narrow fringe of saplings, small and medium-sized trees, and extends through grass hay meadow and pastureland. This stream will likely be considered jurisdictional by the USACE. An estimated 891.3 linear feet (0.361 acre) of Field Site 27 occurs within the study area.

Field Site 28 is a mapped stream which originates in maintained pastureland a short distance south of SH-9, transits the highway via a small culvert, and which flows into Dave Blue Creek approximately 0.5 miles north of the highway (see images from Photo Sites 53, 54 and 55). This feature occupies a broad swale within and near the study area; the swale is occupied by improved pasture to the south of SH-9, and by a stand of eastern redcedar (*Juniperus virginiana*) to the north of the highway. The swale and adjacent areas are similarly vegetated throughout the study area. This swale receives surface (sheet) flow from adjacent uplands, and was entirely dry on the survey date. Near the northern edge of the study area the feature exhibits a narrow, discontinuous OHWM, which largely follows a cattle trail. This feature appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events; within and upstream of the study area, this feature drains only uplands. However, the stream is mapped on the Denver (3509723) 7.5 minute topographic quad map, and it may be subject to regulation by the USACE. An estimated 684.5 linear feet of Field Site 28 occurs within the study area.

Field Site 29 is an unmapped ephemeral stream (an unnamed tributary of Dave Blue Creek) which originates in maintained woodland just south of SH-9, and which flows into Dave Blue Creek approximately 0.5 miles north of the highway (see images from Photo Sites 56 and 57). No continuous evident OHWM was observed in association with this feature, which occupies a broad swale (occupied by scattered trees with a frequently-mowed understory to the south of SH-9, and by brushy woodland to the north of the highway). This narrow gully exhibits a temporarily flooded bed of silt, sand and gravel, the steeply-inclined banks are lacking in vegetation, and are bordered by brushy woodland. The stream was dry on the survey date. This feature is not mapped on the Denver (3509723) 7.5 minute topographic quad map, and exhibits no continuous evident OHWM within the study area. This feature is not likely to be subject to regulation by the USACE, which generally does not assert jurisdiction over such erosional features (United States Army Corps of Engineers and United States Environmental Protection Agency 2007). An estimated 615.3 linear feet of Field Site 29 occur within the study area.

Field Site 30 is a mapped stream which originates in woodland a short distance south of SH-9, flows within the south SH-9 roadside drainage ditch and transits the highway via a small culvert, and which flows into Dave Blue Creek approximately 0.5 miles north of the highway (see images from Photo Sites 58, 59 and 60). This feature occupies a broad swale within and near the study area; the swale is occupied by brushy woodland to the south of SH-9, and by woodland and pasture to the north of the highway. The swale and adjacent areas are similarly vegetated throughout the study area, although a few scattered black willow (*Salix nigra*) trees occur within the SH-9 drainage ditch. This swale receives surface (sheet) flow from adjacent uplands, and was entirely dry on the survey date. This feature appears to be an ephemeral stream that carries surface water only during and immediately following rainfall events, and no

continuous evident OHWM was observed in association with the feature. However, the stream is mapped on the Denver (3509723) 7.5 minute topographic quad map, appears to drain a small pond to the south of the study area, and it may be subject to regulation by the USACE. An estimated 1113.3 linear feet of Field Site 30 occurs within the study area.

One mapped perennial stream (Dave Blue Creek) occurs within the study area; this feature is mapped on the Denver (3509723) 7.5 minute topographic quad map, exhibits characteristics of jurisdictional waters, and is likely subject to regulation by the USACE under section 404 of the Clean Water Act. An estimated 1519.4 linear feet (1.080 acre) of perennial stream occurs within the study area. Five mapped intermittent streams occur within the study area; these features are mapped on the Denver (3509723) and Norman (3509724) 7.5 minute topographic quad maps, exhibit characteristics of jurisdictional waters, and are likely subject to regulation by the USACE under section 404 of the Clean Water Act. An estimated 3989.0 linear feet (1.566 acre) of intermittent stream occurs within the study area. Four drainage features that are mapped as intermittent streams, but that appear to be ephemeral in nature were observed at the site, totaling 3452.6 linear feet and 0.316 acre; these features may be subject to regulation by the USACE. Eight ponds (totaling 2.888 acre) were observed within the study area; these features are artificial impoundments of ephemeral and intermittent streams, and may be subject to regulation by the USACE. Six unmapped ephemeral drainage features (totaling 2843.5 linear feet and 0.366 acre) were also observed within the study area; these features are not likely to be subject to regulation by the USACE. Six areas of palustrine emergent, scrub-shrub and/or forested wetlands (totaling 1.44 acres) were delineated within the study area; these features either directly abut or exhibit a surface connection to a potentially-jurisdictional waters, and may be subject to regulation by the USACE. As project plans are refined, and the linear extent and volume of dredge and/or fill operations that will occur below the ordinary high water mark of the jurisdictional waters within the project area are determined, the proposed construction activities should be evaluated to ensure that the appropriate Clean Water Act section 404 permit application or notification is made. In addition, project construction should involve the implementation of the appropriate storm water, erosion and dust control, and chemical/fuel handling measures dictated by Federal Regulation and ODOT's Standard Specifications for Highway Construction.

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FIGURES

APPENDICES

Appendix A - site photographs

Appendix B - Wetland Determination Forms

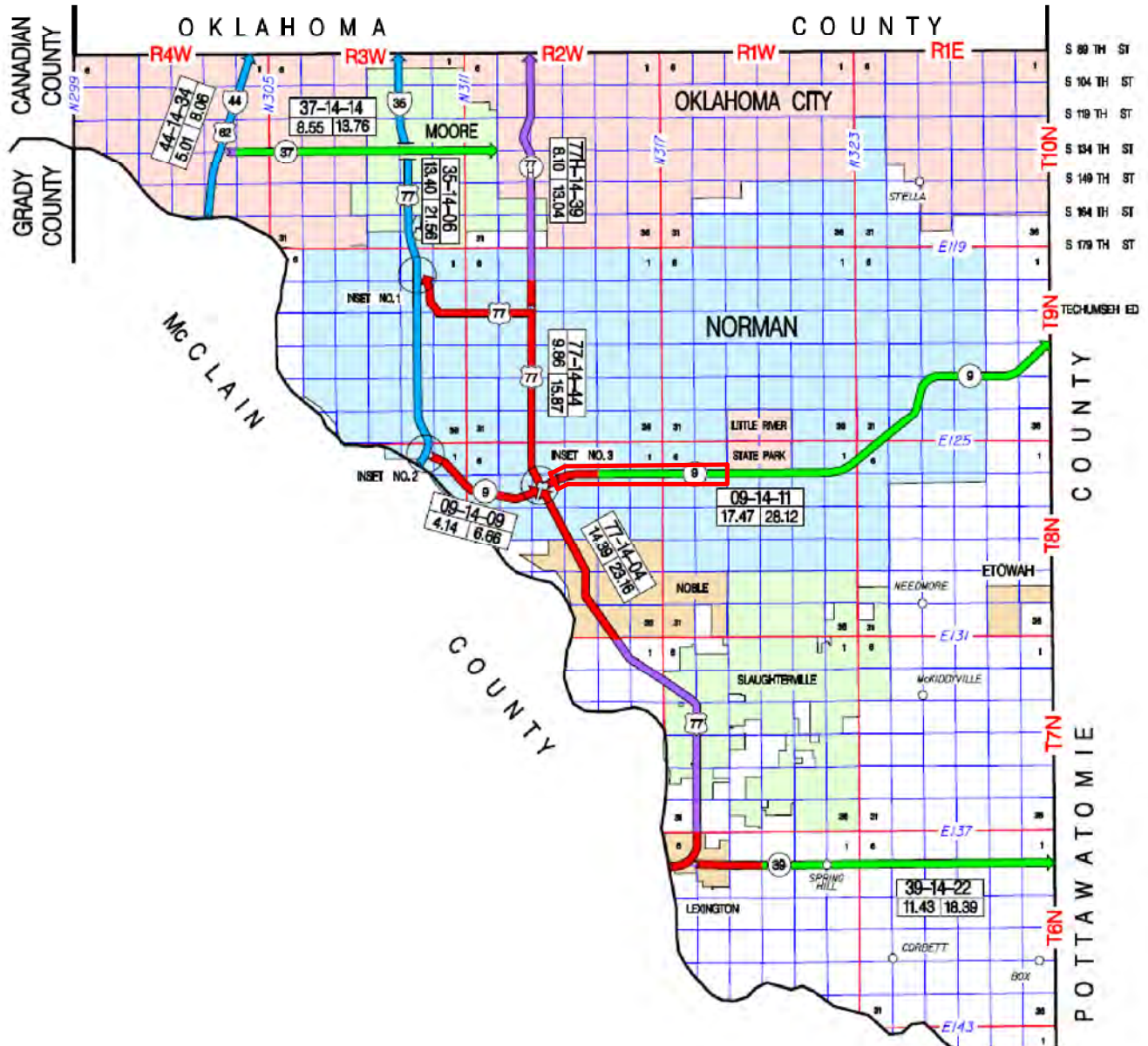


Figure 1. Control Section Map



Project Site



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)
SSP-144B(108)SS; SSP-114B(109)SS

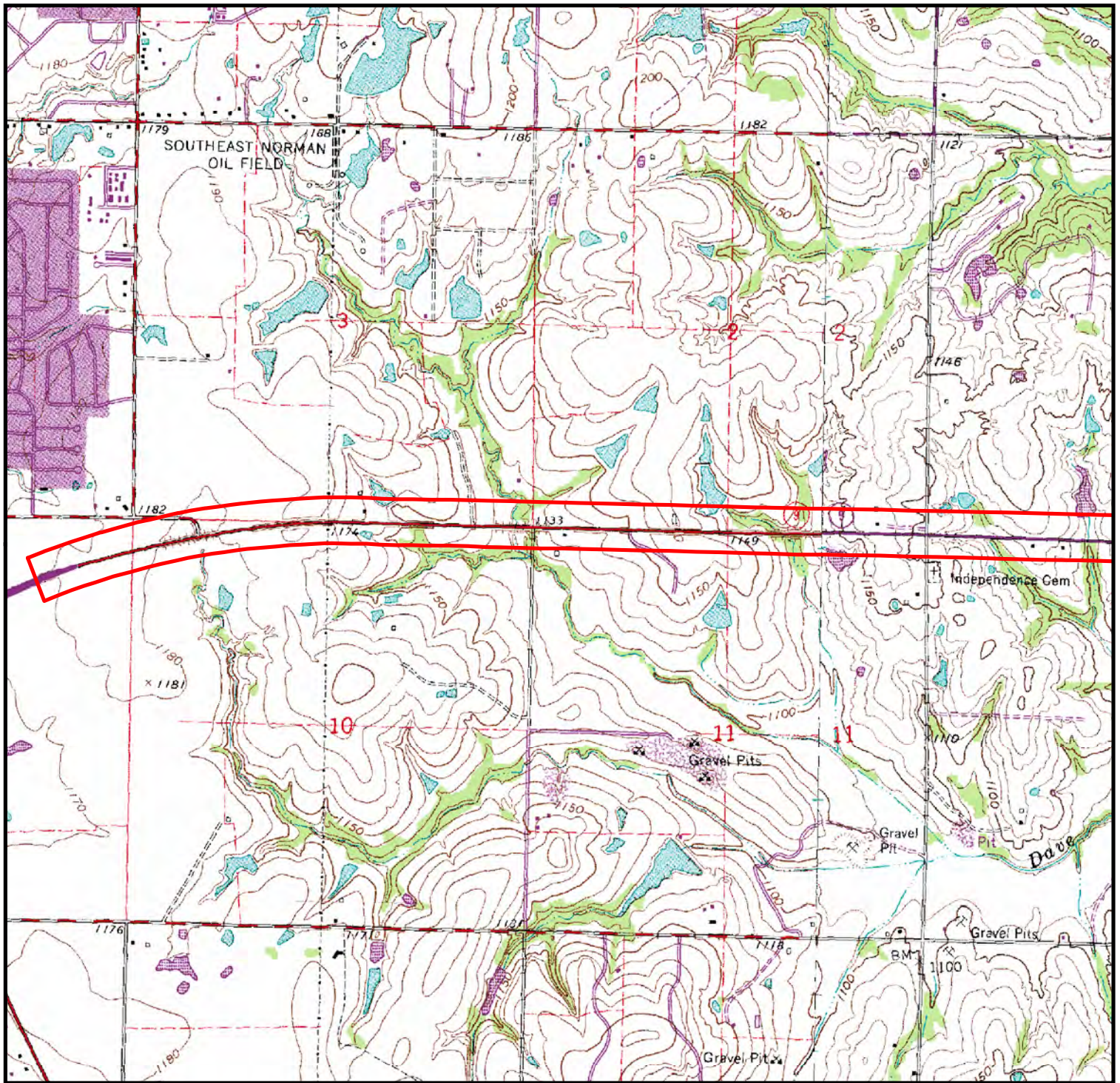


Figure 2a. Topographic Map

 Project Area



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)
SSP-144B(108)SS; SSP-114B(109)SS

USGS 7.5 minute quadrangle at 1:24,000 scale

0 1,400 2,800 5,600
Feet

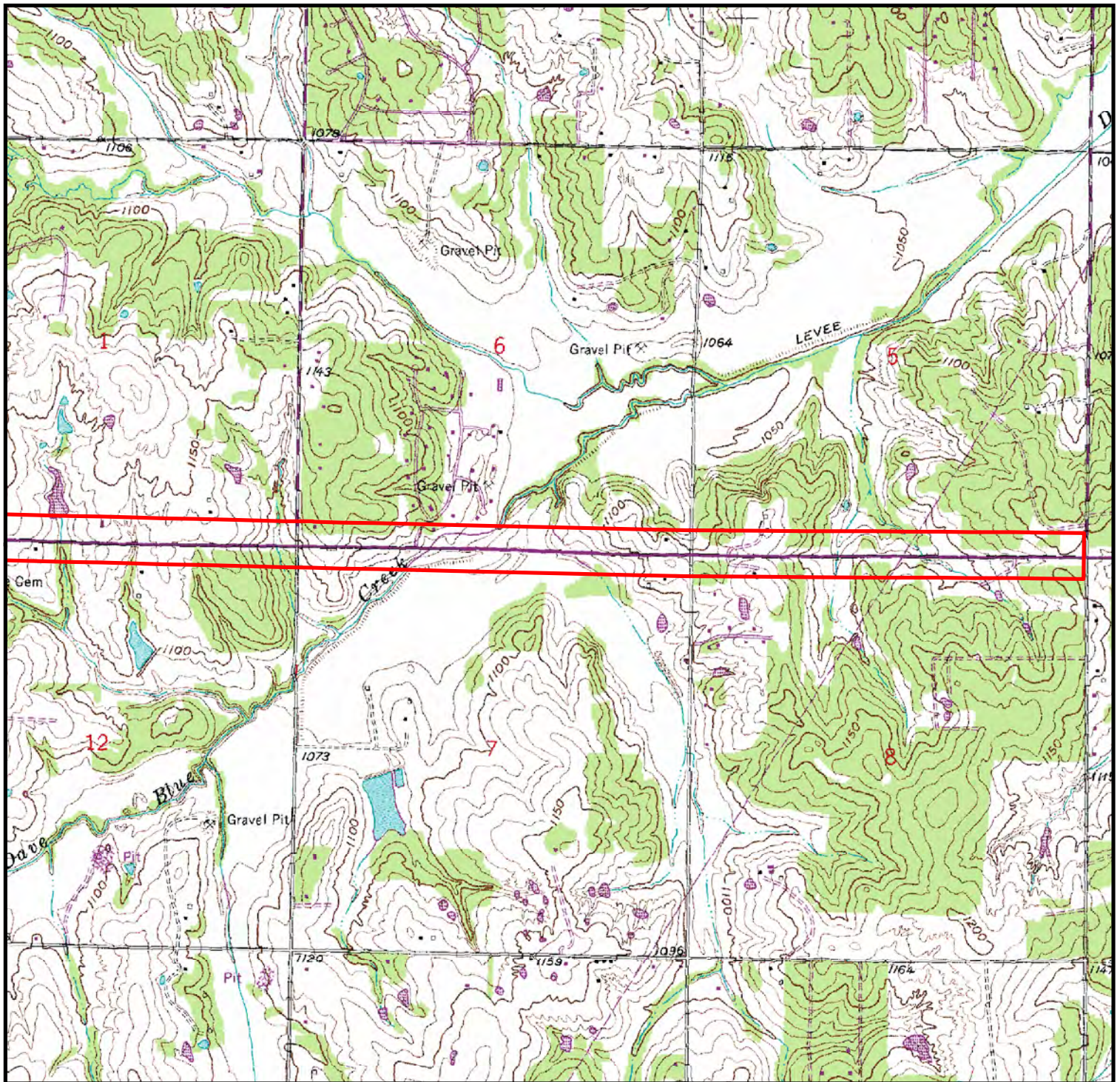


Figure 2b. Topographic Map

 Project Area



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)
SSP-144B(108)SS; SSP-114B(109)SS

USGS 7.5 minute quadrangle at 1:24,000 scale

0 1,400 2,800 5,600
Feet



Figure 3. Critical Habitat, Occupied Waterbodies and Watersheds

- Arkansas River Shiner Critical Habitat
- Arkansas River Shiner and Interior Least Tern Occupied Waterbody
- Arkansas River Shiner and Interior Least Tern Aquatic and Aquatic Dependent Species Watersheds
- ▭ Project Location

Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)
SSP-144B(108)SS; SSP-114B(109)SS

Source: USFWS, Oklahoma Ecological Services Field Office, April 2010 (11 digit HUC watersheds)



0 3.5 7 14 Miles

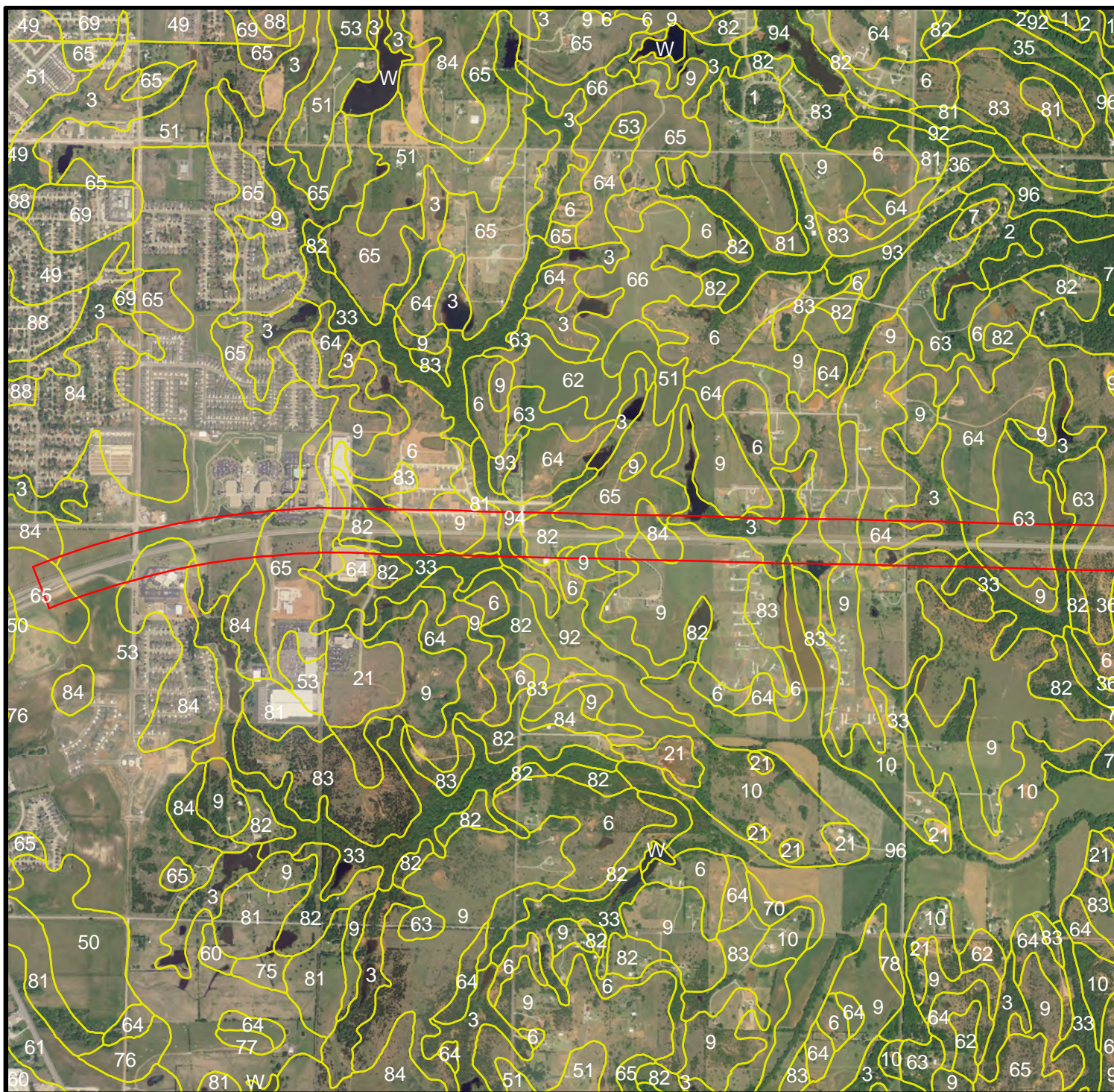


Figure 4a. Soil Map



Project Area



Soil Boundaries



Soil Abbreviations - see table in Threatened and Endangered Species Assessment, Bald Eagle Assessment, Swallow Assessment and Potential Jurisdictional Waters and Wetlands Evaluation

Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)
SSP-144B(108)SS; SSP-114B(109)SS

USDA-APFO NAIP 2008 Digital Orthophotography
USDA-NRCS 2008 Soil Survey Geographic (SSURGO) Data

0 1,400 2,800 5,600 Feet

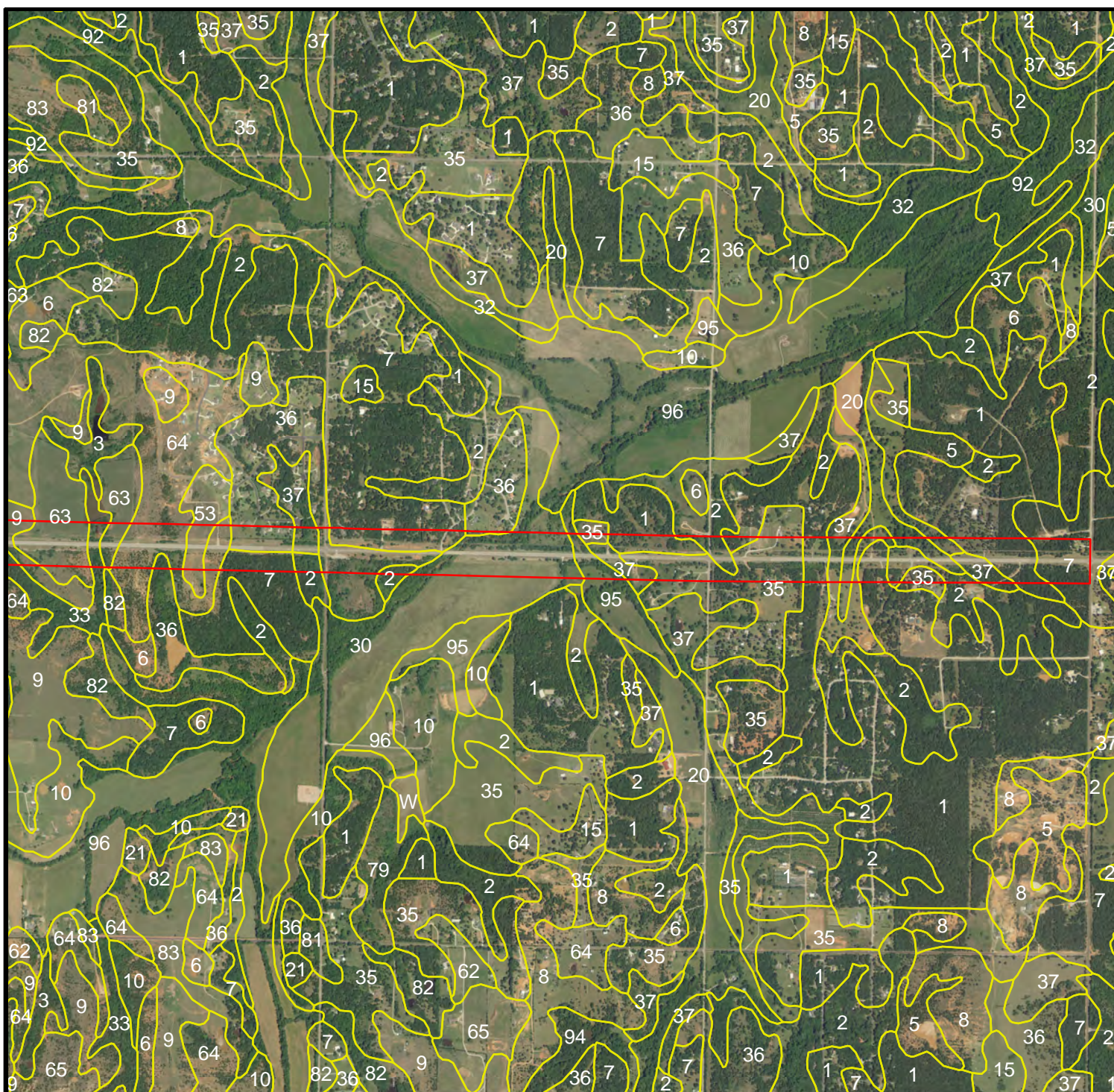


Figure 4b. Soil Map



Project Area



Soil Boundaries



Soil Abbreviations - see table in Threatened and Endangered Species Assessment, Bald Eagle Assessment, Swallow Assessment and Potential Jurisdictional Waters and Wetlands Evaluation

Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)
SSP-144B(108)SS; SSP-114B(109)SS

USDA-APFO NAIP 2008 Digital Orthophotography
USDA-NRCS 2008 Soil Survey Geographic (SSURGO) Data

0 1,400 2,800 5,600 Feet

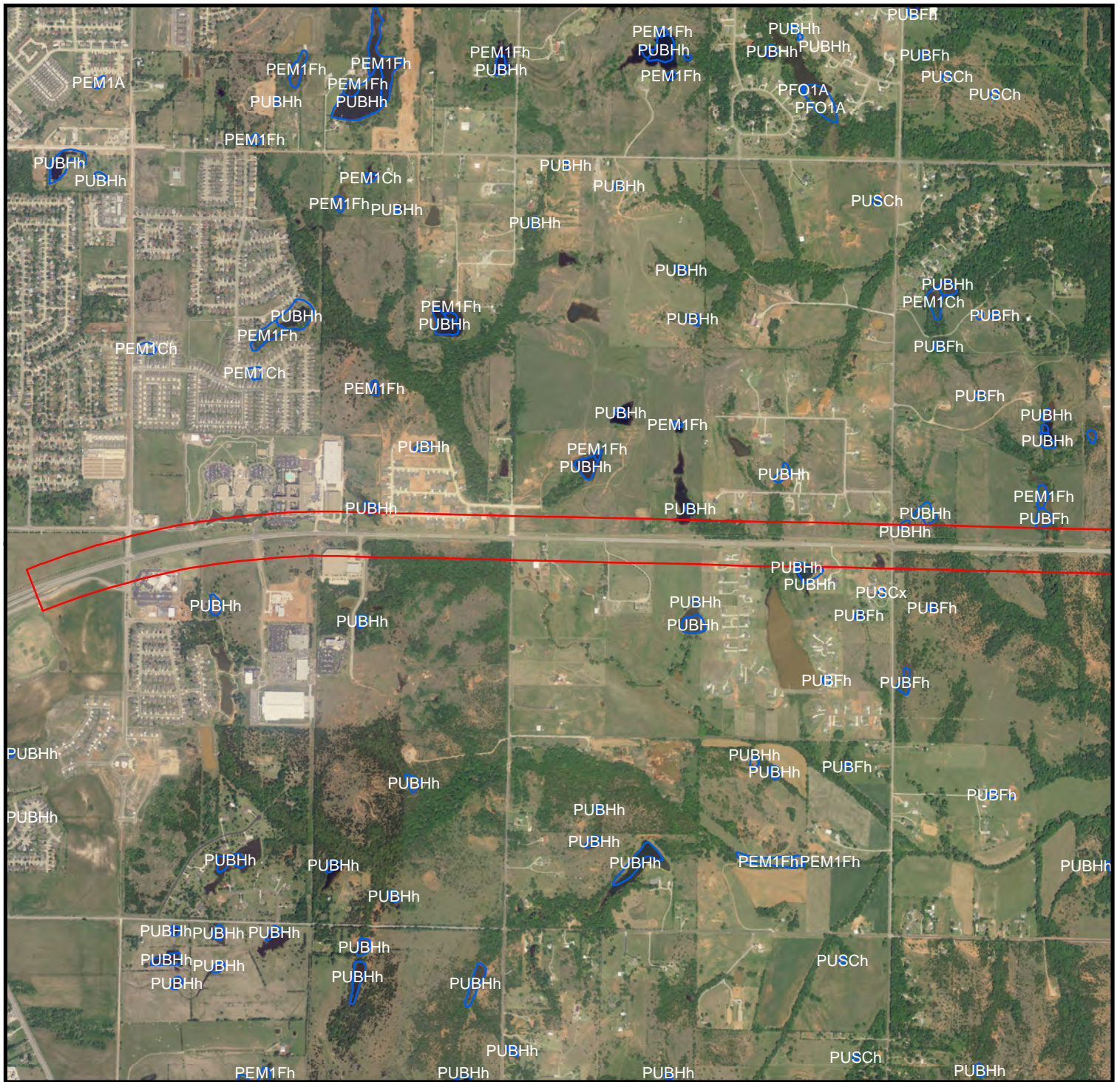


Figure 5a: National Wetlands Inventory

- Project Area
- NWI



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)
SSP-144B(108)SS; SSP-114B(109)SS

NWI Source: US Fish and Wildlife Service 2009
USDA-APFO NAIP 2008 Digital Orthophotography

0 1,500 3,000 6,000
Feet

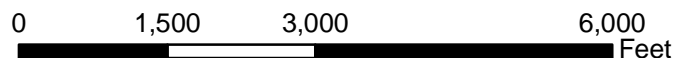











Figure 6a. Site Map

- | | | | |
|--|----------------------------------|---|---------------------------------|
|  | Project Area |  | Emergent / Scrub-shrub wetlands |
|  | Intermittent or Perennial stream |  | Forested wetlands |
|  | Ephemeral stream (with OHWM) |  | Photo Site |
|  | Ephemeral stream (no OHWM) | | |



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)

SSP-144B(108)SS; SSP-114B(109)SS

USDA-APFO National Agriculture Imagery Program
2008 Digital Orthophotography

0 625 1,250 2,500
Feet

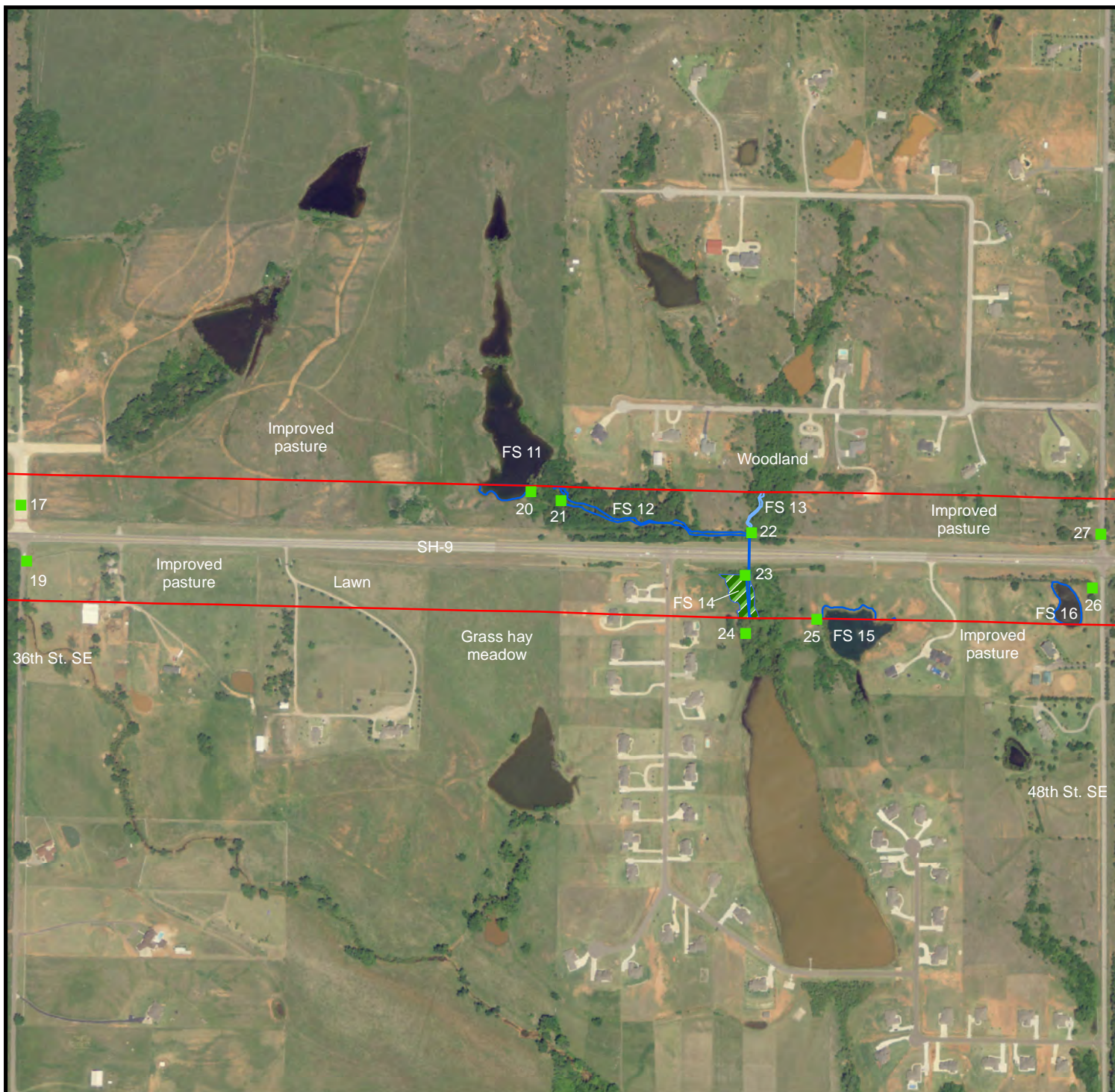









Figure 6b. Site Map

- | | | | |
|--|----------------------------------|---|---------------------------------|
|  | Project Area |  | Emergent / Scrub-shrub wetlands |
|  | Intermittent or Perennial stream |  | Forested wetlands |
|  | Ephemeral stream (with OHWM) |  | Photo Site |
|  | Ephemeral stream (no OHWM) | | |



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)

SSP-144B(108)SS; SSP-114B(109)SS

USDA-APFO National Agriculture Imagery Program
2008 Digital Orthophotography

0 500 1,000 2,000
Feet

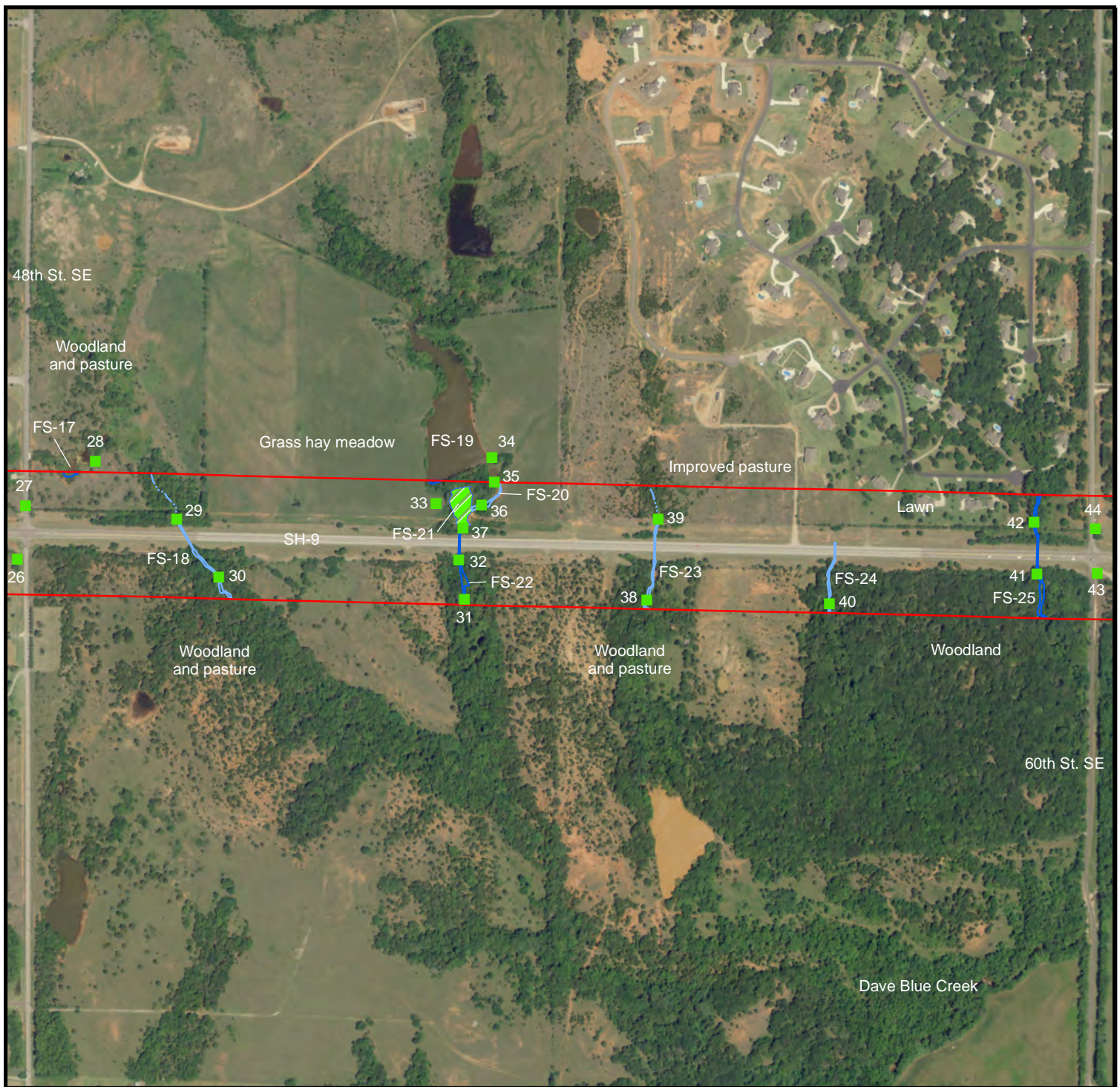









Figure 6c. Site Map

- | | | | |
|--|----------------------------------|---|---------------------------------|
|  | Project Area |  | Emergent / Scrub-shrub wetlands |
|  | Intermittent or Perennial stream |  | Forested wetlands |
|  | Ephemeral stream (with OHWM) |  | Photo Site |
|  | Ephemeral stream (no OHWM) | | |



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)








SSP-144B(108)SS; SSP-114B(109)SS

USDA-APFO National Agriculture Imagery Program
2008 Digital Orthophotography

0 500 1,000 2,000
Feet



Figure 6d. Site Map

- | | | | |
|--|----------------------------------|---|---------------------------------|
|  | Project Area |  | Emergent / Scrub-shrub wetlands |
|  | Intermittent or Perennial stream |  | Forested wetlands |
|  | Ephemeral stream (with OHWM) |  | Photo Site |
|  | Ephemeral stream (no OHWM) | | |



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)








SSP-144B(108)SS; SSP-114B(109)SS

USDA-APFO National Agriculture Imagery Program
2008 Digital Orthophotography

0 500 1,000 2,000
Feet



Figure 6e. Site Map

- | | |
|---|---|
|  Project Area |  Emergent / Scrub-shrub wetlands |
|  Intermittent or Perennial stream |  Forested wetlands |
|  Ephemeral stream (with OHWM) |  Photo Site |
|  Ephemeral stream (no OHWM) | |



Cleveland County

J/P 20266(04)(05)(06)(07)(08)

SSP-114A(099)SS; SSP-144A(100)

SSP-144B(108)SS; SSP-114B(109)SS

USDA-APFO National Agriculture Imagery Program
2008 Digital Orthophotography

0 500 1,000 2,000 Feet



Photo Site 1 (PS 1): Maintained grass hay meadow, looking ENE from the south side of a private drive.



PS 2: Maintained (frequently mowed) lawn, looking ENE from just north of the existing R/W.



PS 3: Lawn associated with church, looking ENE from the intersection of SH-9 and 24th Street SE, south side of SH-9.



PS 4: Occasionally-mowed area between SH-9 and E Imhoff Road, looking east from the intersection of SH-9 and 24th Street SE, north side of SH-9.



PS 5: FS 1 (ephemeral stream), looking north (upstream) from the south edge of the study area; wetland vegetation occupies the stream bed.



PS 6: FS 1 (at left, looking downstream) and FS 2 (emergent wetland in center- and left-background), looking east.



PS 7: FS 1, looking west (upstream); the south end of the RCB at right carries overflow from a landscaped pond to FS 1, which transits SH-9 via the RCB at left.



PS 8: FS 4 (excavated pond), looking WNW from the SE corner of the pond; an in-pond concrete overflow structure lies in the right midground.



PS 9: FS 5 (forested wetland), looking east from the east end of a concrete flume carrying roadway drainage; the site also receives overflow from a pond (FS 4).



PS 10: FS 6 (artificial pond) associated with FS 7 (an ephemeral stream), looking ESE from the west side of the pond.



PS 11: FS 7 (ephemeral stream), looking NW from the north side of SH-9; FS 6 lies in the center background of the image.



PS 12: FS 7 (ephemeral stream), looking south from the south end of the RCB that carries the feature under SH-9.



PS 13: FS 7 and FS 8 (forested wetland), looking north from a point near the south edge of the study area.



PS 14: FS 7 and FS 8, looking north from a gravel road just south of the south edge of the study area.



PS 15: FS 9 (intermittent stream), looking north (upstream) from the north end of the RCB that carries FS-9 under SH-9; wetlands occupy the stream channel.



PS 16: FS 9 and FS 10 (forested wetland), looking north from a point near the south edge of the study area; a beaver dam is visible in the right foreground.



PS 17: FS 9, looking west from the west side of 36th Street SE, just north of SH-9; residential development occurs in the background.



PS 17: Grass hay meadow, looking ENE from the east side of 36th Street SE, just north of SH-9.



PS 18: Pasture with scattered junipers, looking west from just south of the existing SH-9 R/W.



PS 19: Improved pasture and house site, looking east from the east side of 36th Street SE, just south of SH-9.



PS 20: FS 11 (artificial pond) associated with FS 12 (intermittent stream), looking west from the SE corner of the pond.



PS 21: FS 12 (intermittent stream), looking east (downstream) from below the dam of FS 11; emergent wetlands occupy much of the stream bed.



PS 22: FS 13 (ephemeral stream), looking north (upstream) from near the confluence of FS 13 and FS 12.



PS 22: Barn swallow nest in an RCB serving FS 13.



PS 23: FS 12 (intermittent stream), looking south (downstream) from near the south end of the SH-9 RCB; wetlands (FS 14) border the stream.



PS 24: FS 12, looking north from just south of the south edge of the study area; emergent and scrub-shrub wetlands (FS 14) border the narrow stream.



PS 25: FS 14 (artificial pond), looking east from the northwest corner of the pond; the pond drains (when filled to capacity) into FS 12 south of the study area.



PS 26: FS 16 (artificial pond), looking west from the east side of the pond, which may (rarely) overflow into the south SH-9 drainage ditch to the north.



PS 26: Improved pasture and pastureland, looking east from the east side of FS 16; 48th Street SE crosses the image, with SH-9 visible to the left.



PS 27: Pastureland with scattered trees, looking west from the west side of 48th Street SE, just north of SH-9.



PS 27: Pastureland with scattered trees, looking east from the east side of 48th Street SE, just north of SH-9.



PS 28: FS 17 (artificial pond with cut dam), looking SW from the east side of the pond; emergent wetland vegetation occupies much of the pond bed.



PS 29: Barn swallow nest in an RCB serving FS 18.



PS 30: FS 18 (ephemeral stream), looking NNW (upstream) from the center of the channel.



PS 31: FS 22 (intermittent stream), looking north (upstream) from the stream bed, which is partially occupied by emergent wetland vegetation.



PS 32: Barn swallow nest in an RCB serving FS 22.



PS 33: Grass hay meadow, looking west from a point just north of the existing SH-9 R/W.



PS 34: FS 19 (artificial pond) associated with FS 20, 21 and 22, looking west from the SE corner of the pond.



PS 35: Small basin occupied by emergent wetland vegetation in the spillway of FS 19, and outside (north) of the study area.



PS 36: FS 20 (ephemeral stream) below the FS 19 spillway.



PS 37: FS 21 (emergent and scrub-shrub wetland) occupying a shallow basin behind a small beaver dam; the dam of FS 19 is visible in the left background.



PS 38: FS 23 (ephemeral stream), looking north (upstream) from the center of the channel, near the southern edge of the study area.



PS 39: FS 23 (ephemeral stream), looking north upstream) from the center of the channel, near the north edge of the existing SH-9 R/W.



PS 40: FS 24 (ephemeral stream), looking north upstream) from the center of the channel, near the southern edge of the study area.



PS 41: FS 25 (intermittent stream) and bordering woodland, looking south (downstream) from the south end of the SH-9 RCB serving the stream.



PS 42: FS 25, looking NNW (upstream) from the center of the channel, near the north edge of the SH-9 R/W; house and lawn are visible to the left.



PS 43: Existing R/W and woodland, looking ESE from the intersection of SH-9 and 60th Street SE, south of SH-9.



PS 44: Existing R/W and house site, looking ENE from the intersection of SH-9 and 60th Street SE, north of SH-9.



PS 45: FS 26 (perennial stream), looking NE (downstream) from the west low bank of the stream, near the south edge of the study area.



PS 46: Cliff swallow nests on the lower surface of the existing SH-9 bridge spanning FS 26.



PS 47: FS 26 and the northern terminus of a small concrete flume carrying roadside drainage to the stream, looking south from the north low bank of FS 26.



PS 48: FS 26, looking WSW (upstream) from the center of the stream channel.



PS 49: FS 27 (intermittent stream), looking NW (downstream) from the center of the channel.



PS 50: Barn swallow nest in an RCB serving FS 27.



PS 50: FS 27, looking NW (downstream) from the north end of the SH-9 RCB serving the stream.



PS 51: Lawn and pastureland, looking WSW from the intersection of SH-9 and 72nd Street SE, south of SH-9.



PS 52: Pastureland and woodland, looking WNW from the intersection of SH-9 and 72nd Street SE, north of SH-9.



PS 51: Existing R/W and pastureland, looking ESE from the intersection of SH-9 and 72nd Street SE, south of SH-9.



PS 52: Pastureland and woodland, looking ENE from the intersection of SH-9 and 72nd Street SE, north of SH-9.



PS 53: FS 28 (ephemeral stream with no evident OHWM), looking south (upstream) from the south edge of the existing SH-9 R/W.



PS 54: FS 28 (ephemeral stream with no evident OHWM), looking north (downstream) from near the north edge of the existing SH-9 R/W.



PS 55: FS 28, which exhibits an intermittent OHWM in this area, looking SSW (upstream) from near the north edge of the study area.



PS 56: FS 29 (ephemeral stream with no evident OHWM), looking south (upstream) from the south edge of the existing SH-9 R/W.



PS 57: FS 29 (ephemeral stream with no evident OHWM), looking north (downstream) from the north edge of the existing SH-9 R/W.



PS 58: FS 30 (ephemeral stream with an intermittent OHWM), looking ESE (upstream) from near the south end of the SH-9 RCB serving the stream.



PS 59: FS 30, looking SE (upstream) from a private drive near the south edge of the study area; the feature exhibits no evident OHWM in this area.



PS 60: FS 30, looking NNW (downstream) from near the north end of the SH-9 RCB that serves the stream; the feature exhibits no evident OHWM in this area.



PS 61: Woodland on the SE corner of the study area, looking WSW from the intersection of SH-9 and 84th Street SE, south of SH-9.



PS 62: Existing R/W and woodland on the SE corner of the study area, looking WNW from the intersection of SH-9 and 84th Street SE, north of SH-9.



PS 15: Cliff swallow nests in an RCB serving FS 9.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Cleveland County J/P 20266(04)(05)(07)(08)		City/County: Cleveland		Sampling Date: 09/29/10	
Applicant/Owner: ODOT		State: OK		Sampling Point: FS 2	
Investigator(s): Phillip Crawford		Section, Township, Range: SW/4 S03 T08N R02W			
Landform (hillslope, terrace, etc.): Depression		Local relief (concave, convex, none):		Slope (%):	
Subregion (LRR): H		Lat:		Long:	
Soil Map Unit Name:		NW1 classification:		Datum:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If no, explain in Remarks)					
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> significantly disturbed?		Are "Norman Circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> Naturally problematic? (If needed, explain any answers in Remarks)					

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Wetland Hydrology Present	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Remarks: Emergent wetlands occurring within a depression north of E. Imhoff Avenue; directly abuts a mapped intermittent (apparently ephemeral) stream.				

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)
2.				Total Number of Dominant Species Across All Strata: 1 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
4.				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1.				Total % Cover of: _____ Multiply by: _____
2.				OBL species <input type="text"/> x 1 = <input type="text"/>
3.				FACW species <input type="text"/> x 2 = <input type="text"/>
4.				FAC species <input type="text"/> x 3 = <input type="text"/>
5.				FACU species <input type="text"/> x 4 = <input type="text"/>
_____ = Total Cover				UPL species <input type="text"/> x 5 = <input type="text"/>
Herb Stratum (Plot size: _____)				Column Totals: (A) (B)
1. <i>Typha domengensis</i>		Y	OBL	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1.				
2.				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: FS 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
								See below

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Soils are assumed to be hydric; the dominant plant species is an obligate hydrophyte.

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)	

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): ☐

Water Table Present? Yes ☐ No ☐ Depth (inches): ☐

Saturation Present? Yes ☒ No ☐ Depth (inches): 5

(includes capillary fringe) Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Cleveland County J/P 20266(04)(05)(07)(08)		City/County: Cleveland		Sampling Date: 09/29/10	
Applicant/Owner: ODOT		State: OK		Sampling Point: FS 5	
Investigator(s): Phillip Crawford		Section, Township, Range: NE/4 S10 T09N R03W			
Landform (hillslope, terrace, etc.): swale		Local relief (concave, convex, none):		Slope (%):	
Subregion (LRR): H		Lat:		Long:	
Soil Map Unit Name:		NW1 classification:		Datum:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If no, explain in Remarks)					
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> significantly disturbed?		Are "Norman Circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> Naturally problematic? (If needed, explain any answers in Remarks)					

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Wetland Hydrology Present	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Remarks: Forested wetlands occurring within a swale associated with an ephemeral drainage feature. the site is connected to a likely-jurisdictional waters via an ephemeral drainage feature with no continuous evident OHWM.				

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	Dominance Test worksheet:	
1. <i>Salix nigra</i>		Y	FACW+	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 3 (A)	
2. <i>Fraxinus pennsylvanica</i>		Y	FACW-	Total Number of Dominant Species Across All Strata: 3 (B)	
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)	
4.					
= Total Cover					
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index worksheet:	
1.				Total % Cover of: _____ Multiply by: _____	
2.				OBL species	X 1 = _____
3.				FACW species	x 2 = _____
4.				FAC species	x 3 = _____
5.				FACU species	x 4 = _____
= Total Cover				UPL species	x 5 = _____
<u>Herb Stratum</u> (Plot size: _____)				Column Totals:	(A) (B)
1.				Prevalence Index = B/A =	
2.					
3.				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
4.					
5.					
6.					
7.					
8.					
9.					
10.					
= Total Cover					
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. <i>Toxicodendron radicans</i>		Y	FAC		
2.					
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: FS 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	5YR 3/1						Silty clay	
4-10	5YR 3/2		2.5YR 5/8	10	C	PL	Silty clay	
10-18	5YR 3/3						Silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histic Sol (A)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

Restrictive Layer (if present): Type: Depth (inches): Remarks:	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)	

Field Observations:			
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value="0-3"/>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value=""/>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value="0"/>
(includes capillary fringe)			
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Site receives overflow from a small pond to the west, as well as roadway runoff.			

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Cleveland County J/P 20266(04)(05)(07)(08)		City/County: Cleveland		Sampling Date: 09/29/10	
Applicant/Owner: ODOT		State: OK		Sampling Point: FS 8	
Investigator(s): Phillip Crawford		Section, Township, Range: NE/4 S10 T09N R03W			
Landform (hillslope, terrace, etc.): bench bordering stream		Local relief (concave, convex, none):		Slope (%):	
Subregion (LRR): H		Lat:		Long:	
Soil Map Unit Name:		NW1 classification:		Datum:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If no, explain in Remarks)					
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> significantly disturbed?	Are "Norman Circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> Naturally problematic? (If needed, explain any answers in Remarks)					

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Remarks: Forested wetlands occurring within a broad swale, on low benches adjacent to an ephemeral drainage feature which extends through the site; the site is connected to a likely-jurisdictional waters via an ephemeral drainage feature with no continuous evident OHWM.			

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>Celtis laevigata</i>		Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 10 (A)			
2. <i>Ulmus americana</i>		Y	FAC	Total Number of Dominant Species Across All Strata: 10 (B)			
3. <i>Fraxinus pennsylvanica</i>			FACW-	Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)			
4.							
= Total Cover							
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index worksheet:			
1. <i>Fraxinus pennsylvanica</i>			FACW-	Total % Cover of: _____ Multiply by: _____			
2.				OBL species	<input type="text"/>	x 1 =	<input type="text"/>
3.				FACW species	<input type="text"/>	x 2 =	<input type="text"/>
4.				FAC species	<input type="text"/>	x 3 =	<input type="text"/>
5.				FACU species	<input type="text"/>	x 4 =	<input type="text"/>
= Total Cover				UPL species	<input type="text"/>	x 5 =	<input type="text"/>
<u>Herb Stratum</u> (Plot size: _____)				Column Totals: (A) (B)			
1. <i>Leersia virginica</i>		Y	FACW	Prevalence Index = B/A =			
2. <i>Elymus canadensis</i>		Y	FAC+				
3. <i>Chasmanthium latifolium</i>		Y	FAC	Hydrophytic Vegetation Indicators:			
4. <i>Echinochloa crus-galli</i>		Y	FACW-				
5. <i>Panicum dichotomiflorum</i>		Y	FACW	<input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
6. <i>Bidens frondosa</i>		Y	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
7.							
8.				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
9.							
10.							
= Total Cover							
<u>Woody Vine Stratum</u> (Plot size: _____)							
1.							
2.							
= Total Cover							
% Bare Ground in Herb Stratum _____							
Remarks:							

SOIL

Sampling Point: FS 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5YR 3/2						Silty clay	
2-12	2.5YR 3/2		2.5YR 4/8 & 5/8 & 5YR 6/6	10 5	C D	M M	Silty clay	Fine black masses; conc. in regular layers
12-18	2.5YR 3/2						Silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

Restrictive Layer (if present): Type: Depth (inches): Remarks:	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)	
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)	

Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
(includes capillary fringe)			
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: This wetland receives overflow from an ephemeral stream extending through the site, as well as runoff from SH-9.			

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Cleveland County J/P 20266(04)(05)(07)(08)		City/County: Cleveland		Sampling Date: 09/29/10	
Applicant/Owner: ODOT		State: OK		Sampling Point: FS 10	
Investigator(s): Phillip Crawford		Section, Township, Range: NE/4 S10 T09N R03W			
Landform (hillslope, terrace, etc.): bench bordering stream		Local relief (concave, convex, none):		Slope (%):	
Subregion (LRR): H		Lat:		Long:	
Soil Map Unit Name:		NW1 classification:		Datum:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If no, explain in Remarks)					
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> significantly disturbed? Are "Norman Circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> Naturally problematic? (If needed, explain any answers in Remarks)					

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Wetland Hydrology Present	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
Remarks: Forested wetlands occurring within a broad swale, on a low bench adjacent to the west bank of an intermittent stream; the stream is impounded by a small beaver dam near the southern edge of the study area.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 13 (A) Total Number of Dominant Species Across All Strata: 14 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)																									
1. <i>Celtis laevigata</i>		Y	FAC																										
2. <i>Ulmus americana</i>		Y	FAC																										
3. <i>Fraxinus pennsylvanica</i>			FACW-																										
4. <i>Acer negundo</i>		Y	FACW-																										
= Total Cover																													
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>OBL species</td><td></td><td>X 1 =</td><td></td></tr> <tr><td>FACW species</td><td></td><td>x 2 =</td><td></td></tr> <tr><td>FAC species</td><td></td><td>x 3 =</td><td></td></tr> <tr><td>FACU species</td><td></td><td>x 4 =</td><td></td></tr> <tr><td>UPL species</td><td></td><td>x 5 =</td><td></td></tr> <tr><td>Column Totals:</td><td>(A)</td><td></td><td>(B)</td></tr> </table>		OBL species		X 1 =		FACW species		x 2 =		FAC species		x 3 =		FACU species		x 4 =		UPL species		x 5 =		Column Totals:	(A)		(B)
OBL species		X 1 =																											
FACW species		x 2 =																											
FAC species		x 3 =																											
FACU species		x 4 =																											
UPL species		x 5 =																											
Column Totals:	(A)		(B)																										
1. <i>Fraxinus pennsylvanica</i>			FACW-																										
2. <i>Acer negundo</i>		Y	FACW-																										
3.																													
4.																													
5.																													
= Total Cover																													
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																									
1. <i>Leersia virginica</i>		Y	FACW																										
2. <i>Elymus canadensis</i>		Y	FAC+																										
3. <i>Chasmanthium latifolium</i>		Y	FAC																										
4. <i>Echinochloa crus-galli</i>		Y	FACW-																										
5. <i>Panicum dichotomiflorum</i>		Y	FACW																										
6. <i>Bidens frondosa</i>		Y	FACW																										
7. <i>Eupatorium serotinum</i>		Y	FAC-																										
8. <i>Verbesina alternifolia</i>		Y	FAC																										
9.																													
10.																													
= Total Cover																													
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																									
1.																													
2.																													
= Total Cover																													
% Bare Ground in Herb Stratum _____																													
Remarks:																													

SOIL

Sampling Point: FS 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3	2.5YR 3/1						Silty clay	
3-12	2.5YR 3/2		2.5YR 4/8 & 5/8 & 5YR 6/6	10 5	C D	M M	Silty clay	Fine black masses; conc. in regular layers
12-18	2.5YR 3/2						Silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

Restrictive Layer (if present): Type: Depth (inches): Remarks:	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
<input checked="" type="checkbox"/> Drift Deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)	

Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
(includes capillary fringe)			
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: This wetland receives overflow from an intermittent stream, which is impounded by a small beaver dam near the southern edge of the study area..			

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Cleveland County J/P 20266(04)(05)(07)(08)		City/County: Cleveland		Sampling Date: 09/29/10	
Applicant/Owner: ODOT		State: OK		Sampling Point: FS 14	
Investigator(s): Phillip Crawford		Section, Township, Range: NE/4 S11 T09N R03W			
Landform (hillslope, terrace, etc.): benches bordering stream		Local relief (concave, convex, none):		Slope (%):	
Subregion (LRR): H		Lat:		Long:	
Soil Map Unit Name:		NW1 classification:		Datum:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If no, explain in Remarks)					
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> significantly disturbed?	Are "Norman Circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> Naturally problematic? (If needed, explain any answers in Remarks)					

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Forested wetlands occurring within a broad swale, on low benches adjacent to an intermittent stream which extends through the site; the site may also receive backwater from a pond which lies immediately downstream, when that pond is filled to capacity.		

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 9+ (A) Total Number of Dominant Species Across All Strata: 11 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 82+ (A/B)																								
1. <i>Fraxinus pennsylvanica</i>		Y	FACW-																									
2. <i>Carya illinoensis</i>		Y	FAC+																									
3. <i>Salix nigra</i>		Y	FACW+																									
4. <i>Juglans nigra</i>		N	FACU																									
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ <table style="width:100%;"> <tr><td>OBL species</td><td><input type="text"/></td><td>x 1 =</td><td><input type="text"/></td></tr> <tr><td>FACW species</td><td><input type="text"/></td><td>x 2 =</td><td><input type="text"/></td></tr> <tr><td>FAC species</td><td><input type="text"/></td><td>x 3 =</td><td><input type="text"/></td></tr> <tr><td>FACU species</td><td><input type="text"/></td><td>x 4 =</td><td><input type="text"/></td></tr> <tr><td>UPL species</td><td><input type="text"/></td><td>x 5 =</td><td><input type="text"/></td></tr> <tr><td>Column Totals:</td><td>(A)</td><td></td><td>(B)</td></tr> </table>	OBL species	<input type="text"/>	x 1 =	<input type="text"/>	FACW species	<input type="text"/>	x 2 =	<input type="text"/>	FAC species	<input type="text"/>	x 3 =	<input type="text"/>	FACU species	<input type="text"/>	x 4 =	<input type="text"/>	UPL species	<input type="text"/>	x 5 =	<input type="text"/>	Column Totals:	(A)		(B)
OBL species	<input type="text"/>	x 1 =	<input type="text"/>																									
FACW species	<input type="text"/>	x 2 =	<input type="text"/>																									
FAC species	<input type="text"/>	x 3 =	<input type="text"/>																									
FACU species	<input type="text"/>	x 4 =	<input type="text"/>																									
UPL species	<input type="text"/>	x 5 =	<input type="text"/>																									
Column Totals:	(A)		(B)																									
<u>Sapling/Shrub Stratum</u> (Plot size: _____)																												
1. <i>Salix exigua</i>		Y	FACW+																									
2.																												
3.																												
4.																												
5.																												
= Total Cover				Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																								
<u>Herb Stratum</u> (Plot size: _____)																												
1. <i>Leersia virginica</i>		Y	FACW																									
2. <i>Elymus canadensis</i>		Y	FAC+																									
3. <i>Setaria parviflora</i>		Y	FAC																									
4. <i>Echinochloa crus-galli</i>		Y	FACW-																									
5. <i>Eleocharis</i> sp.*		Y	OBL																									
6. <i>Eupatorium serotinum</i>		Y	FAC-																									
7. <i>Cyperus</i> sp.*		Y	?																									
6. <i>Bidens frondosa</i>		N	FACW																									
9. <i>Phyla lanceolata</i>		N	FACW																									
10. <i>Amorpha fruticosa</i>		N	FACW																									
= Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
<u>Woody Vine Stratum</u> (Plot size: _____)																												
1.																												
2.																												
= Total Cover																												
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																								
Remarks: *unidentifiable due to stage of growth (all species of <i>Eleocharis</i> are OBL).																												

SOIL

Sampling Point: FS 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2	2.5YR 3/2						Silty clay	
2-11	2.5YR 4/4		2.5YR 5/6	5	D	M	Silty clay	Fine black masses
11-18	2.5YR 3/4						Silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input checked="" type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

Restrictive Layer (if present): Type: Depth (inches): Remarks:	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
<input checked="" type="checkbox"/> Drift Deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)	

Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
(includes capillary fringe)			
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: This wetland receives overflow from an intermittent stream extending through the site, and may also receive backwater from a pond which lies immediately downstream, when that pond is filled to capacity.			

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Cleveland County J/P 20266(04)(05)(07)(08)		City/County: Cleveland		Sampling Date: 09/30/10	
Applicant/Owner: ODOT		State: OK		Sampling Point: FS 21	
Investigator(s): Phillip Crawford		Section, Township, Range: SW/4 S01 T08N R02W			
Landform (hillslope, terrace, etc.): Depression		Local relief (concave, convex, none):		Slope (%):	
Subregion (LRR): H		Lat:		Long:	
Soil Map Unit Name:		NW1 classification:		Datum:	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (If no, explain in Remarks)					
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> significantly disturbed?	Are "Norman Circumstances" present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> Naturally problematic? (If needed, explain any answers in Remarks)					

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Remarks: Emergent and scrub-shrub wetlands occurring within a depression north of SH-9, associated with ephemeral and intermittent streams.			

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	Dominance Test worksheet:			
1.				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 7 (A)			
2.				Total Number of Dominant Species Across All Strata: 7 (B)			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)			
4.							
= Total Cover							
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index worksheet:			
1. <i>Salix nigra</i>		Y	FACW+	Total % Cover of: _____ Multiply by: _____			
2. <i>Populus deltoides</i>		Y	FAC	OBL species	<input type="text"/>	X 1 =	<input type="text"/>
3.				FACW species	<input type="text"/>	x 2 =	<input type="text"/>
4.				FAC species	<input type="text"/>	x 3 =	<input type="text"/>
5.				FACU species	<input type="text"/>	x 4 =	<input type="text"/>
= Total Cover				UPL species	<input type="text"/>	x 5 =	<input type="text"/>
<u>Herb Stratum</u> (Plot size: _____)				Column Totals: (A) (B)			
1. <i>Typha domingensis</i>		Y	OBL	Prevalence Index = B/A =			
2. <i>Andropogon glomeratus</i>		Y	FACW+				
1. <i>Leersia virginica</i>		Y	FACW	Hydrophytic Vegetation Indicators:			
2. <i>Elymus canadensis</i>		Y	FAC+				
5. <i>Eleocharis</i> sp.*		Y	OBL	<input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
7.							
8.							
9.							
10.							
= Total Cover							
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
1.							
2.							
= Total Cover							
% Bare Ground in Herb Stratum _____							
Remarks: *unidentifiable due to stage of growth (all species of <i>Eleocharis</i> are OBL).							

SOIL

Sampling Point: FS 21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
								See below

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

Restrictive Layer (if present): Type: _____ Depth (inches): _____		Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Soils are assumed to be hydric; all soil samples exhibited a strong odor of hydrogen sulfide.		

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	(where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)		
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)		
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)		
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Water-Stained Leaves (B9)			

Field Observations:			
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value="0-15"/>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value=" "/>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value="0-4"/>
(includes capillary fringe)			
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: The feature impounds water behind a low dam, receives runoff from adjacent uplands and SH-9, as well as overflow from a pond immediately upstream, and may receive seep drainage from below the dam of the pond.			

Attachment 3
EA Addendum

Updated Cultural Resources Review

OKLAHOMA DEPARTMENT OF TRANSPORTATION

CULTURAL RESOURCES PROJECT REEVALUATION REPORT

County: Cleveland
Project No: SSP-114A(99)SS, SSP-144A(100),
SSP-144B(108)SS, SSP-114B(109)SS
J/P Number: 20266(04)(05)(07)(08)
Project Description: SH-9 from just west of 24th, east to 36th St. in Norman and SH-9 from 36th east to 72nd in Norman (includes bridge over Blue Dave Creek)

RESULTS OF PREVIOUS CULTURAL RESOURCES SURVEY

Original Cultural Resources Report Date: 5 August 2004

☒ No Historic Properties Identified in Project APE
☐ Historic Properties Identified in Project APE
☐ Historic Properties Adjacent to APE
☐ Off Project Avoidance Areas
☐ Historic Property Mitigation Commitments

REEVALUATION REVIEW

Staff Reviewer: Scott A. Sundermeyer

Review Date: 29 September 2010

File Review ☒ NRHP List ☒ SHPO DOE List ☒ State Archeological Site Files

☒ No Additional Cultural Resources Recorded in Project APE
☐ Additional Cultural Resources Recorded in Project APE
☐ Not NRHP eligible ☐ NRHP eligible ☐ Non-assessed for NRHP eligibility
☐ Additional Off Project Avoidance Areas (attach revised avoidance memo)

☒ **Original Cultural Resources Study Adequate for Project APE**

☐ Additional Survey Conducted
☐ Historic Property Mitigation Measures: ☐ Complete ☐ Not Complete

☒ **No further Cultural Resources Concerns**

Comments:

Attachment 4
EA Addendum

Updated Hazardous Waste Review

OKLAHOMA DEPARTMENT OF TRANSPORTATION

INITIAL SITE SCREENING REPORT – HAZARDOUS WASTE

Prepared By: Khrishna Mutz

County: Cleveland

Report Date: 11/5/2010

Project No.: SSP-114A(099)SS

J/P Number: 20266(04)

1. PROJECT DESCRIPTION:

SH-9 from just west of 24th Ave. SE, east to 36th Ave SE in Norman.

2. LAND USE AND CHARACTERISTICS:

Primarily single family residences to the south and varying businesses to the north.

3. PROJECT METHODOLOGY:

A. Records Search:

- ☒ Electronic database search (vendor: EDR; report date: 10/8/2010)
- ☐ Manual database search (LUST, CERCLA, Landfill), plus:
- | | |
|--|--|
| <input type="checkbox"/> Sanborn Fire Insurance Maps | <input type="checkbox"/> UST |
| <input checked="" type="checkbox"/> Aerial photos (1995, 2008) | <input type="checkbox"/> Oil and Gas Wells |
| <input type="checkbox"/> RCRA CORRACTS | <input checked="" type="checkbox"/> Other: Google Streetview |
| <input type="checkbox"/> Manual file review (OCC/DEQ/Other): | |

B. Interviews/Contacts:

None.

- C. Field Investigation: ☒ Visit (date: 11/4/2010) ☐ No Visit

4. RESULTS OF INVESTIGATION:

A. Physical Features in Immediate Project Area (USTs, AST, Others):

None noted.

B. Evidence of Contamination (Vegetation Damage, Staining, Sheen, Other):

None noted.

- C. Summary:
- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | No concerns identified in project area. |
| <input type="checkbox"/> | Suspected sources of contamination identified in project area. |
| <input type="checkbox"/> | Known sources of contamination identified in project area. |

5. RECOMMENDATIONS:

- ☒ Approval to Proceed (No Further Action)
- ☐ Approval to Proceed, Pending:
- | | |
|--------------------------|--|
| <input type="checkbox"/> | Avoidance of described site(s) |
| <input type="checkbox"/> | Plan Notes regarding described site(s) (See Section 6) |
| <input type="checkbox"/> | Additional investigation |
- ☐ Approval NOT Recommended.

6. PLAN NOTES:

7. GENERAL COMMENTS:

This report is based solely upon the interpretation of the available information and documents reviewed, and when indicated, visual observations of the proposed project and its vicinity. This report is intended for the sole use of ODOT. It should be recognized that this report was not intended to be a definitive investigation of contamination on any proposed project. Given the scope of the limited services undertaken, it is possible that currently unrecognized contamination may exist at any property and that the levels of this potential contamination may vary. Opinions and recommendations presented therein apply to existing conditions and those reasonably foreseeable.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

INITIAL SITE SCREENING REPORT – HAZARDOUS WASTE

Prepared By: Khrishna Mutz

County: Cleveland

Report Date: 11/5/2010

Project No.: SSP-114B(108)SS

J/P Number: 20266(07)

1. PROJECT DESCRIPTION:

SH-9 from 36th Ave SE to 72nd Ave SE in Norman.

2. LAND USE AND CHARACTERISTICS:

Primarily single family residences to the south and varying businesses to the north.

3. PROJECT METHODOLOGY:

A. Records Search:

- ☒ Electronic database search (vendor: EDR; report date: 10/8/2010)
- ☐ Manual database search (LUST, CERCLA, Landfill), plus:
- | | |
|--|--|
| <input type="checkbox"/> Sanborn Fire Insurance Maps | <input type="checkbox"/> UST |
| <input checked="" type="checkbox"/> Aerial photos (1995, 2008) | <input type="checkbox"/> Oil and Gas Wells |
| <input type="checkbox"/> RCRA CORRACTS | <input checked="" type="checkbox"/> Other: Google Streetview |
| <input type="checkbox"/> Manual file review (OCC/DEQ/Other): | |

B. Interviews/Contacts:

None.

- C. Field Investigation: ☒ Visit (date: 11/4/2010) ☐ No Visit

4. RESULTS OF INVESTIGATION:

A. Physical Features in Immediate Project Area (USTs, AST, Others):

Several oil/gas wells and tank batteries.

B. Evidence of Contamination (Vegetation Damage, Staining, Sheen, Other):

Stained soil was noted at each of the tank batteries near the pipe ends and at the pump jacks near the well heads.

- C. Summary:
- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | No concerns identified in project area. |
| <input type="checkbox"/> | Suspected sources of contamination identified in project area. |
| <input type="checkbox"/> | Known sources of contamination identified in project area. |

5. RECOMMENDATIONS:

- ☒ Approval to Proceed (No Further Action)
- ☐ Approval to Proceed, Pending:
- | | |
|--------------------------|--|
| <input type="checkbox"/> | Avoidance of described site(s) |
| <input type="checkbox"/> | Plan Notes regarding described site(s) (See Section 6) |
| <input type="checkbox"/> | Additional investigation |
- ☐ Approval NOT Recommended.

6. PLAN NOTES:

7. GENERAL COMMENTS:

This report is based solely upon the interpretation of the available information and documents reviewed, and when indicated, visual observations of the proposed project and its vicinity. This report is intended for the sole use of ODOT. It should be recognized that this report was not intended to be a definitive investigation of contamination on any proposed project. Given the scope of the limited services undertaken, it is possible that currently unrecognized contamination may exist at any property and that the levels of this potential contamination may vary. Opinions and recommendations presented therein apply to existing conditions and those reasonably foreseeable.

Attachment 5
EA Addendum

Updated Noise Analysis Review



Oklahoma Department of Transportation

Environmental Programs Division

200 N.E. 21st Street, Room 3D-3, Oklahoma City, Oklahoma 73105-3204

DATE: March 28, 2011

TO: Project File

FROM: Kevin Larios, P.E. - Noise/Mitigation Engineer *KML*

SUBJECT: Traffic Noise Assessment prepared for the proposed SH-9 widening project in Norman from 24th Ave. SE and extend east to 84th Ave. SE, Cleveland County.

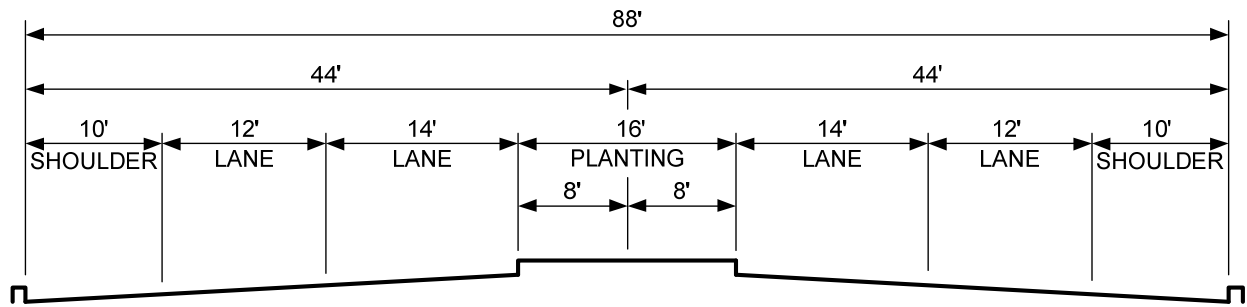
As a result of a recent design change, this serves as a review summary of the traffic noise assessment prepared for the subject project. Attached is the revised typical sections being proposed for this project.

The original 2004 noise analysis utilized the FHWA TNM 2.5 computer model and determined that seventeen (17) residential dwellings would approach, meet or exceed the 67 dBA Leq(h) NAC Category B. The results were based on a roadway design consisting of a four-lane facility with a paved flush median, i.e., a five-lane section with all vehicles traveling 65 mph. The proposed typical section between 24th Ave. SE and 48th Ave. SE has been revised to a divided four-lane curb/gutter facility with a raised median. Per a City of Norman Resolution R-0809-50 dated September 23, 2008 and ODOT roadway design standards that it is anticipated that this typical section would require a design speed of 50 mph. It should be pointed out that the revised typical sections would not place the near lane closer to the receivers. In addition, on March 22, 2011, the original design traffic data dated March 31, 2004 that was used in the original analysis, has been reviewed and approved by the Planning & Research Division for the design year update to 2011/2035 (see attached memorandum).

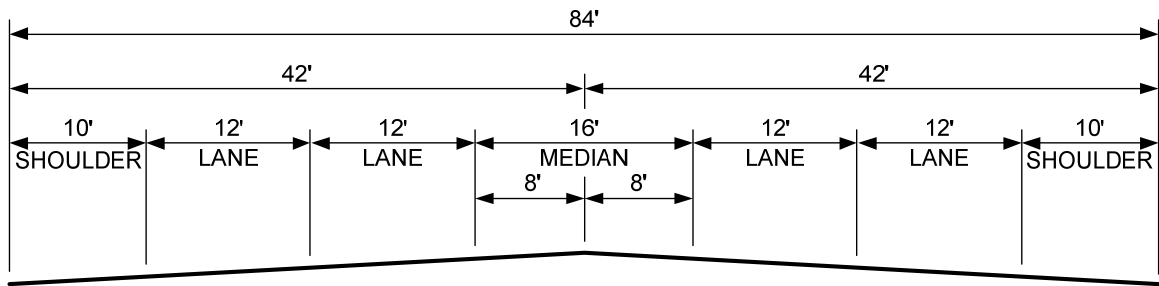
Given the updated design information, rerunning TNM with the same future roadway, traffic and receiver inputs and a 50 mph vehicle speed would result in reduced noise levels for the majority of the receivers, and possibly, less impacts involved. Under the circumstances, the original noise analysis provides a worst case scenario which concluded that noise abatement measures were not reasonable for any of the impacted receivers. Since that time, there have been no substantial traffic or design changes that would alter this conclusion; therefore, the original traffic noise analysis remains valid.

KML

Attachments



TYPICAL SECTION – 24TH TO 48TH



TYPICAL SECTION – 48TH TO 72ND



Oklahoma Department of Transportation

Planning & Research Division

Office 521-2704 Fax 521-6917

DATE: March 31, 2004
TO: Roadway Design Division
FROM: Planning and Research Division *DJ*
SUBJECT: Design Traffic on SH-9, Cleveland County

In response to your request, we are transmitting the attached design traffic information.

DJ:ph

*3-22-11
THIS DESIGN TRAFFIC HAS BEEN REVIEWED AND IS
APPROVED FOR 2011/2035 DESIGN YEAR. DJ)*

DESIGN TRAFFIC DATA

Functional Class Minor Arterial Proj. No. STPY-114A(099)

Highway/Street SH-9 City Norman County Cleveland

Description of Location At 24th, 36th, 48th and 60th Streets

Additional Information _____

Assigned AADT 2004 = See Attachment

Projected AADT 2024 = See Attachment

K(dhv/aadt-two way) = 10%

D(Directional dist.) = 55%

T (% of DHV) = 2%

T (% of AADT) = 4%

T3 (% of AADT) = 3%

T3 Overloads = 15 axles

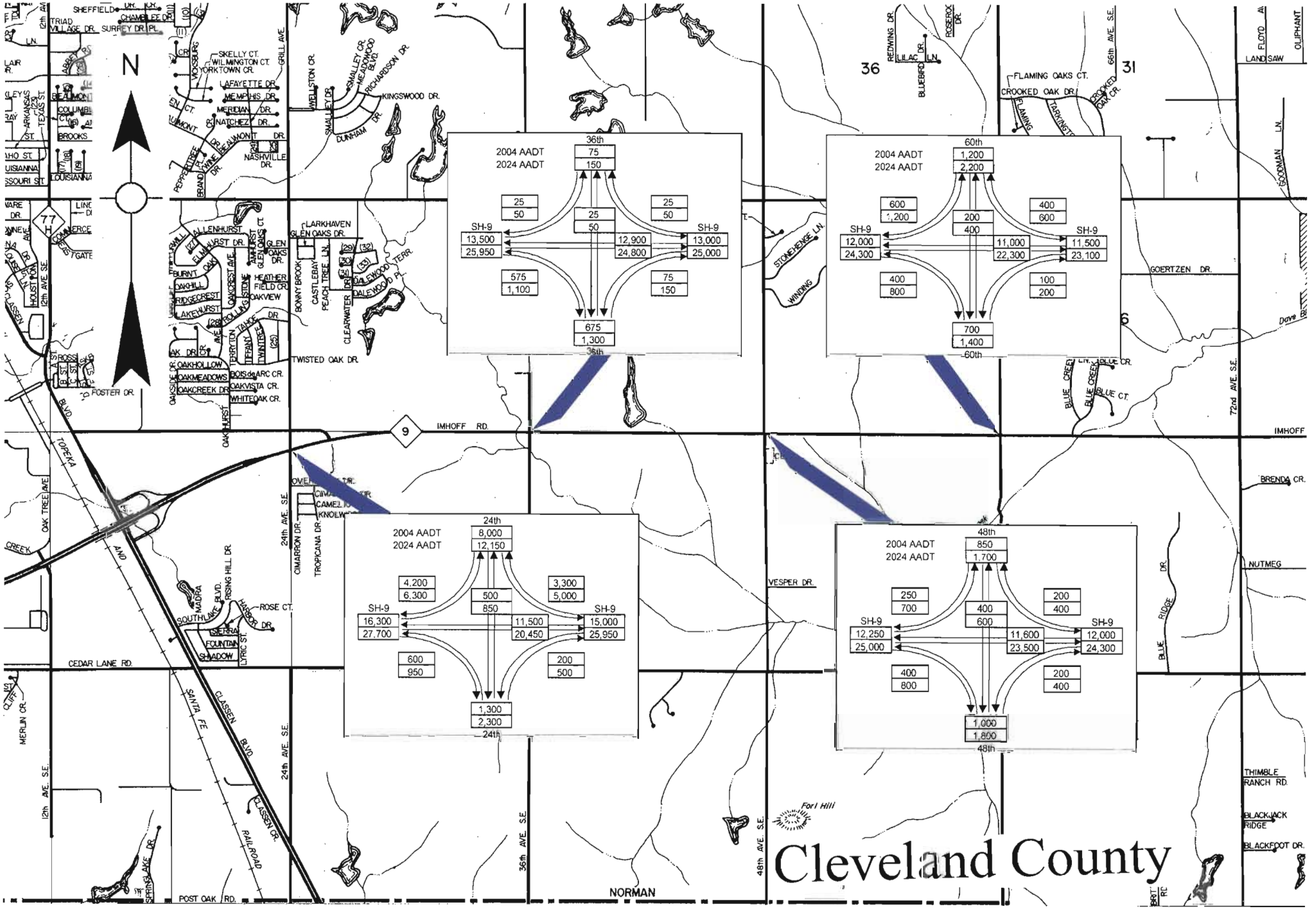
Compiled by Paul Haqar Date 3/31/04 Checked by D)

Proj. Egr. Denise Slattery, P.E. Design Squad _____

T Includes all trucks with 6 or more tires

T3 Trucks with 3 or more axles

T3 Overloads: Number of overloaded axles per 100 T3 trucks



Cleveland County

The first part of the paper discusses the importance of understanding the cultural context of the research. It highlights the need for researchers to be sensitive to the values and beliefs of the communities they are studying. This is particularly important in the field of education, where cultural differences can significantly impact learning outcomes. The paper then moves on to discuss the challenges of conducting research in culturally diverse settings. It notes that researchers often face difficulties in finding appropriate research methods and in interpreting the data they collect. To address these challenges, the paper suggests that researchers should adopt a more flexible and open-minded approach to their research. This involves being willing to learn from the community and to adapt their research methods as needed. The paper also emphasizes the importance of building trust and rapport with the community. This is essential for ensuring that the research is conducted in a respectful and ethical manner. Finally, the paper concludes by noting that while there are many challenges to conducting research in culturally diverse settings, it is also an opportunity to gain valuable insights into the lives of different communities. By taking the time to understand and appreciate the cultural context of the research, researchers can make a more meaningful contribution to the field of education.


U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
OKLAHOMA DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ASSESSMENT
ON
STATE HIGHWAY 9 RECONSTRUCTION PROJECT
CLEVELAND COUNTY

The proposed project is described as widening of State Highway 9 in Cleveland County beginning immediately west of 24th Avenue Southeast extending east to 84th Avenue Southeast within the Corporate Limits of the City of Norman, Oklahoma.

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:

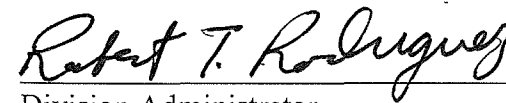
Date 7/01/05



Planning & Research Engineer
Oklahoma Department of Transportation

Concur:

Date 8/19/05



for Division Administrator
Federal Highway Administration

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VII. Conclusions	8

APPENDICES

Appendix 1	Items Considered During Project Development
Appendix 2	Cultural Resources Report
Appendix 3	Biological Evaluation
Appendix 4	Traffic Noise Assessment
Appendix 5	Solicitation and Coordination
Appendix 6	Public Meeting Materials
Appendix 7	Public Hearing Transcript

I. LOCATION AND INTRODUCTION

This Environmental Assessment (EA) examines the anticipated social, economic, and environmental effects of the proposed reconstruction of State Highway 9 (SH-9) beginning immediately west of 24th Avenue Southeast and extending approximately five (5) miles to 84th Avenue Southeast within the Corporate Limits of the City of Norman located in Cleveland County, Oklahoma. The location of the proposed project is depicted in Figure 1. The existing facility is a two-lane roadway with turn lanes at each section line road. The proposed project is to be a four-lane facility with a paved flush median and striped left-turn bays as appropriate.

In 1999, the Oklahoma Department of Transportation (ODOT) began evaluation of the entire twenty-nine (29) mile corridor from just east of US-77 in Norman east to U.S. Highway 177 (US-177) in Tecumseh, Pottawatomie County. The 2000-2005 Statewide Intermodal Transportation Plan identified this segment of SH-9 as a transportation improvement corridor and it is anticipated that four lanes are needed to meet the demands of moving people and goods by 2025. To better meet construction scheduling and due to social, economic and environmental characteristic reasons, the logical terminus has been established at 84th Avenue Southeast. Another EA will be prepared for that portion of SH-9 between 84th Avenue Southeast east to US-177.

This document was developed to assist in meeting federal program requirements and was completed by ODOT in conformance with DOT ORDER 5610.1C, DEQ REGULATIONS dated November 29, 1978 and the policy directives of the Federal-aid Policy Guide of the FHWA. Assessment of the total social, economic and environmental effects of the proposed project was developed in consultation with FHWA and has been coordinated with other federal, state and local agencies or organizations.

II. NEED FOR PROJECT

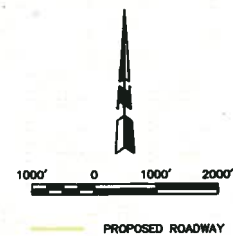
The safe and efficient movement of vehicles along SH-9 is a primary concern of federal, state and local governmental authorities directing the future growth of this area. In recent years along this segment of SH-9 in the City of Norman, traffic numbers have substantially increased. The current average daily traffic (ADT) for SH-9 within this corridor is 12,945. In addition the ADT levels are projected to be 24,775 by the year 2024. In conjunction with this increase in traffic the number of vehicle accidents, including many fatal accidents, has increased. This is largely attributed to the inadequacy of the highway facility. Projected traffic volumes are anticipated to increase, which would further exacerbate problems along the facility. For this reason, ODOT has determined the need for improvements along this portion of SH-9 and will provide citizens traveling this roadway a much safer, more efficient as well as an alternative means transportation facility.




PROJECT LOCATION

Proposed SH-9 Reconstruction
from 24th Ave. SE to 84th Ave. SE in Norman
Cleveland County

FIGURE 1



DATE 4/28/03	STATE HIGHWAY 9 OKLAHOMA DEPT. OF TRANSPORTATION
DRAWN BY: JMP	LOCATION MAP
SCALE AS SHOWN	 ARCHITECTURE ENGINEERING PLANNING TRIAD DESIGN GROUP
SHEET	

III. ALTERNATIVES

Four alternatives have been considered in the development of this project. Alternate 1 is the “do-nothing” or “No-Build” alternate. Alternates 2, 3 and 4 are improvement of the existing two-lane facility to a four-lane facility with a paved flush median and striped left-turn bays as appropriate (i.e., five-lane facility). Initially, ODOT did consider extending the existing four-lane divided section through the proposed project limits. However, revised ODOT roadway design policy warranted that a five-lane facility would function more efficiently for current/future traffic volumes and land-use while minimizing right-of-way impacts. Therefore, the alternatives are defined as follows.

Alternate 1 (“No-Build”) would be the continued use of the existing two-lane facility.

Alternate 2 consists of building along the north side of existing facility.

Alternate 3 consists of building along the south side of existing facility.

Alternate 4 consist of reconstructing symmetrically about the existing centerline.

All the build alternatives are consistent with the Oklahoma City Area Regional Transportation Study long-range plan for projected improvements and growth in this area. The initial design concept for the build alternatives was determined based on future traffic volumes and corridor continuity and all meet the ODOT design requirements. Based on early public involvement, the desire of local entities is to include a separate multiuse bicycle path on the north side of the new facility. To accommodate bicycle users, the proposed project will include a special 12-ft wide paved shoulders. Table III.1 provides a matrix of impacts associated with each alternative.

Table III.1 - Matrix of Considered Alternatives

Alternate No.	Does this Alternative match the Need for Project?	Does this Alternative create Traffic Noise Impacts?	Does this Alternative create a Wetlands and/or E/S Impacts?	Does this Alternative create a Cultural Resources Impacts?	Does this Alternative create any Other Impacts?	Estimated Project Cost
1 (No Build)	No	No	No	No	Yes – Continue unsafe & inadequate transportation facility.	\$0
2	Yes	Yes	No	No	Yes – result in greater residential relocations	\$8,100,000
3	Yes	Yes	No	No	Yes – few residential relocations	\$8,200,000
4	Yes	Yes	No	No	Yes – Temporary disruptions caused by construction detours.	\$7,500,000

Comparing the four alternatives has resulted in the following conclusions:

- Alternate 1, the no-build alternate, would result in more congested and less safe transportation facility as future traffic volumes continue to increase.
- Alternates 2 and 3 provides constructing the entire new four-lane facility offset and parallel to the existing two-lane facility. Thus, these alternatives would have minimum disruption to road users during construction by maintaining traffic on the existing two-lane facility. However, both of these alternates would result in residential displacements with Alternate 2 having substantially more relocations due to the concentrated residential development that currently exist.
- Alternate 4 would maximize the existing right-of-way with minor amounts needed along both north and south sides resulting in no displacements of homes or businesses. However, this alternate would require complex construction sequencing and traffic detouring that may cause temporary inconvenience to road users and longer time to complete construction.

Alternate 4 is considered the preferred alternate to solve the need for the project. This is based on a balanced consideration of the need for adequate, safe and efficient transportation facility coupled with minimum social, economic and environmental effects generated by the proposed project.

IV. SOCIAL, ECONOMIC AND ENVIRONMENTAL EFFECTS

Appendix 1 contains a list of the social, economic and environmental effects reviewed in the development of this project. Based on this review, the following areas are the major consequences of the Preferred Alternative B Alternate 4.

Displacements of Residents and Businesses

On-site field review and aerial photo maps were used to determine the location and habitation status of houses and mobile homes within the project area. Based on this review, no relocation impacts are anticipated. Proposed right-of-way will be secured following ODOT policy.

Cultural Resources

A cultural resources survey was conducted and no archaeological sites or significant cultural resources eligible for the National Register of Historic Places were located and recorded during the field survey that will be adversely affected by the preferred alignment. The findings this study were concurred with the State Archaeologist and the State Historic Preservation Officer. In addition, potentially affected Native American Tribal Entities were forwarded a copy of the report by the Tribal Liaison of the ODOT Cultural Resources Program. The cultural resources report, tribal coordination letters as well as other related correspondence is included in **Appendix 2**.

Biological Resources

Onsite investigations within the proposed project area were performed by the ODOT biologist in order to identify and demarcate general ecological impact relating to wetlands and endangered or threatened species. The proposed project as planned will have no effect on federally-listed endangered, threatened or candidate species and no wetlands were identified. All applicable standard environmental measures, as dictated by Federal Regulation and the current Department's Standard Specifications for Highway Construction will be implemented. The appropriate Section 404 permit will be obtained for this project. The biological evaluation report is included in **Appendix 3**.

Floodplains

The Federal Emergency Management Agency's Flood Insurance Rate Maps were reviewed to determine the locations of 100-Year floodplain areas within the project corridor. Stream crossings, utilizing reinforced concrete bridge boxes and culverts, will conform to COE requirements. Bridge and culvert design will comply with floodplain regulations and will not increase the base 100-year flood elevation by more than one foot. All proper floodplain and Section 404 permits for channelization will be obtained prior to construction of any structures.

Noise

The proposed corridor width limits of approximately 300-ft north and south of the existing centerline were examined for both existing and future traffic noise impacts. Noise impacts were determined by projecting future noise levels for the preferred alignment and comparing these levels with existing noise levels and the noise abatement criteria (NAC) established in 23 CFR 772 and the ODOT Noise Policy Directive "Highway Noise Abatement." The traffic noise analysis was accomplished by utilizing the FHWA approved Noise Model (TNM 2.5). Based on the TNM 2.5 Model, the existing traffic condition noise levels obtained for the selected receivers exceeded the NAC at one selected receiver (R-1). According to the comparison between existing and future traffic levels, the identified traffic-induced noise level difference does not result in a substantial increase of 15 dBA for any of the selected receivers. However, levels derived from the proposed roadway design and future traffic volume indicate all fourteen (14) of the seventeen (17) selected receivers would experience future traffic induced noise levels that approach by 1 dBA, meet or exceed the NAC identified for Activity Category B.

Mitigation of noise was considered for all impacted primary receivers. These fourteen (14) identified receivers represented a total of approximately seventeen (17) residential receptors. Mitigation that is determined to be feasible and reasonable will be recommended for inclusion in the project. According to the results of the sound barriers analysis, the installation of sound walls according or similar to the presented design meets the feasibility criteria specified in the ODOT Noise Policy Directive. However, it does not meet the reasonable criteria specified in the ODOT Noise Policy Directive, low overall magnitude of the noise levels and projected cost of mitigation. The Traffic Noise Impact Assessment is included in **Appendix 4**.

Hazardous Waste

Comprehensive research was completed to aid in the avoidance of any hazardous waste sites and /or underground storage tanks and ensure health and safety considerations. The sources examined include the National Priority List, Oklahoma RCRA Corrective Actions List, RCRA Permitted Treatment, Storage, and Disposal Facilities List, RCRA Violations and Enforcement Actions List, Oklahoma CERCLIS List, EPA's RCRA Registered Small or Large Generators of Hazardous Waste List and the Oklahoma Corporation Commission's Leaking Underground and Above Ground Storage Tanks List. This review provided no information sources that listed any known hazardous underground storage tank contamination issues as well as no hazardous waste disposal sites located within the extents of the preferred alternative and affected areas, nor does there appear to be any health or safety issues associated with this alternative.

V. COMMENTS AND COORDINATION

ODOT mailed a letter, soliciting comments related to the anticipated social, economic and environmental effects was mailed to 48 local, cities, county, state and federal agencies, organizations and individuals on July 1, 2003. The solicitation letters were sent regarding the entire corridor between US-77 in Norman extending east to US-177 in Tecumseh. Twenty-one (21) responses were received, with fourteen (14) relative to the project portion covered by this EA. The relative, substantive comments are included in **Appendix 5** and are summarized as follows:

- U.S. Department of the Interior – National Park Service indicated there are no National Park Service Units in the vicinity and express no further comments.
- U. S. Department of Agriculture - Natural Resources Conservation Service responded by stating that the proposed reconstruction along the existing route does not impact prime farmlands as defined by the Farmland Protection Act unless the right-of-way is expanded. In addition they stated, that if there was an expansion of highway right-of-way the impact to prime farmlands would be very small in extent with less than .01 percent of total acres of prime farmlands for the county affected.
- Department of the Army, Tulsa District, Corps of Engineers (2 letters) noted that construction activities within waters of the United States require a wetland determination and wetland permit. They also expressed that the project must not increase flood hazard and care should be taken to minimize hazards from local drainage to the subject properties.
Response: Bridge and culvert designs will comply with the flood plain regulations and will not increase the base 100-year flood elevation by more than one foot. In addition, the proper section 404 permits will be obtained for the project prior to construction.

- Three letters from members of the Oklahoma State Legislature indicated their support for the project as an effort to provide a safer and more efficient transportation facility in this part of the state.
- Oklahoma Corporation Commission indicated that several oil and gas lines cross SH-9 along the entire corridor along with many plugged and active oil wells near the highway right-of-way. They stated they would be available to assist with any potential problems during and prior to construction.
- Oklahoma Department of Wildlife Conservation noted that no state endangered or threatened species occur within the area defined by the project. They suggested that coordination with the US Fish and Wildlife Service (USFWS) should be conducted in order to obtain information about federally listed species.
Response: Solicitation was sent to the USFWS at the same time to inquire about possible adverse affects to federally listed endangered or threatened species.
- Oklahoma Archaeological Survey noted that archaeological sites are recorded for the project area and additional sites are likely based on topographic and hydrologic settings. The Survey considers a field inspection necessary prior to project construction to identify significant archeological resources.
Response: An initial archaeological field inspection of the corridor was conducted and it was determined that no cultural resources are present within the proposed project limits. The OAS concurred with these findings on September 24, 2004. Any archaeological resources uncovered during construction will be mitigated according to Department guidelines and consultation with the State Archaeologist, SHPO and other appropriate consulting parties.
- Oklahoma Historical Society requested that a Historic Preservation Resource Identification Form with appropriate documentation and photographs of structures that would be affected.
Response: A cultural resources survey was conducted and it was determined that no significant historic resources are present within the proposed project limits (see Appendix 2).
- Oklahoma Tourism & Recreation Department indicated concern for any loss of public parkland that would occur as a result of additional right-of-way acquisition.
Response: Further coordination between ODOT and the Tourism & Recreation indicated that no parkland will be affected within this portion of the proposed SH-9 project.
- Association of Central Oklahoma Governments (ACOG) indicated that the 2025 OCARTS Plan called for future development in this area of the City of Norman. ACOG did indicate the absence of three (3) miles from 168th Avenue East to the Cleveland/Pottawatomie County Line was not included on the long-range plan. They articulated that it would be necessary for the sponsoring entity to request an amendment to the OCARTS Plan to include the missing three miles if federal funds are to be expended on this project.

Response: Beginning July 18, 2003, ODOT coordinated with ACOG and the 2025 OCARTS Plan was amended October 30, 2003 to include that portion of SH-9 corridor from 168th Avenue East to the Cleveland/Pottawatomie County Line.

- The City of Norman indicated their encouragement of the project with resolutions the City has approved to support the widening of SH-9. These resolutions included a request for, exclusive left and right hand turn lanes at all intersections, full width paved shoulders, a bicycle / multiuse path adjacent to the improved facility, and flashing yellow lights and lower design speeds where appropriate to assist safety for pedestrian and bicycle traffic.

Response: The facility design will consider these desired features.

VI. PUBLIC INVOLVEMENT

Public Meeting

A public meeting to involve concerned citizens in the development of the proposed widening project was held at 7:00 pm, Thursday, May 20, 2004 at Washington Elementary School in Norman. Representatives from the City, County, FHWA and ODOT were in attendance. Concerned citizens had the opportunity to comment on the potential social, economic, and environmental impacts associated with the project. Thirty-four (34) people registered at the meeting. A summary of the meeting, copies of the letters and written comments are included in **Appendix 6**.

Design considerations discussed at the Public Meeting:

- Safe roadway design
- Aesthetic roadway design
- Bicycle / Multiuse Path

Environmental considerations discussed at the Public Meeting:

- Cultural Resource Impacts
- Traffic Noise Impacts

Public Concerns stated at Public Meeting:

- Traffic Noise Impacts
- Safety concerns for neighborhoods
- Riparian zone impacts
- Right-of-Way impacts
- Access to residential areas
- Bicycle or multiuse path

Public Hearing

A public hearing to consider the social, economic and environmental effects of the proposed SH-9 project was held September 27, 2005 in the Washington Elementary School Gymnasium, Norman. Attendance at the hearing was 40 people. The public hearing was conducted using a combination of formal presentation and open house format from 6 to 8 pm. A total of 16 comments were received. No verbal comments were received at the hearing via a tape recorder. There were 16 written statements received after the hearing. A transcript of this hearing along with copies of the comments and appropriate responses to the comments are included in **Appendix 7**.

VII. CONCLUSIONS

Upon review of the anticipated social, economic and environmental impacts of the proposed reconstruction of SH-9, the following conclusions have been reached:

- A. Alternates 2, 3 and 4, the build alternates, are the most feasible and prudent alternatives. Alternate 4 is the preferred alternate based upon the assessment of anticipated social, economic and environmental effects.
- B. Long-term benefits are anticipated as a result of the proposed project.
- C. The total quality of the human environment is expected to be enhanced when the proposed project is completed.
- D. With the exceptions of noise impacts, there are no substantial adverse social or environmental impacts precipitated by the proposed improvements. Noise impacts cannot be mitigated due relatively low overall magnitude of the noise levels and project cost of mitigation.

Appendix 1

Items Considered During Project Development

STATE HIGHWAY 9 – 24th Street S.E. to 84th Street S.E.

ITEMS CONSIDERED DURING PROJECT DEVELOPMENT

Purpose and Need for Project

Alternatives

Affected Environment

Possible Environmental Consequences:

- Airport Impacts
- Air Quality Impacts
- Community Impact Assessment
- Consideration Relating to Pedestrians and Bicyclists
- Construction Impacts
- Cultural Resources / Archaeological Sites
- Economic Impacts
- Effects on Public Parks, Wildlife, and Waterfowl Refuge and Historic Sites
- Energy
- Environmental Justice
- Farmland Impacts
- Floodplain Issues
- Hazardous Waste/Underground Storage Tanks
- Irreversible and Irretrievable Commitment of Resources
- Joint Development
- Land Use Impacts
- Noise Impacts
- Permits
- Relationship of Local Short-term uses vs. Long Term Productivity
- Relocation Impacts/Right-of-way Acquisition
- Secondary and Cumulative Impacts
- Social Impacts
- Threatened or Endangered Species
- Visual Impacts
- Water Body Modification
- Wetland Impacts
- Wildlife Impacts
- Wild and Scenic Rivers

Comments and Coordination/Public Involvement

- State/Federal Agencies
- Local/City Officials
- Tribal Coordination
- Interested Citizens

Engineering/Design/Drainage Concerns

Accident/Safety Concerns

Appendix 2

Cultural Resources Report & Related Correspondence



Oklahoma Historical Society

Founded May 27, 1893

State Historic Preservation Office • 2704 Villa Prom • Shepherd Mall • Oklahoma City, OK 73107-2441

Telephone 405/521-6249 • Fax 405/947-2918

October 7, 2004

Mr. John D. Hartley
Cultural Resources Coordinator/Manager
Dept. of Transportation - Environmental Studies
200 Northeast 21st Street
Oklahoma City, OK 73105-3204

RE: File #2575-04; Cleveland County Proposed Widening of SH-9 from
US-77 to S.E. 84th, Norman; Structures #1-#4, Sites 34CL372-
34CL375, 34CL377 & 34CL380

Dear Mr. Hartley:

We have received and reviewed the documentation concerning the referenced project in Cleveland County. Additionally, we have examined the information contained in the Oklahoma Landmarks Inventory (OLI) files and other materials on historic resources available in our office. We find that there are no historic properties affected by the referenced project.

Note: We defer to Dr. Robert Brooks regarding Sites 34CL376, 34CL378 and 34CL379.

Thank you for the opportunity to comment on this project. We look forward to working with you in the future.

If you have any questions, please contact Charles Wallis, RPA, Historical Archaeologist, at 405/521-6381.

Should further correspondence pertaining to this project be necessary, the above underlined file number must be referenced. Thank you.

Sincerely,

Melvena Heisch
Deputy State Historic
Preservation Officer

MH:pm

cc: Dr. Brooks, OAS

RECEIVED
ODOT-PLANNING
2004 OCT 12 PM 3:18



Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

September 24, 2004

John D. Hartley
Cultural Resources Coordinator/
Manager – Environmental Studies
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, OK 73105-3204

Re: Proposed widening of SH-9 from SH -77 to SE 84th Street in Norman.
Legal Description: Origin Point – Sectionline between Sections 3/10
T8N R2W; Termination Point – Sectionline between Sections 4/9
T8N R1W, Cleveland County, Oklahoma.

Dear Mr. Hartley:

I have received a report documenting the results of a cultural resource inventory for the above referenced action. This work was performed by Christopher Cojeen and associates on March 18-20 and 23-24, 2004. The field inspection included the examination of some 436 acres representing the area of potential effect. Six previously recorded archaeological sites were documented in proximity to the expanded right-of-way (34CL10, 23, 33, 217, 235, and 236). These sites have been assessed as being outside of the area of potential effect and thus, will not be affected by the widening project. Four standing structures dating to the twentieth century were identified within the expanded right-of-way. **I defer to the State Historic Preservation Office on the potential eligibility and project effect for these residences.** Nine previously unrecorded archaeological sites were documented during the survey (34CL372-380). All of these fall within the area of potential effect. Three of the sites represent prehistoric lithic scatters (34CL376, 378, 379). I concur with the assessment by Mr. Cojeen and your agency that these sites do not hold the content or context worthy of National Register eligibility and no further treatment is warranted. The remaining sites represent historic farmsteads/residences (34CL372, 374, 375, and 377) or early twentieth century rural schools (34CL373 and 380). **I defer comment on the potential eligibility of these farmsteads/residences and schools and project effect to the Historic Archaeologist with the State Historic Preservation Office.**

This review has been conducted in cooperation with the State Historic Preservation Office, Oklahoma Historical Society.

Sincerely,

Robert L. Brooks
State Archaeologist

Cc: SHPO
R. Bartlett
C. Cojeen
Wichita and Affiliated Tribes

2004 SEP 27 PM 2:06

RECEIVED
ODOT-PLANNING

Christopher A. Cojeen
Principal Investigator

Archaeology
Research
History

"Specializing in Energy Related Archaeological Consulting"

**REPORT ON THE CULTURAL RESOURCES INVENTORY OF
STATE HIGHWAY 9 WIDENING PROJECT FROM
HIGHWAY 77 TO SE 84th STREET IN NORMAN,
CLEVELAND COUNTY, OKLAHOMA**

Project Name: State Highway 9 Widening Project from Highway 77 to SE 84th Street,
Norman, Cleveland County, Oklahoma
Prepared For: Oklahoma Department of Transportation.

Project Location: Portions of Cleveland Oklahoma
Map Reference: Norman (1965) and Denver (1958), Oklahoma 7.5 minute USGS quadrangles

Records Search: Christopher Cojeen and Thomas Lindsey, 10/18/2003
Survey: Christopher Cojeen, Amy Cojeen, Roger J. Burkhalter, Dave Boling, Kirk Smith and
Char Lowrance, 3/18-20 and 23-24/2004
Report by: Roger Burkhalter and Christopher Cojeen, 8/5/2004

ABSTRACT

A Phase I Cultural Resources inventory of the Oklahoma Department of Transportation (ODOT) improvements to State Highway 9 (SH-9), beginning at the junction of SH-9 and US Highway 77 (US-77) and extending east to SE 84th Street, was performed March 18 through 20 and 23 through 24, 2004, by Cojeen Archeological Services (CAS), of Norman, Oklahoma. Triad Design Group contracted this work for submission to ODOT. The inventory included background file searches at the Oklahoma Archeological Survey (OAS) and pedestrian field survey and limited shovel probes in the study area, which contains the proposed highway right-of-way (R/W) route, in portions of Cleveland County, Oklahoma (Figure 1). Six previously recorded archeological sites were identified as being near or potentially within the study area.

The proposed improvements to SH-9 begin at the US-77 junction and extend east approximately 6 miles (9.6 kilometers) to the SE 84th Street junction east of Norman, Oklahoma (Figure 1). The study area extends approximately 300 feet ([ft] 91 meters [m]) either side of the current SH-9 centerline (C/L). The inventory area includes approximately 436 acres. The study area and R/W route was not staked prior to the archeological survey, however, it followed an existing road and there was no difficulty in locating the project corridor. The archeological survey consisted of a pedestrian coverage of the study area.

Six previously recorded archeological sites are located near but outside of the study area. Nine newly recorded archeological sites and four newly recorded historic standing houses were located during the survey.

1. INTRODUCTION

PROPOSED ACTION

ODOT proposes to make improvements to SH-9 beginning at the junction of SH-9 and US-77 and extending east approximately 6 miles (9.6 kilometers) to the SE 84th Street junction east of Norman, Oklahoma (Figure 1). The study area extends approximately 300 feet ([ft] 91 meters [m]) either side of the current SH-9 (C/L) and includes approximately 436 acres. The proposed project involves the widening of SH-9 from its present two-lane with shoulder and turning lanes, to a four-lane configuration. The project will follow the existing SH-9 route along the entire length of the project.

PROJECT LOCATION

The SH-9 improvements project is located in parts of Cleveland County and extends from the junction of SH-9 and US-77 east to the SE 84th Street junction east of Norman, Oklahoma. Located mostly in the uplands areas north of the Canadian (South Canadian) River, the project crosses Dave Blue Creek and several minor drainages. Approximately 436 acres were examined during the survey.

USGS MAP SOURCES

The project is on the Norman (1965, photorevised 1978) and Denver (1958, photorevised 1969 and 1975), Oklahoma 7.5 minute USGS quadrangles.

LAND JURISDICTION

The project area is located on private unrestricted lands.

2. NATURAL SETTING

The project lies within the Central Redbed Plains Geomorphic Province of the Great Plains province of the Interior Plains geomorphic division (Fenneman 1946) and the Mixed Grass Plains Vegetational Region (Risser ed. 1974). The proposed SH-9 improvements route trends in an east/west direction.

Soils in the project area are derived mostly from local Permian bedrock material with some Quaternary and Recent fluvial deposits along nearby drainages. Soils are mostly sand, silt, and clay based and typically shallow, reddish-orange in the upland areas and deep, reddish-brown colored soils in lowland areas.

At present, the study area has a temperate, subhumid climate, typical of the central part of Oklahoma. Seasonal changes vary in intensity, but the changes between seasons are gradual. Summer is usually the wettest season. Average annual precipitation varies from 60 cm to 90 cm. Elevation in the project area varies from 1,070 to 1,160 ft (326 to 354 m) above sea level.

Current land uses in the area consists primarily of residential, commercial and pasturelands. Shovel probes indicate that the level uplands, rolling uplands, and the bottomland terraces that are currently in pasture appear to have been cultivated. The dissected uplands appear to have been used only as pasture or rangeland.

Vegetation in the project area is associated with the Mixed Grass Prairie Plains, dominated by a combination of species found in the tall grass and short grass prairies, with the lower layer of grasses and forbs usually denser than the taller one. Low needle-leaf evergreen trees are scattered over the prairie, creating a savanna-like vegetation community. The dominant plants on the uplands are red cedar (*Juniperous virginiana*), big and little bluestem, sideoats grama, blue grama, and hairy grama (*Bouteloua hirsuta*). Small groves of low broadleaf deciduous trees and shrubs occur in valley bottoms and on north-facing slopes. The dominant species in these groves are hackberry (*Celtis occidentalis*), cottonwood, burr oak, plum (*Prunus* sp.), and coralberry (*Symphoricarpos orbiculus*).

The wooded areas in the bluestem-grama prairie have fewer arboreal species and smaller trees as compared to forested areas to the east. Cottonwoods, junipers (*Juniperus virginiana*), and burr oaks are widely spaced along streams and rivers, and very few herbs are present in the understory.

According to Weaver and Albertson (1956), the origin of the Plains grasslands probably dates back 25 million years to Tertiary times. In the Eocene period, the Plains climate was warm and moist, and a temperate forest covered the area. As the Rocky Mountains rose, beginning in the upper Oligocene, they intercepted moisture-laden winds from the Pacific Ocean. Very little rainfall reached the eastern side of the mountains. In response grasses, which are well adapted to periods of drought, became the dominant plants, except in stream bottoms. The grasslands probably were well established by the Miocene.

Shelford (1963) describes typical animal populations and their changes through relatively recent time. Historically, the major grazing animals in the area were bison and pronghorn. Major predators were the wolf, coyote, and kit fox. Woodlands along streams supported wapiti, deer, and cottontail. Additionally, there were many burrowing animals (prairie dogs, pocket mice, kangaroo rats, etc.) and their predators (badger, black-footed ferret, etc.). At the time of the survey, deer, rodent burrows, snakes, lizards, frogs, and several species of birds were the only obvious evidence of the local animals. A more comprehensive list is included in Hofman et. al (1989).

Dahlquest and Schultz (1992) believe that maintenance of the southern Plains as a grassland is a result of the brush-clearing effectiveness of the association of Plains rodents such as prairie dogs, ground squirrels, pocket gophers, pocket mice, etc., and dominant large grazers. At present, range cattle fill the niche of dominant large grazers; earlier, it was bison. Bison (*Bison priscus*) first appeared in the area approximately 35,000 years ago, but prairie dogs and other rodents occur in local faunas as early as 1.2 or 1.3 million years ago, suggesting that there were earlier dominant large grazers before the bison (Dahlquest and Schultz 1992).

The majority of the survey route crossed pasture and rural urban lands with vegetation consistent with the Mixed Grass Prairie Plains. Mixed hardwoods line area streams. Red cedar and Hackberry are common on uplands.

3. CULTURAL SETTING

INTRODUCTION

The proposed SH-9 improvements project lies within the Southern Great Plains archeological province (Hofman et al. 1989), in the Central Plains habitat of Oklahoma. The discussion below will be restricted primarily to research conducted in the project area and the immediate surrounding area of central Oklahoma.

PREFIELD INVESTIGATIONS AND RECORDS CHECK

CAS personnel contacted the OAS in March 2004 to review information on previously recorded cultural resources in the proposed SH-9 project corridor and vicinity. There are six previously recorded archeological sites located near or potentially within the survey corridor. Sites located outside of the project corridor were not revisited during this survey. According to the most recent listings, there are no NRHP properties within the project area.

Previously recorded archeological sites located in the vicinity of the proposed corridor are:

34CL10

This site is located outside of the project corridor and will not be further impacted by this project. It is an unassigned prehistoric lithic scatter overlooking Dave Blue Creek to the east reported by Lawton based on landowner information and recorded by Bareis in February 1955. Present at the site at the time of recording were flakes, a broken point and a broken knife.

34CL23, the Todd site

This site is located outside of the project corridor and will not be further impacted by this project. This site was recorded by Lawton in February 1955 as an unassigned prehistoric lithic scatter located on a ridge toe overlooking Dave Blue Creek to the east. The site is mentioned in a preliminary survey report for Lake Thunderbird (Williams 1955). During the initial survey reporting the site one projectile point fragment, two crude blades, two flake scrapers, one core and seventeen flakes were observed.

34CL33

This site is located outside of the project corridor and will not be further impacted by this project. It was recorded by Lawton in February 1959 as an unassigned prehistoric lithic scatter located on a ridge toe overlooking Dave Blue Creek to the north. The site form mentions that several flakes of "quartzite", chert and quartz were found.

34CL217

This site is located outside of the project corridor and will not be further impacted by this project. Seacat and Neff recorded this site in May 1997 as a historic dugout homestead possibly dating to the 1889 land rush. Much of the information recorded about this site was based on a landowner interview who reported the location as the site of an original land rush settler. No historic artifacts were observed at the time of original recording.

34CL235

This site is located outside of the project corridor and will not be further impacted by this project. This site was recorded by Sisson and Ballenger in June 1999 as an unassigned prehistoric lithic scatter located on a gently sloping upland ridge overlooking an intermittent tributary of Dave Blue Creek. A total of 12 non-diagnostic artifacts were found in an area of about 47 m by "a couple" of meters wide and interspersed with unmodified pebbles.

34CL236

This site is located outside of the project corridor and will not be further impacted by this project. This site was recorded by Sisson and Ballenger in June 1999 as a large unassigned prehistoric lithic scatter and possible historic scatter overlooking an intermittent tributary of Dave Blue Creek. A total of 44 non-diagnostic prehistoric artifacts and 15 rusted metal fragments were found during the recording of this site.

CAS also contacted the Cleveland County Historical Society, Norman Public Schools System, and the Cleveland County Genealogical Society to research rural schools found marked on historic maps along the project route. Ms. Evelyn Parker of Noble, Oklahoma rescued many of the rural school records from destruction and Ms. Joyce Carle, also of Noble, is preparing a book on Cleveland County rural schools and were contacted by CAS. According to Ms. Parker, the rural schools in Cleveland County were established between 1890 and 1895, shortly after the 1889 land run and the Organic Act of 1890. Records for these schools prior to 1905 were destroyed during a courthouse fire in 1904 (Burkett 1947). The rural schools in Cleveland County were established in 70 different school districts, each district encompassing an approximately 9-square mile area (Burkett 1947). The schools were typically single room with one teacher instructing about 75 pupils in eight grade levels. Schoolhouses were also used as community centers where all types of meetings were held, including social and religious (Burkett 1947). Two rural schools are located in the study area: Independence School (District 37), established around 1895 (no exact date) and closed in 1957; and Enterprise School (District 36), established 1892 and closed in 1958.

CARTOGRAPHIC REVIEW

A review of available cartographic resources was performed drawing on information obtained from the OAS, Oklahoma Geological Survey (OGS), the University of Oklahoma Library System and the Oklahoma Department of Libraries. These resources include both historic maps and historic aerial photographs. Scanned images or xerographic copies of these resources were obtained and used to: (a) locate historic resources in the project area; (b) aid in determining landform modifications; and (c) aid in the evaluation of located resources.

Reviewed topographic maps include the 15 minute USGS Norman quadrangle from 1898 and 1936 (reprinted 1948), a 7.5 minute USGS Norman 2 quadrangle map from 1925, and the current 7.5 minute USGS maps Norman (1965, photorevised 1978) and Denver (1958, photorevised 1969 and 1975). Reviewed aerial photographs include OC-3H-65 taken March 22, 1951 and OC-4T-159 taken July 17, 1957 (west end of survey area), OC-3H-159 taken March 30, 1951 and OC-3T-193 taken July 15, 1957 (central portion of study area), and OC-3T-41 taken July 15, 1957 (east end of the study area).

The 1898 Norman 15-minute topographic map shows a total of 5 houses or structures located in the study area. The original survey for this map was performed in 1893 and resurveyed in 1898. The map does not have cemeteries or schools denoted or mapped.

The 1925 Norman No. 2 7.5 minute topographic map includes the area from US-77 to 48th Avenue SE and shows 8 houses or structures, including Independence School, located in this portion of the study area. This map is a planning map surveyed in 1925 by the USGS in cooperation with the University of Oklahoma.

The survey for the 1936 15-minute topographic map was originally performed between 1933 and 1934, with portions of the map transferred from the 1925 survey. This map was reprinted in 1948 and revised in 1950 (reprinted as the edition of 1951). The original 1936 map and the 1948 reprint show a total of 14 houses or structures, including schools, are located in the study area. The 1951 edition shows 13 houses or structures, including schools, located in the study area; two structures from the original survey are not present on the later map and one structure was added. The 1951 aerial photographs do not cover east of 60th Street SE, however, within the coverage area of these images, 3 houses or structure locations that were on the earlier topographic map were not visible on the 1951 aerial. The 1957 aerials cover the entire survey area and between the earlier 1936 topographic map and 1957, 13 of the original 17 house or structure locations were present.

Of the total 17 possible historic occupations identified by cartographic review, no indications for archeological or architectural remains were identified at 7 of these locations during the 2004 survey. The remaining 10 reflect the four standing structures documented during this study and the historic archeological sites 34CL372, 34CL373, 34CL374, 34CL375, 34CL377, and 34CL380. Appropriate cartographic information regarding these locations are summarized within the site and building descriptions later in this report and in the appendix.

RESEARCH GOALS

The investigations documented in this report were undertaken to record the surface expression of any cultural resources located in the proposed SH-9 improvements R/W located in parts of Cleveland County, Oklahoma. This was intended to be only an inventory of archeological sites visible on the ground surface or discovered through shovel probes excavated to depths of less than one meter. The major goals of this survey were: (a) identify both prehistoric and historic archeological sites within the project area; (b) based on archeological criteria and limited archival research, to determine the eligibility of the identified sites for inclusion in the NRHP; and (c) to provide recommendations for the treatment of these sites.

Given the limited scope of the project, no attempt was made to produce detailed models of site settlement or to provide in-depth analysis of the limited artifact assemblage observed during the course of the project. Interpretation of cultural resources found has followed standard local practices. By strict definition, cultural resources are any evidence of human use or occupation, but for this project, the term was restricted to cultural remains that were at least 50 years in age.

RESEARCH METHODS

PEDESTRIAN SURVEY

The pedestrian survey was conducted to document the surface and limited subsurface expression of any cultural resources located in the SH-9 survey area. The inventory area was defined by paced distances and landmark orientation observed in the field and comparison to recent, large-scale aerial photographs. The survey area was not staked prior to the cultural resources survey. The field methodology involved pedestrian transects, walked in a zigzag fashion, at intervals of approximately 30 m (100 ft) in the survey area, for a total surveyed corridor of 91 m (300 ft) width.

Shovel probes were dug in areas of reduced visibility and at located archeological resources to determine the extent of the site and if subsurface materials or features were present. Upon locating an archeological site, the surface perimeter of the site was determined by the surface artifact scatter. Surface features, if any, were noted and a series of 30 cm by 30 cm shovel probes were excavated in the project corridor. These shovel probes were screened through ¼-in mesh hardware cloth and were back-filled after excavation. These probes were used to determine if any subsurface materials or intact features are present at the site.

Small amounts of recent historic trash were noted in the project area during the course of the survey. These materials and surface modifications were discounted as cultural resources for the purposes of this report.

No collections of artifacts were made. Diagnostic artifacts were sketched and left at the site.

SURVEY CONDITIONS

Most of the inventory area yielded good to excellent surface visibility. In the uplands areas, surface visibility was approximately 10 to 100 percent and averaged around 45 percent while the lowlands afforded surface visibility of approximately 20 to 100 percent, averaging 50 percent. Much of the inventory area in the western portion of the survey route was in developed urban or developed recreational setting. The eastern portion of the survey route was mostly in pasture with some rural urban tracts.

4. RESEARCH RESULTS

Nine newly recorded archeological sites and four newly recorded historic standing houses were located during the survey.

HISTORIC STANDING STRUCTURES

A total of four standing historic structures were located within the survey corridor by CAS in March 2004.

Structure 1 (SW/SW/SE Section 3, T8N, R2W) 3115 SH-9

This is a single story mass plan frame dwelling located approximately 80 feet north of the existing SH-9 C/L. Although cartographic review shows a building on this site as early as 1925, and 1951 and 1957 aerial photographs depict a significantly smaller structure on the exact footprint, the present building would appear to be either post-1957 construction or an extensive remodeling of the older building. Nonetheless, this structure is not believed eligible for inclusion in the NRHP, although ODOT will defer a formal determination of eligibility to the Oklahoma SHPO.



View to the northeast of Structure 1.

Structure 2 (NW/NE/NE Section 11, T8N, R2W)
“Bishop Ranch House”

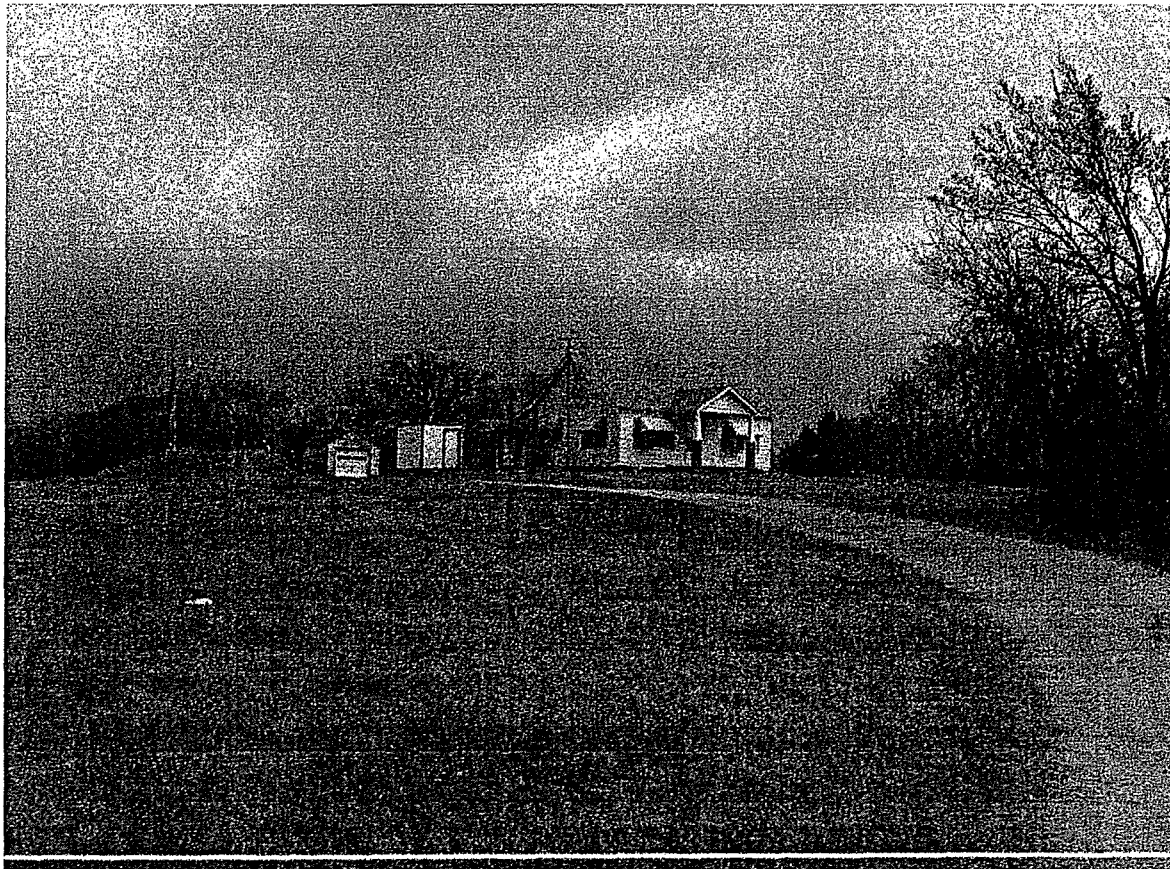
This is a small single story side-gabled frame national folk farm dwelling situated approximately 60 feet south of the existing SH-9 C/L. Based upon its general style and cartographic information it probably dates to the 1920's. A large sign on the property identifies it as the “Bishop Ranch” after the current owners, Bobby and Cynthia Bishop. Among the other property owners known for this structure is Josh Lee, a long-term Democratic US Representative, Senator, and federal appointee in the 1930s-1950's. Mr. Lee purchased the property in 1955 after retiring from public office but his family never resided there. This structure retains some integrity but is a simple 1920's farm residence with no unusual or outstanding characteristics other than a somewhat elaborate porch. Although purchased by a former US Senator and Representative in 1955, it lacks any meaningful association with the elements of his productive life and work that would render it potentially eligible for inclusion in the NRHP. It is therefore believed this structure lacks the architectural significance or historic associations for NRHP eligibility. However, ODOT will defer a formal determination of eligibility to the Oklahoma SHPO.



Structure 2, view to the southwest.

**Structure 3 (SE/SW/SW Section 5, T8N, R1W)
7401 SH-9**

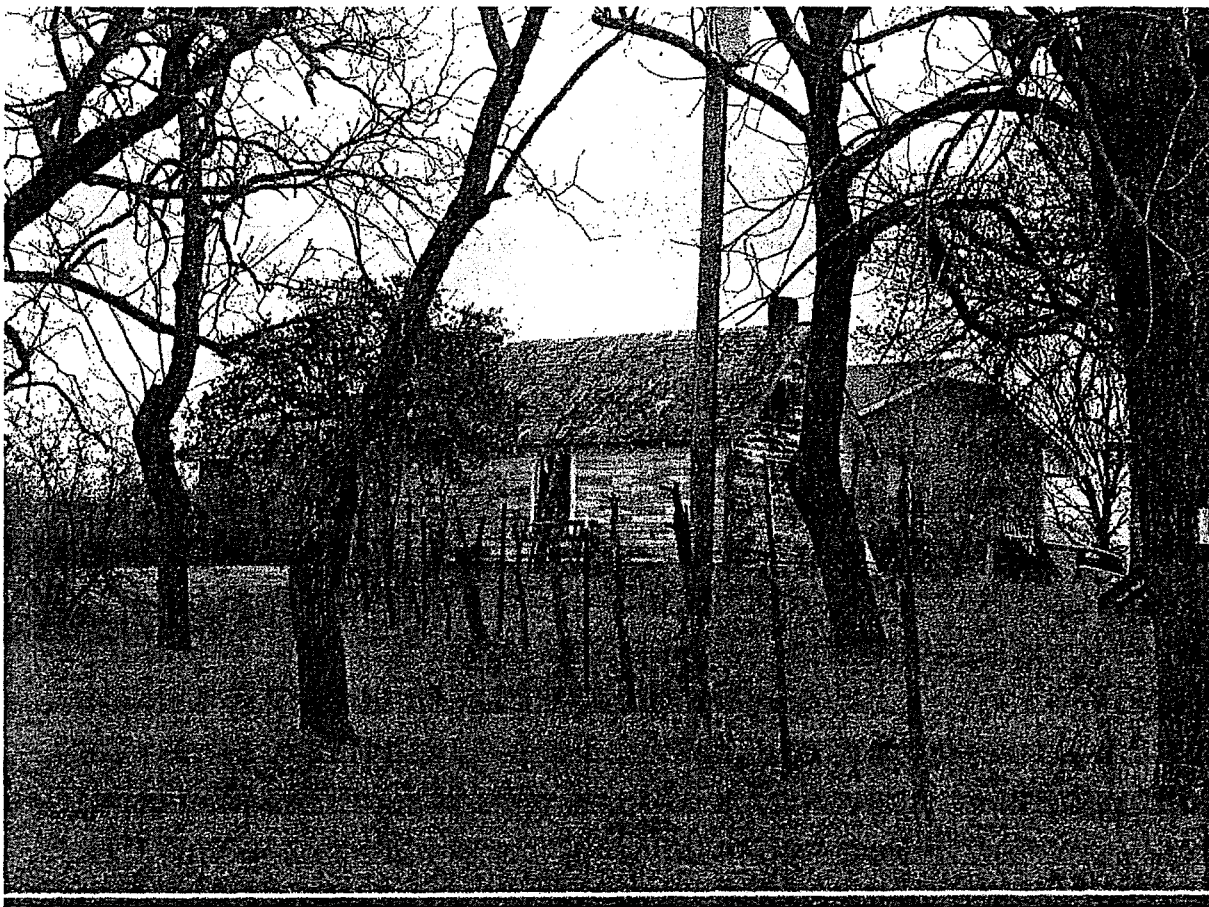
This is a single story side-gabled frame national folk dwelling with outbuildings located approximately 250 feet north of the existing SH-9 C/L. The general style, cartographic information and a local resident interview (Chapman Interview) indicates it probably dates to the mid-1940's. A large corrugated sheet metal barn is located northeast of the house and immediately north of the house is a native rock shed with a shallow pitch sheet metal roof. This house is an unremarkable mid 20th century dwelling. It lacks any outstanding characteristics and is not believed eligible for inclusion in the NRHP. However, ODOT will defer a formal determination of eligibility to the Oklahoma SHPO.



Structure 3, view to the northeast.

Structure 4 (NE/NW/NW/ Section 8, T8N, R1W)
Caddell House

This is a single story side-gable national folk unoccupied dwelling in poor condition located approximately 200 feet south of the existing SH-9 C/L. Based upon its general style, cartographic information and a local resident interview (Chapman Interview) it probably dates to the 1920's. The Caddell Family, who now reside in a nearby newly constructed house, owns the structure. A single cellar is the only extant outbuilding. This dwelling lacks any outstanding architectural characteristics and is probably not eligible for inclusion in the NRHP, although ODOT will defer a formal determination of eligibility to the Oklahoma SHPO.



Structure 4, view to the southeast.

PREVIOUSLY RECORDED ARCHEOLOGICAL SITES

Six previously recorded archeological sites are located near the project area. Shovel testing within the proposed project corridor in the vicinity of these sites failed to yield any artifacts. None of these sites are located within the project corridor.

NEWLY RECORDED ARCHEOLOGICAL SITES

SITE 34CL372

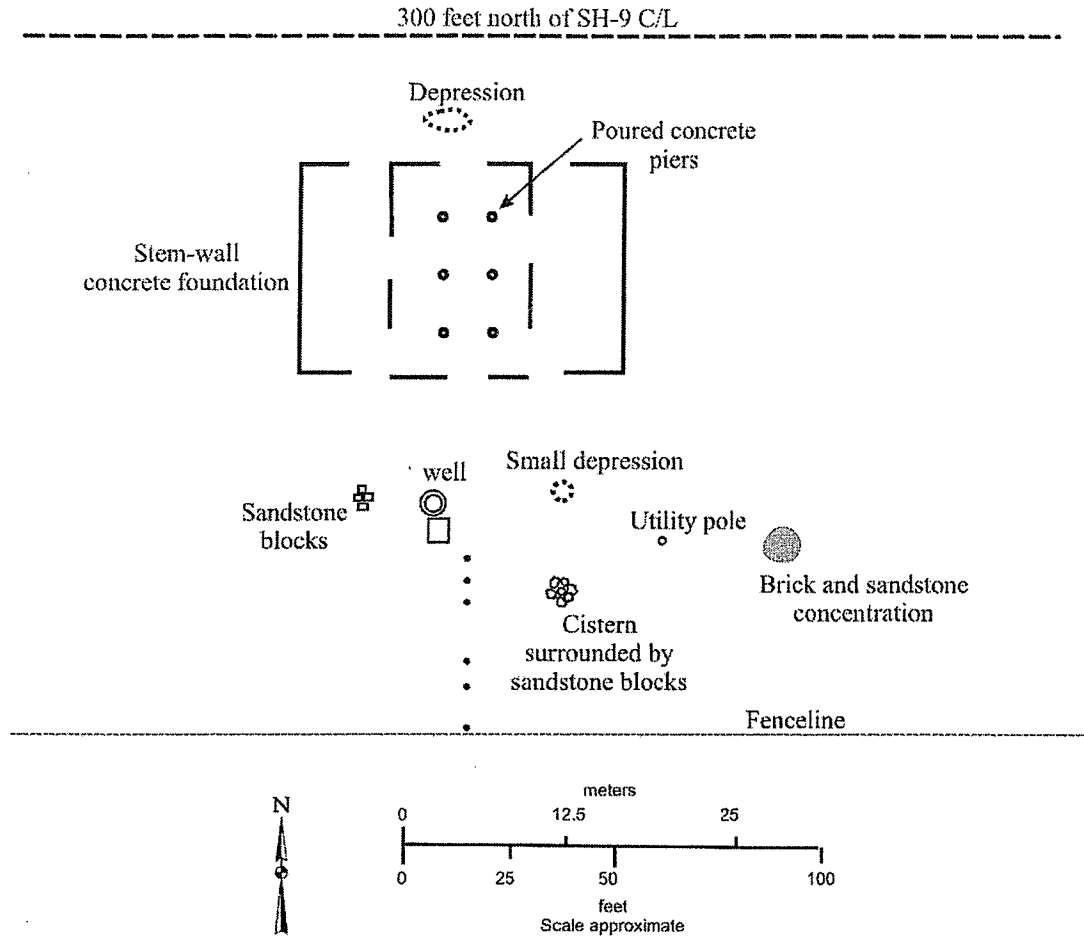
(SW/SE/SW Section 2, T8N, R2W)

This is a cluster of features and a sparse artifact scatter representing a mid-20th century farmstead located approximately 150 to 275 feet north of the existing SH-9 C/L. Observed surface features include a large rectangular stem wall foundation, two depressions, a well and a cistern. Also observed were scatters and piles of concrete and native sandstone blocks possible reflecting post abandonment demolition/razing activities. The main foundation consists of stem-walls and two rows of 3 regularly spaced concrete pillars. A well is located approximately 30 feet south of the foundation and has circular concrete walls with a small rectangular concrete slab adjacent on the south side. A possible partial date of 194(?) was hand scratched into the concrete water wellhead. Native sandstone blocks surround the cistern, which is located southeast of the well. The cistern is large, concrete-lined, and is essentially empty.

According to a 1951 aerial photograph (0C-3H-159, dated 3-30-51) a farmstead once stood in this location. The site had a large barn (represented by the foundation) and a small house located southeast of the barn (represented by the native sandstone block and brick rubble pile). No additional information can be discerned from the aerial photograph. The 1936 topographic map does not show any structures in this location. This site is located within the survey corridor, but has limited features and does not appear to meet any of the criteria of significance of the NRHP. No further archeological concern is warranted for this site.



View to the south of foundation at 34CL372.



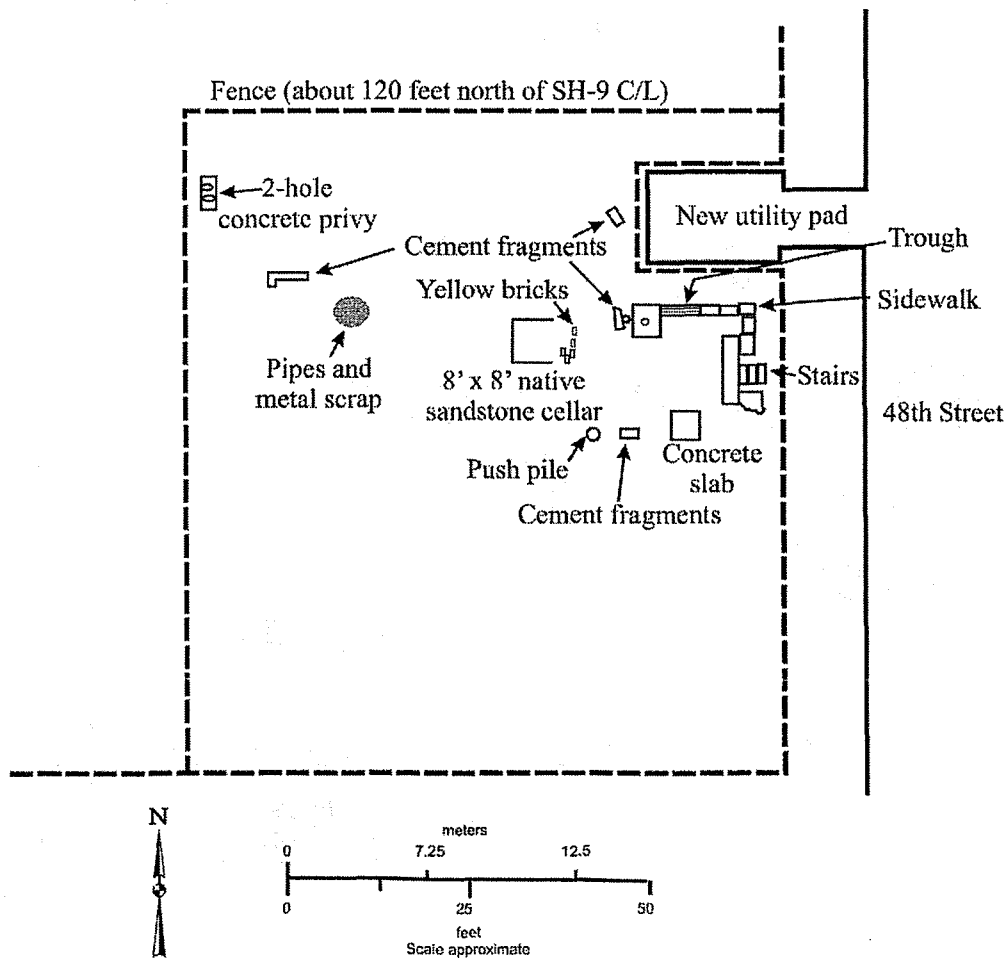
Plan map of 34CL372.

SITE 34CL373 (Independence School)
(SE/SE/SE Section 2, T8N, R2W)

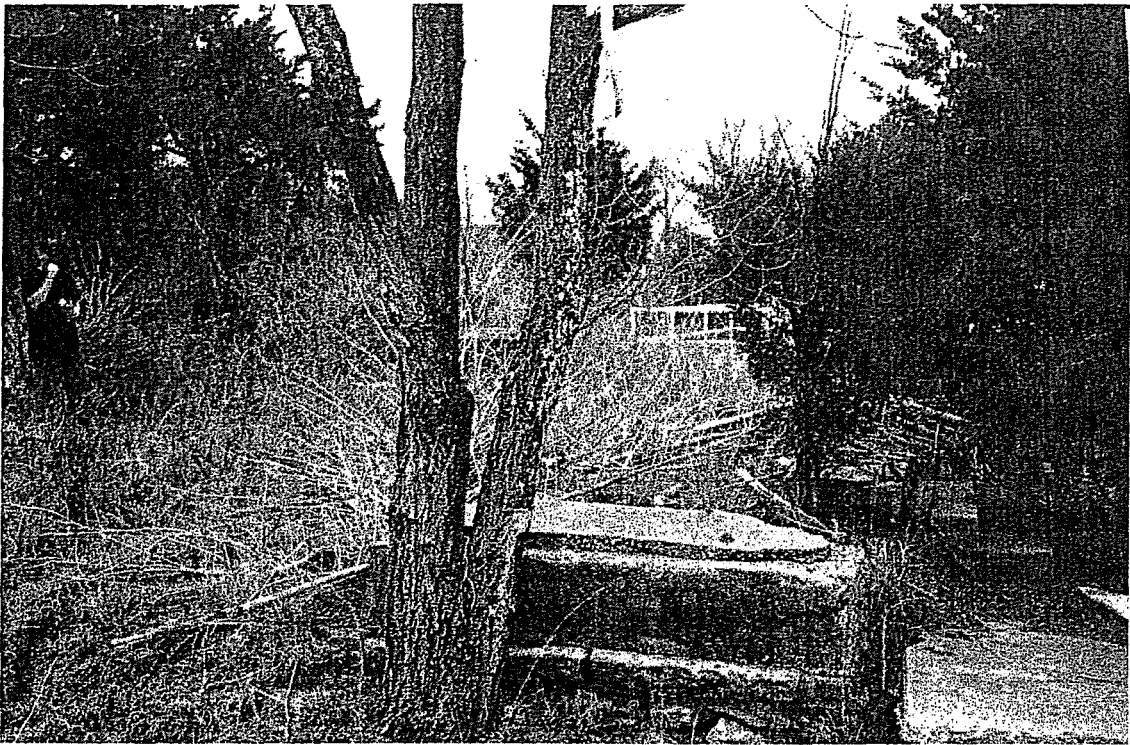
This is a cluster of features and a sparse artifact scatter reflecting the razed location of the Independence School. Observed surface features include a series of steps, sidewalks and concrete slabs reflecting the main school building site, a concrete water well pad, a schoolyard drinking fountain/trough, a sandstone storm cellar, and a poured concrete two-hole privy at the back of the property. Also noted were scatters and piles of concrete slabs, metal piping and other construction debris such as bricks and concrete blocks, many of which probably reflect post abandonment demolition/razing activities. Other than construction debris, the general artifact scatter is quite sparse and contained no clear temporal diagnostics. No cultural materials were noted in 2 shovel tests placed near the school foundation.

Informant information (Parker) indicates that the school was one of many Cleveland County rural schools established between 1890 and 1895 and remained in use until its abandonment in 1957. These dates are generally corroborated by cartographic review, which shows the school on the 1925, 1936 and 1958 USGS quadrangle maps as well as on 1951 and 1957 aerial photographs. An 1898 quad does not show this property, but this can be attributed to the fact that no schools or cemeteries were apparently plotted on this map.

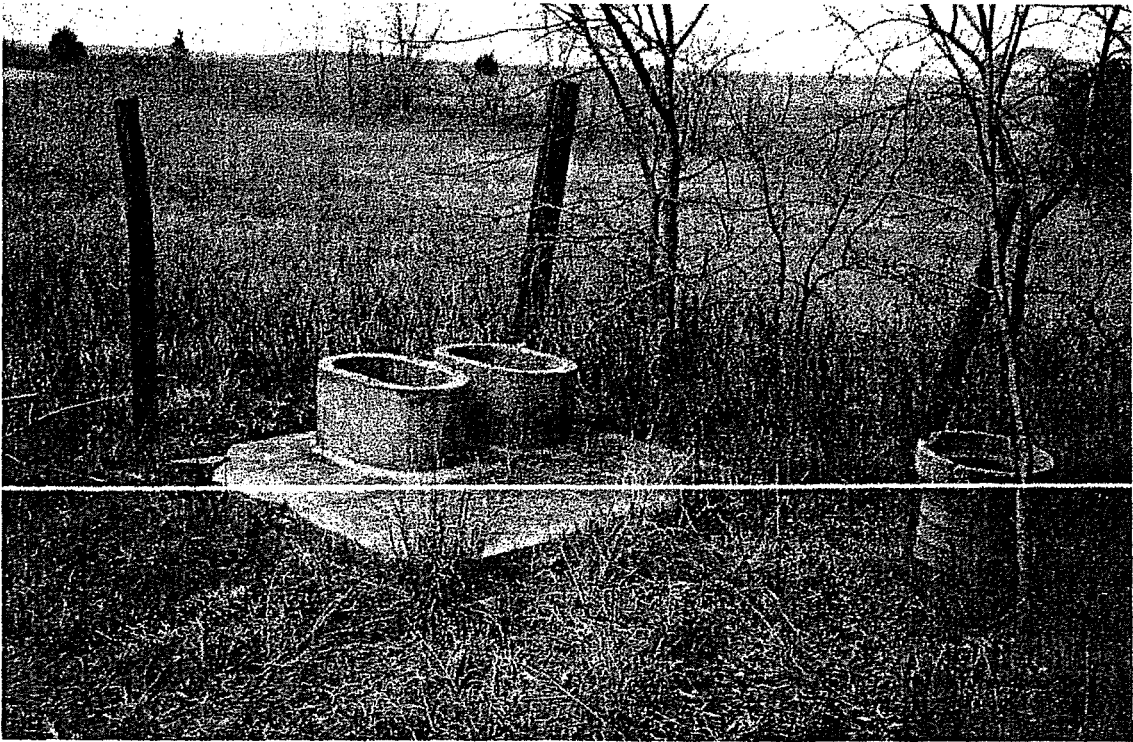
Although the location of a rural school established as early as 1890, 34CL373's potential significance as an archeological site is limited by its long period of use (1890-1957), the fact that all surface features were razed with debris both removed from the site and pushed into scatters or piles in various areas, the general absence of any observed midden or intact artifact concentrations reflecting historic use of the school property, and post abandonment disturbance from demolition and modern utility pad construction. The only intact feature possibly containing cultural material is the privy located at the back of the property, and this appears to represent a fairly recent addition to the site. For these reasons 34CL373 is believed to lack substantive in situ archeological deposits. It does not warrant additional research or investigation, and is not considered eligible for inclusion in the NRHP.



Plan map of 34CL373.



View to the northwest of 34CL373.



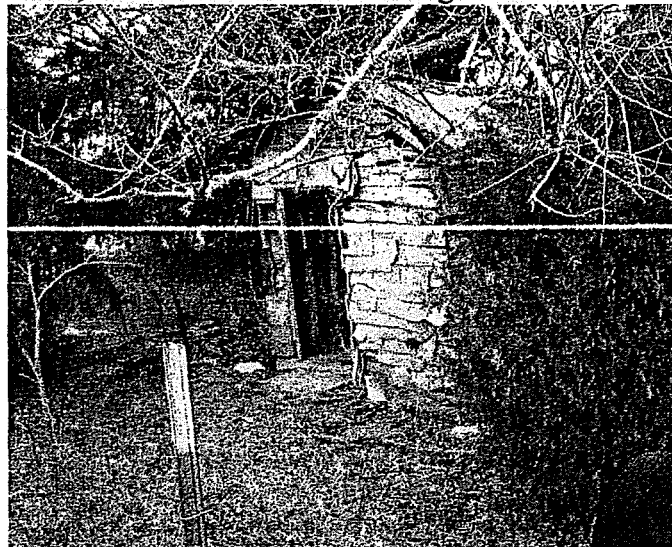
View to the west northwest of privy's at 34CL373.

SITE 34CL374

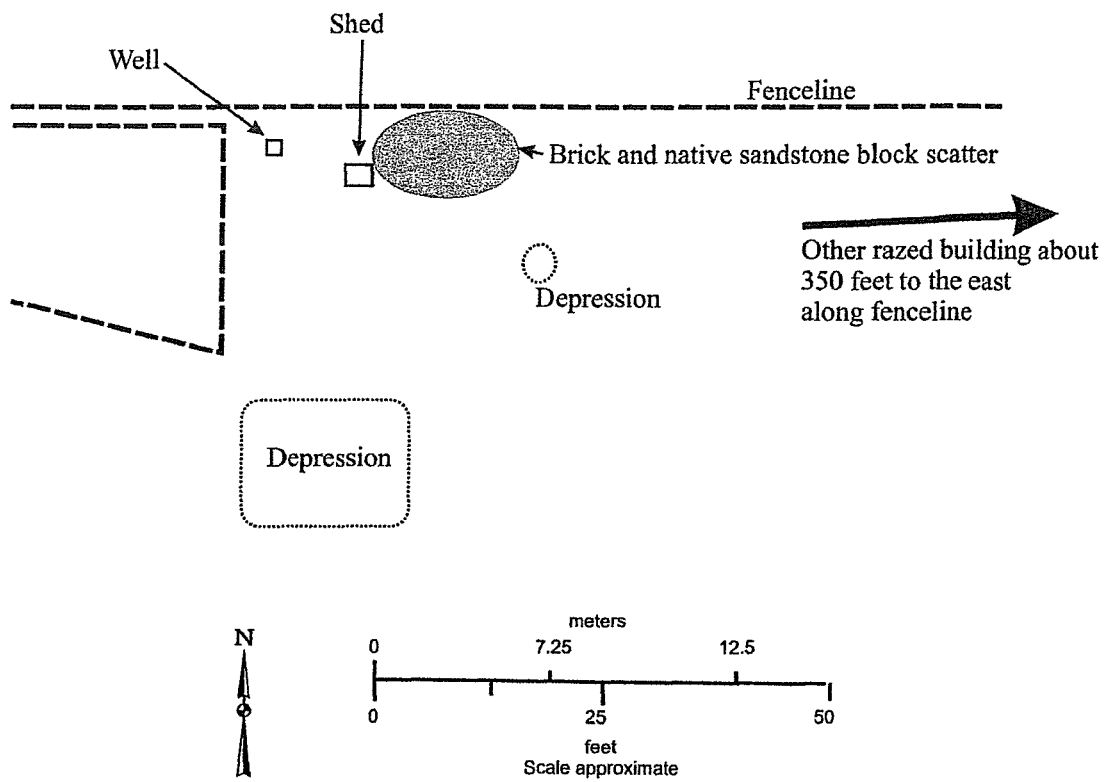
(N2/NE/NW Section 12, T8N, R2W)

This is a group of features and debris associated with a mid-20th century occupation immediately south of the existing SH-9. Features include a brick and native sandstone foundation block scatter, a small standing frame shed with asphalt shingle cladding, a fairly small circular depression just southeast of the brick and sandstone scatter, and a much larger and poorly defined rectangular depression. The brick and sandstone scatter immediately abuts the existing SH-9 R/W fence and appears to be the remnants of a former house demolished and removed when the highway was widened through this area in the 1970's. Steel water piping observed in the nearby circular depression and extending in a general direction toward the house debris suggests it may have been the location of a former drilled water well and pump house. A sparse scatter of artifacts, metal scraps, agricultural equipment, plastic and other debris was observed throughout the area. About 350 feet east of this main site area is the collapsed ruin of a large frame building also abutting the existing highway R/W. The frame floor boards are largely intact, resting on cinder block and sandstone piers. Remnants of wall framing and sheet metal roofing litter the area. The building had windows and was wired for lighting. It is associated with a scatter of mid-20th century debris to the south and extending toward a gully to the east. Among the observed artifacts are scatter fragments of colored plastic which appear to be from lighted signs. The two general areas of the site are connected by an old drive now within and paralleling the existing SH-9 R/W. Based on map sources, the main area of this site probably predates 1950, although the large collapsed ruin was constructed after 1951. The site was probably abandoned when SH-9 was widened. Most observed artifacts reflect a mid-20th century occupation consistent with the map references.

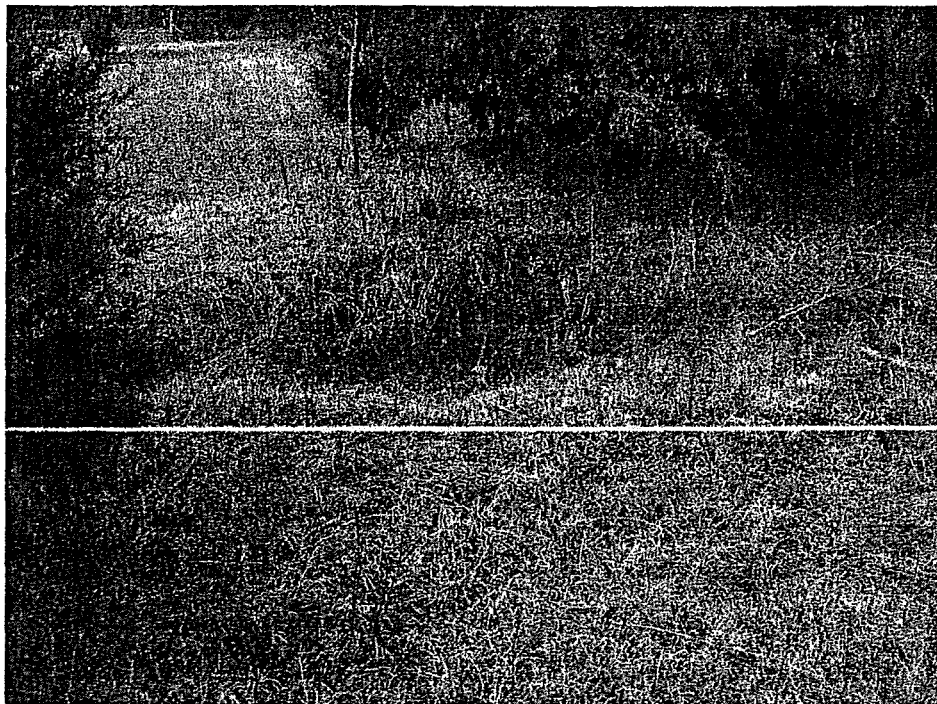
34CL374 appears to reflect the remains of a mid-20th century residence and associated outbuildings which lack any substantive intact features or deposits. The former main house has been demolished, and an unknown additional portion of the site was likely destroyed when SH-9 was widened. Based on the recent age and lack of integrity, no further archeological investigations are warranted, and it is not considered eligible for inclusion in the NRHP.



View to the southeast of the standing shed at 34CL374.



Plan map of 34CL374.



View to the east of a small depression at 34CL374.



View to the west of the razed building east of the main site area of 34CL374.

SITE 34CL375

(SW/SE/SE Section 2, T8N, R2W)

This is a cluster of features and sparse artifact scatter reflecting the razed location of a late-19th to mid-20th century farmstead located immediately north of the existing SH-9 R/W. The site is in a well-maintained lawn of a nearby newly constructed house on a ridge top overlooking Dave Blue Creek to the south. Features include a concrete stem wall foundation, sidewalk, two depressions, a set of concrete steps, and a pile of concrete and brick. The stem wall foundation is oriented northeast/southwest and a single sidewalk leads to the north from its northwest side. The first depression is located approximately 20 feet northwest of the foundation and is approximately 4 feet in diameter and 1 foot deep. The second depression is located approximately 50 feet east of the foundation and is larger and partially impacted by trees growing from the south side of the depression. It is oriented roughly east/west and approximately 2 to 3 feet deep and may represent a cellar. An isolated set of concrete steps is located south of the foundation and southeast of the foundation is a pile of concrete and bricks and probably reflect post abandonment demolition/razing activities. No additional scatter of artifacts were observed on the surface or found in 2 shovel tests. Shovel tests indicated moderately shallow soils (15 to 20cmbs) over sandstone bedrock. Soils were an orangish-red sandy loam.

This location is present on the 1898, 1925, 1936 and 1958 USGS quadrangle maps and the 1951 and 1957 aerial photographs. The 1951 aerial photograph shows a single farmhouse with a large barn located north of the house. The site was probably abandoned in the 1970's when SH-9 was widened.

34CL375 potential significance as an archeological site is limited by its long period of use (1890s-1970's), the fact that all surface features were razed with debris both removed from the site and pushed into scatters or piles in various areas, the general absence of any observed midden or intact artifact concentrations. The former main house has been demolished, and an unknown additional portion of the site was likely destroyed when SH-9 was widened. Based on the lack of integrity and in situ archeological deposits, no further archeological investigations are warranted, and it is not considered eligible for inclusion in the NRHP.



View to the north of 34CL375.



View to the northeast of 34CL375.

SITE 34CL376

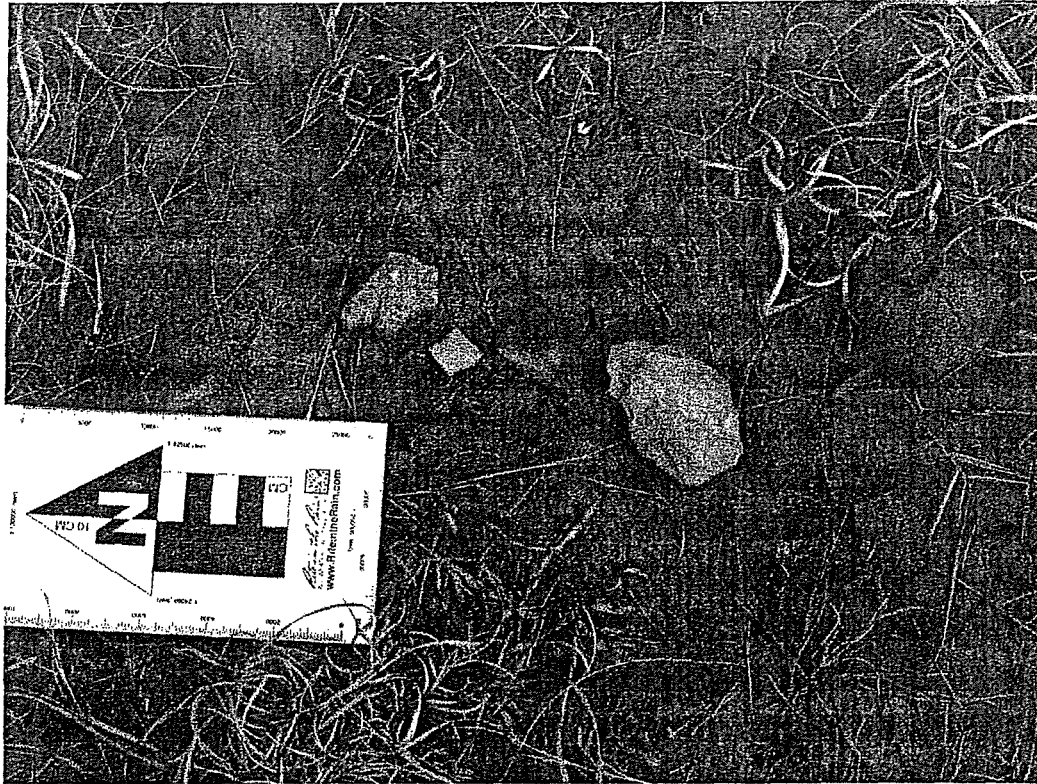
(SW/SE/SE Section 6, T8N, R1W)

This is a surface manifestation of an unassigned prehistoric lithic scatter located approximately 200 feet north of the SH-9 C/L on a slope overlooking Dave Blue Creek to the west. Surface visibility in the site area ranged from 20 to 80 percent and averaged approximately 60 percent in mixed grasses. The site consists of a light surface scatter of lithic flake debris in an outcrop of mixed gravel. A total of about 15 flakes, 4 broken cobbles, and 6 pieces of blocky debris were observed at this site. Shovel tests in the site area failed to yield any additional artifacts. Shovel tests were in shallow soils (5 to 15cms) over eroded sandstone bedrock. Soils were an orangish-red sandy loam. The site covers an area of approximately 40 by 30 meters.

This site is a sparse unassigned prehistoric lithic scatter in eroded soils and covering a very limited area. Due to the limited materials at this site and the absence of diagnostic artifacts and features, this site does not appear to meet any of the criteria of significance of the NRHP and no further archeological concern is warranted for this site.



View to the north of 34CL376.



Artifacts from 34CL376.

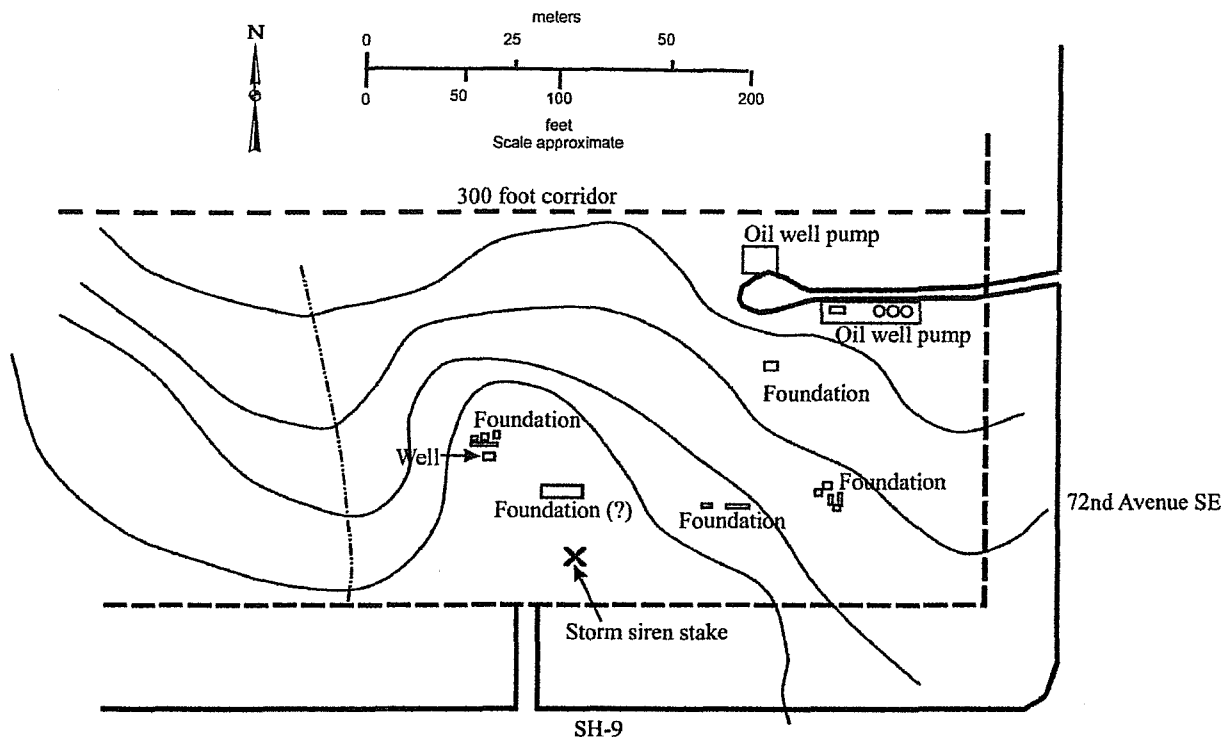
SITE 34CL377

(SE/SE/SE Section 6, T8N, R1W)

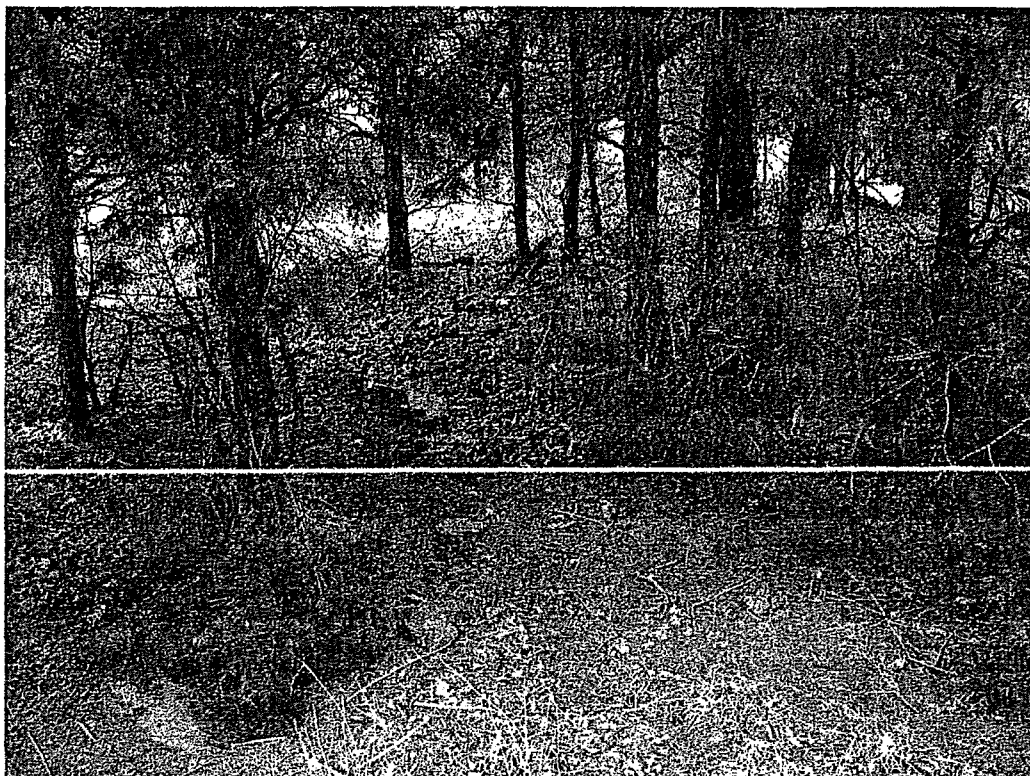
This is a group of features and debris associated with an early to mid-20th century occupation located north of the highway at the northwest intersection of SE72nd and SH-9. Features include a cluster of four foundations and a well associated with a light scatter of metal and glass artifacts in very shallow soils. Three of the foundations are made of concrete; two of these are stem-walls and the other is a slab. The remaining foundation is mortared sandstone blocks. None of the foundations are complete and are partially buried. The well is located near the apex of the rise and the foundations are located on slopes surrounding the well. Based on map sources, the main area of this site probably predates 1936 and by 1957 the site area was in ruins.

No diagnostic artifacts were located during the survey. Two shovel tests in the site area yielded shallow to very shallow soils (5 to 15cmbs) resting on sandstone bedrock. Soils were an orangish-red sandy loam. No artifacts were recovered from any of the shovel tests. Previous disturbances to the site include a oil/gas well and tank battery at the north end of the site and stakes marked for a future storm siren near SH-9.

This site appears to reflect the remains of a mid-20th century residence and associated outbuildings which lack any substantive intact features or deposits. Based on the lack of integrity and shallow soils indicating significant subsurface deposits are not present, no further archeological concern is warranted, and it is not considered eligible for inclusion in the NRHP.



Plan map of 34CL377.



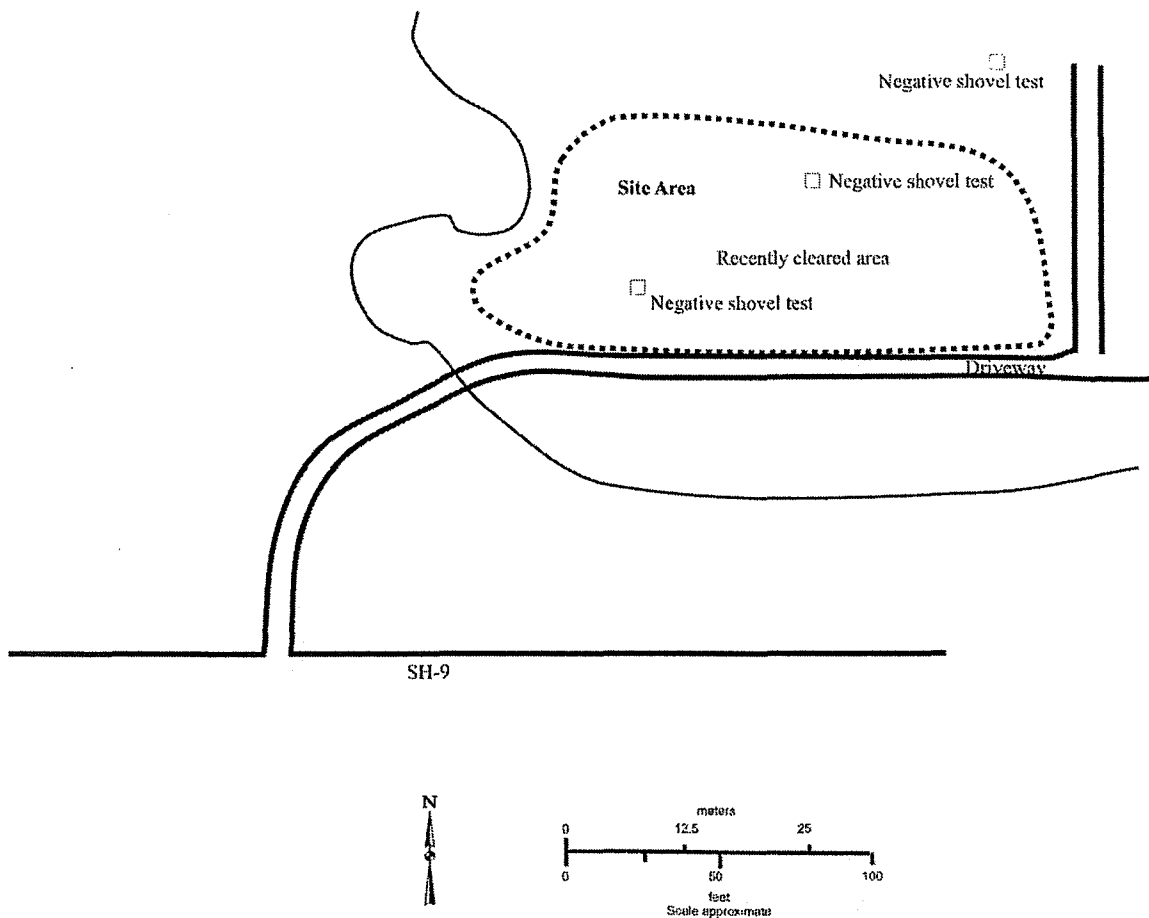
View to the north at foundation scatter at 34CL377.

SITE 34CL378

(SW/SW/SW Section 5, T8N, R1W)

This is a surface manifestation of an unassigned prehistoric lithic scatter located approximately 100 feet north of the SH-9 C/L in a cleared garden area on an uplands slope overlooking Dave Blue Creek to the north. Surface visibility in the site area was nearly 100 percent and the site covers an area of approximately 50 by 20 meters. Artifacts observed include a light surface scatter of lithic flake debris and one undetermined dart point base from a corner or basal notched point. A total of 25 flakes and the one point base were observed at this site. Shovel tests in the site area failed to yield any additional artifacts. Shovel tests were in shallow soils (10 to 15cmbs) over sandstone bedrock. Soils were an orangish-tan sandy loam.

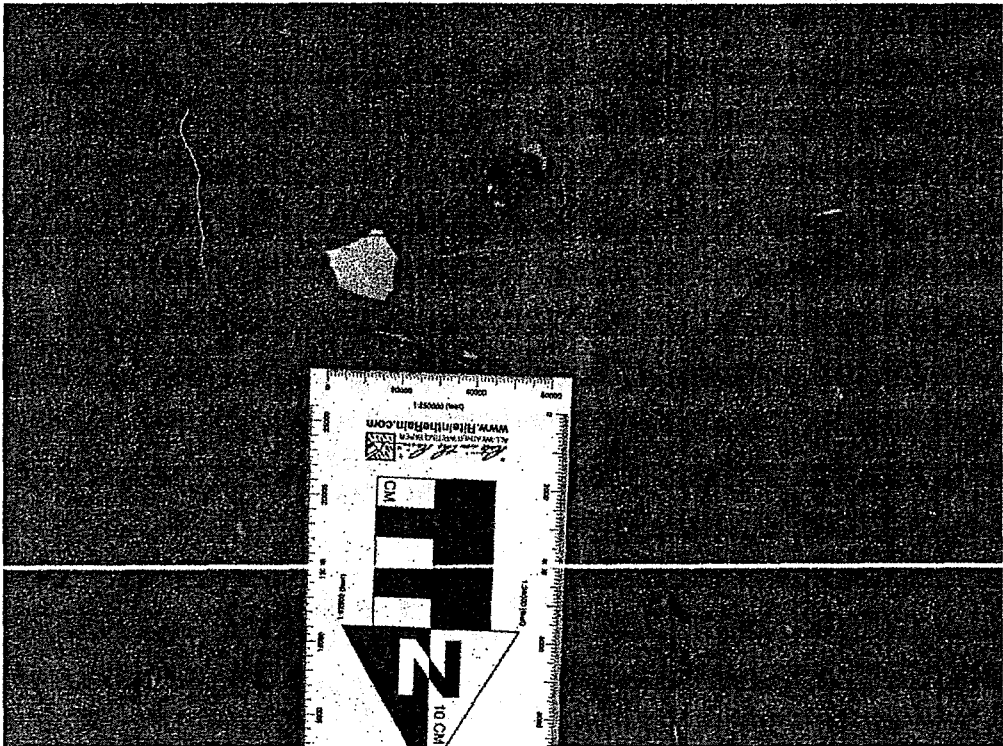
This site is a sparse unassigned prehistoric lithic scatter in eroded soils and covering a very limited area. Due to the limited materials at this site and the absence of diagnostic artifacts and features, this site does not appear to meet any of the criteria of significance of the NRHP and no further archeological concern is warranted for this site.



Site plan map of 34CL378.



View to the northeast of 34CL378.



Artifacts at 34CL378.

SITE 34CL379

(SE/SE/SW Section 5, T8N, R1W)

This is an unassigned prehistoric lithic scatter located approximately 65 feet north of the SH-9 C/L at the crest of a small knoll overlooking a minor tributary to Dave Blue Creek. The site covers an area of approximately 5 by 7 meters. Soils in the site area are shallow and eroded, the northern and eastern sides of the site are truncated by erosion, the western site boundary is a farm access road and the southern site boundary is a utilities easement. The site was located by shovel tests in the shallow soils. Four flakes were recovered from one test from 0-10cmbs. Sandstone bedrock was reached at 10cmbs. One additional flake was observed on the surface of the site. Four of the flakes were primary decortication flakes and one was a thinning flake. No diagnostic artifacts were found. No concentrations of artifacts or evidence of features were observed. Lithic material was Ogallala quartzite.

This site is a sparse unassigned prehistoric lithic scatter in eroded soils and covering a very limited area. Due to the limited materials at this site and the absence of diagnostic artifacts and features, this site does not appear to meet any of the criteria of significance of the NRHP and no further archeological concern is warranted for this site.

SITE 34CL380, (Enterprise School)

(SE/SE/SE Section 6, T8N, R1W)

This is a cluster of features reflecting the razed location of the Enterprise School located approximately 80 to 120 feet north of the SH-9 C/L. Observed surface features include a sidewalk and concrete slabs reflecting the main school building site and a storm cellar. Also noted were scatters and piles of concrete slabs and other construction debris such as bricks and concrete blocks. These piles probably reflect post abandonment demolition/razing activities. Other than construction debris, the artifact scatter is sparse and contains no clear temporal diagnostics. Recent disturbances to the site area include three manufactured buildings and a scatter of modern trash and debris.

Informant information (Parker) indicates that the school was one of many Cleveland County rural schools and was established in 1892 and remained in use until its abandonment in 1958. These dates are generally corroborated by cartographic review, which shows the school on the 1936 and 1958 USGS quadrangle maps as well as on 1951 and 1957 aerial photographs. An 1898 quad does not show this property, but this can be attributed to the fact that no schools or cemeteries were apparently plotted on this map.

Although the location of a rural school established in 1892, 34CL380's potential significance as an archeological site is limited by its long period of use (1892-1958), the fact that all surface features were razed with debris both removed from the site and pushed into scatters or piles in various areas, the general absence of any observed midden or intact artifact concentrations reflecting historic use of the school property, and post abandonment disturbance from demolition and the placement of manufactured homes. For these reasons 34CL380 is believed to lack substantive in situ archeological deposits. It does not warrant additional research or investigation, and is not considered eligible for inclusion in the NRHP.



34CL380, view to the west, note storm cellar (entry covered by white storm door) in the left center of the photo.

5. SUMMARY OF RECOMMENDATIONS

Four historic standing buildings and nine newly recorded archeological sites are located within the SH-9 project area in Cleveland County, Oklahoma. Six previously known archeological sites were located outside of the survey corridor.

Detailed construction plans for the SH-9 Improvements project indicating which standing houses will be removed or archeological sites impacted were not available during the survey. The following standing structures and archeological sites were found during the survey of the study area, which extends 300 feet on either side of the existing SH-9 C/L:

Historic Standing Structures

Name	Type	Location	Distance	Recommendations
Structure 1 3115 SH-9	Occupied house	SW/SW/SE Sec 3, T8N, R2W	Approximately 80ft north of SH-9 C/L	Lacks integrity or associations for NRHP eligibility, however ODOT will defer a formal determination to the Oklahoma SHPO.
Structure 2 Bishop Ranch House	Occupied house	NW/NW/NW Sec 11, T8N, R2W	Approximately 60ft south of SH-9 C/L	Lacks associations or architectural significance for NRHP eligibility, however ODOT will defer a formal determination to the Oklahoma SHPO.
Structure 3 7401 SH-9	Occupied house	SE/SW/SW Sec 5, T8N, R1W	Approximately 250ft north of SH-9 C/L	Lacks outstanding characteristics and is not believed eligible for inclusion in the NRHP, however ODOT will defer a formal determination to the Oklahoma SHPO.
Structure 4 Caddell House	Unoccupied house	NE/NW/NW Sec 8, T8N, R1W	Approximately 200ft south of SH-9 C/L	Lacks outstanding architectural characteristics and is not believed eligible for inclusion in the NRHP, however ODOT will defer a formal determination to the Oklahoma SHPO.

Newly Recorded Archeological Sites

34CL372	Razed historic	SW/SE/SW Sec 2, T8N, R2W	150ft north of SH-9 C/L	Razed farmstead and artifact scatter, limited features. This site does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern.
34CL373, Independence School	Razed historic	SE/SE/SE Sec 2, T8N, R2W	60ft north of SH-9 C/L	Razed rural school. Limited remaining integrity and does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern.

34CL374	Razed historic	N2/NE/NW Sec 12, T8N, R2W	50ft south of SH-9 C/L	Previously impacted. Limited remaining integrity of a fairly recent occupation and does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern.
34CL375	Razed historic	SW/SE/SE Sec 2, T8N, R2W	60ft north of SH-9 C/L	Razed historic with limited features and artifact scatter. Limited remaining integrity and does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern.
34CL376	Prehistoric lithic scatter	SW/SE/SE Sec 6, T8N, R1W	200ft north of SH-9 C/L	Surface only prehistoric lithic scatter. No buried deposits. This site does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern.
34CL377	Razed historic	SE/SE/SE Sec 6, T8N, R1W	100ft north of SH-9 C/L	Previously impacted historic. Limited remaining integrity and shallow soils. Does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern.
34CL378	Prehistoric lithic scatter	SW/SW/SW Sec 5, T8N, R1W	100ft north of SH-9 C/L	Sparse lithic scatter. This site does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern.
34CL379	Prehistoric lithic scatter	SE/SE/SW Sec 5, T8N, R1W	65ft north of SH-9 C/L	Sparse lithic scatter in an eroded area. This site does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern.
34CL380, Enterprise School	Razed historic	SE/SE/SE Sec 6, T8N, R1W	80 to 120ft north of SH-9 C/L	Razed rural school. Limited remaining integrity and does not appear to meet any of the criteria of significance for inclusion in the NRHP. No further archeological concern,

This report is subject to the approval of the ODOT Archeologist.

REFERENCES CITED

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1947 *The Effect of the War Years on the Rural Schools of Cleveland County*. Unpublished MS Thesis, School of Education, University of Oklahoma, Norman.
- Dalquest, W. L. and G. E. Schultz
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1946 *Physical Divisions of the United States*. United States Department of the Interior, Geological Survey.
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1989 *From Clovis to Comanchero: Archeological Overview of the Southern Great Plains*. Research Series No. 35. Arkansas Archeological Survey, Fayetteville.
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1974 *Field Guide to Oklahoma*. Oklahoma Biological Survey, Norman.
- Shelford, V. E.
1963 *The Ecology of North America*. University of Illinois Press, Champagne-Urbana.
- Weaver, J. E. and F. W. Albertson
1956 *Grasslands of the Great Plains, Their Nature and Use*. Johnsen Publishing, Lincoln, NB.
- Watters, J.P.B.
1930 *A Study of Selected Elementary Schools of Cleveland County, Oklahoma*. Unpublished MS Thesis, School of Education, University of Oklahoma, Norman.

MAPS

- 1898, NORMAN, OKLAHOMA-INDIAN TERRITORY 15-minute USGS quadrangle
- 1925, NORMAN No. 2 7.5-minute quadrangle, USGS and University of Oklahoma
- 1936, NORMAN, OKLAHOMA 15-minute USGS quadrangle: N3500-W9715/15
- 1936 (reprinted 1948), NORMAN, OKLAHOMA 15-minute USGS quadrangle: N3500-W9715/15
- 1936, NORMAN, OKLAHOMA 15-minute USGS quadrangle: N3500-W9715/15

1965, NORMAN, OKLAHOMA 7.5-minute USGS quadrangle: N3507.5-W9722.5/7.5

1965 (Photorevised 1978), NORMAN, OKLAHOMA 7.5-minute USGS quadrangle: N3507.5-W9722.5/7.5

1958, DENVER, OKLAHOMA 7.5-minute USGS quadrangle

1958 (Photorevised 1969), DENVER, OKLAHOMA 7.5-minute USGS quadrangle

1958 (Photorevised 1975), DENVER, OKLAHOMA 7.5-minute USGS quadrangle

AERIAL PHOTOGRAPHS/IMAGES

West end of Study Area

OC-3H-65 taken March 22, 1951

OC-4T-159 taken July 17, 1957

Central portion of Study Area

OC-3H-159 taken March 30, 1951

OC-3T-193 taken July 15, 1957

East end of Study Area

OC-3T-41 taken July 15, 1957

INTERVIEW SOURCES AND INFORMATION

Parker Interview

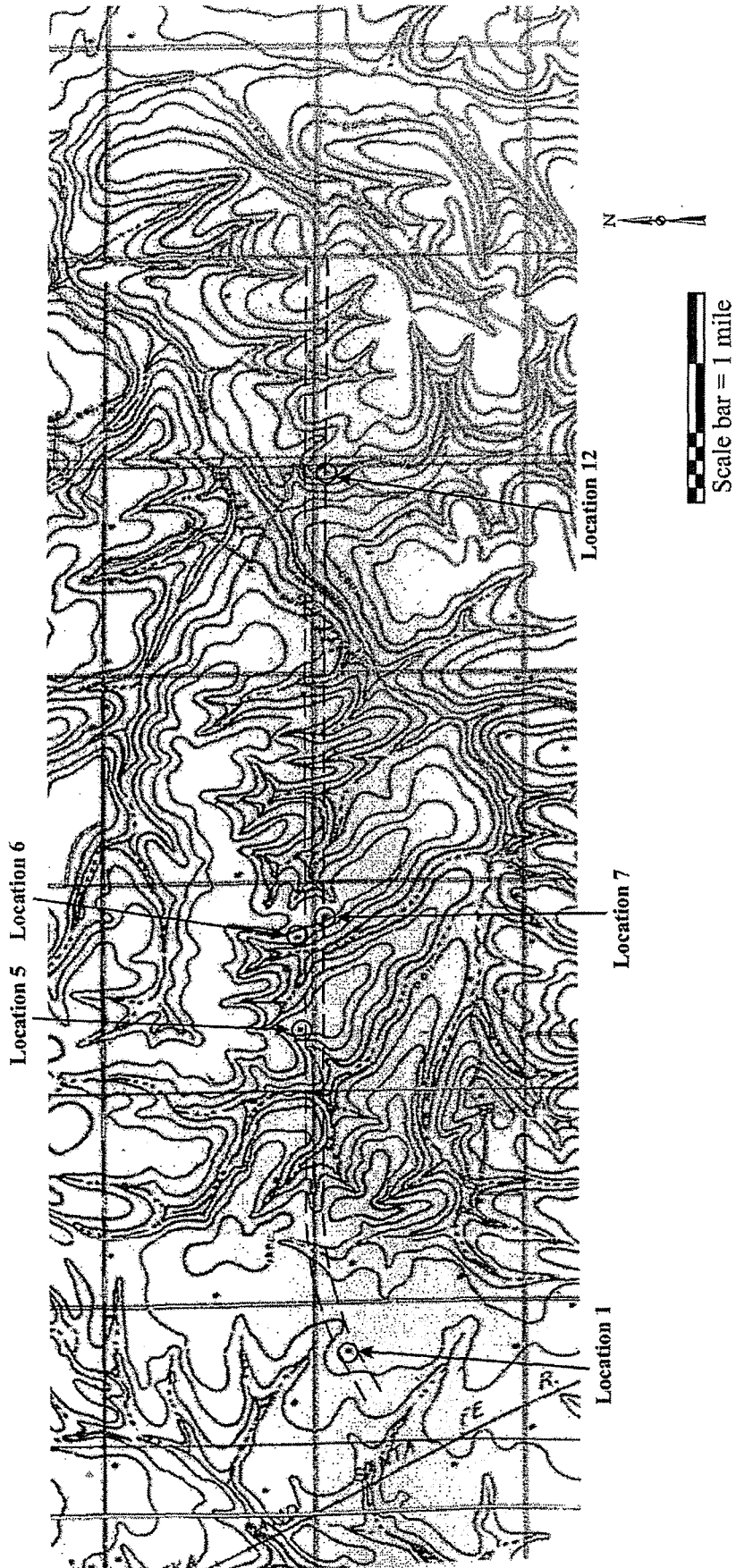
Independence and Enterprise schools: Evelyn Parker and Joyce Carle of Noble, Oklahoma were interviewed via phone. They maintain a set of records rescued from destruction on rural schools of Cleveland County. They have been cataloging the information for an upcoming book and shared the dates located for opening and closing of Independence and Enterprise schools with CAS. The original source of these two individuals was from the Cleveland County Genealogical Society in Norman, Oklahoma.

Chapman Interview

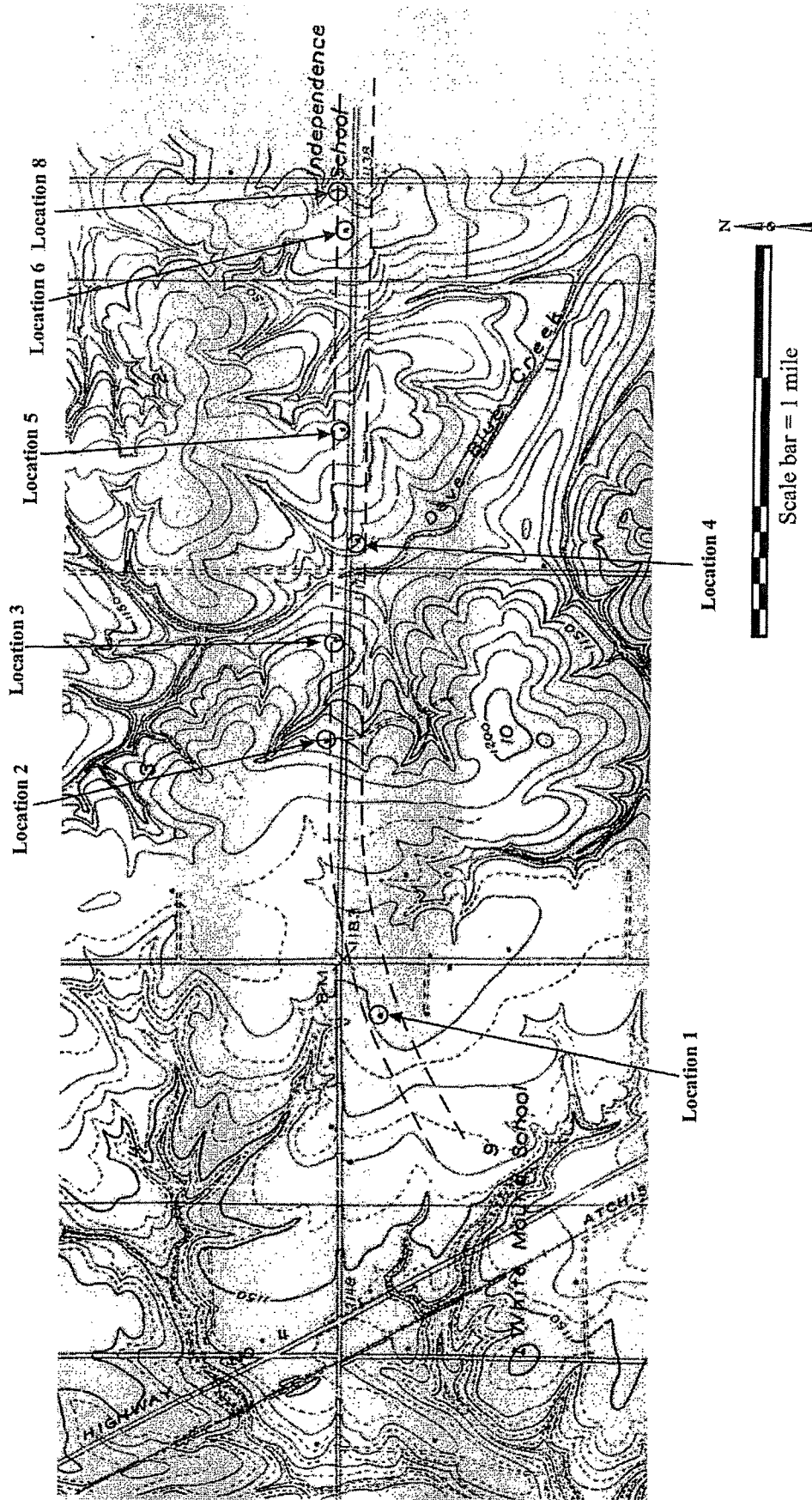
7401 SH-9 and Caddell house: Mrs. Chapman of 7505 East Imhoff (SH-9) was interviewed during fieldwork. Her family has owned the land on both sides of the highway since “right after the run”. The original owner was her grandmother, Sara Moten. The home at 7401 was built in 1945 by Mrs. Chapman’s parents and was her childhood home. The land was mostly used as farmland. Mr. Caddell is Mrs. Chapman’s brother-in-law and lives across the road from her, as do various nieces and nephews. According to her recollection of conversations heard at family gatherings, the old Caddell house was built in the 1920’s.

Symcox Interview

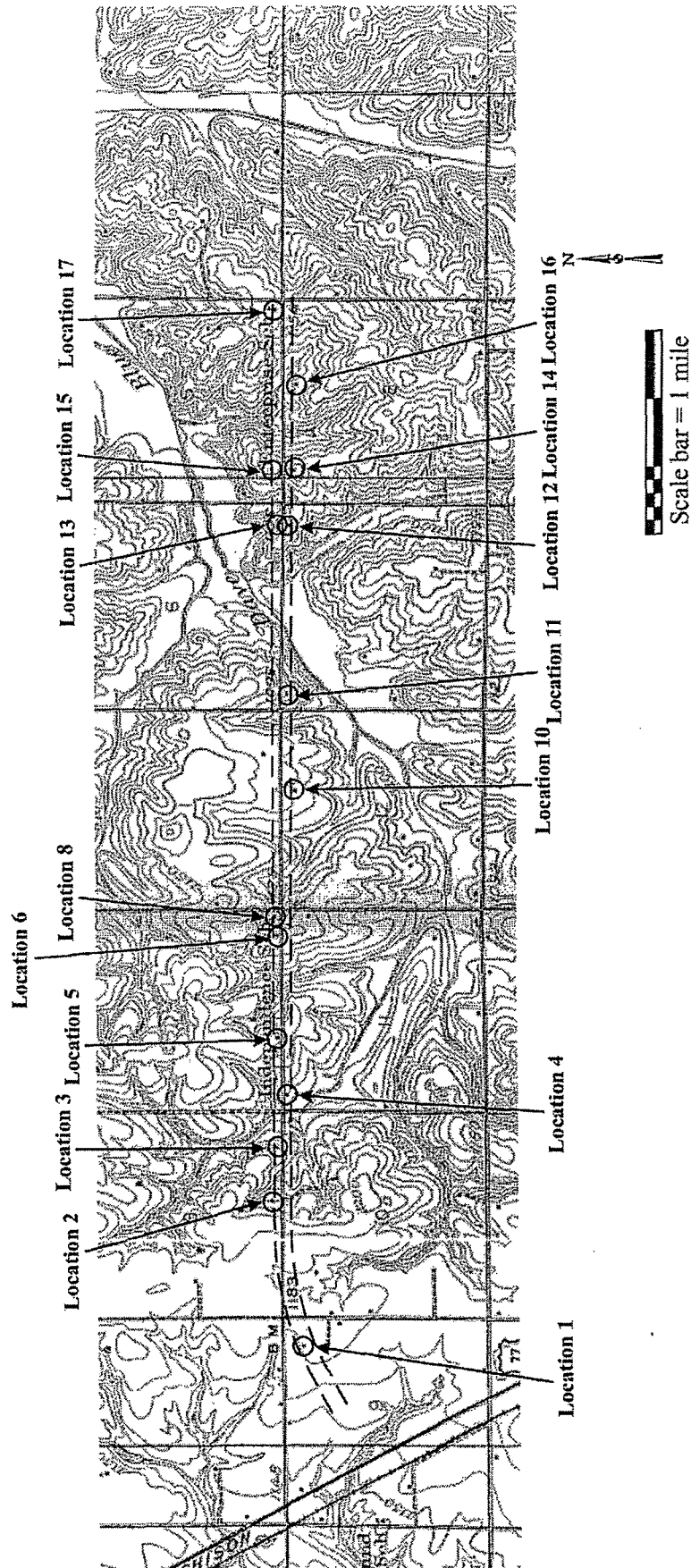
Bishop Ranch house: Mary Louise Symcox was interviewed via phone about the house her father, Senator Josh Lee, used to own. She stated that her family had never lived at that location but had a tenant farmer who lived there. The land was purchased by her mother as a gift for her father, as it was heavily damaged by erosion and floods and her father, when a US Senator, was instrumental in helping to write and pass land reclamation legislation. She purchased the land so that “my father could put his expertise to work in his retirement”. He worked for 10 years to reclaim the land and put it to use for farming.



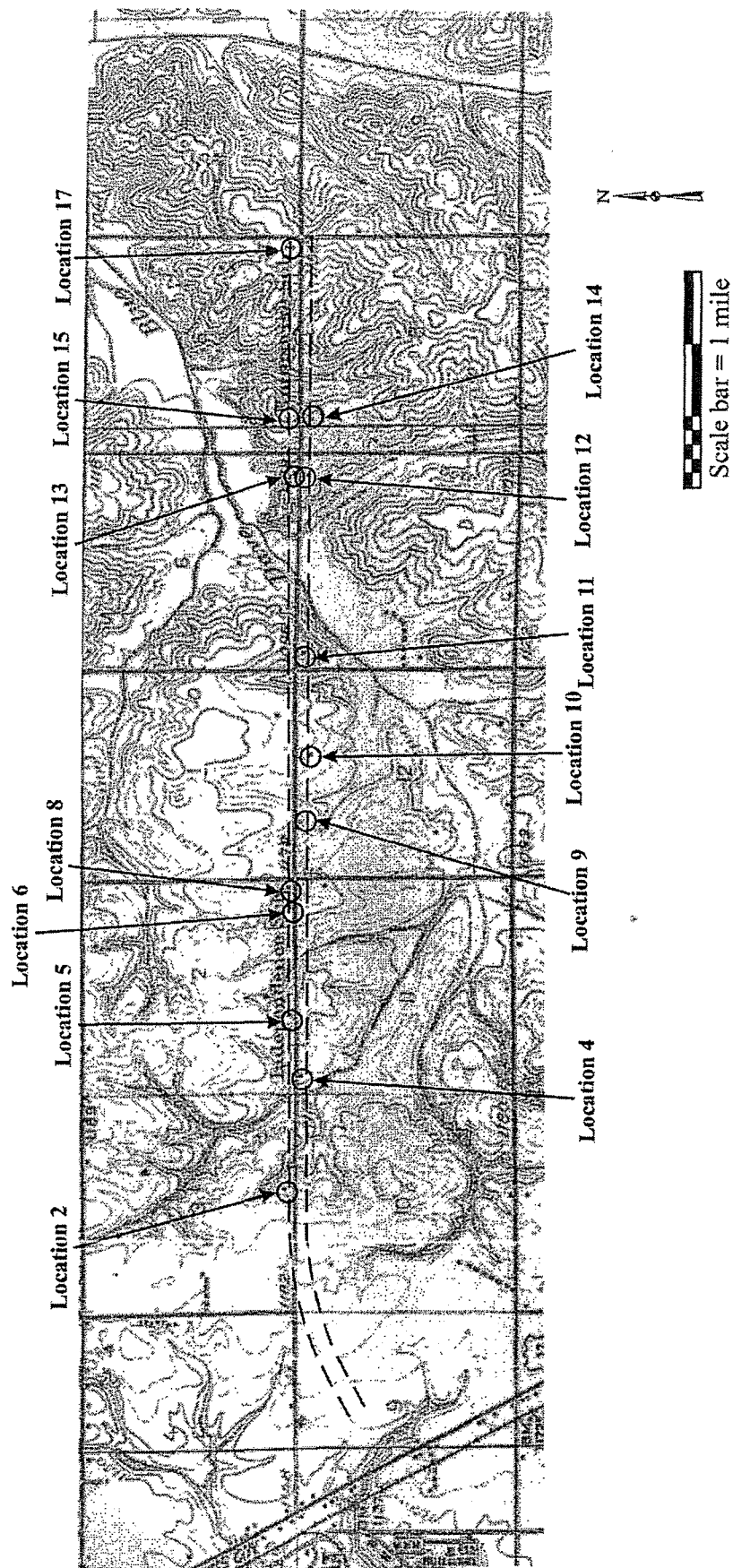
Enlarged copy of 1898 15-minute topographic map. Project area (approximate location delimited by dashed lines) showing locations of structures.



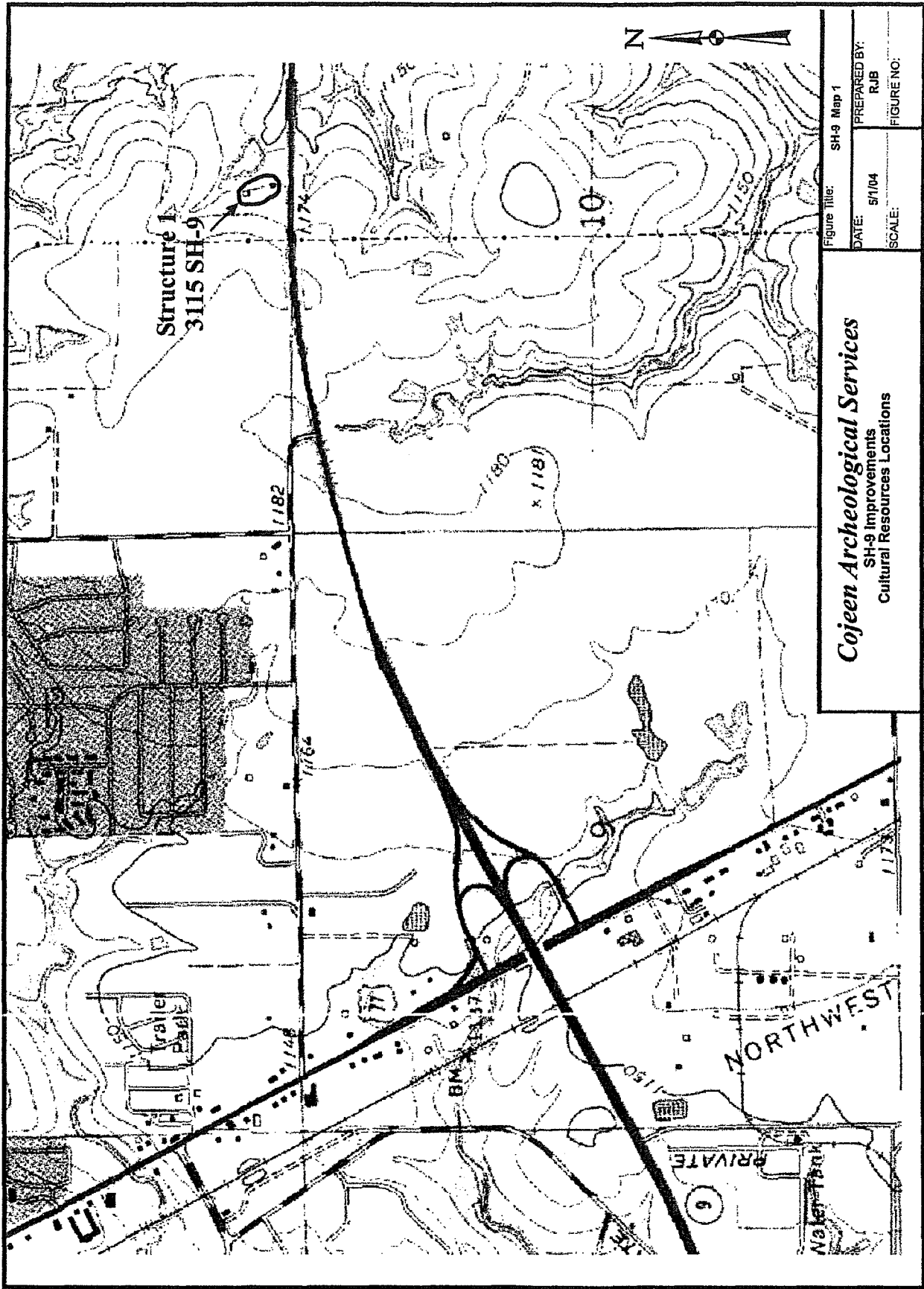
Copy of 1925 7.5-minute topographic map. Project area (approximate location delimited by dashed lines) showing locations of structures.

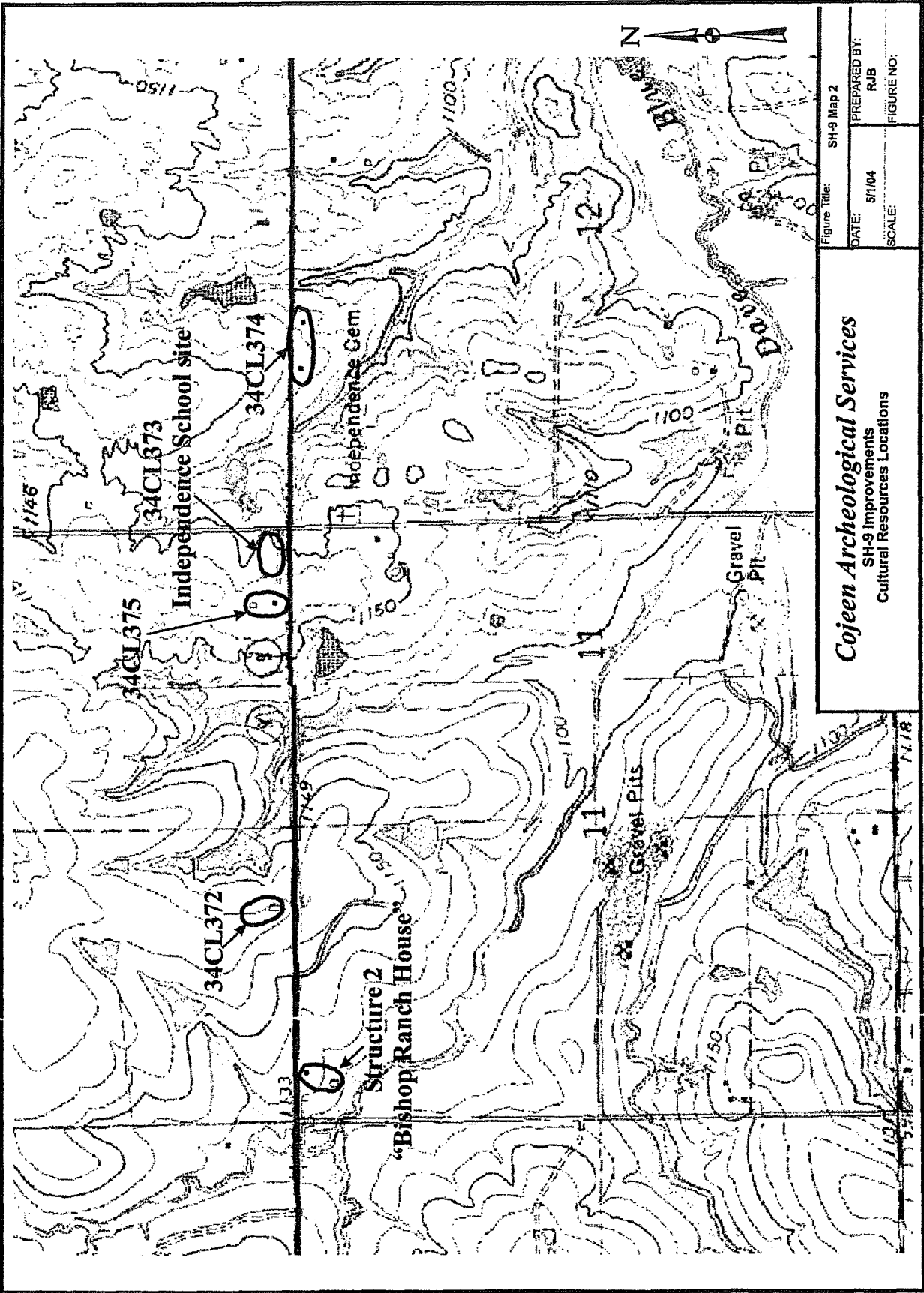


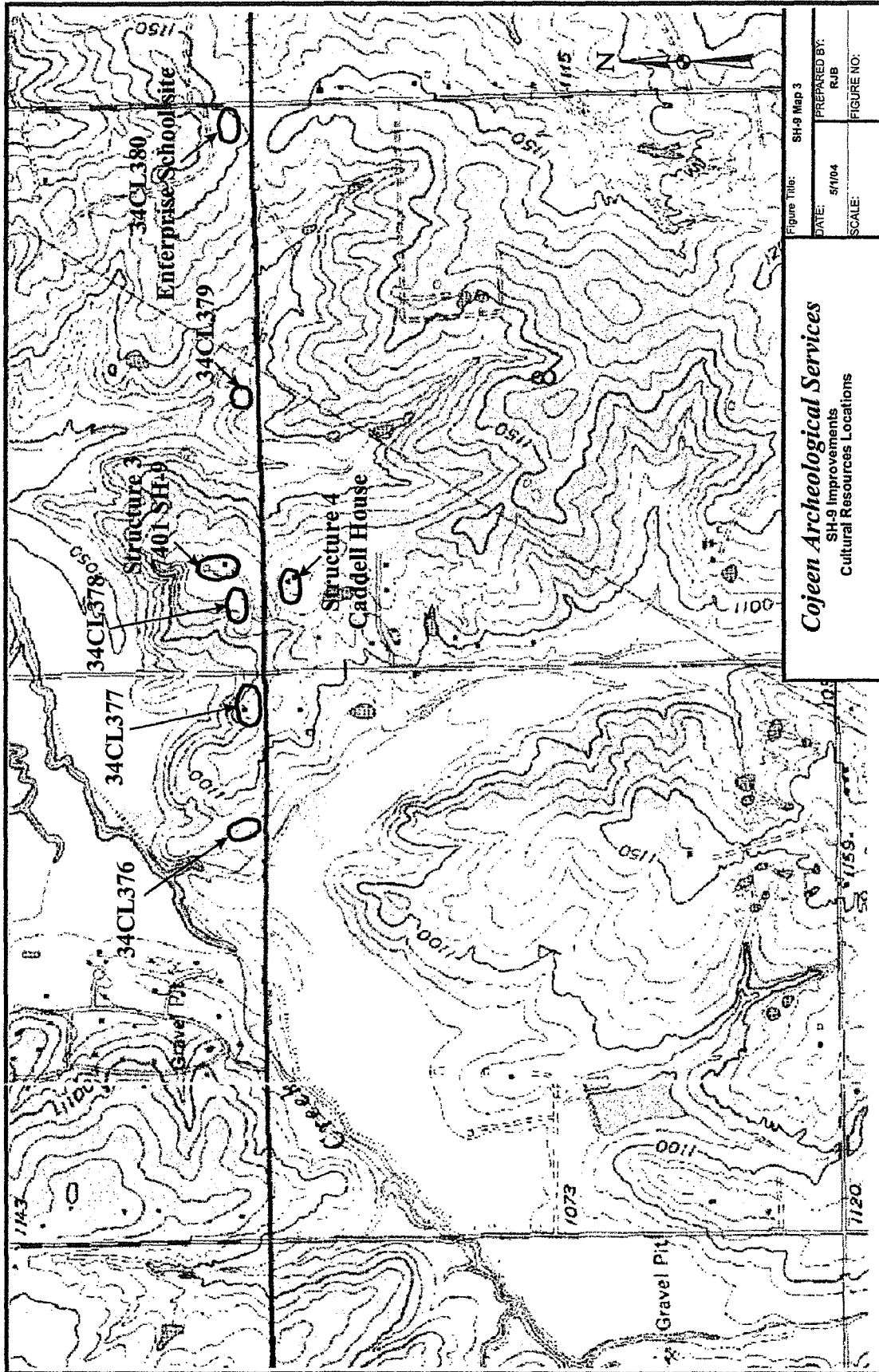
Enlarged copy of 1936 15-minute topographic map (reprinted 1948). Project area (approximate location delimited by dashed lines) showing locations of structures.

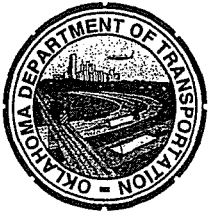


Enlarged copy of 1936 15-minute topographic map (1951 edition). Project area (approximate location delimited by dashed lines) showing locations of structures.









OKLAHOMA DEPARTMENT OF TRANSPORTATION

200 N. E. 21st Street

Oklahoma City, OK 73105-3204

September 13, 2004

Ms. Melvena Heisch
Deputy State Historic Preservation Officer
2704 Villa Prom, Shepherd Mall
Oklahoma City, Oklahoma 73107

Dear Ms. Hesich:

Re: Cleveland County; Proposed widening of SH-9 from US Highway 77 to SE 84th Street in Norman.

Attached, please find a cultural resources survey and associated forms prepared by Cojeen Archaeological Services (CAS) for the referenced project. CAS recorded four (4) 20th century standing structures, six (6) historic/modern archaeological sites, and three (3) prehistoric archaeological sites in the study area for this project. It is our Consultant's assessment that none of the archaeological sites warrant inclusion in the NRHP, and the Department concurs with this opinion. We also believe none of the standing structures are eligible for inclusion in the NRHP, but will defer to your agency's determination regarding these resources.

If you have any questions or need further information, please contact me at 521-3050.

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Hartley", is written over a horizontal line.

John D. Hartley
Manager-Environmental Studies
Cultural Resources Coordinator

cc: State Archaeologist (with review copy of report and site forms)
Project NEPA Coordinator
Cojeen Archaeological Services. ✓



**OKLAHOMA DEPARTMENT OF TRANSPORTATION
CULTURAL RESOURCES PROGRAM**

111 E. Chesapeake, Room 102, University of Oklahoma

Norman, OK 73019-5111

Phone: 405-325-7201/325-8665; FAX: 405-325-7604

September 15, 2004

Mr. Kenneth Blanchard, Governor
Absentee Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper
Shawnee, OK 74801

Dear Governor Blanchard:

Re: Cleveland County Highway Improvement Project. Proposed improvements and widening to 4-lane of SH-9 beginning at US-77 and continuing east to SE 84th Street in Norman.

The Oklahoma Department of Transportation has completed archaeological survey of the above references project, and we are providing you with a copy of this report for your review. It is our determination that these projects will not affect any archaeological resources eligible for inclusion in the National Register of Historic Places. If you have any questions, please contact me at 1-405-325-8665.

Sincerely,

Valli Powell Marti
Tribal Liaison
ODOT Cultural Resources Program

cc: Ms. Karen Kaniatobe, Tribal Historic Preservation Officer

encl: 1 Report sent to THPO



**OKLAHOMA DEPARTMENT OF TRANSPORTATION
CULTURAL RESOURCES PROGRAM**

111 E. Chesapeake, Room 102, University of Oklahoma
Norman, OK 73019-5111
Phone: 405-325-7201/325-8665; FAX: 405-325-7604

September 15, 2004

Mr. John A. Barrett, Chairperson
Citizen Potawatomi Nation
1601 S. Gordon Cooper Dr.
Shawnee, OK 74801

Dear Chairperson Barrett:

Re: Cleveland County Highway Improvement Project. Proposed improvements and widening to 4-lane of SH-9 beginning at US-77 and continuing east to SE 84th Street in Norman.

The Oklahoma Department of Transportation has completed archaeological survey of the above references project, and we are providing you with a copy of this report for your review. It is our determination that these projects will not affect any archaeological resources eligible for inclusion in the National Register of Historic Places. If you have any questions, please contact me at 1-405-325-8665.

Sincerely,

Valli Powell Marti
Tribal Liaison
ODOT Cultural Resources Program

cc: Mr. Art Muller, Environmental Director

encl: 1

Report sent to Environmental Director



**OKLAHOMA DEPARTMENT OF TRANSPORTATION
CULTURAL RESOURCES PROGRAM**

111 E. Chesapeake, Room 102, University of Oklahoma
Norman, OK 73019-5111
Phone: 405-325-7201/325-8665; FAX: 405-325-7604

September 15, 2004

Mr. Gary McAdams, President
Wichita and Affiliated Tribes of Oklahoma
P.O. Box 729
Anadarko, OK 73005

Dear Mr. McAdams:

Re: Cleveland County Highway Improvement Project. Proposed improvements and widening to 4-lane of SH-9 beginning at US-77 and continuing east to SE 84th Street in Norman.

Oklahoma County Highway Improvement Project. Proposed construction of interchange on the Turner Turnpike (I-44) at the junction of Triple X Road, 164th Street, and Hogback Road southwest of Luther.

The Oklahoma Department of Transportation has completed archaeological survey of the above references project, and we are providing you with a copy of this report for your review. It is our determination that these projects will not affect any archaeological resources eligible for inclusion in the National Register of Historic Places. If you have any questions, please contact me at 1-405-325-8665.

Sincerely,

Valli Powell Marti
Tribal Liaison
ODOT Cultural Resources Program

cc: Mr. Virgil Swift, Tribal Historic Preservation Officer

encl: 2

Appendix 3

Biological Evaluation

Environmental Resources / Wetlands / Endangered Species Review Request Form

Coordinator:	KEVIN LARIOS	Date:	2005 Jun 07
County:	CLEVELAND	Project No:	STPY-114A(120)EC
Facility:	SH-9	Job/Piece:	21293(04)
Location Description:	Reconstruct to a four-lane facility from US-77 extending east approximately 5.5 miles to 84 th Ave. SE within the City limits of Norman.	E/C Date:	10/2005
		Let Date:	04/2006
Waterbody:	Nearest is Canadian River (According to the consultant Wetlands Finding Report dated 04/06/04 there are 13 large drainage systems and/or tributaries).	Channelization:	Unknown
Additional Project Information:	An EA is being prepared which includes a 600' wide NEPA study area centered about the existing SH-9 alignment. The preferred alternate is described as reconstructing to a four-lane open section facility with a paved flush median and striped left-turn bays as appropriate.		
Preliminary Survey – Desk Top Survey Only: (Y/N) Include general information: aerial photo with centerline and R/W(s) clearly marked, USGS topographic map, or other maps clearly marked.			YES
Detailed Survey – Field Survey to be Performed, if Warranted: (Y/N) Include detailed information: P & P sheets, aerial photo with centerline and R/W(s) clearly marked, USGS topographic map, or other maps clearly marked. Include estimate of maximum corridor width and R/W(s).			YES
RUSH Only Mark If Environmental Clearance is Less Than 30 Days Away			YES

Biologist's Findings

WETLANDS			
Potential Impacts to Wetlands (Y/N/Possible):			NO
Preliminary Survey Performed (Y/N): Additional Review May Be Necessary When Final Plans Are Developed.			YES
Detailed Survey Warranted (Y/N): If warranted, see Attached Field Report or Wetlands Findings Report.			YES
Wetland Mitigation Requirements (Y/N/Possible):			NO
Corps Contact ... :		N/A	
404			
Pre-application Consultation Required (Y/N): If YES, See Attached Field Report or Memo			NO
Corps Contact ... :		N/A	
Permit Required (Y/N/Possible): If YES, Permit Applications must Be Submitted NO LESS THAN 13 MONTHS Prior to the Scheduled Let for the Project.			YES
ENDANGERED AND THREATENED SPECIES			
Possible E/T Species Involvement (Y/N):			YES
If YES, Informal Consultation Conducted (Y/N):			YES
Date Started		2005 Jun 09	
Date Ended		2005 Jun 09	
Formal Consultation Required (Y/N):			NO

2005 Jun 09

Date

Biologist

OKLAHOMA DEPARTMENT OF TRANSPORTATION BIOLOGICAL TRACKING FORM

County: CLEVELAND

Project No.: STPY-114A(120)EC

J/P Number: 21293(04)

Surveyed By: John Dyer *JD*

Prepared By: John Dyer *JD*

Survey Date: June 8, 2005

Report Date: June 9, 2005

Report Authorized By: John Dyer *JD*

Date: June 9, 2005

1. PROJECT INFORMATION

Description: Reconstruct to a four-lane facility from US-77 extending east approximately 5.5 miles to 84th Ave. SE within the City limits of Norman. An EA is being prepared which includes a 600' wide NEPA study area centered about the existing SH-9 alignment. The preferred alternate is described as reconstructing to a four-lane open section facility with a paved flush median and striped left-turn bays as appropriate.

Legal Location: See Map

USGS Quad: Denver
Norman

Near: Norman

Waterbody: See Map, Nearest is Canadian River (According to the consultant Wetlands Finding Report dated 04/06/04 there are 13 large drainage systems and/or tributaries).

2. REVIEW PROCESS

Endangered / Threatened Species:

County List of Species: Black-capped Vireo Endangered
 Interior Least Tern Endangered
 Whooping Crane Endangered
 Arkansas River Shiner Threatened
 & Proposed Critical Habitat
 Bald Eagle Threatened
 Piping Plover Threatened
 Mountain Plover Proposed as Threatened
 Rule proposed to be withdrawn

U.S. Fish and Wildlife Service Internet Website checked
on June 9, 2005

Section 7 Consultation Required: Yes: X No:
 Informal Consultation Started: June 9, 2005
 Informal Consultation Ended: June 9, 2005
 Findings: NO EFFECT
 Formal Consultation Needed: Yes: No: X
Comments: NONE

Clean Water Act – Wetlands:

Basic Research “Desktop Review”

SCS Data: N/A

NWI: N/A

Other: N/A

Comments: NONE

Detailed Research “Field Investigation”

Topography: See Map

Vegetation: See Map

Hydrology: See Map

Soils: See Map

Comments: NONE

Wetland Impact: Yes: No: X

_____ Prepare Wetlands Finding Report

_____ Report Sent to USACE for Confirmation and further Evaluations

_____ Final Report Attached

USACE Contact: N/A

Mitigation Required: Yes: No: X

Conditions: NONE

Clean Water Act – Section 404

Permit Required: Yes: X No: Possible:

_____ Notice Sent to Originating Division

Pre-App Required: Yes: No: X

USACE Contact: N/A

Findings: N/A

Comments: There was no information provided regarding the need for channelization of any USACE regulated waterbody. Should this project require a re-alinement of any waterbody, pre-application with the USACE will be required and possibly an Individual Permit application for a Clean Water Act Section 404 permit.

3. CONCLUSIONS AND RECOMMENDATIONS

Reconstruct to a four-lane facility from US-77 extending east approximately 5.5 miles to 84th Ave. SE within the City limits of Norman. An EA is being prepared which includes a 600' wide NEPA study area centered about the existing SH-9 alignment. The preferred alternate is described as reconstructing to a four-lane open section facility with a paved flush median and striped left-turn bays as appropriate.

ESA

This project, as planned will have NO EFFECT on any federally listed endangered or threatened species.

CWA

Wetlands

This project will not impact any potential jurisdictional wetlands.

Other Water's of the Nation

This project will impact Water's of the Nation. The necessary Section 404 permit must be obtained from the USACE.

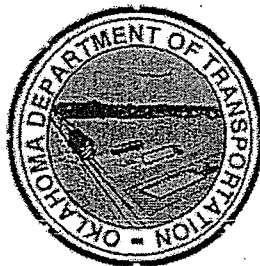
Appendix 4

Traffic Noise Assessment

Traffic Noise Assessment Report
for
State Highway 9 Widening Project
Norman, Oklahoma

Prepared for

Oklahoma Department of Transportation



November 2004

Prepared By



14313 North May Avenue
Oklahoma City, Oklahoma 73134

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I. Introduction

This Traffic Noise Assessment Report (TNAR) investigates the noise impacts that could result from the proposed reconstruction and widening of State Highway 9 (SH 9) from 24th Avenue Southeast to 84th Avenue Southeast. This project consists of a four-lane facility with a paved flush median and striped left-turn bays as appropriate. The project location is depicted on the Location Map in **Appendix D**. The purpose for this document is to determine the noise impacts and the possible mitigation of these impacts from this roadway project. This will be achieved by field study, examining aerial photographs of the area, the conceptual plans and proposed grades for the project and computer modeling future noise levels given the traffic projections for the design year.

This report relies on concepts provided by Traffic Engineering Consultants (TEC) and design traffic data from Triad Design Group. The noise analysis was performed using the Transportation Noise Model (TNM 2.5); a computer program produced for Federal Highway Administration (FHWA), and complies with the Oklahoma Department of Transportation (ODOT) Policy Directive "Highway Noise Abatement."

II. Terminology and Sound Theory

This noise analysis will discuss noise levels as $Leq(h)$. Leq is the equivalent steady-state sound level that, in a stated period, contains the same acoustic energy as the time varying sound level during the same period. $Leq(h)$, the hourly value of Leq , is based on the more commonly known decibel (dB) and the "A-weighted" decibel unit (dBA). Sound consists of different frequencies, each of which is perceived differently by the human ear. Since human hearing is not sensitive to low and very high frequencies, the A-weighted scale is used to approximate the response of the human ear by compensating for high and low end frequency insensitivity and renders noise level readings more meaningful. The A-weighted decibel (dBA) unit measures perceptible sound energy and factors out the fringe frequencies.

Decibels are logarithmic units as opposed to the more common linear units. For example, temperature units of Fahrenheit and Celsius are linear. A two-degree increase is twice as much as a one-degree increase. However, in decibels, a three-decibel increase from a noise source results in a doubling of sound energy, but not in the human perception of sound. Research shows that to an average listener, a 10-dBA increase is perceived as twice as loud. One dBA is the smallest change in sound level that an average person can detect under ideal conditions. Usually an observer cannot detect an increase of three to four decibels if the increase takes place over several years.

III. Methodology

Traffic noise analysis consists of a comparison of computer modeled noise levels for existing conditions with computer modeled noise levels for future conditions. FHWA's software, TNM 2.5, is used to model noise levels based on traffic data, roadway geometry, and receiver site locations. A receiver is a location, usually a residence, where exterior human activity occurs. Receivers are modeled for noise levels and evaluated for noise impacts.

The FHWA has five noise activity categories based on land-use and sound levels, each of which has its own Noise Abatement Criteria (NAC). These levels are presented in **Table 1**. Noise Impacts are

determined in two ways. A noise impact occurs when either the “absolute criterion” or the “relative criterion” are met. Under the absolute criterion, a noise impact occurs when predicted future noise levels approach by one dBA, meet or exceed the FHWA NAC at a given receiver for its activity category. Under the relative criterion, noise impact occurs when the future noise levels exceed existing noise levels by 15 dBA or more at a given receiver. For locations with no outside human activity (i.e., churches), interior noise levels can be determined by applying adjustment factors to predicted future exterior noise levels and compared with the NAC for Activity Category E to determine impacts. Once impact is identified, then noise abatement is considered for the impacted area. Only those areas for which abatement is determined to be feasible and reasonable as defined by ODOT Policy Directive “Highway Noise Abatement” will be recommended for inclusion in the project.

Table 1.
Federal Highway Administration Noise Abatement Criteria

Activity Category	Leq Noise Level	Description of Activity Category
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 include amphitheaters, particular 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.

Source: FHWA 23 CFR Part 772 and FHP 7-3-7

IV. Identification of Receivers

The existing and proposed transportation corridors were examined to identify areas that may be affected by traffic noise. The noise sensitive areas were assigned representative receptors corresponding to individual dwellings adjacent to the identified roadways.

Single receivers were placed in the appropriate exterior human use areas to determine the extent of traffic noise representative for these residences and/or first row housing additions. Secondary receivers were not utilized during this initial assessment. In the event that construction of noise barriers is required, additional benefited receivers may need to be identified. This information would be used in determining the cost per benefited receiver and utilized in the noise barrier justification analysis.

Additionally, no churches, schools, or libraries were identified in the assessment area. The location of the receivers in the transportation corridor is presented in **Appendix D**.

V. Traffic Data

A typical unit of measurement for traffic on a highway or roadway is the average daily traffic (ADT). ADT is defined as the total volume of vehicles during a given time period (greater than one day and less than a year), divided by the number of days in that time period.

The design year ADT is the volume of traffic that is anticipated for the designed vehicular capacity of the subject roadway at the future date identified. The current ADT information was used to determine the traffic induced noise levels for the present roadway/intersection design at the selected receiver locations and was based on the data derived from the year 2004. The design year traffic information used to determine the traffic noise levels for the proposed realignment project is 2024.

The traffic data provided for this noise impact assessment was expressed in terms of “peak hour” traffic volumes for both the morning and the evening, when the traffic volume is at its highest flow. This assessment report utilized data provided for the evening peak hour for traffic volume in view of the fact that this is the most likely time of day that human annoyance would occur. TNM utilizes the Design Hourly Volume (DHV) to determine the existing traffic noise levels and calculate the future traffic noise impacts. DHV data is based on the percentage of hourly traffic present on the facility at the design capacity.

Accurate modeling of roadway traffic requires the evaluation of traffic noise induced by cars, medium trucks, and heavy trucks according to the roadway speed limitations. Other vehicle types, such as busses and/or motorcycles, can be potentially included in traffic noise assessments.

Both the current posted and proposed-design speed limit utilized for this study was based on 65 miles per hour (mph) and was incorporated in the existing and future design modeling effort and the assumed vehicle speed. Neither busses nor motorcycles were included in either of the traffic noise model evaluations.

Existing Traffic Conditions

Currently SH 9 serves as an east/west arterial facility for public traffic movement. There are several factors that lead to SH 9 serving as a major arterial collector, including the presence of a Federal Postal Training Facility, commuters to Oklahoma University, Hitachi Computer Products and the Oklahoma Museum of Natural History. The majority of traffic comes from passenger automobiles with a small percentage of heavy and medium truck traffic. This report applied a percentage rate of four percent for medium trucks and three percent for heavy trucks for traffic movement on SH 9. The traffic volume breakdown according to vehicle type and corresponding number is presented in **Appendix A, Tables A1.**

Future Traffic Conditions

For the year 2024 traffic noise impact assessment, the volume of traffic was increased based upon projected growth for the City of Norman and the surrounding area. As with existing traffic conditions, the majority of traffic comes from passenger automobiles with a small percentage of heavy and medium truck traffic. This report applied a percentage rate of four percent for medium trucks and three percent for heavy trucks for traffic movement on SH 9. The future traffic volume breakdown according to vehicle type and corresponding number is presented in **Appendix A, Tables A2.**

VI. Traffic Noise Analysis Results

The existing and predicted traffic noise levels were modeled along the assessment area at the identified locations shown in **Appendix D.** The selected receivers represented the closest, non-commercial, residential dwellings to the transportation corridor. These residences were selected based on the assumption that traffic noise levels would be greatest at these locations. Further evaluation of additional receivers, primarily as benefited receptors resulting from sound barrier installation, would be performed during a sound barrier analysis and design phase, if required. All of the selected receiver locations had facilities, dwellings, or structures that involved exterior human use areas. Therefore, the evaluation of Activity Categories A, C, D, or E were not required, modeled, or applied. Secondary receivers were not included in this assessment. The TNM 2.5 Modeled Traffic Results can be found in **Appendix B.**

The LAeq1h noise levels associated with the first row receivers ranged from 54 to 67 dBA according to the existing traffic volume data (**Appendix A**). Only one of the receivers appears to be experiencing traffic noise levels that approach by 1 dBA, meet or exceed the noise abatement criteria specified in the ODOT noise directive policy. The existing noise levels associated with the present-condition traffic volume were generated using the existing roadway profile and adjacent property topography. The traffic noise levels corresponding to the existing roadways are presented in **Table 2.**

Table 2.
Existing Traffic Noise Levels

Receiver	Dwelling Type	Noise Levels (dBA)
R-1	Single Family Residential	64
R-2	Single Family Residential	67
R-3	Single Family Residential	55
R-4	Single Family Residential	54
R-5	Single Family Residential	56
R-6	Single Family Residential	63
R-7	Single Family Residential	63
R-8	Single Family Residential	61
R-9	Single Family Residential	62
R-10	Single Family Residential	62
R-11	Single Family Residential	61
R-12	Single Family Residential	60
R-13	Single Family Residential	61
R-14	Single Family Residential	60
R-15	Single Family Residential	59
R-16	Single Family Residential	59
R-17	Single Family Residential	61

Using the predicted traffic data for the design year 2024, proposed roadway design, and selected receiver locations, the calculated LAeq1h traffic induced noise levels resulted in an impact at fourteen (14) of the seventeen (17) selected receivers. The traffic noise levels corresponding to the proposed SH 9 widening project are presented in **Table 3**.

The predicted noise levels obtained based on the future traffic levels were derived using the proposed roadway design geometry and corresponding topographical modifications. To ensure consistency, the same receiver locations selected for the existing traffic assessment were utilized to model the noise levels associated with the predicted traffic volume. Under future conditions, the LAeq1h noise levels associated with the first row receivers ranged from 62 to 73 dBA according to the projected traffic volume data (**Appendix A**). According to the model seven (7) receptors, R-8, R-9, R-12, R-13, R-14, R-15 and R-16, would experience noise levels that approach the NAC by 1 dBA. Furthermore, seven (7) receptors, R-1, R-2, R-6, R-7, R-10, R-11 and R17, experienced traffic-induced noise levels that meet or exceed the NAC of 67 dBA. Moreover, substantial noise level impacts of 15 dBA did not occur at any of the identified receivers.

Table 3.
Future Traffic Noise Levels

Receiver	Dwelling Type	Noise Levels (dBA)	Increase from Existing (dBA)
R-1	Single Family Residential	70	6
R-2	Single Family Residential	73	6
R-3	Single Family Residential	62	7
R-4	Single Family Residential	62	8
R-5	Single Family Residential	63	7
R-6	Single Family Residential	70	7
R-7	Single Family Residential	70	6
R-8	Single Family Residential	66	5
R-9	Single Family Residential	67	5
R-10	Single Family Residential	69	7
R-11	Single Family Residential	69	8
R-12	Single Family Residential	66	6
R-13	Single Family Residential	67	6
R-14	Single Family Residential	66	6
R-15	Single Family Residential	67	7
R-16	Single Family Residential	66	7
R-17	Single Family Residential	68	7

VII. Sound Barrier Analysis and Justification

The LAeq1h levels associated with the traffic noise attributable to the future design volume for the primary receivers were evaluated under preliminary barrier designs. These proposed sound barriers were positioned generally along proposed rights-of-way along the primary roadway. Barrier location constraints included utility easements, residential driveways, drainage channels and future intersection reconstruction. Variance from the selected locations to evaluate any traffic noise level changes may be limited. Modification of barrier design or location could alter the overall effectiveness of any such installed barrier.

Based on the dwelling location for the receivers, roadway geometry and topography, the required 7-dBA-insertion loss goal was specifically achieved for nine (9) of the seventeen (17) primary receivers represented. Practical analysis of the identified results is discussed in the following section. The insertion loss goals for any secondary receivers, even though there were no impacted secondary receivers identified, would likely be achieved based on the fact that other primary receivers in the direct vicinity achieved the reduction goal.

Barrier height modifications ranging from 0 feet to 20 feet in height were utilized to identify a potential design that would maximize traffic noise reduction, be cost effective, and maintain compatibility with future roadway modification and/or reconstruction. The Barrier Design Analysis can be found in **Appendix B1**. Based on these modifications a preliminary barrier design was established for each identified receiver that exhibited the needed noise reduction analysis. The predicted noise level calculations for these preliminary barrier designs are presented in **Table 4**.

Table 4.
Insertion Loss According to Receiver (7 dBA Goal)

Primary Receiver Number	No Barrier LAeq1h (dBA)	With Barrier, LAeq1h (dBA)	Insertion Loss (dBA)
R-1	70	64	6
R-2	73	66	7
R-6	70	63	7
R-7	70	63	7
R-8	66	60	6
R-9	67	60	7
R-10	69	60	9
R-11	69	62	7
R-12	66	61	5
R-13	67	60	7
R-14	66	59	7
R-15	67	62	5
R-16	66	60	6
R-17	68	61	7

VIII. Traffic Noise Impact Mitigation Analysis

Mitigation is typically considered where only frequent outside human use occurs that would benefit from decreased noise levels. Such measures must also be considered reasonable and feasible. If the traffic-induced noise calculated for the identified receivers meet, exceed, or approach by 1 dBA the NAC, or if there is a substantial increase of 15 dBA, noise mitigation measures must be considered for the affected areas. This determination must include an evaluation of sound level reduction that accomplishes at least a 7 dBA insertion loss based on the design year traffic volume for the first row or primary receivers. Additionally, the insertion loss goal of 5 dBA is applied for secondary receivers.

The estimated costs associated with construction of the sound wall along with the cost per benefited receiver are presented in **Table 5**, but do not necessarily include the costs attributed to the installation of support footing or any other extra-ordinary techniques that could possibly be required to facilitate any such barrier installation (i.e. excavation or fill material, lateral support, etc.). Noise mitigation must meet two requirements to be recommended for design and construction: feasibility and reasonableness. Analysis based upon these two requirements is exhibited in **Appendix C, Table C1**. These matrix style tables analyze each impacted receiver according to the ODOT Policy Directive “Highway Noise Abatement.”

Table 5.
Preliminary Barrier Design and Cost
(based on \$25.00 sq. ft.)

Barrier Name	Barrier Length (feet)	Barrier Avg. Height (feet)	Cost of Barrier Wall	Potential Number of Benefited Primary Receivers	Cost of Barrier per Benefited Receiver
R-1 EW (1)	658	15.90	\$260,677	1	\$260,677
R-2 EW (1)	789	10.75	\$209,798	1	\$209,798
R-6 / R-7 EW (2)	740	13.30	\$246,543	2	\$123,272
R-8 (1)	710	15.15	\$268,959	1	\$268,959
R-9 / R-10 (4)	1,071	14.60	\$390,807	4	\$97,702
R-11 (1)	754	17.50	\$330,040	1	\$330,040
R-12 EW (1)	1,148	15.73	\$469,257	1	\$469,257
R-13 / R-14 EW (4)	1,487	15.94	\$592,766	4	\$148,192
R-15 EW (2)	673	16.41	\$275,610	2	\$137,805
R-16 EW (2)	1,140	15.74	\$446,286	2	\$223,143
R-17 (1)	481	11.58	\$139,222	1	\$139,222

Feasibility

“Feasibility” refers to the engineering considerations that determine if (1) the required insertion loss can be achieved for the identified receivers adjacent to the roadway in the design year when compared to the design year without mitigation. Factors that may limit the ability to achieve the specified noise reduction goals include topography, residential access, frontage roads, cross streets, drainage concerns, utility easements, driveways, and other noise sources in the area. Any of the considered mitigation measures must also (2) be “constructible” without using extraordinary construction techniques and (3) not create drainage, maintenance, and access or safety problems. A determination of feasibility is based primarily on engineering-related concerns pertaining to the ability to install sound barriers without excessive measures to facilitate construction. Based on the results from a sound barrier analysis, the decision rationale regarding a feasibility determination is as follows:

- The barrier designs presented would provide the required insertion loss for nine (9) of the fourteen (14) impacted receptors.
- According to the preliminary design elements the barrier design presented should be constructible without using extraordinary construction techniques.
- Location of barrier walls may present safety concerns due to traffic visibility.

Reasonableness

“Reasonableness” refers to the many factors that must be considered to determine if mitigation is fair and affordable. There are six (6) specific criteria specified in the ODOT Noise Policy Directive to determine reasonableness. No single factor would guarantee or deny mitigation absolutely, but all would be considered to determine if mitigation is reasonable.

1. The area's resident's desire for mitigation. Higher considerations will be given to first row receivers adjacent to the transportation facility.
2. The overall magnitude of the future noise levels without mitigation.
3. The magnitude of the future noise levels when compared to existing noise levels.
4. The date of development or construction of the residential area compared to the date of initial roadway construction. Higher consideration will be given to mitigate impacts in an area that pre-dated the roadway.
5. The cost is not to exceed \$30,000 per benefited receptor. A benefited residential receptor receives the minimum reduction when compared to no mitigation and includes both primary and secondary residential receptors.
6. The existing land use, zoning, potential for land use change in the area, and actions taken by local officials to control incompatible growth and development adjacent to roadways.

Based on the results from a sound barrier analysis, the decision rationale regarding a reasonableness determination is as follows:

- Preliminary public involvement would indicate a desire from at least a few of the first row receiver residents.
- Magnitude of overall future noise levels without mitigation measures is significant at several receptors.
- Magnitude of future noise levels compared to the existing noise levels is not substantial.
- Date of development for the majority of the corridor is subsequent to the initial roadway construction. A large portion of the area is currently not developed.
- Based upon the preliminary barrier design, the cost of barrier wall, alone, per benefited receiver will exceed \$30,000.00.
- Mitigation measures should not alter existing land use, zoning or potential for land use change in the area.

IX. Conclusions

This Traffic Noise Assessment Report was undertaken to determine the extent of traffic noise impact and evaluate the reasonableness and feasibility of potential mitigation measures in the event impact did occur regarding the proposed widening of State Highway 9 just west of 24th Avenue Southeast to 84th Avenue Southeast. This project evaluation did not involve, include, or evaluate any traffic-induced noise levels for any facility or structure such as a school, church, library, hospital, or commercial property. Only non-commercial single-family residences and/or dwellings were utilized as receivers during this TNAR and were evaluated according to Activity Category B of the FHWA's NAC.

The ODOT Noise Policy Directive was used as the traffic-noise impact guideline for this study. The policy states that a predicted noise level attributed to roadway modifications resulting in a level of

service increase requires an evaluation of noise mitigation measures. Based on the TNM 2.5 Model, the existing traffic condition noise levels obtained for the selected receivers exceeded the NAC at one selected receiver (R-1). According to the comparison between existing and future traffic levels, the identified traffic-induced noise level difference does not result in a substantial increase of 15 dBA for any of the selected receivers. However, levels derived from the proposed roadway design and future traffic volume indicate fourteen (14) of the seventeen (17) selected receivers would experience future traffic induced noise levels that approach by 1 dBA, meet or exceed the NAC identified for Activity Category B.

According to the results of the sound barriers analysis, the installation of sound walls according or similar to the presented design meets the feasibility criteria specified in the ODOT Noise Policy Directive. However, it does not meet the reasonable criteria specified in the ODOT Noise Policy Directive, thus no mitigation is recommended for inclusion in the project.

References Cited

Oklahoma Department of Transportation. 1996. ODOT Policy Directive for Highway Noise Abatement. No. C-201-3.

Oklahoma Department of Transportation. 2004. Traffic Study for State Highway 9.

U. S. Department of Transportation. Federal Highway Administration Noise Abatement Criteria. 23 CFR Part 772, FHP 7-3-7.

APPENDIX A

TRAFFIC DATA REPORT

Table A1
Existing Traffic State Highway 9

Roadway Segment	Volume	Heavy Trucks (3%)	Medium Trucks (4%)	Automobiles (93%)
BOP to 24th Avenue Southeast				
24 Hour Volume	16300	489	652	15159
Eastbound PM Peak Hour	897	27	36	834
Westbound PM Peak Hour	897	27	36	834
24th to 36th Avenue Southeast				
24 Hour Volume	14250	428	570	13253
Eastbound PM Peak Hour	784	24	31	729
Westbound PM Peak Hour	784	24	31	729
36th to 48th Avenue Southeast				
24 Hour Volume	12625	379	505	11741
Eastbound PM Peak Hour	675	20	27	628
Westbound PM Peak Hour	675	20	27	628
48th to 60th Avenue Southeast				
24 Hour Volume	12000	360	480	11160
Eastbound PM Peak Hour	660	20	26	614
Westbound PM Peak Hour	660	20	26	614
60th to 72nd Avenue Southeast				
24 Hour Volume	11500	345	460	10695
Eastbound PM Peak Hour	632	19	25	588
Westbound PM Peak Hour	632	19	25	588
72nd to 84th Avenue Southeast				
24 Hour Volume	11000	330	440	10230
Eastbound PM Peak Hour	605	18	24	563
Westbound PM Peak Hour	605	18	24	563

Table A2
Future Traffic State Highway 9

Roadway Segment	Volume	Heavy Trucks (3%)	Medium Trucks (4%)	Automobiles (93%)
BOP to 24th Avenue Southeast				
24 Hour Volume	27700	831	1108	25761
Eastbound PM Peak Hour	1524	46	61	1417
Westbound PM Peak Hour	1524	46	61	1417
24th to 36th Avenue Southeast				
24 Hour Volume	25950	779	1038	24134
Eastbound PM Peak Hour	1427	43	57	1327
Westbound PM Peak Hour	1427	43	57	1327
36th to 48th Avenue Southeast				
24 Hour Volume	25000	750	1000	23250
Eastbound PM Peak Hour	1375	41	55	1279
Westbound PM Peak Hour	1375	41	55	1279
48th to 60th Avenue Southeast				
24 Hour Volume	24300	729	972	22599
Eastbound PM Peak Hour	1337	40	53	1243
Westbound PM Peak Hour	1337	40	53	1243
60th to 72nd Avenue Southeast				
24 Hour Volume	23100	693	924	21483
Eastbound PM Peak Hour	1270	38	51	1181
Westbound PM Peak Hour	1270	38	51	1181
72nd to 84th Avenue Southeast				
24 Hour Volume	22600	678	904	21018
Eastbound PM Peak Hour	1243	37	50	1156
Westbound PM Peak Hour	1243	37	50	1156

APPENDIX B

MODELED TRAFFIC NOISE RESULTS

RESULTS: SOUND LEVELS

P034

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034

RUN:

Existing State Highway 9

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier						With Barrier				
				LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal			
													dBA	dBA
R-2	1	1	0.0	66.5	66	66.5	15	Snd Lvl	66.5	0.0	7	-7.0		
R-9	3	1	0.0	61.8	66	61.8	15	----	61.8	0.0	7	-7.0		
R-10	4	1	0.0	62.3	66	62.3	15	----	62.3	0.0	7	-7.0		
R-11	5	1	0.0	61.4	66	61.4	15	----	61.4	0.0	7	-7.0		
R-12	6	1	0.0	59.9	66	59.9	15	----	59.9	0.0	7	-7.0		
R-13	7	1	0.0	60.5	66	60.5	15	----	60.5	0.0	7	-7.0		
R-14	8	1	0.0	59.5	66	59.5	15	----	59.5	0.0	7	-7.0		
R-15	9	1	0.0	59.4	66	59.4	15	----	59.4	0.0	7	-7.0		
R-16	10	1	0.0	59.0	66	59.0	15	----	59.0	0.0	7	-7.0		
R-17	11	1	0.0	61.4	66	61.4	15	----	61.4	0.0	7	-7.0		
R-1	16	1	0.0	64.4	66	64.4	15	----	64.4	0.0	7	-7.0		
R-3	18	1	0.0	54.5	66	54.5	15	----	54.5	0.0	7	-7.0		
R-4	19	1	0.0	54.3	66	54.3	15	----	54.3	0.0	7	-7.0		
R-5	20	1	0.0	55.8	66	55.8	15	----	55.8	0.0	7	-7.0		
R-6	21	1	0.0	63.1	66	63.1	15	----	63.1	0.0	7	-7.0		
R-7	22	1	0.0	63.1	66	63.1	15	----	63.1	0.0	7	-7.0		
R-8	23	1	0.0	60.5	66	60.5	15	----	60.5	0.0	7	-7.0		
Dwelling Units			# DUs	Noise Reduction										
				Min	Avg	Max								
				dB	dB	dB								
All Selected			17	0.0	0.0	0.0								
All Impacted			1	0.0	0.0	0.0								
All that meet NR Goal			0	0.0	0.0	0.0								

RESULTS: SOUND LEVELS

P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

19 November 2004
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier				Type Impact	With Barrier			
				LAeq1h		Increase over existing			Calculated LAeq1h	Noise Reduction		Calculated minus Goal
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-2	1	1	66.5	72.8	66	6.3	15	Snd Lvl	63.5	9.3	7	2.3
R-9	3	1	61.8	66.9	66	5.1	15	Snd Lvl	58.6	8.3	7	1.3
R-10	4	1	62.3	68.8	66	6.5	15	Snd Lvl	58.9	9.9	7	2.9
R-11	5	1	61.4	68.9	66	7.5	15	Snd Lvl	62.5	6.4	7	-0.6
R-12	6	1	59.9	66.3	66	6.4	15	Snd Lvl	62.7	3.6	7	-3.4
R-13	7	1	60.5	66.6	66	6.1	15	Snd Lvl	59.0	7.6	7	0.6
R-14	8	1	59.5	65.8	66	6.3	15	---	57.2	8.6	7	1.6
R-15	9	1	59.4	66.6	66	7.2	15	Snd Lvl	62.6	4.0	7	-3.0
R-16	10	1	59.0	65.7	66	6.7	15	---	59.7	6.0	7	-1.0
R-17	11	1	61.4	68.4	66	7.0	15	Snd Lvl	57.7	10.7	7	3.7
R-1	13	1	64.4	69.8	66	5.4	15	Snd Lvl	64.3	5.5	7	-1.5
R-3	14	1	54.5	61.6	66	7.1	15	---	61.6	0.0	7	-7.0
R-4	15	1	54.3	61.7	66	7.4	15	---	61.7	0.0	7	-7.0
R-5	16	1	55.8	62.6	66	6.8	15	---	62.6	0.0	7	-7.0
R-6	17	1	63.1	69.5	66	6.4	15	Snd Lvl	59.5	10.0	7	3.0
R-7	18	1	63.1	70.4	66	7.3	15	Snd Lvl	61.2	9.2	7	2.2
R-8	19	1	60.5	65.9	66	5.4	15	---	60.3	5.6	7	-1.4

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	17	0.0	6.2	10.7
All Impacted	11	3.6	7.7	10.7
All that meet NR Goal	8	7.6	9.2	10.7

C:\TNM\State Highway 9 Existing\State Highway 9 Proposed\State Highway 9 Barrier Design

RESULTS: SOUND LEVELS

P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-1 EW (1)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver												
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dB	dB	dB	dB	dB		dB	dB	dB	dB
R-1	13	1	64.4	69.8	66	5.4	15	Snd Lvl	64.3	5.5	7	-1.5
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		1	5.5	5.5	5.5							
All Impacted		1	5.5	5.5	5.5							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: BARRIER DESIGN

P034.0

 Oklahoma Department of Transp
 Triad Design Group - Randy Max

 18 November 2004
 TNM 2.5
 Calculated with TNM 2.5

RESULTS: BARRIER DESIGN
PROJECT/CONTRACT: P034.0
RUN: Proposed State Highway 9 Barrier Design
BARRIER DESIGN: R-1 EW (1)

ATMOSPHERICS: 68 deg F, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	
		dBA	dB	dB	dB				ft	
R-1	13	64.3	5.5	7	-1.5	R-1 East	point232	232	10.0	46.1
						R-1 East	point233	233	16.0	45.9
						R-1 East	point236	236	16.0	45.3
						R-1 West	point230	230	16.0	45.1
						R-1 West	point231	231	16.0	44.7
						R-1 West	point227	227	16.0	44.2
						R-1 East	point237	237	16.0	44.2
						R-1 East	point238	238	16.0	42.9
						R-1 East	point239	239	16.0	41.9
						R-1 East	point240	240	16.0	40.9
Total Cost, All Barriers (including additional cost(s))					\$260677					

RESULTS: SOUND LEVELS

P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

18 November 2004
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-2 EW (1)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier				With Barrier				
				LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	
R-2	1	1	66.5	72.8	66	6.3	15	Snd Lvl	65.9	6.9	7	-0.1
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		1	6.9	6.9	6.9							
All Impacted		1	6.9	6.9	6.9							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: BARRIER DESIGN

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Oklahoma Department of Transp
Triad Design Group - Randy Max

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TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-2 EW (1)

ATMOSPHERICS:

68 deg F, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	
		dBA	dB	dB	dB				ft	
R-2	1	65.9	6.9	7	-0.1	R-2 West	point46	46	10.0	56.8
						R-2 West	point47	47	10.0	55.3
						R-2 West	point40	40	10.0	55.1
						R-2 West	point45	45	10.0	53.7
						R-2 East	point20	20	10.0	52.3
						R-2 West	point44	44	10.0	51.4
						R-2 East	point24	24	10.0	51.3
						R-2 West	point39	39	10.0	49.2
						R-2 East	point25	25	12.0	48.8
						R-2 West	point37	37	10.0	48.8
Total Cost, All Barriers (including additional cost(s))						\$209798				

RESULTS: SOUND LEVELS

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Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

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TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-6 / R-7 EW (2)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver													
Name	No.	#DUs	Existing LAeq1h	No Barrier					With Barrier				
				LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB	
				Calculated	Crit'n	Calculated	Crit'n			Calculated	Goal		
			dB	dB	dB	dB	dB		dB	dB	dB		
R-7	18	1	63.1	70.4	66	7.3	15	Snd Lvl	63.4	7.0	7	0.0	
R-6	17	1	63.1	69.5	66	6.4	15	Snd Lvl	62.5	7.0	7	0.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		2	7.0	7.0	7.0								
All Impacted		2	7.0	7.0	7.0								
All that meet NR Goal		2	7.0	7.0	7.0								

RESULTS: BARRIER DESIGN

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Triad Design Group - Randy Max

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT: P034.0
RUN: Proposed State Highway 9 Barrier Design
BARRIER DESIGN: R-6 / R-7 EW (2)

ATMOSPHERICS: 68 deg F, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	
		dBA	dB	dB	dB				ft	
R-7	18	63.4	7.0	7	-0.0	Barrier21	point253	253	14.0	52.5
						Barrier21	point259	259	0.0	52.3
						Barrier21	point254	254	14.0	51.8
						Barrier21	point260	260	0.0	51.0
						Barrier21	point250	250	16.0	50.2
						Barrier21	point255	255	14.0	49.9
						Barrier21	point261	261	0.0	49.6
						Barrier21	point262	262	0.0	48.4
						Barrier21	point258	258	10.0	48.4
R-6	17	62.5	7.0	7	-0.0	Barrier21	point257	257	12.0	48.1
						R-6	point273	273	0.0	53.3
						R-6	point272	272	0.0	51.7
						R-6	point277	277	12.0	51.2
						R-6	point278	278	14.0	50.3
						R-6	point276	276	12.0	49.7
						R-6	point279	279	14.0	49.3
						R-6	point275	275	12.0	47.9
						R-6	point271	271	0.0	47.2
						R-6	point274	274	12.0	46.2
						R-6	point280	280	14.0	45.8

RESULTS: BARRIER DESIGN

P034.0

Total Cost, All Barriers (including additional cost(s))						\$246543			

RESULTS: SOUND LEVELS

P034.0

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TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-8 (1)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h		Increase over existing		Type Impact	With Barrier			
				Calculated	Crit'n	Calculated	Crit'n		Calculated LAeq1h	Noise Reduction		Calculated minus Goal
										Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-8	19	1	60.5	65.9	66	5.4	15	----	59.9	6.0	7	-1.0
Dwelling Units			# DUs	Noise Reduction								
				Min	Avg	Max						
				dB	dB	dB						
All Selected			1	6.0	6.0	6.0						
All Impacted			0	0.0	0.0	0.0						
All that meet NR Goal			0	0.0	0.0	0.0						

RESULTS: BARRIER DESIGN

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Oklahoma Department of Transp
Triad Design Group - Randy Max

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-8 (1)

ATMOSPHERICS:

68 deg F, 50% RH

Selected Receivers

Name	No.	Noise Reduction				Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		Calc	Calc	Goal	Calc-Goal		Name	No.	Height	
		LAeq1h dBA	dB	dB	dB				ft	
R-8	19	59.9	6.0	7	-1.0	R-8	point286	286	20.0	46.7
						R-8	point297	297	18.0	45.8
						R-8	point294	294	16.0	44.9
						R-8	point284	284	20.0	44.3
						R-8	point296	296	18.0	44.2
						R-8	point293	293	16.0	44.1
						R-8	point295	295	18.0	43.7
						R-8	point283	283	4.0	43.5
						R-8	point292	292	16.0	42.6
						R-8	point291	291	14.0	42.6
Total Cost, All Barriers (including additional cost(s))		\$268959								

RESULTS: SOUND LEVELS
P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

18 November 2004
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT:
P034.0
RUN:
Proposed State Highway 9 Barrier Design
BARRIER DESIGN:
R-9 / R-10 (4)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:
68 deg F, 50% RH
Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h		Increase over existing		Type Impact	With Barrier			
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc		Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal dB
			dB	dB	dB	dB	dB		dB	dB	dB	
R-10	4	1	62.3	68.8	66	6.5	15	Snd Lvl	60.1	8.7	7	1.7
R-9	3	1	61.8	66.9	66	5.1	15	Snd Lvl	59.9	7.0	7	0.0

Dwelling Units
DUs
Noise Reduction

		Min	Avg	Max
		dB	dB	dB
All Selected	2	7.0	7.9	8.7
All Impacted	2	7.0	7.9	8.7
All that meet NR Goal	2	7.0	7.9	8.7

RESULTS: BARRIER DESIGN

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Oklahoma Department of Transp
Triad Design Group - Randy Max

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-9 / R-10 (4)

ATMOSPHERICS:

68 deg F, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height ft	
		dBA	dB	dB	dB					
R-10	4	60.1	8.7	7	1.7	R-2 & 3	point68	68	14.0	50.9
						R-2 & 3	point66	66	14.0	50.6
						R-2 & 3	point67	67	16.0	49.1
						R-2 & 3	point69	69	16.0	48.2
						R-2 & 3	point70	70	16.0	47.3
						R-2 & 3	point65	65	16.0	47.1
						R-4	point97	97	0.0	46.2
						R-2 & 3	point71	71	16.0	45.9
						R-2 & 3	point73	73	14.0	45.7
						R-4	point79	79	0.0	45.6
R-9	3	59.9	7.0	7	-0.0	R-2 & 3	point61	61	14.0	50.0
						R-2 & 3	point59	59	12.0	48.8
						R-2 & 3	point60	60	14.0	48.6
						R-2 & 3	point62	62	16.0	48.4
						R-2 & 3	point63	63	16.0	48.2
						R-2 & 3	point64	64	16.0	48.1
						R-2 & 3	point58	58	10.0	48.0
						R-2 & 3	point66	66	14.0	47.5
						R-2 & 3	point65	65	16.0	47.3
						R-2 & 3	point57	57	8.0	47.3

RESULTS: BARRIER DESIGN

P034.0:

Total Cost, All Barriers (including additional cost(s))		\$390807
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RESULTS: SOUND LEVELS

P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

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TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-11 (1)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier				Type Impact	With Barrier			
				LAeq1h		Increase over existing			Calculated LAeq1h	Noise Reduction		Calculated minus Goal
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-11	5	1	61.4	68.9	66	7.5	15	Snd Lvl	61.9	7.0	7	0.0
Dwelling Units			# DUs	Noise Reduction								
				Min	Avg	Max						
				dB	dB	dB						
All Selected			1	7.0	7.0	7.0						
All Impacted			1	7.0	7.0	7.0						
All that meet NR Goal			1	7.0	7.0	7.0						

RESULTS: BARRIER DESIGN

P034.0

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Triad Design Group - Randy Max

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT: P034.0
RUN: Proposed State Highway 9 Barrier Design
BARRIER DESIGN: R-11 (1)

ATMOSPHERICS: 68 deg F, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	
		dBA	dB	dB	dB				ft	
R-11	5	61.9	7.0	7	0.0	R-4	point88	88	16.0	51.8
						R-4	point89	89	16.0	50.6
						R-4	point87	87	18.0	50.3
						R-2 & 3	point76	76	0.0	49.9
						R-2 & 3	point50	50	0.0	49.4
						R-2 & 3	point78	78	0.0	49.0
						R-4	point79	79	20.0	48.5
						R-4	point90	90	16.0	48.5
						R-2 & 3	point75	75	0.0	48.4
						R-4	point86	86	20.0	48.0
Total Cost, All Barriers (including additional cost(s))					\$330040					

RESULTS: SOUND LEVELS

P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

18 November 2004
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-12 EW (1)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier				With Barrier				
				LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	
R-12	6	1	59.9	66.3	66	6.4	15	Snd Lvl	61.4	4.9	7	-2.1
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		1	4.9	4.9	4.9							
All Impacted		1	4.9	4.9	4.9							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: BARRIER DESIGN

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18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT: P034.0

RUN: Proposed State Highway 9 Barrier Design

BARRIER DESIGN: R-12 EW (1)

ATMOSPHERICS: 68 deg F, 50% RH

Selected Receivers

Name	No.	Noise Reduction				Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		Calc LAeq1h dBA	Calc dB	Goal dB	Calc-Goal dB		Name	No.	Height ft	
R-12	6	61.4	4.9	7	-2.1	R-5	point114	114	20.0	49.4
						R-5	point112	112	18.0	49.4
						R-5	point116	116	18.0	49.3
						R-5	point113	113	20.0	49.1
						R-5	point115	115	20.0	49.1
						R-5	point110	110	16.0	48.9
						R-5	point117	117	18.0	48.8
						R-5	point118	118	18.0	48.5
						R-5	point119	119	18.0	47.9
						R-5	point111	111	20.0	47.1
Total Cost, All Barriers (including additional cost(s))					\$469257					

RESULTS: SOUND LEVELS

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TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-13 / R-14 EW (4)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier				Type Impact	With Barrier			
				LAeq1h		Increase over existing			Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-14	8	1	59.5	65.8	66	6.3	15	---	58.8	7.0	7	0.0
R-13	7	1	60.5	66.6	66	6.1	15	Snd Lvl	59.6	7.0	7	0.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		2	7.0	7.0	7.0							
All Impacted		1	7.0	7.0	7.0							
All that meet NR Goal		2	7.0	7.0	7.0							

RESULTS: BARRIER DESIGN

P034.0

Oklahoma Department of Transp
Triad Design Group - Randy Max

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT: P034.0
RUN: Proposed State Highway 9 Barrier Design
BARRIER DESIGN: R-13 / R-14 EW (4)

ATMOSPHERICS: 68 deg F, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	
		dBA	dB	dB	dB				ft	
R-14	8	58.8	7.0	7	-0.0	R-9 West	point167	167	0.0	45.1
						R-9 West	point164	164	0.0	44.8
						R-6 & 7	point150	150	14.0	44.8
						R-9 West	point168	168	0.0	44.4
						R-6 & 7	point149	149	14.0	44.4
						R-9 West	point169	169	0.0	43.9
						R-6 & 7	point151	151	16.0	43.0
						R-6 & 7	point148	148	16.0	42.6
						R-9 West	point170	170	0.0	42.5
						R-6 & 7	point147	147	16.0	42.5
R-13	7	59.6	7.0	7	0.0	R-6 & 7	point144	144	16.0	48.3
						R-6 & 7	point145	145	16.0	47.6
						R-6 & 7	point146	146	16.0	47.3
						R-6 & 7	point141	141	16.0	46.3
						R-6 & 7	point147	147	16.0	46.2
						R-6 & 7	point143	143	18.0	45.7
						R-6 & 7	point149	149	14.0	45.3
						R-6 & 7	point140	140	16.0	44.6
						R-6 & 7	point150	150	14.0	44.4
						R-6 & 7	point142	142	18.0	44.4

RESULTS: BARRIER DESIGN

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RESULTS: SOUND LEVELS

P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-15 EW (2)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier				Type Impact	With Barrier			
				LAeq1h		Increase over existing			Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	
R-15	9	1	59.4	66.6	66	7.2	15	Snd Lvl	62.2	4.4	7	-2.6
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		1	4.4	4.4	4.4							
All Impacted		1	4.4	4.4	4.4							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: BARRIER DESIGN

P034.0

Oklahoma Department of Transp
Triad Design Group - Randy Max

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT: P034.0
RUN: Proposed State Highway 9 Barrier Design
BARRIER DESIGN: R-15 EW (2)

ATMOSPHERICS: 68 deg F, 50% RH

Selected Receivers

Name	No.	Noise Reduction				Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		Calc	Calc	Goal	Calc-Goal		Name	No.	Height	
		LAeq1h dBA	dB	dB	dB				ft	
R-15	9	62.2	4.4	7	-2.6	R-8 East	point218	218	18.0	48.7
						R-8 West	point211	211	16.0	47.5
						R-8 East	point217	217	20.0	46.5
						R-8 West	point207	207	14.0	46.4
						R-8 East	point222	222	16.0	46.2
						R-8 West	point212	212	16.0	45.8
						R-8 West	point209	209	0.0	45.4
						R-8 West	point213	213	16.0	44.4
						R-8 East	point221	221	20.0	43.5
						R-8 West	point208	208	20.0	43.1
Total Cost, All Barriers (including additional cost(s))		\$275610								

RESULTS: SOUND LEVELS

P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-16 EW (2)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier				Type Impact	With Barrier			
				LAeq1h		Increase over existing			Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	
R-16	10	1	59.0	65.7	66	6.7	15		60.1	5.6	7	-1.4
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		1	5.6	5.6	5.6							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: BARRIER DESIGN

P034.0

Oklahoma Department of Transp
Triad Design Group - Randy Max

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT: P034.0

RUN: Proposed State Highway 9 Barrier Design

BARRIER DESIGN: R-16 EW (2)

ATMOSPHERICS: 68 deg F, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	
		dBA	dB	dB	dB				ft	
R-16	10	60.1	5.6	7	-1.4	R-9 West	point179	179	16.0	45.4
						R-9 East	point182	182	16.0	45.2
						R-9 East	point186	186	16.0	44.0
						R-9 East	point187	187	16.0	43.9
						R-9 East	point185	185	16.0	43.8
						R-9 West	point178	178	16.0	43.4
						R-9 East	point188	188	16.0	43.0
						R-9 West	point177	177	16.0	42.1
						R-9 East	point189	189	16.0	42.1
						R-6 & 7 East	point156	156	0.0	41.9
Total Cost, All Barriers (including additional cost(s))					\$446286					

RESULTS: SOUND LEVELS

P034.0

Oklahoma Department of Transportation
Triad Design Group - Randy Maxey

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

P034.0

RUN:

Proposed State Highway 9 Barrier Design

BARRIER DESIGN:

R-17 (1)

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier				With Barrier				
				LAeq1h		Increase over existing		Type impact	Calculated LAeq1h	Noise Reduction		Calculated minus Goal dB
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	
R-17	11	1	61.4	68.4	66	7.0	15	Snd Lvl	61.4	7.0	7	0.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		1	7.0	7.0	7.0							
All Impacted		1	7.0	7.0	7.0							
All that meet NR Goal		1	7.0	7.0	7.0							

RESULTS: BARRIER DESIGN

P034.0

Oklahoma Department of Transp
Triad Design Group - Randy Max

18 November 2004

TNM 2.5

Calculated with TNM 2.5

RESULTS: BARRIER DESIGN

PROJECT/CONTRACT: P034.0
RUN: Proposed State Highway 9 Barrier Design
BARRIER DESIGN: R-17 (1)

ATMOSPHERICS: 68 deg F, 50% RH

Selected Receivers

Name	No.	Calc	Noise Reduction			Barrier Reviewed	Important Segments			Partial LAeq1h dBA
		LAeq1h dBA	Calc dB	Goal dB	Calc-Goal dB		Name	No.	Height ft	
R-17	11	61.4	7.0	7	-0.0	R-10	point196	196	12.0	53.4
						R-10	point195	195	12.0	52.8
						R-10	point197	197	12.0	52.1
						R-10	point192	192	12.0	51.5
						R-10	point191	191	12.0	50.0
						R-10	point198	198	12.0	48.9
						R-10	point203	203	0.0	47.6
						R-10	point199	199	12.0	47.3
						R-10	point193	193	0.0	46.9
						R-10	point201	201	10.0	46.2
Total Cost, All Barriers (including additional cost(s))					\$139222					

APPENDIX C

MITIGATION ANALYSIS

Table C1
Reasonableness and Feasibility Analysis

REASONABLENESS MATRIX					
Receiver	Magnitude of overall future noise level without mitigation?	Magnitude of future noise level compared to existing?	Date of initial roadway project compared to receivers?	Does the cost of mitigation exceed \$30,000 per benefited receiver?	Impact to zoning or potential land use change?
R-1	Significant; Exceeds NAC: 70 dBA	Not substantial; increase over existing of 6 dBA	House likely built before construction of SH 9; but adjacent to previous roadway.	Yes. The cost per benefited receiver would be approximately \$260,677 for the barrier wall alone.	No.
R-2	Significant; Exceeds NAC: 73 dBA	Not substantial; increase over existing of 6 dBA	House likely built before construction of SH 9; but adjacent to previous roadway.	Yes. The cost per benefited receiver would be approximately \$209,798 for the barrier wall alone.	No.
R-6	Significant; Exceeds NAC: 70 dBA	Not substantial; increase over existing of 7 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$123,272 for the barrier wall alone.	No.
R-7	Significant; Exceeds NAC: 70 dBA	Not substantial; increase over existing of 6 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$123,272 for the barrier wall alone.	No.
R-8	Not substantial; Approaches NAC: 66 dBA	Not substantial; increase over existing of 5 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$268,959 for the barrier wall alone.	No.
R-9	Not substantial; Meets NAC: 67 dBA	Not substantial; increase over existing of 5 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$97,702 for the barrier wall alone.	No.
R-10	Significant; Exceeds NAC: 69 dBA	Not substantial; increase over existing of 7 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$97,702 for the barrier wall alone.	No.
R-11	Significant; Exceeds NAC: 69 dBA	Not substantial; increase over existing of 8 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$330,040 for the barrier wall alone.	No.
R-12	Not substantial; Approaches NAC: 66 dBA	Not substantial; increase over existing of 6 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$330,040 for the barrier wall alone.	No.
R-13	Not substantial; Approaches NAC: 67 dBA	Not substantial; increase over existing of 6 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$148,192 for the barrier wall alone.	No.
R-14	Not substantial; Approaches NAC: 66 dBA	Not substantial; increase over existing of 6 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$148,192 for the barrier wall alone.	No.
R-15	Not substantial; Meets NAC: 67 dBA	Not substantial; increase over existing of 7 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$137,805 for the barrier wall alone.	No.
R-16	Not substantial; Approaches NAC: 66 dBA	Not substantial; increase over existing of 7 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$223,143 for the barrier wall alone.	No.
R-17	Not substantial; Meets NAC: 68 dBA	Not substantial; increase over existing of 7 dBA	SH 9 was constructed before any of this development.	Yes. The cost per benefited receiver would be approximately \$139,222 for the barrier wall alone.	No.


Reasonableness and Feasibility Analysis

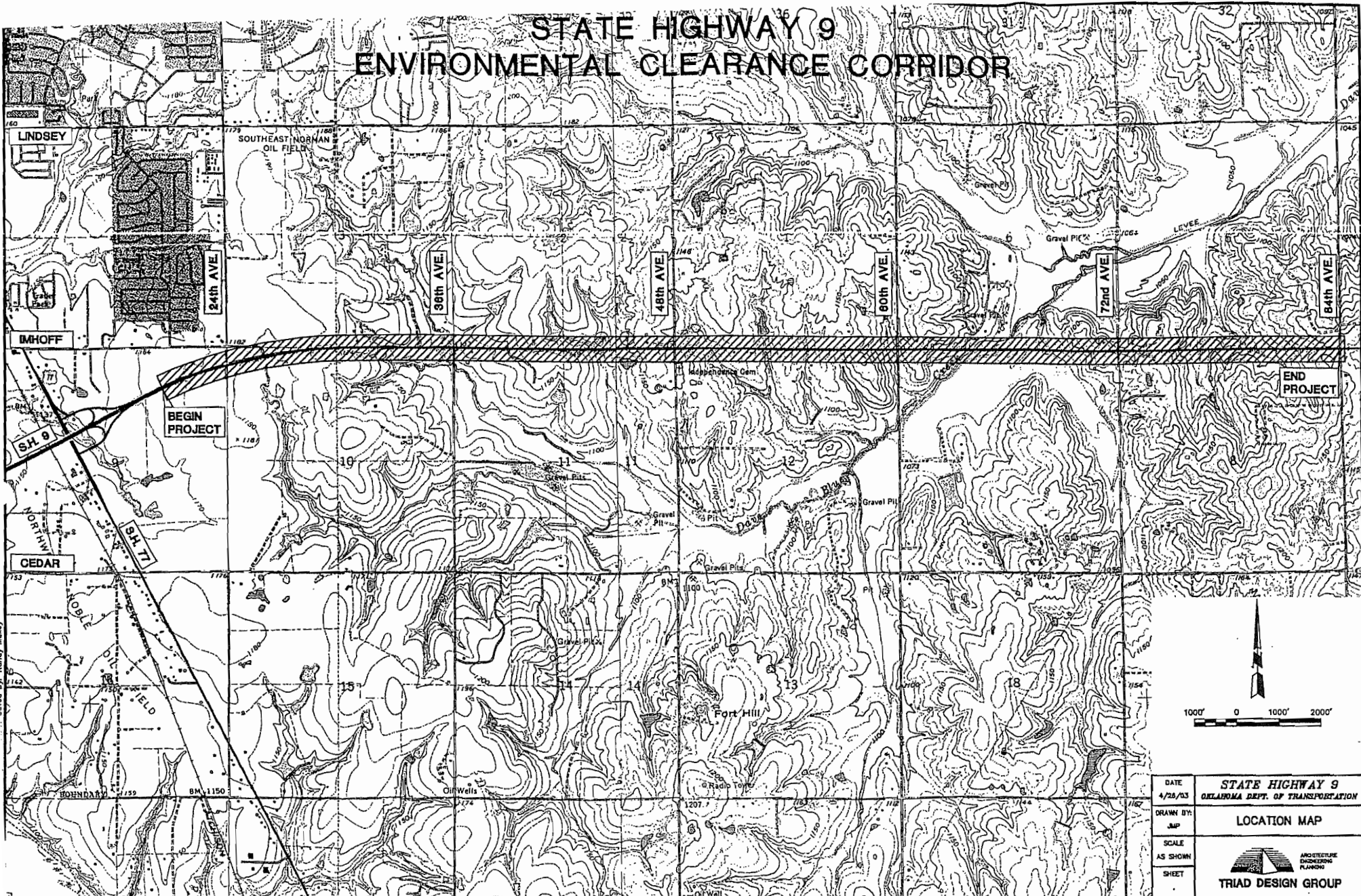
FEASIBILITY MATRIX			
Receiver	Does mitigation measure achieve the desired noise reduction goal?	Is the mitigation measure easily constructable?	Does the mitigation measure create any drainage, access or safety problems?
R-1	No. With the placement of the preliminary barrier design, a reduction of 6 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-2	Yes. With the placement of the preliminary barrier design, a reduction of 7 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-6	Yes. With the placement of the preliminary barrier design, a reduction of 7 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-7	Yes. With the placement of the preliminary barrier design, a reduction of 7 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-8	No. With the placement of the preliminary barrier design, a reduction of 6 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-9	Yes. With the placement of the preliminary barrier design, a reduction of 7 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-10	Yes. With the placement of the preliminary barrier design, a reduction of 9 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-11	Yes. With the placement of the preliminary barrier design, a reduction of 7 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-12	No. With the placement of the preliminary barrier design, a reduction of 5 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-13	Yes. With the placement of the preliminary barrier design, a reduction of 7 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-14	Yes. With the placement of the preliminary barrier design, a reduction of 7 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-15	No. With the placement of the preliminary barrier design, a reduction of 5 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-16	No. With the placement of the preliminary barrier design, a reduction of 6 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.
R-17	Yes. With the placement of the preliminary barrier design, a reduction of 7 dBA occurs.	Yes, according to the preliminary design.	Does not appear to according to the preliminary design.


APPENDIX D

LOCATION MAPS

DATE 4/25/03	STATE HIGHWAY 9 OKLAHOMA DEPT. OF TRANSPORTATION
DRAWN BY: JMP	LOCATION MAP
SCALE AS SHOWN	 ARCHITECTURE ENGINEERING PLANNING TRIAD DESIGN GROUP
SHEET	

DATE 4/25/03	STATE HIGHWAY 9 OKLAHOMA DEPT. OF TRANSPORTATION
DRAWN BY: JMP	LOCATION MAP
SCALE AS SHOWN	 ARCHITECTURE ENGINEERING PLANNING TRIAD DESIGN GROUP
SHEET	



DATE 4/25/03	STATE HIGHWAY 9 OKLAHOMA DEPT. OF TRANSPORTATION
DRAWN BY: JMP	LOCATION MAP
SCALE AS SHOWN	 ARCHITECTURE ENGINEERING PLANNING TRIAD DESIGN GROUP
SHEET	

HCS2000: Freeway Weaving Release 4.1d

Susan Davis
 Triad Design Group
 1313 North May Ave.
 Oklahoma City, Ok 73134

Phone: 405-752-2266
 E-mail: SDavis@TriadDesignGroup.com

Fax: 405-752-8855

 Operational Analysis

Analyst: SLD
 Agency/Co.: TRIAD
 Date Performed: 11/18/2004
 Analysis Time Period: 2030 AM PEAK
 Freeway/Dir of Travel: US 69 NB
 Weaving Location: LOOP C - LOOP D
 Jurisdiction:
 Analysis Year: 2030
 Description: US 70 DURANT BYPASS

 Inputs

Freeway free-flow speed, SFF	63	mph
Weaving number of lanes, N	3	
Weaving segment length, L	828	ft
Terrain type	Level	
Grade		%
Length		mi
Weaving type	A	
Volume ratio, VR	0.08	
Weaving ratio, R	0.03	

 Conversion to pc/h Under Base Conditions

	Non-Weaving		Weaving		
	V	V	V	V	
	A-C	B-D	A-D	B-C	
Volume, V	1400	1	115	4	veh/h
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	
Peak 15-min volume, v15	389	1	32	1	v
Trucks and buses	10	10	10	10	%
Recreational vehicles	0	0	0	0	%
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.952	0.952	0.952	0.952	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	1633	1	134	4	pc/h

 Weaving and Non-Weaving Speeds

	Weaving	Non-Weaving
a (Exhibit 24-6)	0.15	0.00
b (Exhibit 24-6)	2.20	4.00
(Exhibit 24-6)	0.97	1.30
(Exhibit 24-6)	0.80	0.75
Weaving intensity factor, Wi	0.40	0.12
Weaving and non-weaving speeds, Si	52.87	62.21
Number of lanes required for		

unconstrained operation, Nw (Exhibit 24-7)	0.44
Maximum number of lanes, Nw (max) (Exhibit 24-7)	1.40
Type of operation is	Unconstrained

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S	61.37	mph
Weaving segment density, D	9.63	pc/mi/ln
Level of service, LOS	A	
Capacity of base condition, cb	5894	pc/h
Capacity as a 15-minute flow rate, c	5613	pc/h
Capacity as a full-hour volume, ch	5052	pc/h

Limitations on Weaving Segments

	Analyzed	If Max Exceeded	See Note
Weaving flow rate, Vw	138	2800	a
Average flow rate (pcphpl)	590	2330	b
Volume ratio, VR	0.08	0.45	c
Weaving ratio, R	0.03	N/A	d
Weaving length (ft)	828	2500	e

Notes:

- Weaving segments longer than 2500 ft. are treated as isolated merge and diverge areas using the procedures of Chapter 25, "Ramps and Ramp Junctions".
- Capacity constrained by basic freeway capacity.
- Capacity occurs under constrained operating conditions.
- Three-lane Type A segments do not operate well at volume ratios greater than 0.45. Poor operations and some local queuing are expected in such cases.
- Four-lane Type A segments do not operate well at volume ratios greater than 0.35. Poor operations and some local queuing are expected in such cases.
- Capacity constrained by maximum allowable weaving flow rate: 2,800 pc/h (Type A), 4,000 (Type B), 3,500 (Type C).
- Five-lane Type A segments do not operate well at volume ratios greater than 0.20. Poor operations and some local queuing are expected in such cases.
- Type B weaving segments do not operate well at volume ratios greater than 0.80. Poor operations and some local queuing are expected in such cases.
- Type C weaving segments do not operate well at volume ratios greater than 0.50. Poor operations and some local queuing are expected in such cases.

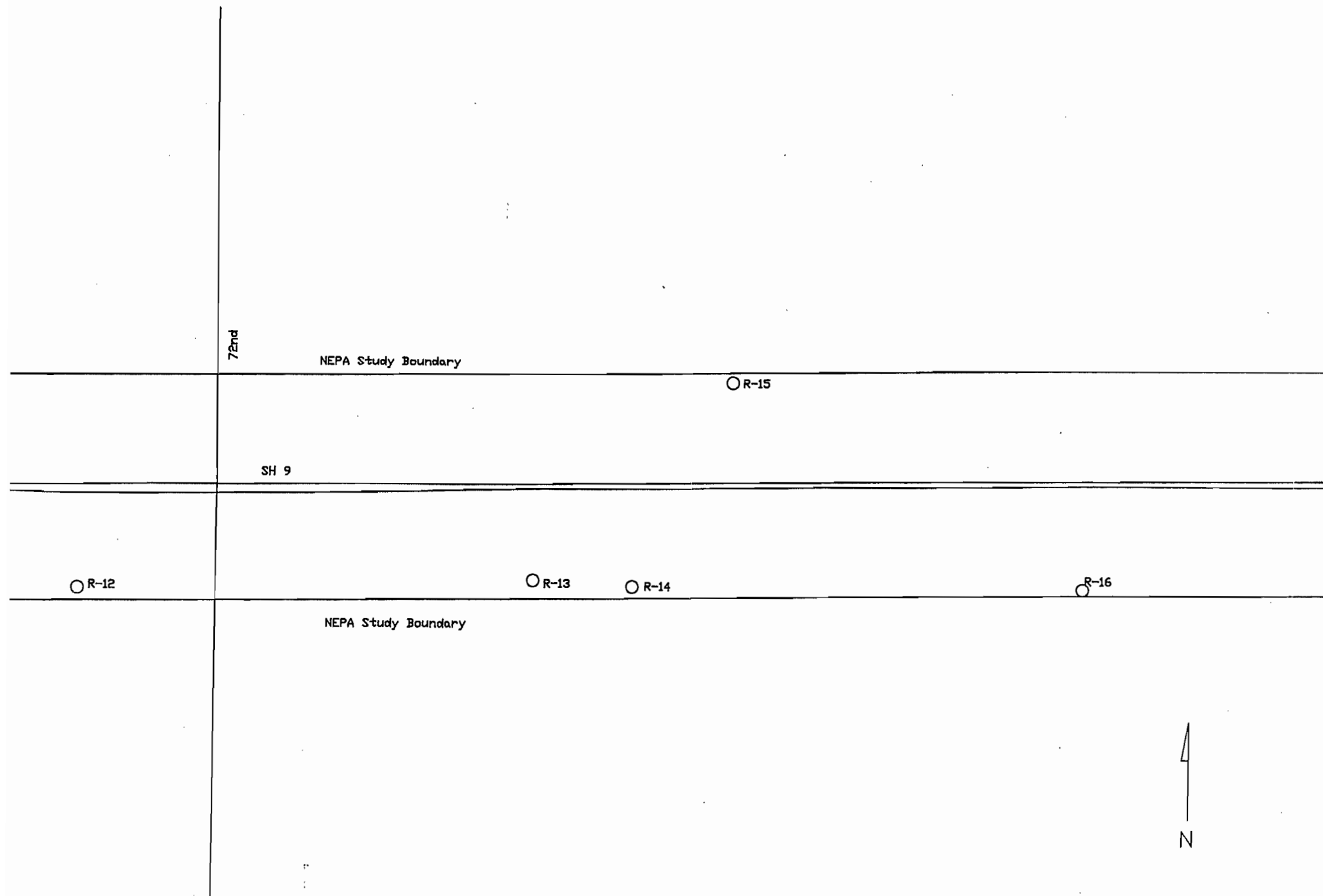


Figure 1d
Receiver Location Map

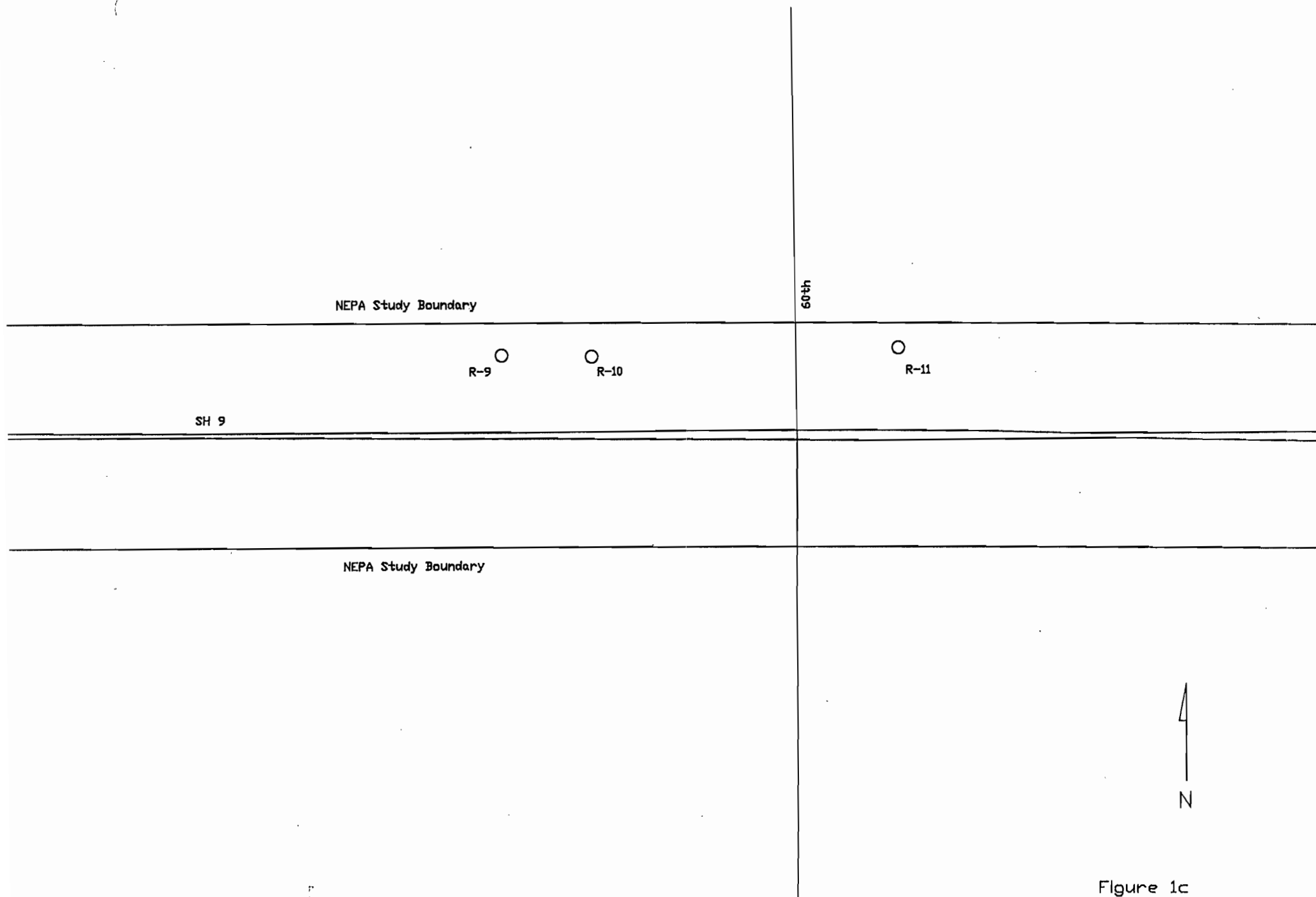


Figure 1c
Receiver Location Map

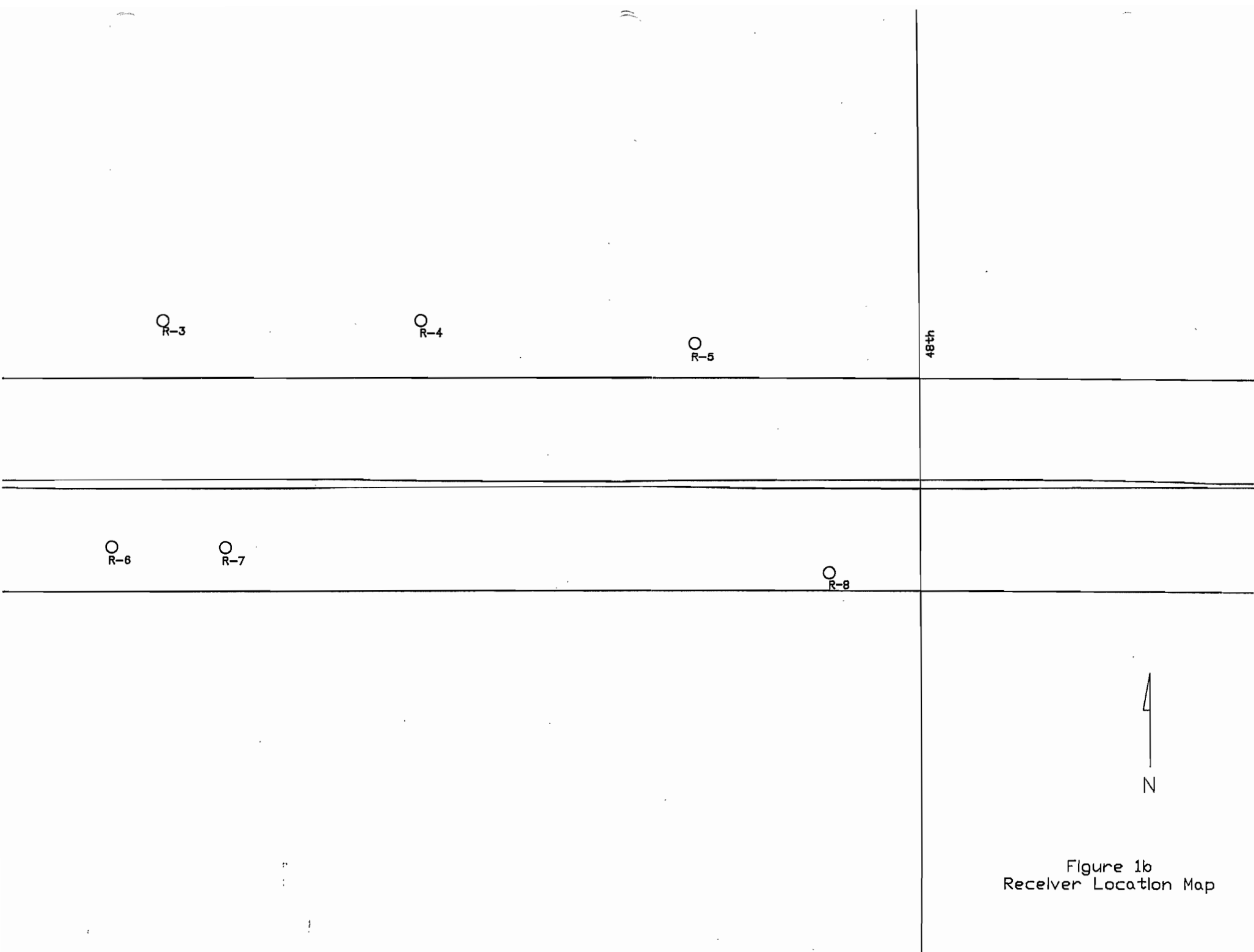


Figure 1b
Receiver Location Map

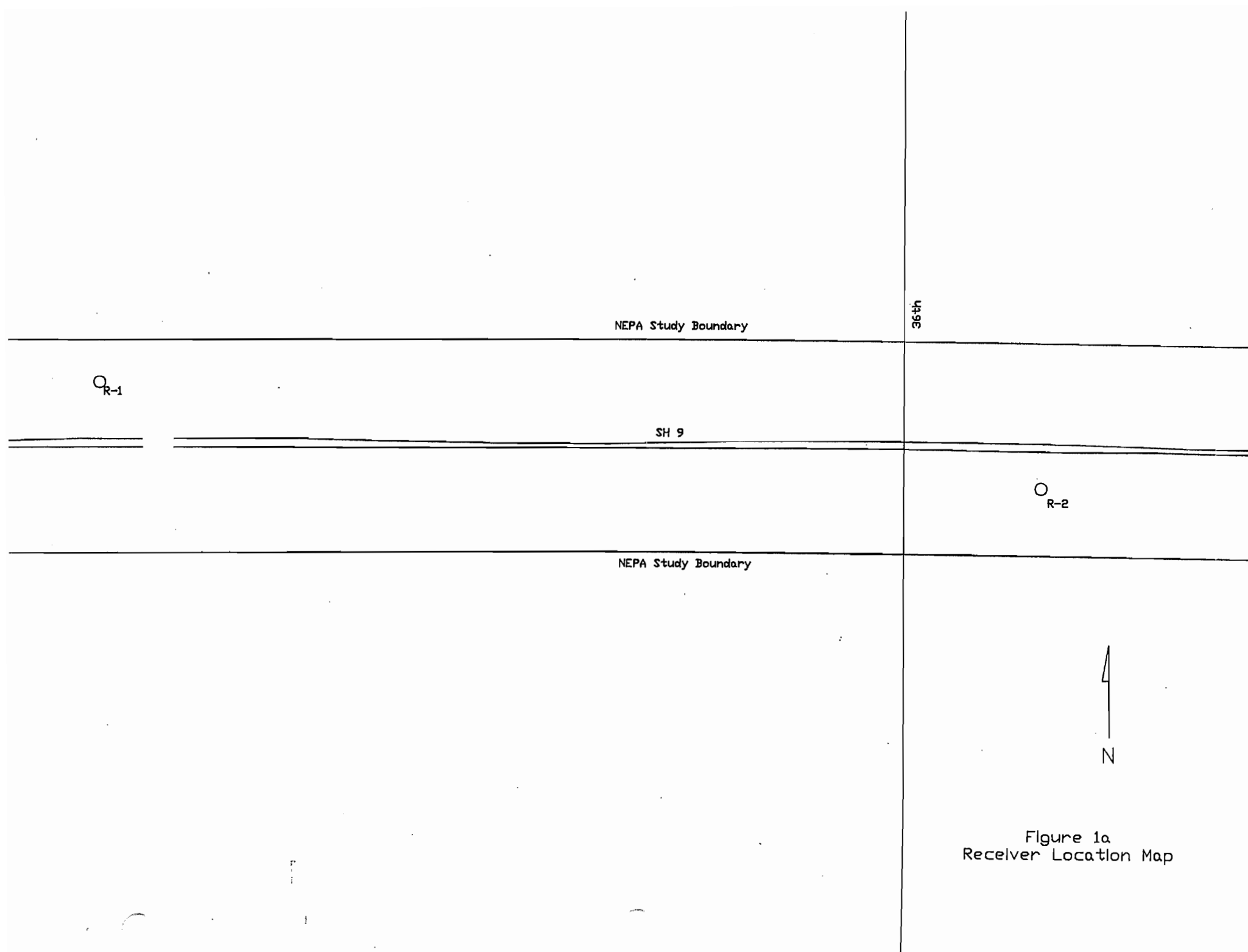


Figure 1a
Receiver Location Map

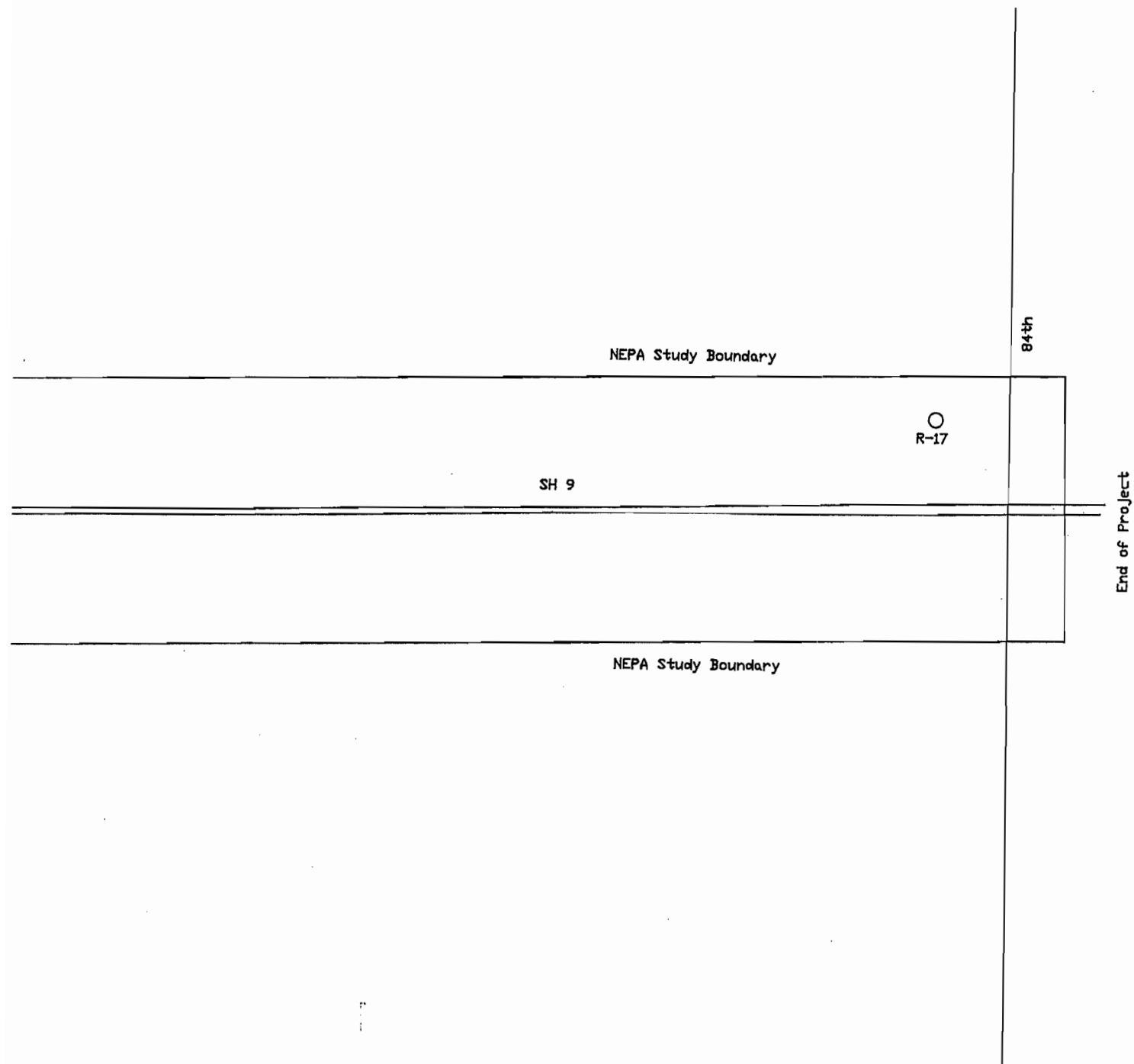


Figure 1e
Receiver Location Map

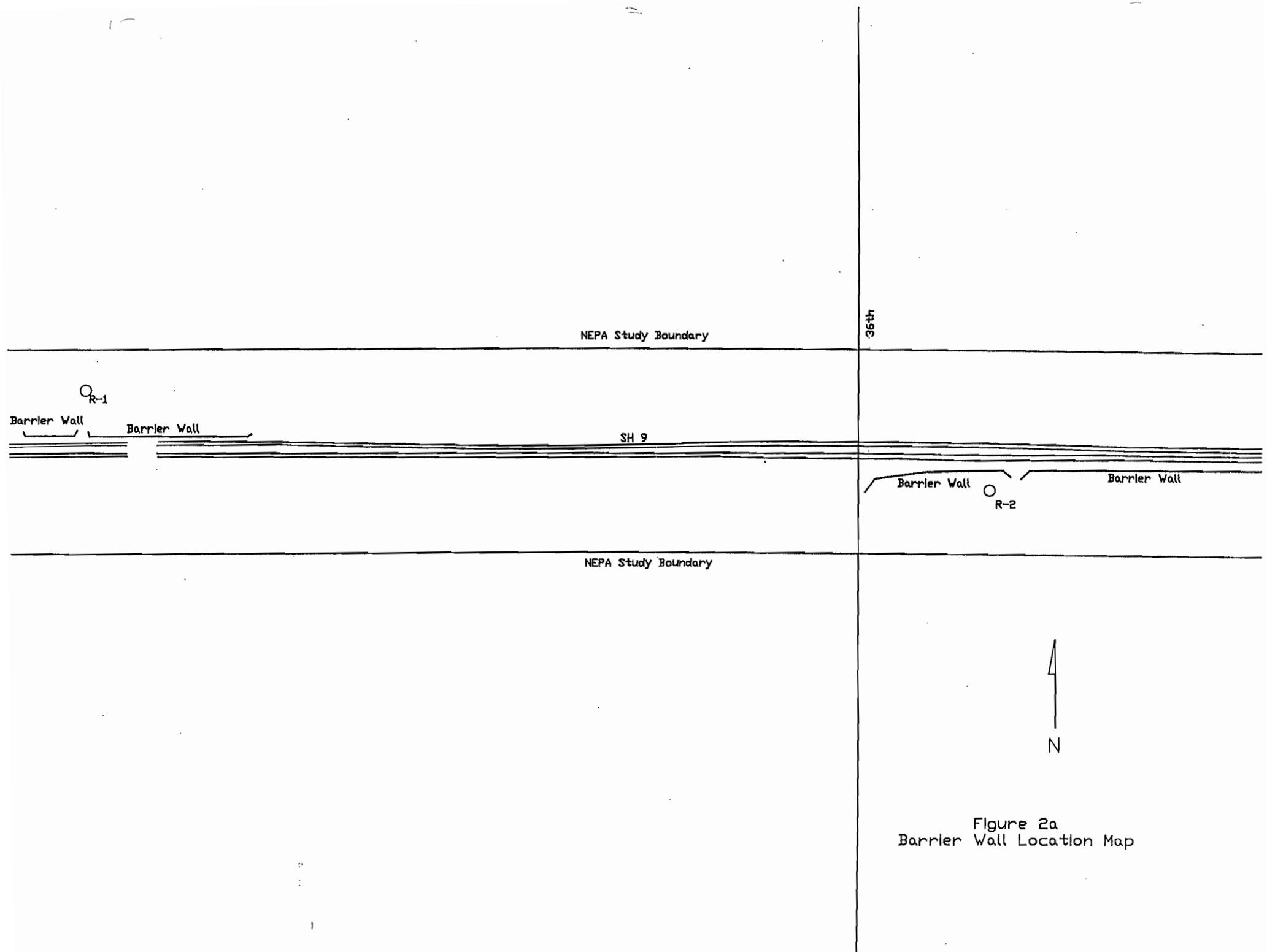
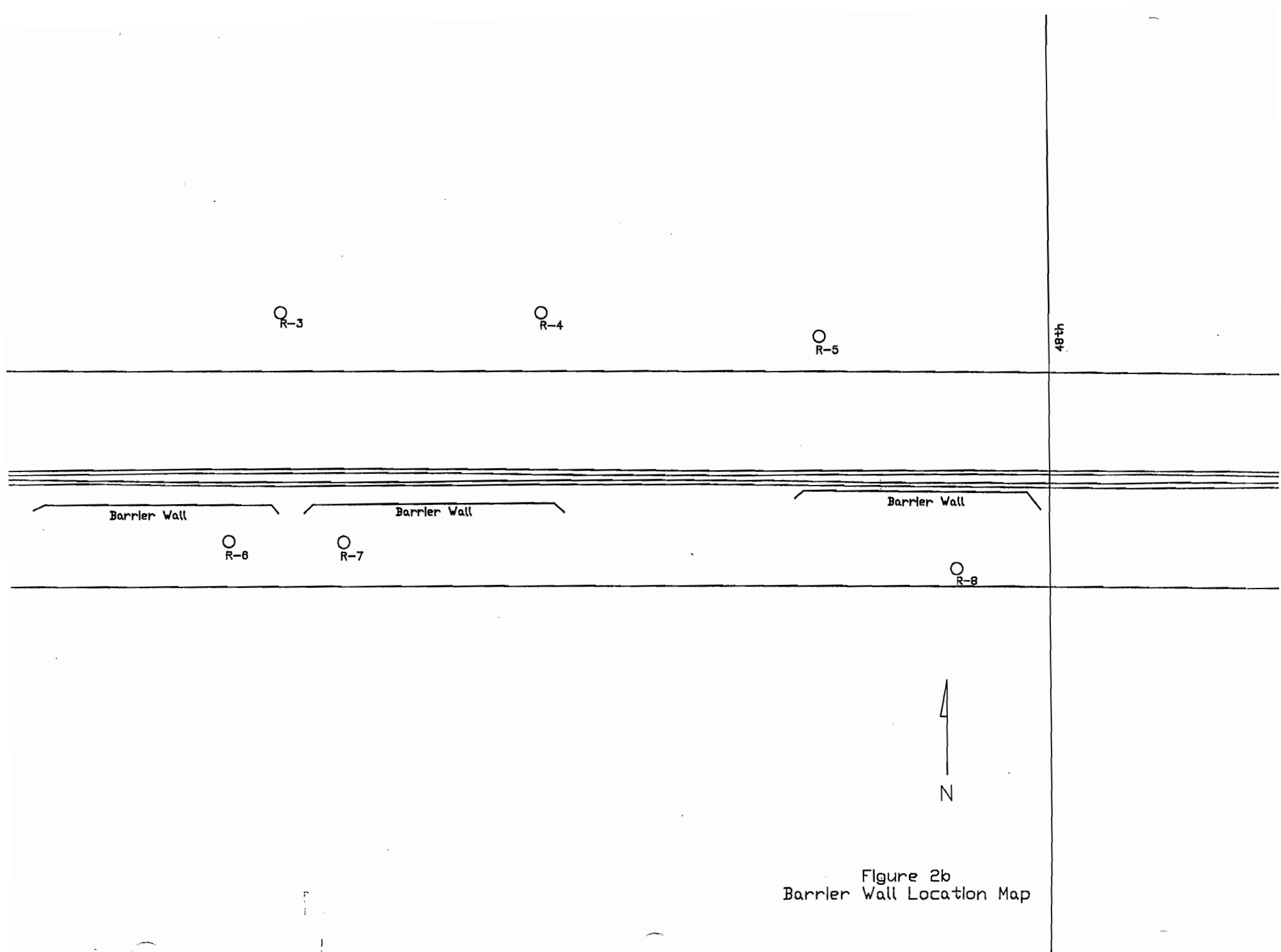


Figure 2a
Barrier Wall Location Map



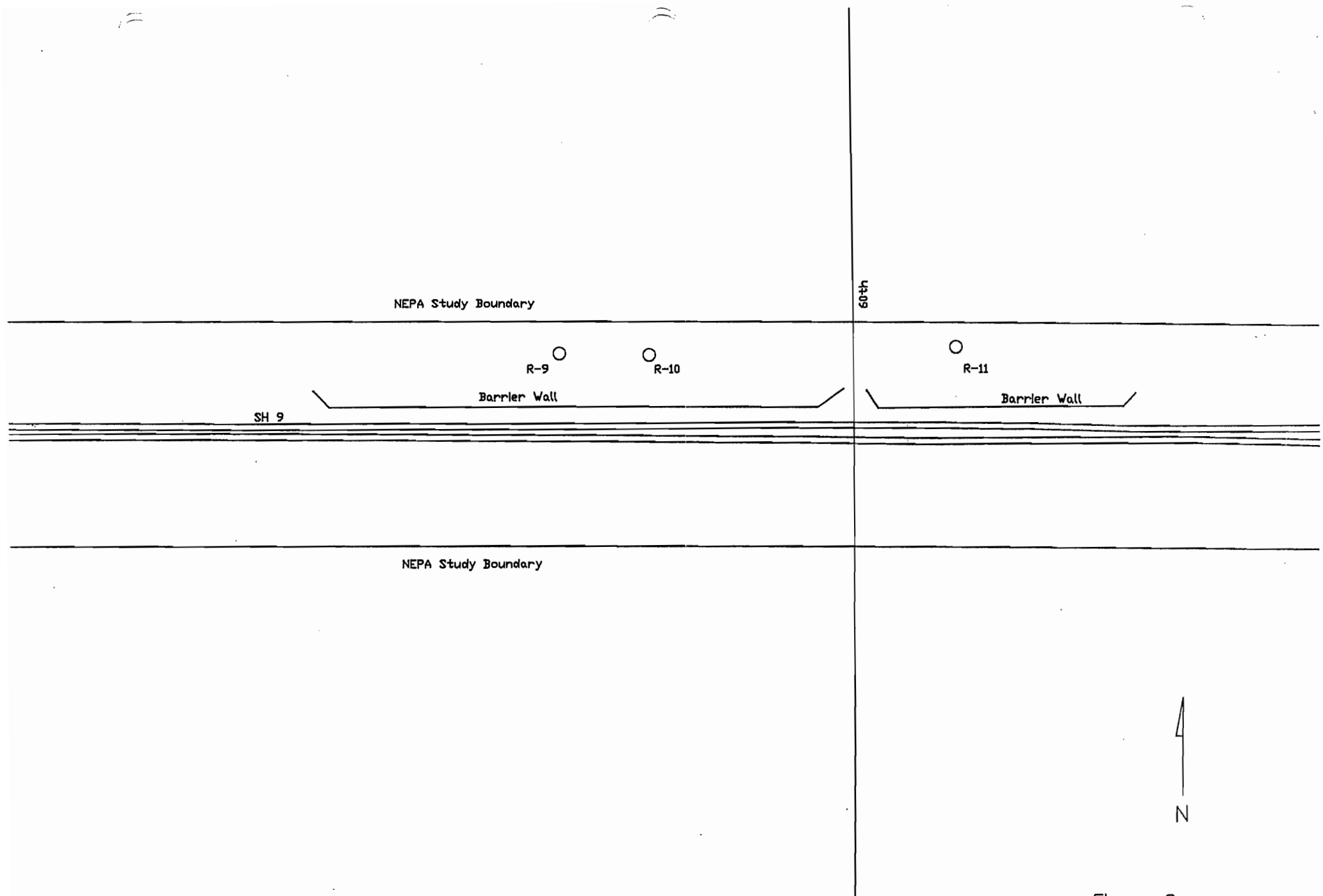


Figure 2c
Barrier Wall Location Map

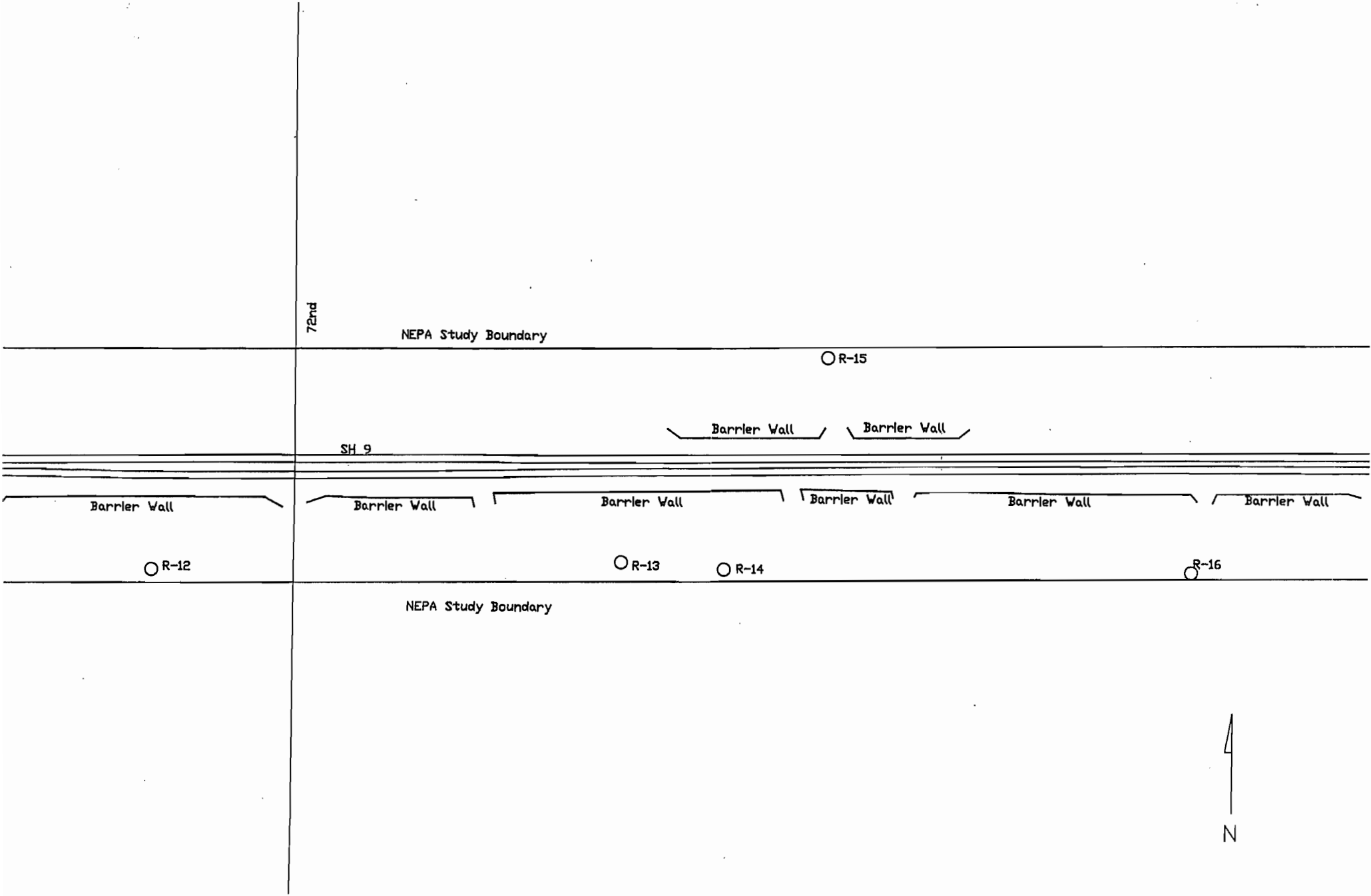


Figure 2d
Barrier Wall Location Map

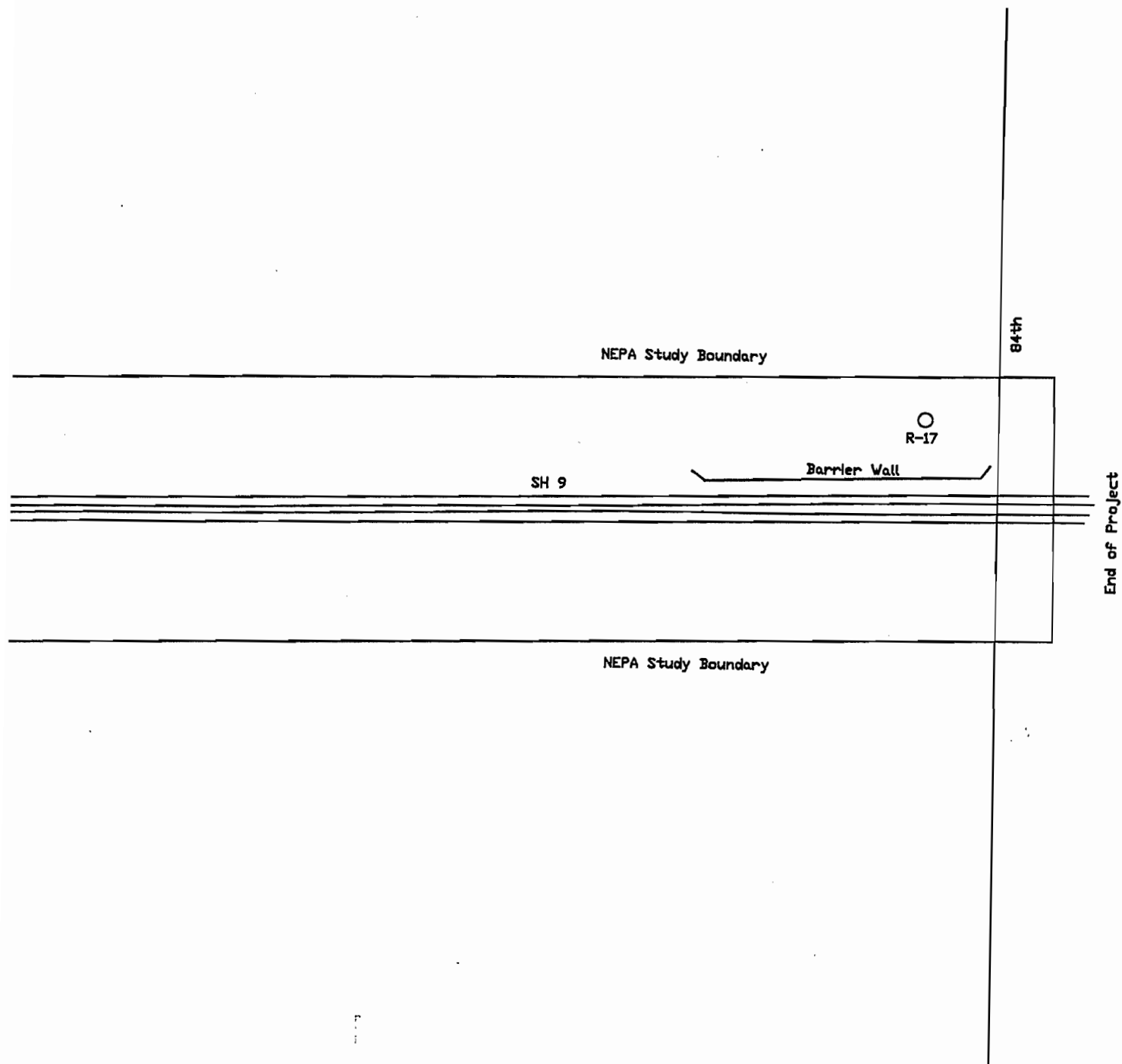
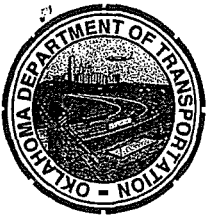


Figure 2e
Barrier Wall Location Map

Appendix 5

Solicitation and Coordination



OKLAHOMA DEPARTMENT OF TRANSPORTATION

200 N. E. 21st Street

Oklahoma City, OK 73105-3204

July 1, 2003

Sample Solicitation Letter

Mr. Ed Schellenberger
National Park Service
P.O. Box 728
Santa Fe, New Mexico 87504-0728

Dear Mr. Schellenberger:

The Oklahoma Department of Transportation is soliciting comments on a proposal to reconstruct SH9 from US77 in Norman east approximately 29 miles to US177 in Tecumseh, Cleveland and Pottawatomie Counties, Oklahoma (see attached map.)

The proposed improvements would reconstruct SH9 from the present two-lane highway to a modern four-lane facility extending from the existing four-lane divided section just east of the junction of SH9/US77 in Norman, Cleveland County, easterly approximately 29 miles to the junction of SH9/US177 in Tecumseh, Pottawatomie County.

To allow adequate time for evaluation of your suggestions, we would appreciate receiving your comments within fifteen days from the date of this letter. Your written comments should be directed to the Planning & Research Division Engineer, Oklahoma Department of Transportation, 200 NE 21st Street, Oklahoma City, Oklahoma 73105.

We sincerely solicit your input into this matter. Should you desire additional information, please contact Ms. Gwen Christie at (405) 521-2535.

Sincerely,

A handwritten signature in black ink, appearing to read "Dawn R. Sullivan".

Dawn R. Sullivan, P.E.
Acting Planning & Research Division Engineer

DRS:GC:dj

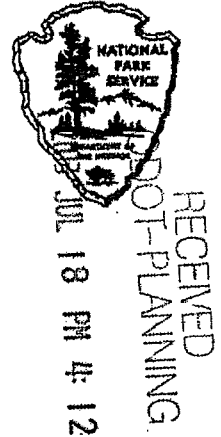
Attachment



United States Department of the Interior

**NATIONAL PARK SERVICE
INTERMOUNTAIN REGION**

12795 West Alameda Parkway
PO Box 25287
Denver, Colorado 80225-0287



IN REPLY REFER TO:

JUL 16 2003

Dawn R. Sullivan
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, OK 73105-3204

Subject: Reconstruct SH9 from US77

Dear Ms. Sullivan:

The National Park Service has reviewed the subject project and has determined there are no National Park Service Units in the vicinity. In view of this, the National Park Service has no comments on this project.

As a reminder, Section 4(f) of the Department of Transportation Act may be applicable to this project, in which case the use or constructive use of all cultural, recreation, and wildlife refuge properties that qualify as Section 4(f) properties should be considered in a Section 4(f) Evaluation.

We appreciate the opportunity to comment. If you have any questions, please contact me at (303) 969-2851.

Sincerely,

Cheryl Eckhardt
NEPA/Section 106 Specialist

United States Department of Agriculture



Natural Resources Conservation Service
Clinton Technical Service Office
517 Prairie Chief
Clinton, OK 73601-2439
Telephone (580) 323-2580

July 28, 2003

Dawn R. Sullivan, P.E.
Acting Planning & Research Division Engineer
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, OK 73105

Dear Ms. Sullivan:

Thank you for the opportunity to review the proposed plans to reconstruct SH9, located in Cleveland and Pottawatomie Counties.

The reconstruction of highways along the existing route does not impact prime farmlands as defined by the Farmland Protection Policy Act unless there is an expansion of the existing right-of-way. Assuming there were an expansion, the potential to impact prime farmlands would be of very small extent. I estimate the total impact would be less than .01 percent of the total acres of prime farmland located in these two counties.

We strongly encourage you to work with the local Natural Resources Conservation Service(NRCS) office in Norman or Shawnee for any assistance needed with restoration of any conservation practices that are disturbed due to the construction activities.

If I can be of further assistance, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven D. Alspach".

Steven D. Alspach
Resource Soil Scientist

RECEIVED
ODOF-PLANNING
2003 JUL 30 AM 8:44



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

July 21, 2003

Planning, Environmental, and Regulatory Division
Regulatory Branch

RECEIVED
ODOT

JUL 28 2003

PLANNING & RESEARCH
DIVISION

Ms. Dawn Sullivan, P.E.
Oklahoma Department of Transportation
200 Northeast 21st Street
Oklahoma City, OK 73105

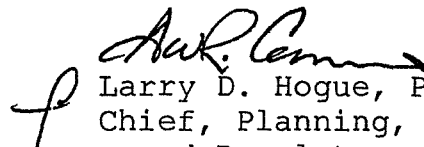
Dear Ms. Sullivan:

Please reference your letter of July 1, 2003, concerning a proposal to reconstruct SH9 from US77 to US177. The proposed project is located in between Norman and Tecumseh, in Cleveland and Pottawatomie Counties, Oklahoma.

The provided information in regard to modifying SH9 into a four-lane highway or a four-lane divided highway will include construction of bridges, reinforced concrete boxes, and temporary work roads across several jurisdictional streams. The proposed project would require a placement of dredged or fill material, permanently or temporarily, into "waters of the United States," including jurisdictional wetlands. Therefore, your proposal is subject to regulation pursuant to Section 404 of the Clean Water Act, and a Department of the Army (DA) permit will be required.

Your project has been assigned Identification Number 13136. Please refer to this number during future correspondence. If further assistance is required, contact Mr. Marcus Ware at 918-669-7403.

Sincerely,


Larry D. Hogue, P.E.
Chief, Planning, Environmental,
and Regulatory Division



DEPARTMENT OF ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

July 28, 2003

Planning, Environmental, and Regulatory Division
Planning Branch

RECEIVED
ODOT-PLANNING
2003 JUL 30 PM 1:45

Dawn R. Sullivan, P.E.
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, OK 73105-3204

Dear Ms. Sullivan:

This is in response to your July 1, 2003, letter soliciting comments for the proposed reconstruction of Highway 9 from US77 to US 177. If there are any wetland or Section 404 permit issues to be addressed, that information will come from our Regulatory Branch under separate cover.

The current Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM) for this corridor indicate the proposed project area will cross several major creeks, the backwater of Thunderbird Lake, and the Little River at the outflow from Thunderbird Lake. During construction and after, care should be taken to minimize potential hazards from local drainage to the subject and adjacent properties. If there are any other activities, such as temporary fill, this must be done in a manner that would not adversely effect flooding or block the normal flow of water. This project must be designed and constructed so as to cause to adverse affect to the flood plain. All local, State, and Federal flood plain regulations must be followed.

If, as a consequence of this construction, the 100-year flood plain is altered, we recommend that information be submitted, through proper channels, to FEMA to be reflected on the FIRMs.

If you have questions, please call Mr. Joe Remondini, Flood Plain Management Services Program Manager at 918-669-7197.

Sincerely,

Larry D. Hogue, P.E.
Chief, Planning, Environmental,
and Regulatory Division

Oklahoma State Senate

CHARLIE LASTER
State Senator, District 17
State Capitol 405-521-5539



STATE CAPITOL
2300 N. LINCOLN BLVD., SUITE 413
OKLAHOMA CITY, OK 73105-4808

COMMITTEES:

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JUDICIARY
ENERGY, ENVIRONMENT
AND COMMUNICATIONS
RETIREMENT AND GROUP HEALTH
APPROPRIATIONS

July 15, 2003

Planning & Research Division Engineer
Oklahoma Department of Transportation
200 N.E. 21st Street
Oklahoma City, OK 73105-3204

Re: SH-9
From US-77 to US-177
Cleveland & Pottawatomie Counties

Dear Sirs:

Thank you for the opportunity to present comments concerning a proposal to reconstruct SH-9 from US-77 in Norman East to US-177 in Tecumseh. I believe this would be a wonderful and worthwhile project which would benefit a significant portion of Oklahoma citizens, not just those in Pottawatomie and Cleveland County. Highway 9 has significant traffic load and is known by my constituents as a fairly dangerous stretch of highway. I personally travel that section of road and can easily see the benefit of making the highway safer and better able to carry its large volume of traffic.

With the four-laning of highway 99 from the Turner Turnpike south to Seminole, it occurs to me that we will have even more traffic count between Seminole and Norman. Perhaps in the future there is a project to be considered for four-laning the section of HWY 9 from Seminole to Tecumseh, as well. This would allow traffic to travel from Tulsa through Seminole and Norman to I-35 and South to Dallas, etc., all on four-lane highway.

Chairman, Dan Overland, Secretary of Transportation, Phil Tomlinson, and I have spoken about this project and we are all very interested in it. I am hopeful to speak to an ODOT engineer about the project and, in particular, the plan for the intersection of HWY 9 and US-177. There is significant traffic that goes North off of SH-9 to US-177. Presently, there is an inadequate way for all that traffic to be accommodated at that intersection.

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2003 JUL 22 AM 8:03

Page 2

Letter ODOT

7/15/03

Re: SH-9

From US-177 to US-177

Thank you for considering my input. I would be pleased to speak with you concerning this project. I wholeheartedly recommend this project as needed for the safe transportation of Oklahomans.

Respectfully,

A handwritten signature in cursive script, appearing to read "Charlie Laster", with a long horizontal flourish extending to the right.

SENATOR CHARLIE LASTER

CL/th

Oklahoma State Senate

JONATHAN NICHOLS
State Senator
District 15
(405) 524-0126



STATE CAPITOL BUILDING
2300 N. LINCOLN BLVD.
OKLAHOMA CITY, OKL 73105-4808

July 15, 2003

Dawn R. Sullivan, P.E.
Acting Planning & Research Division Engineer
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, OK 73105-3204

RE: SH9 Expansion to Four Lanes

Dear Ms. Sullivan:

Without hesitation, I agree that SH9 should be reconstructed from US77 in Norman east approximately 29 miles to US177 in Tecumseh. In support of this critical need, please consider both the primary benefit of increased safety as well as the secondary benefit of economic development that would result in Cleveland and Pottawatomie Counties.

Currently SH 9 suffers dangerous inadequacies in accommodating the ever increasing amount of traffic. The population in eastern Cleveland County continues to experience significant growth, creating greater demands on SH9. Further, the specified route for proposed improvement has an additional demand from the ever increasing popularity of Lake Thunderbird. Lake Thunderbird draws large numbers of people from both the Norman area and western Pottawatomie County.

Certainly, the improvement merits expansion to a four lane highway, but also, because of the rapid population growth along the specified area, requires exclusive left turn and/or right turn lanes addition to the proposed four lanes on State Highway 9.

I appreciate your consideration in these matters of mutual interest, and please do not hesitate to contact me at your convenience if can be of assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Jonathan Nichols", is written over a horizontal line.

Jonathan Nichols
State Senator
District#15

JN/pe

RECEIVED
ODOT-PLANNING
2003 JUL 17 PM 4:00

DALE SMITH
STATE REPRESENTATIVE
DISTRICT 27

STATE CAPITOL BLDG.
ROOM 433B
OKLAHOMA CITY, OK. 73105
(405)557-7349

HOME:
PO BOX 129
ST. LOUIS, OK. 74866
(405) 289-3241



House of Representatives
STATE OF OKLAHOMA

COMMITTEES

CHAIRMAN:

WILDLIFE

MEMBER:

ECONOMIC DEVELOPMENT
COMMON EDUCATION
COUNTY & MUNICIPAL GOVT
ENVIRONMENT & NATURAL
RESOURCES

July 24, 2003

Dawn R. Sullivan, P.C.
Acting Planning & Research Division
Oklahoma Department of Transportation
200 N.E. 21st Street
Oklahoma City, OK 73105-3204

Dear Dawn:

I am pleased to support the reconstruction proposal for SH9 from US77 in Norman east approximately 29 miles to US177 in Tecumseh. Four-laning this stretch of well-traveled highway is badly needed and your attention to this project is most appreciated.

Sincerely,

DALE SMITH
STATE REPRESENTATIVE
District 27

DS/gg

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ODOT-PLANNING
2003 JUL 25 PM 2:06

OKLAHOMA
CORPORATION COMMISSION

P.O. BOX 1525
DUNCAN, OKLAHOMA 73534-1525

Telephone: (580) 255-0103
FAX: (580) 255-0154

OIL & GAS CONSERVATION DIVISION, DISTRICT III



Wayne Wright, District Manager

July 22, 2003

RECEIVED
ODOT-PLANNING
2003 JUL 23 PM 2:24

Ms. Dawn R. Sullivan, P.E.
Acting Planning & Research Division Engineer
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, OK 73105-3604

Dear Ms. Sullivan,

This letter is in response to your correspondence dated July 1st 2003 to Mr. Larry Fiddler, Director of the Oil and Gas Conservation Division, O.C.C., requesting suggestions concerning your reconstruction of SH9 East of Norman. I assigned a Field Inspector to review the area in question. His inspection indicated several oil and gas lines crossing SH9 also many active and plugged oil wells near the highway right of way.

When your construction project starts, we probably need to review the area again. If you discover an active or abandoned well in your proposed right of way, we will assist you with the problem at that time.

Should you desire additional information, please contact Mr. Wayne Wright, District III Manager (580)255-0103.

Sincerely,

W.W. Wright
Manager, District III
Okla. Corp. Comm.

WILDLIFE CONSERVATION COMMISSION

Lewis Stiles
CHAIRMAN
Mac Maguire
VICE CHAIRMAN
Douglas Schones
SECRETARY
John D. Groendyke
MEMBER

John S. "Jack" Zink
MEMBER
Harland Stonecipher
MEMBER
Bruce Mabrey
MEMBER
Bill Phelps
MEMBER



FRANK KEATING, GOVERNOR

GREG D. DUFFY, DIRECTOR

DEPARTMENT OF WILDLIFE CONSERVATION

1801 N. Lincoln

P.O. Box 53465

Oklahoma City, OK 73152

PH. 521-3851

August 11, 2003

Ms. Gwen Christie
Planning & Research Division Engineer
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, OK 73105

Dear Ms. Christie:

This is in response to your letter dated July 1, 2003, regarding the following project:

Project: Reconstruction of SH 9

Location: From US 77 (Norman) east approximately 29 miles to US 177 (Tecumseh), Cleveland and Pottawatomie counties, Oklahoma

According to the map provided, reconstruction activities will take place within the Lake Thunderbird watershed, which includes numerous creeks and bottomland wetlands. We strongly recommend that ODOT consult with the Army COE to determine how to avoid any impacts to these wetlands. Where SH 9 crosses creeks, all precautions should be employed to avoid any sediment from entering creeks.

According to our databases, no state endangered or threatened species occur within the area defined for the project. Please note, however, that no actual biological surveys have been conducted by our agency in the area defined. For information regarding federal listed endangered or threatened species, you should contact the US Fish and Wildlife Service, Tulsa Office.

We appreciate the opportunity to comment. Should you desire any additional information, please contact Natural Resources at (405) 521-4616.

Sincerely,

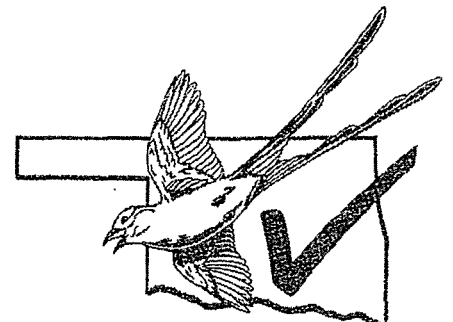
Melynda Hickman
Natural Resources Biologist

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AUG 13 2003

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Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

July 8, 2003

Dawn Sullivan
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, Oklahoma 73105-3204

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ODOT-PLANNING
2003 JUL 11 PM 3:14

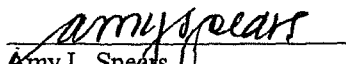
RE: ODOT proposed construction of Highway 9 to four lanes (Norman to Tecumseh). Legal Description: Part of Sections 9, 10, 11 T8N R2W (Norman Quad); part of Section 12 T8N R2W, Part of Sections 7-12 and 1 T8N R1W (Denver Quad); part of Section 6 T8N R1E, part of Section 23, 24, 26-29, 31, 32 T9N R1E (Little Axe Quad); part of Section 18 T9N R2E (Stella Quad); part of Section 13-17 T9N R2E, part of Sections 17-18 T9N R3E (Shawnee Reserv); part of Sections 13-16 T9N R3E, part of Section 18 T9N R4E (Shawnee Quad); Cleveland and Pottawatomie Counties, Oklahoma.

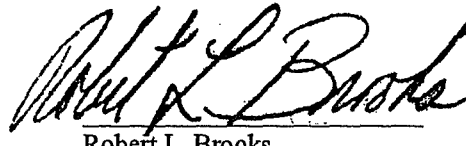
Dear Ms. Sullivan:

The Community Assistance Program staff of the Oklahoma Archeological Survey has reviewed the above referenced project in order to identify areas that may potentially contain prehistoric or historic archeological materials (historic properties). The location of your project has been crosschecked with the state site files containing approximately 18,000 archaeological sites, which are currently recorded for the state of Oklahoma. **No sites are listed in your project area, but based on the topographic and hydrologic setting of your 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.** Please contact this office at (405) 325-7211 if you require additional information on this project.

This environmental review and evaluation is performed in order to locate, record, and preserve Oklahoma's prehistoric and historic cultural heritage in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. If you have not done so you should also be simultaneously submitting this application to their office. In addition to these review comments, under 36CFR Part 800.3 you are reminded of your responsibility to consult with the appropriate Native American tribe/groups to identify any concerns they may have pertaining to this undertaking and potential impacts to properties of traditional and/or ceremonial value. Thank you for your cooperation.

Sincerely,


Amy L. Spears
Staff Archaeologist


Robert L. Brooks
State Archaeologist

:ls
cc: SHPO



Oklahoma Historical Society

Founded May 27, 1893

State Historic Preservation Office • 2704 Villa Prom • Shepherd Mall • Oklahoma City, OK 73107-2441
Telephone 405/521-6249 • Fax 405/947-2918

July 29, 2003

Ms. Dawn Sullivan
Acting Planning & Research Division Engineer
Oklahoma Department of Transportation
200 N.E. 21st St.
Oklahoma City, OK 73105-3204

RE: File #1961-03; SH-9 Reconstruction Project

Dear Ms. Sullivan:

We have reviewed the documentation relating to the referenced project. We have no objection to your continued program planning. However, when specific impacted properties are identified, we request that documentation and photographs, for any structures in excess of 45 years of age, be submitted on Historic Preservation Resource Identification Forms. Structures less than 45 years of age do not require forms; however, documentation submitted must provide the addresses of the properties and their date of construction. If there are no impacted structures, a letter to that effect should be forwarded to this office.

When this documentation is received and reviewed, we will issue an opinion on the effect of the program on Oklahoma's cultural and historical resources. We appreciate your cooperation in the effort to identify and preserve the cultural heritage of Oklahoma.

If you have any questions, please contact Charles Wallis, RPA, Historical Archaeologist, at 405/521-6381.

Please reference the above underlined file number when responding.
Thank you.

Sincerely,

Melvena Heisch
Deputy State Historic
Preservation Officer

MH:bh

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2003 JUL 30 PM 3:33

OKLAHOMA TOURISM & RECREATION DEPARTMENT
SOLOICATION RESPONSE LETTER
&
RELATED COORDINATION CORRESPONDENCE

BRAD HENRY
GOVERNOR



KATHRYN TAYLOR
SECRETARY OF
COMMERCE & TOURISM

OKLAHOMA TOURISM & RECREATION DEPARTMENT

RALPH McCALMONT
INTERIM DIRECTOR

July 10, 2003

Ms. Dawn R. Sullivan, P.E.
Oklahoma Department of Transportation
200 N.E. 21st
Oklahoma City, OK 73105

RE: SH 9 Reconstruction

Dear Ms. Sullivan:

We have examined our records regarding park and recreation areas along SH9. There have been a number of park projects within Lake Thunderbird State Park and the City of Tecumseh that have utilized federal funds under the Land and Water Conservation Fund program. The lists that are provided identify these projects.

If there will be no permanent impact on the State Park facility or any of the federal project locations, then this proposed reconstruction project will have no negative impact. If additional right-of-way will be needed in any of these locations or any other park location, a conversion may result in that this land is protected under Section 6F of the Land and Water Conservation Act.

Thank you for the opportunity to review this project proposal. If you have any questions, please give me a call at 405-521-2904.

Sincerely,

A handwritten signature in cursive script that reads "Susan Henry".

Susan Henry, Planner
Division of Research and Development

Attachment: 2

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LWCF PROJECTS:

STATE PARK

CLEVELAND

COUNTY

PROJECT: 40-00059 LITTLE RIVER STATE PARK IMPROVEMENTS
SPONSOR: TOURISM & RECREATION DEPT. **FUNDING:** \$36,210.00 **APPROVED** 6811.01
LOCATION: LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9. **COMPLETED:** 06/03/70
SCOPE: SWIMMING BEACH DEVELOPMENT: CONSTRUCT CHANGE HOUSE W/ CONCESSION, UTILITIES, AND BEACH PREPARATION. EXPANSION OF CAMPING AND PICNIC FACILITIES: CONSTRUCT SHOWER/RESTROOM BLDG., INSTALL CHEMICAL TOILETS, CLEARING AND GRUBBING, INSTALL CONCRETE PADS FOR

PROJECT: 40-00084 LITTLE RIVER - MINA CAMPGROUND & WATER SYSTEM
SPONSOR: TOURISM & RECREATION DEPT. **FUNDING:** \$4,590.00 **APPROVED** 6906.19
LOCATION: LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9. **COMPLETED:** 07/01/70
SCOPE: PREPARE AND SURFACE 3 BOAT RAMP PARKING AREAS INCLUDING: BLADING, SHAPING, COMPACTING AND SURFACING W/ DOUBLE BITUMINOUS SURFACE COURSE.

PROJECT: 40-00103 LITTLE RIVER - BEACH & CHANGE HOUSE
SPONSOR: TOURISM & RECREATION DEPT. **FUNDING:** \$39,015.00 **APPROVED** 7003.18
LOCATION: LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9. **COMPLETED:** 12/31/71
SCOPE: IMPROVEMENTS INCLUDDING: CONSTRUCT BEACH, ACCESS ROAD, AND CHANGE HOUSE, COMPLETE W/ UTILITIES.

PROJECT: 40-00130 LITTLE RIVER STATE PARK DEV 1971-1
SPONSOR: TOURISM & RECREATION DEPT. **FUNDING:** \$21,500.00 **APPROVED** 4/2/70
LOCATION: LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9. **COMPLETED:** 12/31/73
SCOPE: CONSTRUCT COMFORT STATION, CAMPGROUND, PASSENGER LOADING PIERS, UTILITIES.

PROJECT: 40-00229.27 MASTER PLANNING & DEV.-LITTLE RIVER STATE PARK
SPONSOR: TOURISM & RECREATION DEPT. **FUNDING:** \$65,000.00 **APPROVED**
LOCATION: LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9. **COMPLETED:**
SCOPE: DEVELOPMENT OF MARINA AREA WITH: PARKING, BATHHOUSE, UTILITIES, ACCESS ROAD.

PROJECT: 40-00348 LITTLE RIVER STATE PARK DEVELOPMENT
SPONSOR: TOURISM & RECREATION DEPT. **FUNDING:** \$60,500.00 **APPROVED** 2/27/75
LOCATION: LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9. **COMPLETED:** 6/3/77
SCOPE:

LWCF PROJECTS:

STATE PARK

CLEVELAND

COUNTY

PROJECT:	40-00372.02	LITTLE RIVER PARK TRAIL CONSERVATION PLAN		
SPONSOR:	TOURISM & RECREATION DEPT.		FUNDING:	APPROVED 7512.29
LOCATION:	LITTLE RIVER STATE PARK: 12 MILES E. OF NORMAN ON SH 9.			COMPLETED: 7812.31
SCOPE:	DEVELOP TRAIL W/ BENCHES, BRIDGES, SIGNS, EXHIBITS. RECLAMATION OF CLEAR BAY AREA/ B.O.R. SIGN			

PROJECT:	40-00571	LITTLE RIVER STATE PARK WATER SYSTEM		
SPONSOR:	TOURISM & RECREATION DEPT.		FUNDING: \$15,000.00	APPROVED 7707.29
LOCATION:	LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9.			COMPLETED: 7906.3
SCOPE:	WATER SYSTEM			

PROJECT:	40-00765	LITTLE RIVER STATE PARK DEVELOPMENT		
SPONSOR:	TOURISM & RECREATION DEPT.		FUNDING: \$198,582.0	APPROVED 8009.03
LOCATION:	LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9.			COMPLETED: 8409.15
SCOPE:	CAMPGROUND PROJECT INCLUDING: CONSTRUCT PICNIC SHELTER W/ PICNIC TABLES & GRILLS, COMFORT STATION & BOATING FACILITIES; INSTALL SEWAGE SYSTEM (LIFT STATION & TRAILER DUMP), WATER LINES & FAUCETS, RAILROAD TIES, ROAD SURFACING, PLAYGROUP, ELECTRIC SERVICE.			

PROJECT:	40-00901.6	LITTLE RIVER NORTHWEST REGION CAMPER SITES		
SPONSOR:	TOURISM & RECREATION DEPT.		FUNDING:	APPROVED
LOCATION:	LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9.			COMPLETED:
SCOPE:				

PROJECT:	40-00905.3	LITTLE RIVER - STATE PARKS GROUP SHELTERS		
SPONSOR:	TOURISM & RECREATION DEPT.		FUNDING:	APPROVED 8409.18
LOCATION:	LITTLE RIVER SP: 12 MILES E. OF NORMAN ON SH 9.			COMPLETED: 12/31/90
SCOPE:	LITTLE RIVER: CONSTRUCT 2 NEW SHELTERS.			

PROJECT:	40-01066	LAKE THUNDERBIRD - LITTLE SANDY CAMPGROUND COMFORT STATION		
SPONSOR:	TOURISM & RECREATION DEPT.		FUNDING: \$59,099.00	APPROVED 12/20/00
LOCATION:	LAKE THUNDERBIRD SP: 12 MILES E. OF NORMAN ON SH 9.			COMPLETED: 12/31/05
SCOPE:	DEVELOPMENT OF A COMFORT STATION AND SUPPORT FACILITIES			

LWCF PROJECTS: State Parks

PROJECT: 40-00291 TECUMSEH COMMUNITY PARK
SPONSOR: CITY OF TECUMSEH **FUNDING** \$65,377.51 **APPROVED** 6/25/74
LOCATION: TECUMSEH CITY PARK LOCATED AT CORNER OF 13TH ST AND **COMPLETED:** 6/3/79
HIGHWAY 9
SCOPE: BASKETBALL & VOLLEYBALL COURT, TENNIS COURTS, BALLFIELDS, HIKING & BIKE TRAILS,
PICNIC AREA, TOT LOT, CONCESSION & RESTROOMS, CREEK DAM, LIGHTING, WATER &
SEWER LINES

PROJECT: 40-00207 ACQ. TECUMSEH CITY PARK
SPONSOR: CITY OF TECUMSEH **FUNDING** \$16,350.00 **APPROVED** 6/22/73
LOCATION: WEST SIDE OF TECUMSEH ON HIGHWAY 9 **COMPLETED:** 6/3/75
SCOPE: ACQUISITION OF 20 ACRES

GOVERNOR
HENRY



KATHRYN TAYLOR
SECRETARY OF
COMMERCE & TOURISM

OKLAHOMA TOURISM & RECREATION DEPARTMENT

RALPH MCCALMONT
INTERIM DIRECTOR

September 15, 2003

Ms. Dawn R. Sullivan, P.E.
Oklahoma Department of Transportation
200 N.E. 21st
Oklahoma City, OK 73105

RE: SH 9 Reconstruction

Dear Ms. Sullivan:

Lake Thunderbird State Park, which is leased from the Bureau of Reclamation, is 6,753 acres in size. The State Park is provided to the public for outdoor recreation purposes and had 1,004,015 visitors in 2002 and the same is expected for this year.

There are two maps enclosed: one showing the 6(f)(3) boundary and a brochure map showing the use areas within the state park. There have been a number of projects within Lake Thunderbird State Park that have utilized federal funds under the Land and Water Conservation Fund program. The list provided identifies these projects.

If there will be no permanent impact on the State Park facility or any of the federal project locations, then this proposed reconstruction project will have no negative impact. If additional right-of-way will be needed that encroaches upon the 6(f)(3) boundary, a conversion may result in that this land is protected under Section 6(f) of the Land and Water Conservation Act.

If a conversion is necessary, please see the attached instructions in Chapter 675.9.3. If you have any questions, please give me a call at 405-521-2904.

Sincerely,

A handwritten signature in cursive script that reads "Susan Henry".

Susan Henry, Planner
Division of Research and Development

Attachment: 4

Cc: Fred Landefeld, BOR

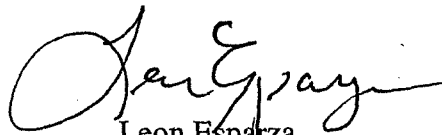
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operation of Norman Dam. In addition, if any Norman Project land outside of the original right-of-way conveyance is required for the proposed reconstruction, a number of issues related to the use of Federal land would come into play including National Environmental Policy Act (NEPA) clearance and archeological clearance.

We suggest that our two agencies meet early in your planning process to begin discussing the issues that would be related to the use of Norman Project land and the potential impacts to the operation of the Norman Project.

Please contact Mr. James Allard at (405) 606-2910 if you have any questions or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Leon Esparza', written over a horizontal line.

Leon Esparza

Supervisory Program Manager

cc: Mr. Rick Gates
Superintendent
Central Oklahoma Master Conservancy District
12500 East Alameda
Norman, OK 73026



Oklahoma Department of Transportation

Planning & Research Division

Office 521-2704 Fax 521-6917

DATE: October 3, 2003

TO: Meeting Attendees and Distribution Below

FROM: Gwen C. Christie, Environmental Coordinator, Planning & Research Division *GC*

SUBJECT: October 2, 2003 Meeting with Oklahoma Department of Tourism & Recreation and U.S. Bureau of Reclamation concerning the reconstruction of SH 9 in Cleveland/Pottawatomie Counties.

Meeting attendees:

Kris Marek, OTRD

Mike Berggren, USBR

Gwen Christie, ODOT

Kevin Larios, ODOT

Susan Henry, OTRD

Jeff Thompkins, USBR

Joe Khatib, ODOT

As a result of the widening of SH 9 from a 2-lane facility to a 4- and/or 5-lane facility, right-of-way might be required in the area of Lake Thunderbird. The U.S. Bureau of Reclamation (USBR) constructed Lake Thunderbird and is the federal agency with jurisdiction over the federal lands in the area. The Oklahoma Department of Tourism & Recreation (OTRD) leases land from Reclamation for Lake Thunderbird State Park. This state park has several non-contiguous areas and has the largest number of visitors each year of any of the state parks in Oklahoma. Land and Water Conservation funds were used in Lake Thunderbird State Park making it necessary to document any taking of park land with a Section 6(f) statement and to replace any taking "like acre for like acre".

This meeting was a kick-off meeting to acquaint everybody with the steps ODOT would take as a part of the Section 6(f) process and to ask for feed-back on any specific issues or language needed by USBR or OTRD in the ODOT Environmental Assessment that will be prepared for the reconstruction of SH 9 in the area of Lake Thunderbird and Lake Thunderbird State Park. ODOT particularly needs feedback from OTRD on any measures to minimize harm as a potential result of the project, especially above what might normally be necessary under FHWA requirements.

USBR and OTRD both stated that they use the lists of federally endangered or threatened species supplied by the U.S. Fish & Wildlife Service and would not require any species investigation other than species on that list. Mike Berggren, USBR, asked what kind of land instruments would be used to convey title in the event that land was required for the road construction. At this time, ODOT does not know what kind of legal land instrument would be used but promised a future meeting with ODOT Right-of-Way Division (R/W Division) personnel concerning land issues. Mike also stated there is a "Damage Control Easement" south of the dam to allow for release of flood water. Jeff Thompkins, USBR, passed on information concerning the spillway and toe drain of the dam. Currently, the existing drain is functioning at a marginal capacity and USBR is having a hard time keeping the drain open. Raising the drain would cause more problems than they have now so they would prefer lowering the drain if our construction process impacted the drain. USBR would also

like for their NEPA section people to be invited to resource investigations (Cultural Resources and Biological Resources in particular). They hope to use our EA for the bulk of any NEPA documentation they may need to do. USBR suggested that ODOT contact Rick Gates of the Central Oklahoma Master Conservancy District (COMCD). COMCD is the operator of the Lake. When R/W Division completes the plotting of existing USBR land in the Lake Thunderbird area, USBR would like a copy of the aerial with the land plotted on it (deeds, easements and other pertinent legal instruments were furnished to R/W Division in July, 2003 for that purpose).

In the future, ODOT plans more meetings with USBR, and with OTRD as this project proposal evolves. Both USBR and OTRD will be invited to the public meeting(s) and public hearing for this project.

If you have any questions or comments, please call me at 521-2535.

GCC

c: Assistant Director- Preconstruction
 Planning & Research Division Engineer
 Environmental Studies Branch Manager

ACOG SOLICITATION RESPONSE LETTER
&
AMENDMENT DOCUMENTATION

ACOG

ASSOCIATION OF
CENTRAL
OKLAHOMA
GOVERNMENTS

21 E. Main Street, Suite 100 Oklahoma City, OK 73104-2405
(405) 234-2264 FAX: (405) 234-2200 TTY: (405) 234-2217
www.acogok.org e-mail: acog@acogok.org

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July 10, 2003

Dawn R. Sullivan, P.E.
Acting Planning and Research Division Engineer
Oklahoma Department of Transportation
200 N.E. 21st Street
Oklahoma City, OK 73104-2405

Dear Ms. Sullivan:

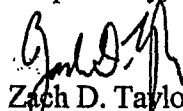
Thank you for the opportunity to comment on the proposal to reconstruct SH9 from the present two-lane highway to a four-lane divided section just east of the junction of SH9/US77 in Norman, Cleveland County, easterly approximately 29 miles to the junction of SH9/US177 in Tecumseh, Pottawatomie County. As you know, there have been safety concerns expressed by area residents over this section of SH9 and ACOG is encouraged that these issues are being addressed in a timely manner.

However, the proposed project does reveal some inconsistencies with the 2025 Oklahoma City Area Regional Transportation Study (OCARTS) Plan. The OCARTS Plan calls for the future widening of SH9 from two to four lanes east of the junction of SH9/US77 easterly approximately 12.5 miles to 168th Ave. E. The remaining three miles of the proposed widening to the Cleveland/Pottawatomie County line are not contained in the 2025 OCARTS Plan. At the time of Plan development in the year 2000, projected traffic and land use patterns in the area did not warrant a four-lane facility.

Should the sponsoring entity wish to utilize federal funds for the entire extent of the proposed project in Cleveland County, they may request an amendment to the OCARTS Plan to include the missing three miles. The final 13.5 miles of the project, located in Pottawatomie County, are outside ACOG's jurisdiction.

In addition, we encourage close coordination with impacted property owners and the appropriate governing bodies to ensure a final design that adequately considers local land use plans, regional transportation goals and safety of the traveling public.

Respectfully,



Zach D. Taylor
Executive Director

Chairman Eddie Reed
Mayor, Midwest City

Vice-Chairman Steve Knox
Councilmember, Edmond

Secretary-Treasurer Willa Johnson
Councilmember, Oklahoma City

Executive Director
Zach D. Taylor

c: Angelo Lombardo, City of Norman
Roger Saunders, ODOT



OKLAHOMA DEPARTMENT OF TRANSPORTATION

200 N. E. 21st Street
Oklahoma City, OK 73105-3204

July 18, 2005

Mr. Zach D. Taylor, Executive Director
Association of Central Oklahoma Governments
21 E. Main Street, Suite 100
Oklahoma City, Oklahoma 73104-2405

Dear Mr. Taylor:

The Oklahoma Department of Transportation (ODOT) requests an amendment to 2025 Oklahoma City Area Regional Transportation Study (OCARTS) Plan. This amendment is necessary for completion of environmental studies on SH 9 from Norman in Cleveland County east to Tecumseh in Pottawatomie County as well as for substantial growth in traffic volumes on SH 9 since completion of the 2025 OCARTS Plan.

The 2025 OCARTS Plan, as your response to ODOT's solicitation letter indicated (attached), does not contain the last three miles of SH 9 on the eastern edge of Cleveland County as a four-lane facility. ODOT is requesting the 2025 OCARTS Plan to be amended to include these three miles as a four-lane highway. The attached Application for Amendment form includes the data and factors justifying this amendment.

If you have any questions concerning this application, please contact Mr. Roger Saunders at 522-1410.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Sullivan".

Dawn R. Sullivan, P.E.
Acting Planning & Research Division Engineer

DRS:RSS

Attachments (2)

cc: Assistant Director - Preconstruction
Division 3 Engineer
Environmental Studies Branch

Date July 18, 2003

Plan Amendment Form - Page

Application for Amendment of the 2025 OCARTS Plan (Cont.)

Phase ____ of ____

Note: If proposed improvement is to be implemented in phases, please copy this page and **complete for each phase**.

Estimated Cost of Proposed Improvement:				** S.M.C. (Soft Match Credits)	
	Proposed Funding Source	% Fed.	Estimated Federal Funds	Estimated Local (or State) Funds	Estimated Total Cost
Engineering	FHWA Funds	80%*	610,000	20%** S.M.C.	610,000
Right-of-way Acqu.	FHWA Funds	80%*	1,100,000	20%** S.M.C.	1,100,000
Utility Relocation	FHWA Funds	80%*	600,000	20%** S.M.C.	600,000
Construction	FHWA Funds	80%*	6,100,000	20%** S.M.C.	6,100,000
* Totals			7,410,000	20%** S.M.C.	7,410,000*

Will Additional Revenue be Required to Keep the 2025 Plan Financially Feasible? ☒ Yes ☐ No

If Yes, Amount: \$ 7,410,000 Proposed Revenue Source(s): FHWA Funds
 * Due to Soft Match Credits (S.M.C.). Total is 100% Federal.

Generally describe the current land use and traffic patterns/volumes surrounding the location of the requested Plan amendment (please attach a map if possible): **Current land use is a combination of wooded residential acreages mixed with pastures and farmland. SH9 serves residents and commuters between Norman (and the Oklahoma City Metropolitan Area) and Tecumseh. Future 2027 traffic volumes are estimated at 12,500 AADT on the west end of this area to around 9,000 AADT east of the Cleveland/Pottawatomie Countyline. Current (2002) traffic volumes are 7,100 AADT and 5,100 AADT in the same respective area.**

What changes in land use, traffic patterns/volumes, or any other factors have occurred, or are anticipated to occur, which prompted you to request this Plan amendment? :

- Continued residential and associated commercial service growth in area, resulting in increased traffic volumes.
- Traffic volumes for this rolling terrain require additional highway capacity for safe and efficient movements.
- Environmental Assessment logical termini requirements have a four-lane facility on SH9 between Norman and Tecumseh.
- This is a Transportation Improvement Corridor in ODOT's 2000 - 2025 Statewide Intermodal Transportation Plan and by policy is to be four lanes.

- Maintenance Costs will be added by ACOG staff. (See page 3)

This Page For ACOG Use Only

Phase _____ of _____ (Complete a separate sheet for each phase)

Travel Mode of Proposed Amendment (check all that apply):

Streets & Highways ☐

Transit, Urban & Rural ☐

Bicycle, Pedestrian, Other ☐

Estimated Costs

	Streets & Highways	Transit, Urban & Rural	Bicycle, Ped., Other
Current Total Plan Costs for Applicable Travel Mode(s):			
PLUS Total Cost of Proposed Amendment (P.E., ROW, Utilities & Construction):			
MINUS Maintenance Costs Currently in Plan for Amendment Location (if applicable):			
PLUS Maintenance Costs Resulting from Proposed Plan Amendment (20____ - 2025)			
Total Costs			

Projected Revenues

	Streets & Highways	Transit, Urban & Rural	Bicycle, Ped., Other
Current Total Plan Revenues for Applicable Travel Mode(s):			
MINUS Total Costs for Plan Amendment (reflected above):			
(Positive or Negative) Balance:			
IF NEGATIVE, Source(s) and Amounts of Additional Revenue Proposed by Sponsor:			
New Positive Balance:			

Date of Public Notice: _____ Newspaper: _____
 Other Public Involvement: _____

Date of Plan Amendment Resolution: _____ Resolution No.: _____
 ITTC Recommendation: _____ Date: _____
 CAC Recommendation: _____ Date: _____
 ITPC Action: _____ Date: _____
 Plan Amendment No. _____

c:\files\projects\2025plan\Plan Amendment Application

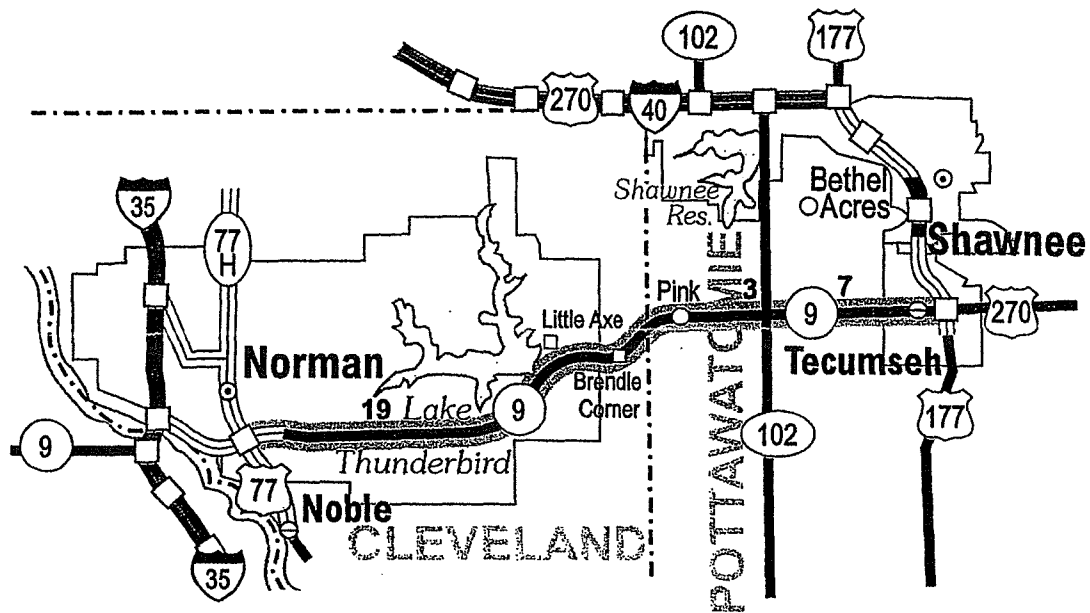
Plan Amendment Form - Page

Please attach any additional information desired, and return to:

Linda Koenig, ACOG, 21 E. Main St., Suite 100, Oklahoma City, OK 73104

Phone: (405) 234-2264

Fax: (405) 234-2200



SH-9

From US-77 to US-177

Cleveland and Pottawatomie Counties



Alternate Three – Revised 2025 OCARTS Plan Network

Alternate Three includes the present plus committed network (Alternate One), all street and highway projects in the 2025 OCARTS Plan (Alternate Two), as well as the following projects:

1) Approved 2025 OCARTS Plan Amendments:

- SH-9 from 168th Ave E to Cleveland/Pottawatomie County line.
Widen 2 to 4 lanes
- SH-74 (Portland) from Waterloo Road (NW 248th Street) to Memorial Road (NW 136th Street). Widen 2 to 4-lanes
- Kelly Avenue from Waterloo Road (N. 248th) to Coffee Creek Road (N. 220th). Widen to 2 to 4-lane divided

2) Oklahoma City General Obligation Bond Projects:

- NE 122nd Street from Broadway Extension to Kelley Avenue.
Widen 2 to 4 lanes
- Morgan Road from SW 15 Street to SW 29th Street. Widen 2 to 4 lanes
- SW 29th Street from MacArthur Avenue to Meridian Avenue.
Widen 2 to 4 lanes
- Hefner Road (N. 108th) from County Line Road to Council Road.
Widen 2 to 4 lanes
- Wilshire Blvd. (N. 78th) from Northwest Expressway to Rockwell Avenue. Widen 2 to 4 lanes
- Britton Road (N. 93rd) from County Line Road to Council Road.
Widen 2 to 4 lanes
- SW 15th Street from Morgan Road to County Line Road. Widen 2 to 4 lanes

Congested Road Miles	350 miles
Vehicle Miles of Travel/Day	40,850,000
Vehicle Hours of Travel/Day	941,180
Average Overall Speed	43 mph
Tons of Air Quality Emissions/Day	Carbon Monoxide: 503 tons Hydrocarbons: 16 tons Nitrogen Oxide: 14 tons
Estimated Cost	\$4,611,820,000

CITY OF NORMAN
SOLICIATION RESPONSE LETTER



The City of NORMAN

201 West Gray, Bldg. A • P.O. Box 370
Norman, Oklahoma 73069 • 73070

PUBLIC WORKS DEPARTMENT
CITY TRAFFIC ENGINEER
Phone: 405-366-532

July 25, 2003

RECEIVED
ODOT

JUL 28 2003

PLANNING & RESEARCH
DIVISION

Mrs. Dawn Sullivan, P.E.
Planning and Research Division Engineer
Oklahoma Department of Transportation
200 N.E. 21st Street
Oklahoma City, OK 73105-3204

Dear Mrs. Sullivan:

Thank you very much for the opportunity to comment on your Department's proposal to widen State Highway 9 in Norman. Enclosed you will find Resolution No. R-0304-21 approved by the Council of the City of Norman during their July 22, 2003 meeting. This resolution shows local support for the project and offers five specific suggestions for the design of the new roadway.

Once again we thank you for the opportunity to offer our suggestions. Should you have any questions, please do not hesitate to contact me at 366-5327.

Sincerely,

Angelo A. Lombardo, P.E.
City Traffic Engineer

Enclosure

cc: Harold A. Anderson, City Manager
Jimmy D. Berry, Director of Public Works

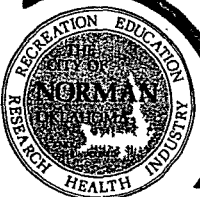
R-0304-21

A RESOLUTION OF THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA, SUPPORTING THE PROPOSAL FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION TO RECONSTRUCT AND WIDEN STATE HIGHWAY 9 FROM THE EXISTING FOUR-LANE DIVIDED SECTION JUST EAST OF THE JUNCTION OF STATE HIGHWAY 9 AND U.S. HIGHWAY 77 IN NORMAN, CLEVELAND COUNTY, TO THE JUNCTION OF STATE HIGHWAY 9 AND U.S. HIGHWAY 177 IN TECUMSEH, POTTAWATOMIE COUNTY, AND OFFERING COMMENTS FOR THE DESIGN OF THE PROJECT

- § 1. WHEREAS, State Highway 9 serves the City of Norman and the State of Oklahoma as an important local and regional transportation route; and
- § 2. WHEREAS, traffic volumes on State Highway 9 have steadily increased over the last decade making the existing two-lane facility obsolete for both the current and future traffic; and
- § 3. WHEREAS, the frequency and severity of traffic collisions on State Highway 9 support the need to widen the roadway; and
- § 4. WHEREAS, the Oklahoma Department of Transportation has recognized the need to widen and improve State Highway 9 from the current two-way roadway to a modern four-lane facility; and
- § 5. WHEREAS, the Oklahoma Department of Transportation is soliciting comments on a proposal to reconstruct and widen State Highway 9 between the end of the four lane divided section east of the junction of State Highway 9 and U.S. Highway 77 in Norman, Cleveland County, to the junction of State Highway 9 and U.S. Highway 177 in Tecumseh, Pottawatomie County (approximately 29 miles of which 15 miles fall within the City limits of Norman);

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA:

- § 1. That the City of Norman hereby supports the proposal to reconstruct and widen State Highway 9 and offers the following comments for consideration in the design of the new roadway facility:



- § 2. That in addition to the proposed four lanes on State Highway 9, intersections at section line roads and other major existing roadways include exclusive left turn and right turn lanes.
- § 3. That the project be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of State Highway 9, between the west end of the proposed project and the easternmost entrance to the Lake Thunderbird State Park (as per the adopted City of Norman Bicycle Transportation Master Plan).
- § 4. That full width paved shoulders be constructed throughout the project, including intersections.
- § 5. That flashing yellow signals be installed where appropriate (i.e., in advance of intersections or in areas of pedestrian activity).
- § 6. That special consideration be given to the design of the roadway in areas of high cross traffic or pedestrian activity (i.e., lower design speed).

PASSED AND ADOPTED THIS 22nd day of July, 2003.


Mayor

ATTEST:


City Clerk

Appendix 6

Public Meeting Summary & Written Comments

STATE HIGHWAY 9 ENVIRONMENTAL ASSESSMENT

Public Meeting
7:00 p.m., Thursday, May 20, 2004

MINUTES

The public meeting to discuss the reconstruction of State Highway 9 and the related Environmental Assessment (EA) was convened by Aaron Adel for Triad Design Group (Triad). Thirty-four (34) people registered in attendance. Several members of Triad consultant team were present along with representatives of the Oklahoma Department of Transportation (ODOT), Federal Highway Administration (FHWA), the City of Norman, and Cleveland County.

Ms. Adel welcomed those attending and gave a brief overview of the EA project. She stated that the meeting was convened to provide an opportunity for citizens to become involved in and informed about the project. The project is in the very beginning phase. Ms. Adel stated that the purpose of the meeting was to present an overview of the project status and scope.

She then introduced the following Triad staff, public officials, and ODOT staff who were present:

Wayne Albury, Triad - Project Engineer
Randy Maxey, Triad - Director of Environmental Planning
Gwen Christie, ODOT - Planning and Research Division
Richard Andrews, ODOT - Special Services Branch
Bob Rusch, ODOT - Bridge Division
Diana Barlow, ODOT - Right-of-Way Division
Karen Wallace, ODOT - Planning and Research Division
Ron Brown, ODOT - Assistant Division Engineer
George Skinner, Cleveland County Commissioner
Rachel Butler, City of Norman - City Council Representative
Jimmy Berry, City of Norman - Engineering Department
Nabeel Abusadah, FHWA

Ms. Adel explained that Triad has been employed by ODOT to prepare an EA for the study area from SE 24th Avenue to SE 84th Avenue in Norman, Oklahoma. She summarized ODOT's schedule for right-of-way acquisition in the winter of 2004 and construction from SE 24th Street to SE 60th Street in the spring of 2006. She explained that the public meeting would have a break-out session following the presentations. There were two tables available during the break-out session: one where attendees could discuss environmental considerations and another to discuss engineering and design considerations.

(Attendees received a handout which included a public meeting agenda, instructions for submitting written comments, a form to fill out to be added to the public involvement notification list, a list of

items considered during project development, a written comments sheet, and an aerial photo of the project corridor.)

Ms. Adel gave instructions for submitting comments in writing at the public meeting, by email, and by mail following the public meeting. The deadline for written comments was June 10, 2004.

Ms. Adel summarized the purpose of the EA to report findings relative to the list of environmental considerations and present a preferred alternative. The list of environmental considerations was included in the public meeting handout. She explained that no assessments or field studies had been conducted at the time of the public meeting and that public input on the possible environmental consequences is encouraged.

Ms. Adel then introduced Wayne Albury of Triad who gave a general description of the roadway condition and the need for considering reconstruction. The project is justified by existing (2004) average daily traffic (ADT) of 16,700, projected (2029) ADT of 31,000, and accident counts.

He explained that the reconstruction would likely consist of adding a lane in each direction. The typical section would likely be a five-lane section with a striped center median from SE 24th to SE 36th and an open four-lane section east of SE 36th. There have been discussions about widening SH 9 from I-35 to 60th to 7 lanes in the future. Design considerations include stopping sight distance, turning movement sight distance, and protection of shoulders. He said that protected left turn lanes could be provided at various places along the corridor. Some signals may be warranted. The City of Norman has indicated that there may be a need for a signal at SE 36th and SH 9. Mr. Albury stated that ODOT's construction estimate is \$6 million. Speed limits on the future facility will be approximately 50 mph.

Aaron Adel announced that the presentations were complete and that a break-out session would begin and last until 8:00 p.m.

At 8:00 p.m. the public meeting was resumed. Ms. Adel assured the audience that all comments received from the public would be given the same consideration as information obtained from field study and comments from public agencies. She reiterated that written comments were due June 10, 2004 so that Triad can move forward with the alternatives analysis. Ms. Adel explained that there was a form in the handout to complete and leave at the sign-in table to be added to the project mailing list. She announced that a public hearing will be planned for the mid to late fall of 2004 following the determination of a preferred alternative. Everyone on the project mailing list will receive an invitation to the public hearing. The public hearing will also be announced by public notice in the Daily Oklahoman, Norman Transcript, and the Journal Record. These are the same publications where the Notice of Public Meeting was published.

Ms. Adel thanked everyone for coming and adjourned the meeting at 8:10 p.m.

SIGN-IN-SHEET
State Highway 9 – MAY 20, 2004

PLEASE PRINT

NAME	ADDRESS	PHONE
1. GWEN CHRISTIE	ODOT - Plan. & Research Div. - Okla. City	(405) 521-2535
2. RANDY MAXBY	TRIAD	(405) 990-7957
3. RICHARD ANDREWS	ODOT - Special Projects Branch	
4. DAVID G. STAPLETON	4100 E. Cedar Lane Rd Norman	329-2629
5. MICHAEL FLOYD	10500 E. IMHOFF NORMAN	326-1180
6. CRAIG MOODY	2002 N.E. OKC ODOT	522-1465
7. LEE RODGERS	517 Marrywood	321-5330
8. MARLES BRADLEY	421 DAYBREAK DR	364-2153
9. Amelia	ODOT PA	
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SIGN-IN-SHEET
State Highway 9 – MAY 20, 2004

PLEASE PRINT

NAME	ADDRESS	PHONE
1. <i>Bob Russell</i>	<i>200 W. 2nd St. Okla City</i>	<i>521-2606</i>
2. <i>Hawmud Saxton</i>	<i>601 36th Ave NE Norman</i>	<i>2926715</i>
3. <i>Jennifer Emmert</i>	<i>4300 Hunters Glen Rd. Norman</i>	<i>523-0401</i>
4. <i>DIANA BARLOW (ODOT) Relo.</i>	<i>200 NE 21st, Okla City</i>	<i>521-2648</i>
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SIG-IN-SHEET
State Highway 9 – MAY 20, 2004

PLEASE PRINT

NAME	ADDRESS	PHONE
1. Don Shel	2904 Summit Hill Rd	329-1489
2. Pross Wallis	ODOT Planning	401-9238
3. John Young	228 Ferrill St.	
4. Rebecca Bowen	4350 Hunters Glen Rd	292-0048
5. Pepper Martin	4600 E. State Hwy 9	364 0112
6. Kellie Martin	4600 E. State Hwy 9	364 0112
7. Joe Davis	Trisal	
8. Rebecca Layton	4650 Hunters Glen Rd	329-0708
9. Thad Balkman	3403 36th Ave NE	247-4988
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SIGN-IN-SHEET
State Highway 9 – MAY 20, 2004

PLEASE PRINT

NAME	ADDRESS	PHONE
1. Aaron Adel	PO Box 6431 Norman OK 73069	321-6614
2. RON BROWN	PO BOX 549 ADA, OK	580-332-1526
3. Wayne Albury	Triad Design	752-1122
4. GEORGE SKINNER	COUNTY COMMISSIONER 605 E. ROBINSON	316 0920
5. Dorothy Daywood	10400 E. St. Hwy 9	307-0163
6. Adam Taylor BLN	514 N Crawford	834 0990
7. Bobby Bunk	3606 E State Hwy 9	329-1415
8. Cindy Bishop	3606 E State Hwy 9	329 1415
9. Rachel Butler	4000 Hammer Dr	360-0936
10. Jimmy DERRY	PO Box 370 NORMAN 73070	366-5451
11. Bill Drago	4141 W Robinson St 73072	830-6630
12. NABEEL ABUSADAH	300 N. Mainline (FHWA)	605-6166 X330
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Randy Maxey

From: Greg Emmert [gemmert@oklahoma.net]

Sent: Thursday, June 10, 2004 4:21 PM

To: sbyrne@triaddesigngroup.com

Subject: Fw: highway 9 expansion

Mr. Byrne,

We live on the north side of highway 9 and just west of 48th street. I am sending my concerns of the Highway 9 expansion. First, the concern of expanding the highway to the north side of the road has really disturbed us. We knew when we closed on our property that we had an easement, but we also know that there is one on the other side of the road as well. We only ask that both easements be used to widen the highway. This is only fair. It was very obvious since there was no one at the meeting from this new neighborhood that they are not worried about the expansion. We have heard through some pretty reliable sources that the developer has his money in everybody's pocket to influence the outcome and the highway will not be done on the south side of the road. This puts us at a distinct disadvantage since we don't have the monetary needs to persuade this aspect of the project. We know there is a desperate need to update the highway, we just plead with you that it be fair. We have distinct plans for our land that we have in black and white and we feel that we should not be punished because we chose to buy 5 acres and the people across the street did not.

Second, we are very concerned with the fact that the trees that provide any privacy from the highway are going to be destroyed. What, if anything, will be done to replace these?

Third, a noise reduction wall is something I hope that will seriously be considered. There was something said about doing a noise study at peak traffic time, but that can not be determined by what you feel will be peak time. There are times in the middle of the night that ambulances and police cars are roaring up and down the highway. This is incredibly loud. There are peak times before and after OU football games. There are peak times on the weekend when we have tons of motorcycles and semis coming and going that the noise is very loud. Pulling the highway more in our direction is only going to make this worse. Please take into account all of the times not just what you deem is the highest traffic time.

Fourth, everyone on this side of the highway has little children with the exception of one house. They range from 1 to 10 in age. Taking all of our trees and moving the highway makes it more dangerous for our families. People will be able to see them more clearly. A wall would help to give us back some of our privacy that will be taken away and help to keep our children safe.

Fifth, how will the expansion affect our well water? One man said that he could tell me that what he would do would have no affect, but could not speak for the rest of the project. What is THAT supposed to mean? We were treated like idiots at the first meeting and felt like we were brushed off. The point the meeting got across to us is that it doesn't matter what our concerns are, you will do what you want anyway. Don't let people who own all of Norman take over the highway project. We can't compete with that.

Jennifer Emmert
4300 Hunters Glen Rd.
Norman, OK 73026
(405)573-0401

6/17/04

Randy Maxey

From: RogerandRebecca Bowen [bowenrxr@earthlink.net]
Sent: Thursday, June 10, 2004 3:00 PM
To: Shad Byrne
Subject: Hwy 9 Widening

Hi Mr. Byrne!

We hope our comments aren't too late for consideration. Also, please make sure we are on the contact list for anything that concerns the widening of Hwy 9.

Our property is located at 4350 Hunters Glen Road in Hunters Glen Estates. Our subdivision is located on the NW corner of the intersection of Hwy 9 east and 48th St. Our home/property is bound on the south by Hwy 9, Hunters Glen Road on the north and a normally dry creek to the west. We have drainage from the properties to the east of us at the back of our property close to the roadway which also runs into the creek area.

Our property is at the bottom of two hills and looking from our back porch to Hwy 9 you can see that Hwy 9 is level (if not higher) than eye level. We are concerned with the amount of extra land that will have to be taken for road construction. From what we gathered at the May 20th meeting, the lay of our land lends itself to more property being needed for the road.

Also, we are concerned with drainage since we already have water draining onto our property from the neighboring properties and Hwy 9. We had planned to construct a fishing pond in the back to take advantage of the drainage.

Lastly (for now anyway), we have a beautiful creek area that we have had plans for since purchasing this property 3 yrs ago. It appears most of our trees, which were a natural barrier (sight and sound) from the hwy, will be destroyed. The property is not going to be nearly as useable as it was when we purchased it.

We have children (8yrs & 2yrs) and are very concerned with the safety and quality of life they will have playing in their backyard/neighborhood with the construction and final roadway so much closer to our home.

We would like to see some type of permanent barrier (cement wall, etc) built to protect our privacy and reduce the higher level of traffic noise. We already hear sirens clearly inside the house on a busy day. We can imagine what it will be like having the traffic much closer to us.

While Hwy 9 does need to be widened, we do not want to have it all taken from our side of the road to do the job. We also expect to be compensated very well for the permanent loss of property rights/enjoyment/value our family will suffer due to no fault of our own.

Have a great day!
Roger and Rebecca Bowen
4350 Hunters Glen Road
Norman, OK 73026
292-0048
bowenrxr@earthlink.net

Shop with me 24/7 at my secure website
www.marykay.com/rbowen4

6/17/04

Randy Maxey

From: Pepper Martin [eyedocmartin@yahoo.com]
Sent: Wednesday, June 09, 2004 9:55 PM
To: sbyrne@triaddesigngroup.com
Subject: Comments regarding the proposed widening to State Highway 9

1. Will a traffic light be added at 48th street and highway 9 to slow traffic. Entering onto highway 9 going westbound sometimes takes a long time due to heavy traffic.
2. Our pond at 4600 E. State Highway 9 is a spring fed pond that has been there for years. We do have environmental concerns if that has to be modified.
3. Many neighbors did not know about the May 20th, 2004 State Highway 9 public meeting, why were they not informed by letter.
4. On our property at 4600 East State Highway 9, there is an OG&E electric pole that is leaning and is a relay station pole. Is it possible to relocate the relay station pole further away from our home.
5. Our biggest concern is how far will the highway be expanded on the south side of Highway 9 (how much land will be taken and will it affect our house and/or pond).
6. We have recently built a brick and stone gated entry and fence onto our 21 acres which fronts State Highway 9 for the safety of our children and property. Will this stay the same or will it have to be torn down and replaced and if so will we be compensated fairly and adequately.
7. While construction is going on will our drive remain useable during this time period.

Concerned Home Owner,

Pepper and Kellie Martin
 4600 East State Highway 9
 Norman, Okla. 73026

6/17/04

P.S. Please keep us informed of any new information regarding the expansion of State Highway 9.
My uncle Michael "Jesse" Fullingim has been very helpful thus far.

Do you Yahoo!?

Friends. Fun. Try the all-new Yahoo! Messenger

6/17/04

Randy Maxey

From: HeartSketch@aol.com
Sent: Monday, June 07, 2004 2:15 PM
To: sbyrne@triaddesigngroup.com
Subject: Highway 9 Public Meeting May 20, 2004

Dear Shad Byrne, P.E.

My property connects to Oklahoma Highway 9 near 48th street S.E. in Norman, Oklahoma. I was concerned that I received no information or invitation regarding the meeting listed above. It concerns me that the state highway department would overlook such, and it gets us off to a questionable footing.

I have been given no information regarding the development, and I would appreciate any information you can send me regarding the project. Your help would be greatly appreciated in this matter.

As I stated earlier, my property connects to highway 9. Any widening or changing of the road bed would involve additional concessions on my part. There are many things I need to know before I would grant concessions. Please feel free to contact me or put me on your "Public Involvement Notification List".

Eric Green
4600 Hunters Glen
Norman, Oklahoma 73026-1011

E-mail address is HeartSketch@AOL.com

Telephone numbers 405-364-5390, 405-740-7712, 405-949-3221

6/17/04

WRITTEN COMMENTS

Proposed Widening and Improvement to State Highway 9 from 24th Street Southeast to 84th Street Southeast

This form may be used for submitting written comments relating to the proposed project. Please turn in this form at the sign-in table this evening or mail it to:

Shad Byrne, P.E.
Triad Design Group
14313 North May Avenue
Oklahoma City, OK 73134

Comments may also be emailed to sbyrne@triaddesigngroup.com. Please include your name, address, and phone number in all email correspondence. Please submit all comments by **June 10, 2004**.

SUBMITTED BY:

Name: Bob & Willetta Greenlee Phone: 405. 447-4602
Address: 4350 Hunter's Glen Rd Norman OK 73026
Today's Date: June 4 - 04

COMMENTS:

Having had several close auto collisions trying to get
off and on Highway 9 at 48th St, we understand the need to
widen Highway 9. Notwithstanding, the "mini forest"
adjacent to Highway 9 and our property is one of the
major reasons we elected to purchase our fine
acres. Many of these trees are matured trees that
will take 50 to 60 years to replace.

We have heard that all the footage that will
be needed will be taken from the north side of the
highway, if so, it will virtually take the majority
of our trees and vanish the beauty they provide
and also the noise barrier they provide.

Please give consideration to full grown
trees versus security gates

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Proposed Widening and Improvement to State Highway 9 from 24th Street Southeast to 84th Street Southeast

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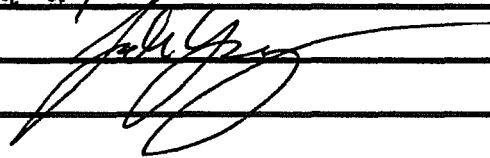
SUBMITTED BY:

Name: John Young Phone: 401-9238
Address: 228 Ferrell st, Norman, OK 73069
Today's Date: 5/20/2004

COMMENTS:

I'm writing to express my desire that the ODOT install a bicycle/pedestrian lane. I speak not only for myself but on behalf of The Canadian River Racing Club and for the cycling community of Norman & Cleveland County. My concern is not so much for ease or convenience but for safety. Norman has a very large and growing road cycling & mountain biking community. Both groups frequent Highway 9 daily in large numbers for a variety of reasons. A bicycle/pedestrian lane would be of enormous impact to our safety. I ask that ODOT please take this into consideration.

Thank You,



Shad Byrne

From: DGStapleton@ucok.edu
Sent: Wednesday, May 26, 2004 12:33 PM
To: MARLES BRADLEY; randrews@odot.org
Cc: balkmanth@lsb.state.ok.us; gchristie@odot.org; sbyrne@triaddesigngroup.com
Subject: Re: Bicycle Lane planning for Highway 9 widening

Mr. Andrews,

It was nice to meet with you and the others at the meeting concerning the widening of Highway 9 from SE 24th to SE 60th (84th) as the initial project that will continue the widening further east past Lake Thunderbird.

I have interest in this project from two aspects, both as a resident that uses HWY 9 a LOT and as a bicyclist that has enjoyed the ride from Reeves Park to Clear Bay and back along HWY 9 on many occasions. As we discussed at the meeting, the recent lane changes/turn lanes have created some extremely dangerous areas for bicyclists in that the shoulder goes away and vehicles and bikes are suddenly "in the same space at the same time". As such, here are my comments, concerns and requests.

>From listening to the design explanations from Triad Design Group of how HWY 9 was initially designed, with deep bar ditches and limited width (and from riding the route) and with an understanding and knowledge of construction from 30 + years of experience as an Architect, I do understand the design challenges and the costs associated with widening this highway from two lanes to five lanes at turning points and with that understanding, want to do request two things.

One is that bicycle lanes be planned and created in the context of the total widening project and the other is to recognize and limit the additional costs for doing so.

Others will respond to you with information concerning national prototypes and desired designs, however, in the real world we often have to get by with what is needed for safety and access. If money were no object I would make other requests!

I believe that a dedicated bicycle lane can and should be added to the outside of the travel lanes in each direction. The lanes would be a minimum of five (5') feet in width, with striping and logo's that indicate bicycle lane only. If the option is available for combining a lane for bicycle and an identified pedestrian lane, then an additional three to four feet would be needed for a minimum lane width of eight (8') with nine (9') feet desired. This would allow for a five foot lane for bikes and three to four foot lane for pedestrian use since we do not want to mix bicycles with walkers. As you know, mixing bicycles and pedestrians is almost as dangerous as mixing bicycle's and vehicles. Many States and many municipalities have gone before us and collocated these elements and have been successful in attracting both sets of users. As you can see from driving HWY 9, (pick a time), there are many walkers, joggers and runners as well as bicycles that utilize the shoulders of HWY 9 as an exercise route. As with the current (and hopeful) continued increase in the demand for safe exercise routes and with the continued addition of business and educational facilities along the HWY 9 frontage, the population for these activities are built-in to the area. With Lake Thunderbird as a desirable destination for these activities, I can only believe that this type usage will increase and continue well into the future.

Again, I appreciate the opportunity to be able to participate in these initial activities and look forward to the future planning reviews and sessions. From working with ODOT and the City of Norman in the past on projects for Chautauqua Street and around campus, I value the relationships and expertise that you all bring to this project.

David G. Stapleton

4100 E. Cedar Lane Rd.
Noble, Ok 73968
(405) 329-2629 Hm
(405) 974-2574 Work

'don't get me started on the Noble address.....the Post Office in it's
wisdom changed us from Norman 73026 to Noble 73068 last January and I'm
still steaming)

Welcome to the State Highway 9 Public Meeting

May 20, 2004

Triad Design Group in cooperation with the Oklahoma Department of Transportation (ODOT) has scheduled this public meeting in an effort to involve concerned citizens in the development of the proposed widening and reconstruction of State Highway 9 from 24th Street S.E. to 84th Street S.E. The focus of this meeting is to allow the public to become informed and involved as the project moves through the development process, and provide information on the project's scope and status.

ODOT has scheduled right-of-way acquisition from just east of 24th Street S.E. to 60th Street S.E. to begin in the winter of 2004. Construction from just east of 24th Street S.E. to 60th Street S.E. is scheduled to begin in the spring of 2006.

Meeting Agenda

1. Welcome, Introductory Remarks and Project Summary.....Aaron Adel, AICP
2. Environmental Clearance ProcessAaron Adel, AICP
3. Design UpdateWayne Albury, P.E.
4. Public Comment / Question and Answer PeriodAaron Adel, AICP

How to Submit Comments:

You may formally submit comments or concerns about this project in one of the three ways described below:

1. Written comments may be submitted at the sign-in table near the front doors. Written comment sheets are provided for your convenience in this handout.
2. Written comments may be emailed no later than **June 10, 2004** to:
sbyrne@triaddesigngroup.com.
3. Written comments may be mailed no later than **June 10, 2004** to:
Shad Byrne, P.E.
Triad Design Group
14313 North May Avenue
Oklahoma City, OK 73134

(Tear along dotted line and turn in at the sign-in table near the front doors.)

Add to Public Involvement Notification List:

PLEASE PRINT:

Mr. ☐ Mrs. ☐ Ms. ☐ Name _____
Company or Organization (if applicable) _____
Street Address _____
Mailing Address _____
City, State, Zip _____
Email address _____
Daytime Phone _____
Signature _____

WRITTEN COMMENTS

Proposed Widening and Improvement to State Highway 9 from 24th Street Southeast to 84th Street Southeast

This form may be used for submitting written comments relating to the proposed project. Please turn in this form at the sign-in table this evening or mail it to:

Shad Byrne, P.E.
Triad Design Group
14313 North May Avenue
Oklahoma City, OK 73134

Comments may also be emailed to sbyrne@triaddesigngroup.com. Please include your name, address, and phone number in all email correspondence. Please submit all comments by **June 10, 2004**.

SUBMITTED BY:

Name: _____ Phone: _____

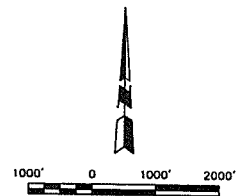
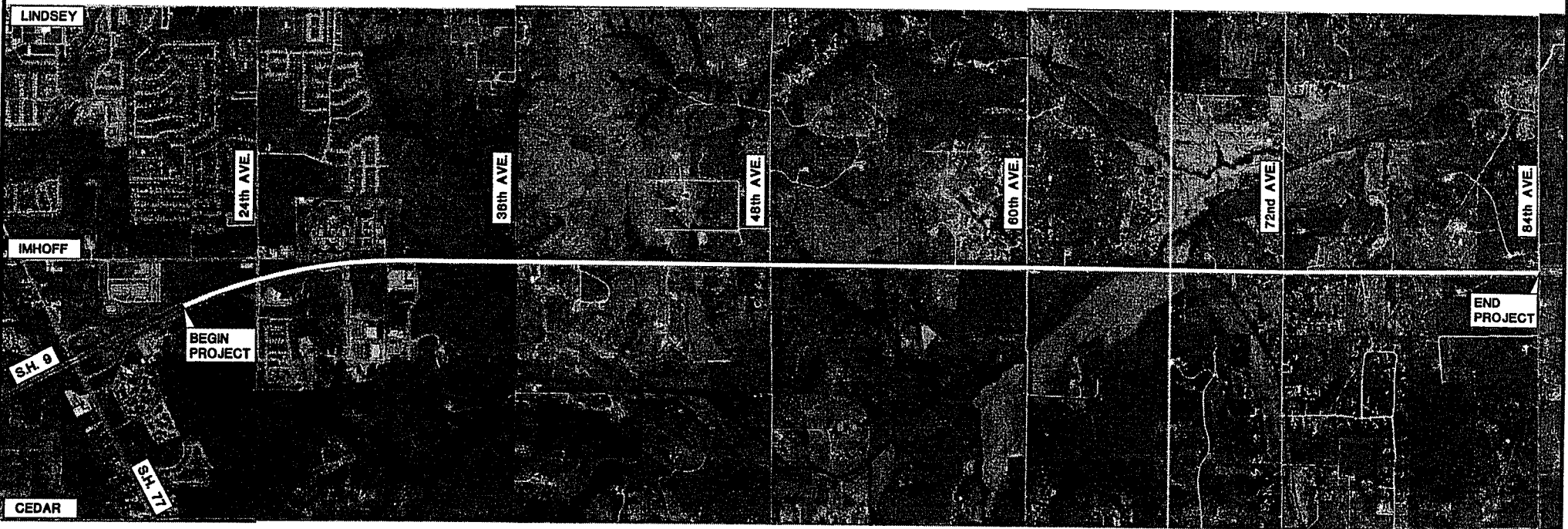
Address: _____

Today's Date: _____

COMMENTS:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

STATE HIGHWAY 9 ENVIRONMENTAL CLEARANCE CORRIDOR



PROPOSED ROADWAY

DATE 4/26/03	STATE HIGHWAY 9 OKLAHOMA DEPT. OF TRANSPORTATION
DRAWN BY: JMP	LOCATION MAP
SCALE AS SHOWN	ARCHITECTURE ENGINEERING PLANNING
SHEET	TRIAD DESIGN GROUP

THE JOURNAL RECORD

P.O. Box 26370
Oklahoma City, Oklahoma 73126-0370
Telephone 278-2801

PUBLISHER'S AFFIDAVIT

NOTICE OF PUBLIC MEETING

05/11/2004

RECONSTRUCT SH 9

NUMBER

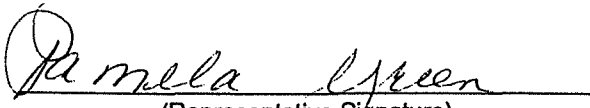
PUBLICATION DATES

LEGAL NOTICE

STATE OF OKLAHOMA }
COUNTY OF OKLAHOMA } SS

I, of lawful age, being duly sworn, am a legal representative of The Journal Record of Oklahoma City, Oklahoma, a daily newspaper of general circulation in Oklahoma County, Oklahoma, printed in the English Language and published in the City of Oklahoma City, in Oklahoma County, State of Oklahoma, continuously and uninterrupted published in the County for a period of more than 104 consecutive weeks prior to the first publication of the attached notice, and having a paid general subscription circulation therein and with admission to the United States mails as paid second-class mail matter.

That said notice a true copy of which is attached hereto, was published in the regular edition of said newspaper during the period and time of publication and not in a supplement on the ABOVE LISTED DATE(S).


(Representative Signature)

Subscribed and sworn to before me this 11 th day of May 2004


Notary Public

Commission Number: 03012712
My Commission expires: 10/13/2007

(MS17448A)

NOTICE OF PUBLIC MEETING

All interested parties are hereby given notice that the Oklahoma Department of Transportation (ODOT), in cooperation with Cleveland County and the City of Norman, proposes to widen and reconstruct State Highway 9 from 24th Avenue Southeast to 84th Avenue Southeast. The consulting firm, Triad Design Group, employed by ODOT to perform an environmental assessment (EA) of the proposed improvements, has scheduled a public meeting to discuss the project.

The project extends approximately five (5) miles from 24th Avenue Southeast to 84th Avenue Southeast within the corporate limits of the City of Norman; located in Cleveland County, Oklahoma. The existing facility is a two-lane open section roadway with turn lanes at each section line road. The proposed project is to be a five-lane open section facility with turn lanes at each section line road. This EA is to be utilized in conjunction with a future prepared EA to encompass a corridor determined to extend from 24th Avenue Southeast in Norman, Oklahoma to U.S. Highway 177 in Tecumseh, Oklahoma.

The public meeting will be held at 7:00 pm, Thursday May 20, 2004 in the gymnasium of Washington Elementary School, located at 600 48th Avenue Southeast in Norman, Oklahoma. Representatives from ODOT

and Triad Design Group will be in attendance. Concerned citizens will have the opportunity to comment on the potential social, economic, and environmental impacts associated with the project.

Questions prior to the meeting may be directed to Mr. Shad Byrne at (405) 752-2266 extension 212. Written statements and other exhibits regarding the location and major design features of the proposed project may be submitted through June 10, 2004 to Mr. Byrne at Triad Design Group, 14313 North May Avenue, Oklahoma City, OK 73134.

The Oklahoma Department of Transportation, strives to accommodate the needs of all citizens, including those who may be disabled. If you would like to attend this meeting but find it difficult because of a disability, architectural barrier, or another special need, please contact Mr. Byrne at the above number. We will make a sincere effort to resolve the problem. If you require a sign-language interpreter at the meeting, please notify Mr. Byrne in writing at Triad Design Group at the above address no later than May 17, 2004.

TRIAD DESIGN GROUP
(5-11-04)

Order Number

00017448

Publisher's Fee

\$ 45.21

Proof of Publication

In the District Court of Cleveland County, State of Oklahoma

(Published in the Norman Transcript May 11, 2004 1T)
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The public meeting will be held at 7:00 pm, Thursday May 20, 2004 in the gymnasium of Washington Elementary School, located at 600 48th Avenue Southeast in Norman, Oklahoma. Representatives from ODOT and Triad Design Group will be in attendance. Concerned citizens will have the opportunity to comment on the potential social, economic, and environmental impacts associated with the project.

Questions prior to the meeting may be directed to Mr. Shad Byrne at (405) 752-2266 extension 212. Written statements and other exhibits regarding the location and major design features of the proposed project may be submitted through June 10, 2004 to Mr. Byrne at Triad Design Group 14313 North May Avenue, Norman City, OK 73134.

Oklahoma Department of Transportation, strives to accommodate the needs of all citizens including those who may be disabled. If you would like to attend this meeting but find it difficult because of a disability, architectural barrier, or another special need, please contact Mr. Byrne at the above number. We will make a sincere effort to resolve the problem. If you require a sign-language interpreter at the meeting, please notify Mr. Byrne in writing at Triad Design Group address no later than May 17, 2004.

TRIAD DESIGN GROUP

AFFIDAVIT OF PUBLICATION

State of Oklahoma, County of Cleveland, ss:

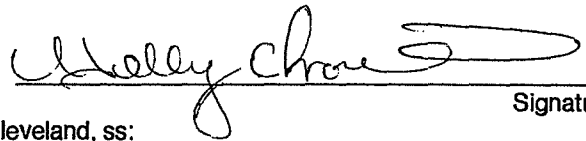
Holly Chronister of lawful age, being duly sworn and authorized, says that she is the bookkeeper for The Norman Transcript, a daily newspaper published in the city of Norman, Cleveland County, Oklahoma, a newspaper qualified to publish legal notices, advertisements and publications as provided in Section 106 of Title 25, Oklahoma Statutes 1971, as amended, and complies with all other requirements of the laws of Oklahoma with reference to legal publications.

That said notice, a true copy of which is attached hereto, was published in the regular editions of said newspaper during the period and time of publications and not in a supplement, on the following dates

1st

Publication

May 11, 2004



Signature

State of Oklahoma, County of Cleveland, ss:

Subscribed and sworn before me on this 11th day of May, 2004.



My Commission Expires: April 16, 2006.

Notary Public

Cost of Publication: 42.24



PAY TO:

The Norman Transcript
Post Office Box 1058
Norman, Oklahoma 73070

A copy of this affidavit of publication was
delivered to the office of the Cleveland
County

Court Clerk on May 11, 2004
Please include case number on check.

NOTICE OF PUBLIC MEETING

This notice replaces the Notice of Public Meeting published on Tuesday, May 11, 2004.

All interested parties are hereby given notice that the Oklahoma Department of Transportation (ODOT), in cooperation with Cleveland County and the City of Norman, proposes to widen and reconstruct State Highway 9 from 24th Avenue Southeast to 84th Avenue Southeast. The consulting firm, Triad Design Group, employed by ODOT to perform an environmental assessment (EA) of the proposed improvements, has scheduled a public meeting to discuss the project.

The project extends approximately five (5) miles from 24th Avenue Southeast to 84th Avenue Southeast within the corporate limits of the City of Norman, located in Cleveland County, Oklahoma. The existing facility is a two-lane open section roadway with turn lanes at each section line road. The proposed project is to be a five-lane open section facility with turn lanes at each section line road. This EA is to be utilized in conjunction with a future prepared EA to encompass a corridor determined to extend from 24th Avenue Southeast in Norman, Oklahoma to U.S. Highway 177 in Tecumseh, Oklahoma.

The public meeting will be held at 7:00 pm, Thursday May 20, 2004 in the gymnasium of Washington Elementary School, located at 800 48th Avenue Southeast in Norman, Oklahoma. Representatives from ODOT and Triad Design Group will be in attendance. Concerned citizens will have the opportunity to comment on the potential social, economic, and environmental impacts associated with the project.

Questions prior to the meeting may be directed to Mr. Shad Byrne at (405) 752-2266 extension 212. Written statements and other exhibits regarding the location and major design features of the proposed project may be submitted through June 10, 2004 to Mr. Byrne at Triad Design Group, 14313 North May Avenue, Oklahoma City, OK 73134.

The Oklahoma Department of Transportation, strives to accommodate the needs of all citizens, including those who may be disabled. If you would like to attend this meeting but find it difficult because of a disability, architectural barrier, or another special need, please contact Mr. Byrne at the above number. We will make a sincere effort to resolve the problem.

If you require a sign-language interpreter at the meeting, please notify Mr. Byrne in writing at Triad Design Group at the above address no later than May 17, 2004.

TRIAD DESIGN GROUP

STATE OF OKLAHOMA, } ss.
COUNTY OF OKLAHOMA }

Affidavit of Publication

Helen L. Boswell

of lawful age, being first

duly sworn, upon oath deposes and says that he is the Class. Counter Rep of The Oklahoma Publishing Company, a corporation, which is the publisher of the

The Oklahoman (Metro)

which is a daily newspaper

of general circulation in the State of Oklahoma, and which is a daily newspaper published in Oklahoma County and having paid general circulation therein; that said newspaper has been continuously and uninterruptedly published in said county and state for a period of more than one hundred and four consecutive weeks next prior to the first publication of the notice attached hereto, and that said notice was published in the following issues of said newspaper, namely:

May 12, 2004

Subscribed and sworn to before me this 17th

day of May 20 04

Cathy A. Keller

Notary Public

Helen L. Boswell

My commission expires 9-20-04

OMD/3864

1031

OFFICE OF PUBLIC
MEETING

Any interested parties are hereby given notice that the Oklahoma Department of Transportation (ODOT), in cooperation with Cleveland County and the City of Norman, proposes to widen and reconstruct State Highway 9 from 24th Avenue Southeast to 84th Avenue Southeast. The consulting firm, Triad Design Group, employed by ODOT to perform an environmental assessment (EA) of the proposed improvements, has scheduled a public meeting to discuss the project.

The project extends approximately five (5) miles from 24th Avenue Southwest to 84th Avenue Southwest within the corporate limits of the City of Norman, located in Cleveland County, Oklahoma. The existing facility is a two-lane open section roadway with turn lanes at each section line road. The proposed project is to be a five-lane open section facility with turn lanes at each section line road. This EA is to be utilized in conjunction with a future prepared EA to encompass a corridor determined to extend from 24th Avenue Southwest in Norman, Oklahoma to U.S. Highway 177 in Tecumseh, Oklahoma.

The public meeting will be held at 7:00 pm, Thursday May 20, 2004 in the gymnasium of Washington Elementary School, located at 600 48th Avenue Northeast in Norman, Oklahoma. Representatives from ODOT and Triad Design Group will be in attendance. Concerned citizens will have the opportunity to comment on the potential social, economic, and environmental impacts associated with the project. Questions prior to the meeting may be directed to Mr. Shad Byrne at (405) 752-2266 extension 212. Written statements and other exhibits regarding the location and major design features of the proposed project may be submitted through June 10, 2003 to Mr. Byrne at Triad Design Group, 14313 North May Avenue, Oklahoma City, OK 73134.

The Oklahoma Department of Transportation, strives to accommodate the needs of all citizens, including those who may be disabled. If you would like to attend this meeting but find it difficult because of a disability, architectural barrier, or another special need, please contact Mr. Byrne at the above number. We will make a sincere effort to resolve the problem. If you require a sign-language interpreter at the meeting, please notify Mr. Byrne in writing at Triad Design Group at the above address no later than May 17, 2003.

STATE OF OKLAHOMA, } ss.
COUNTY OF OKLAHOMA }

Affidavit of Publication

Helen L. Boswell

, of lawful age, being first

duly sworn, upon oath deposes and says that he is the Class. Counter Rep of The Oklahoma Publishing Company, a corporation, which is the publisher of the

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of general circulation in the State of Oklahoma, and which is a daily newspaper published in Oklahoma County and having paid general circulation therein; that said newspaper has been continuously and uninterruptedly published in said county and state for a period of more than one hundred and four consecutive weeks next prior to the first publication of the notice attached hereto, and that said notice was published in the following issues of said newspaper, namely:

May 11, 2004

Subscribed and sworn to before me this 17th

day of May 20 04

Cathy A. Keller

Notary Public

Helen L. Boswell

My commission expires 9-20-04

00013864

Appendix 7

Public Hearing Transcript And Comments

Welcome to the State Highway 9 Public Hearing September 27, 2005

Triad Design Group in cooperation with the Oklahoma Department of Transportation (ODOT) has scheduled this public hearing in an effort to involve concerned citizens in the development of the proposed widening and reconstruction of State Highway 9 from just west of 24th Avenue S.E. to 84th Avenue S.E. The focus of this hearing is to continue involving the public as the project moves through the development process, and provide information on the project scope and status.

The existing facility is a two-lane roadway with turn lanes at each section line road. The proposed project is to be a four-lane facility with a paved flush median and striped left-turn lanes as appropriate (i.e., a five-lane facility). Four alternatives have been considered in the development of this project. The preferred alternative (Alternative 4) consists of reconstructing symmetrically about the existing centerline of SH 9. To accommodate cyclists, the proposed project will include special 12-ft wide paved shoulders.

ODOT has tentatively scheduled right-of-way acquisition from just west of 24th Avenue S.E. to 60th Avenue S.E. to begin in Summer 2006. Construction from 24th Avenue S.E. to 60th Avenue S.E. is scheduled to begin in Fall 2006.

An Environmental Assessment (EA) has been prepared studying the social, economic, and environmental impacts of the proposed project. Copies of the EA document are available to the public at the following locations:

1. Norman Public Library (Ready Reference Section) – 225 N. Webster in Norman
2. City of Norman, City Clerk's Office – Mary Hatley, City Clerk, 201 West Gray in Norman
3. Washington Elementary – 600 48th Avenue S.E. in Norman

The EA will be available at these locations until October 28, 2005 during normal business hours.

Meeting Agenda

- | | |
|--|--------------|
| 1. Welcome | Aaron Adel |
| 2. Environmental Clearance Process | Aaron Adel |
| 3. Design Update | Wayne Albury |
| 4. ODOT Right-of-Way Acquisition Procedures..... | Diana Barlow |
| 5. Question and Answer Period | Aaron Adel |
| 6. Adjournment | |

Representatives from Triad Design Group and ODOT will be available following the hearing to discuss the project further. There is also a tape recorder available this evening if you would like to make verbal comments that will become part of the hearing transcript and will be included in the final EA document.

How to Submit Written Comments:

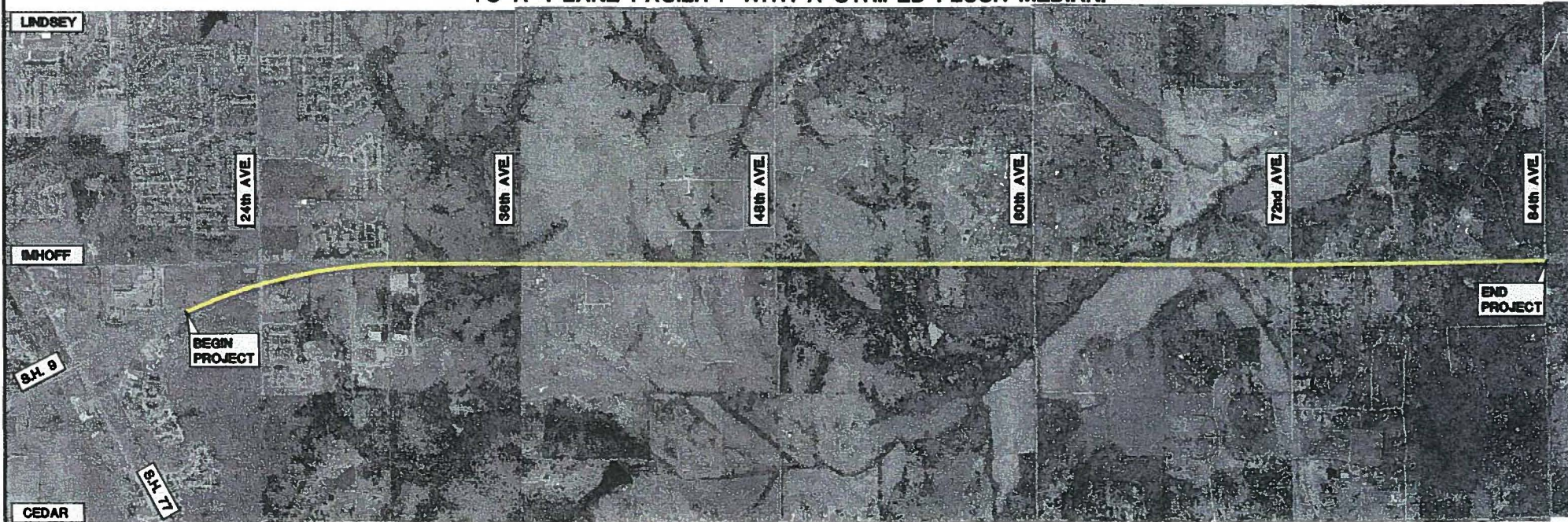
You may formally submit comments or concerns about this project in one of the three ways described below:

1. Written comments may be submitted at the sign-in table near the front doors. Written comment sheets are provided for your convenience in this handout.
2. Written comments may be emailed to walbury@triaddesigngroup.com
3. Written comments may be mailed to Wayne Albury, Triad Design Group, 14313 North May Avenue, Oklahoma City, OK, 73134.

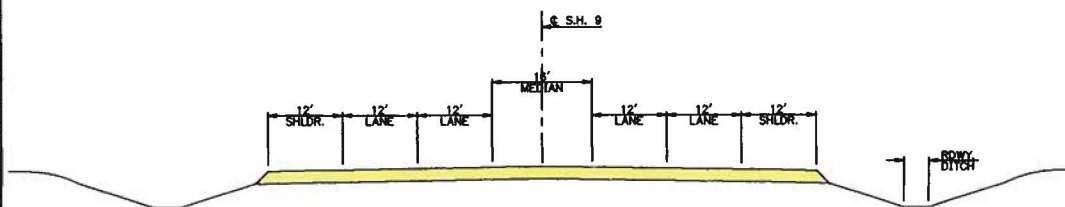
THE DEADLINE FOR WRITTEN COMMENTS IS OCTOBER 28, 2005.

PUBLIC HEARING DISPLAY STATE HIGHWAY 9

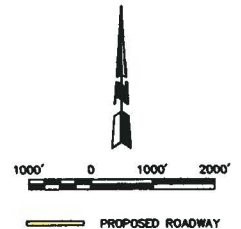
PROPOSED RECONSTRUCTION OF S.H.9 FROM A 2-LANE FACILITY
TO A 4-LANE FACILITY WITH A STRIPED FLUSH MEDIAN.



LOCATION: FROM JUST WEST OF 24th AVENUE S.E. TO 84th AVENUE S.E.



S.H. 9 TYPICAL SECTION



DATE 4/26/03	STATE HIGHWAY 9 OKLAHOMA DEPT. OF TRANSPORTATION
DRAWN BY: TDG	LOCATION MAP
SCALE AS SHOWN	 TRHD DESIGN GROUP <small>Architects • Engineering • Planning</small>
SHEET	

State Highway 9 Reconstruction Project Cleveland County

ITEMS CONSIDERED DURING PROJECT DEVELOPMENT

- **Purpose and Need for Project**
- **Alternatives**
- **Affected Environment**
- **Possible Environmental Consequences:**
 - Airport Impacts
 - Air Quality Impacts
 - Community Impact Assessment
 - Consideration Relating to Pedestrians and Bicyclists
 - Construction Impacts
 - Cultural Resources / Archaeological Sites
 - Economic Impacts
 - Effects on Public Parks, Wildlife, and Waterfowl Refuge and Historic Sites
 - Energy
 - Environmental Justice
 - Farmland Impacts
 - Floodplain Issues
 - Hazardous Waste/Underground Storage Tanks
 - Irreversible and Irretrievable Commitment of Resources
 - Joint Development
 - Land Use Impacts
 - Noise Impacts
 - Permits
 - Relationship of Local Short-term uses vs. Long Term Productivity
 - Relocation Impacts/Right-of-way Acquisition
 - Secondary and Cumulative Impacts
 - Social Impacts
 - Threatened or Endangered Species
 - Visual Impacts
 - Water Body Modification
 - Wetland Impacts
 - Wildlife Impacts
 - Wild and Scenic Rivers
- **Comments and Coordination/Public Involvement**
 - State/Federal Agencies
 - Local/City Officials
 - Tribal Coordination
 - Interested Citizens
- **Engineering/Design/Drainage Concerns**
- **Accident/Safety Concerns**

WRITTEN COMMENTS

Proposed Widening and Improvement to State Highway 9 from just west of 24th Avenue S.E. to 84th Avenue S.E.

This form may be used for submitting written comments relating to the proposed project. Please turn in this form at the sign-in table this evening or mail it to:

Wayne Albury, P.E.
Triad Design Group
14313 North May Avenue
Oklahoma City, OK 73134

Comments may also be emailed to walbury@triaddesigngroup.com. Please include your name, address, and phone number in all correspondence. **Please submit all comments by October 28, 2005.**

SUBMITTED BY:

Name: _____ Phone: _____

Address:

Today's Date: _____

COMMENTS:This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

CERTIFICATION OF PUBLIC HEARING
ON
FEDERAL AID HIGHWAY PROJECT

I hereby certify that in accordance with Section 128a of Title 23, U.S. Code a public hearing was held at:

TIME: 6:00 P.M. to 8:00 P.M., September 27, 2005

PLACE: Washington Elementary School , 600 48th Avenue, Norman, Oklahoma.

concerning the proposed location and major design features of a project to improve portions of SH 9 from Just west of 24th Avenue SE to 84th Avenue SE, within the Corporate Limits of the City of Norman.

The Oklahoma Department of Transportation has considered the economic and social effects of such a location, its impact on the environment and its consistency with the goals and objectives of such rural/urban planning as has been promulgated by the community.

Planning & Research Division Engineer
Oklahoma Department of Transportation

**SH 9 WIDENING AND RECONSTRUCTION
ENVIRONMENTAL ASSESSMENT
PUBLIC HEARING TRANSCRIPT
September 27, 2005**

Presenters: Aaron Adel, Foresight Consulting (for Triad Design Group)
 Wayne Albury, Triad Design Group
 Diana Barlow, ODOT Right-of-Way

AARON: We're going to go ahead and get started. We understand that there's a neighborhood association meeting that starts at 7:00 over at the University. So I'm going to try to move through this information quickly. But if we don't get through everything and you do have to go just know that we will prepare a verbatim transcript of the hearing tonight and if you would like to receive a copy of that you can let us know in writing at the contact information on your handout and we'll make sure you get a copy of that.

We're glad that you've joined us tonight for a public hearing to discuss the proposed widening and reconstruction of SH 9 from 24th Avenue east to 84th Avenue. And the time is now 6:15ish and we're starting our hearing. For the record we are meeting at Washington Elementary September 27, 2005

Our goal for this public hearing tonight is to give interested citizens, like yourselves, the opportunity to be involved in this project as we move on further through the development process and we also want to provide you an update on the project scope and status.

My name is Aaron Adel and I'm here this evening representing Triad Design Group which is the engineering firm that has been employed by ODOT to develop this project.

There are some other individuals in the audience tonight that I'd like to introduce to you. They are: Wayne Albury right over here adjusting the sign on the wall. He's the project engineer for Triad Design Group. Craig Moody in the red tie up here is the Public Information Officer with ODOT. Kevin Larios in the back row back here is with ODOT's Planning and Research Division. Richard Andrews is right over here, he's with ODOT in Special Projects. Is that correct? OK. Angelo Lombardo is here this evening representing the City of Norman in the back. Paul Rachel is the Division Engineer with ODOT for your division. He's in the back corner over here with his hand raised. And Kevin Bryan is here with ODOT Project Management Division. And also Bob Rusch standing in the back is with ODOT's Bridge Division. So we are well represented tonight by ODOT. If you have any questions we're well staffed to be able to answer those.

The notice for tonight's public hearing was published in the Norman Transcript and the Journal Record on September 19th. And a notice was also published in the Daily Oklahoman on September 20th in the Community Section. In addition to these 3 notices, invitation letters for tonight's hearing were sent to numerous different public officials and also to everyone who signed in at the May 20, 2004 Public Meeting that we had for this project at this same location.

We are recording tonight's hearing and, as I mentioned before, all of the proceedings will be transcribed in a verbatim transcript. This project will be included in our final Environmental Assessment document.

Now when you sat down you received a set of handouts and I just wanted to go over those, each of those pages, with you briefly. As you see on the front page there's some overall information about the project as well as a meeting agenda and instructions for how to submit written comments. Page 2 presents a list of items that are considered during...or that might be the map. Page 2 is the map. And then we have a list of items that are usually considered during the development of a project like this. And I'll be going over those, that list, with you in just a few minutes. And then the final

page...I'm saying this out of order I see as you're flipping through it. The final page is the list of written, is the page for written comments. And you can use that page to submit comments tonight. Or you can write your comments out and mail them to Wayne. As long as we receive those by October 28th they'll be able to be considered in the environmental document. You can also email comments to Wayne at the email address that's shown on that page.

We also have provided a way for you to give us your verbal comments tonight. At the back of the room there's a table set up with a sign over it that says "Comments". And on that table there's a tape recorder. And you will have the opportunity after this hearing adjourns to go back there and record any verbal comments that you would like to have considered. Everything recorded on that recorder will also be included in the transcript of the proceedings tonight.

The aerial photo that you see in your handout shows the project corridor and also a typical section. And Wayne will be going over that with you in just a little bit.

Now I'm going to go ahead and start going through the Environmental Clearance Process. So that's where we are.

When we met at the public hearing in May of last year, Triad was in the very beginning stages of preparing an Environmental Assessment for this project. And the existing highway was discussed at that meeting being a two-lane roadway with turn lanes at each section line road.

The proposed project is to be a 4-lane roadway with a paved flush median and striped left turn bays as appropriate. This type of facility is also referred to as a "five-lane" facility. Since the public meeting in May of 2004, Triad has completed the Environmental Assessment and the findings of the environmental clearance process have been included in a document which we have copies of here tonight. And the EA, or the Environmental Assessment, has been reviewed and approved by the Oklahoma Department of Transportation and the Federal Highway Administration.

Preparation of the EA, just so you know, is regulated by the FHWA and the National Environmental Protection Act or NEPA. And the highway project is proposed for funding under Title 23 of the US Code. The EA has been prepared following the regulations as set forth in US Code. And one of the requirements of the EA process is to provide opportunities for public involvement. And that's what we're here for tonight, to close out that part of the project.

The portion of SH 9 that we are discussing tonight is part of a larger corridor that extends from just east of US 77 in Norman all the way east to US 177 in Tecumseh in Pottawatomie County. And in 1999, ODOT began evaluating this 29-mile corridor. The corridor has been broken into two pieces. The portion between 24th Avenue SE and 84th Avenue SE is our focus tonight. The portion of Highway 9 between 84th Avenue SE and US 177 will be included in a separate Environmental Assessment and there will be a separate public hearing held to discuss that part of SH 9. And we anticipate that that hearing will be scheduled in the spring of 2006.

The EA prepared for the portion of SH 9 between 24th Avenue and 84th Avenue presents the need for the project. It compares various different design alternatives. It presents a Preferred Alternative and also evaluates the possible consequences of the project on the affected environment.

And we've provided copies of the EA document for your review this evening. And we've also placed those documents at the Norman Public Library, at the City of Norman City Clerk Office, and also here at Jackson...I mean at Washington Elementary right across the hall. And you can go to any of those 3 locations during normal business hours if you would like to have a more extended time to review the document. The documents will be in those locations until October 28th which is the closing date of the public comment period.

The need for this project is based on the traffic level which is projected to almost double by the year 2024. In conjunction with this increase in traffic, the number of vehicle accidents, unfortunately some of which have been fatal, has increased. And for this reason, ODOT has determined that there is a need for improvements along this portion of Highway 9 and that the improvements, once they are constructed, will provide citizens who travel this route a much safer, more efficient, and alternative means of transportation.

There were four alternatives that were studied during the Environmental Assessment process. And they include Alternative 1 which is a "no build" alternative that would leave the existing facility exactly as it is right now. Alternative 2 consists of a new roadway built adjacent to the existing roadway along the north side. Alternative 3 was a four lane facility along the south side of the existing facility. And Alternative 4 consisted of reconstructing the facility as a four-lane facility symmetrically about the centerline. And based on early public involvement and the desire of local entities to separate bicycle traffic from vehicle traffic, the proposed alternative also includes wider shoulders that'll be paved so that cyclists can use this facility as a bicycle path as well.

Comparing the four alternatives has resulted in the following conclusions. One. Alternative 1, the no-build alternate, would result in more congestion and less safe transportation once future traffic levels increase. Alternative 2 and Alternative 3 which are constructing a facility adjacent to the north side of the existing roadway or adjacent to the south side of the existing roadway would minimize the disruption to travelers during construction because the existing facility would be maintained and operated exactly as it is right now during construction. However both of these alternatives would result in residential displacements with Alternative 2, offsetting the facility on the north side, having substantially more relocations due to the concentrated residential development along that side.

Alternative 4, which is constructing symmetrically about the centerline, will cause minor amounts of disruption to traffic during construction. However, it will not result in any residential relocations. And it's because of these considerations that Alternate 4 is considered the Preferred Alternative to solve the need for the project. That determination is based on a balanced consideration of the need for adequate and safe efficient transportation and also minimum affects on the social, economic, and environmental aspects of this corridor.

Part of the Environmental Assessment evaluates the social, economic, and environmental effects that are considered during project development. And these effects were studied, as I mentioned before, in conformance with all of the applicable FHWA rules and regulations and in accordance with NEPA requirements. And all of the different possible affects are listed in your handout. The list of possible environmental consequences in your handout is a duplication of ODOT's comprehensive list and it includes several items that don't necessarily apply to SH 9, for example, airport impacts and the effects on public parks. We don't experience those in conjunction with this project.

Based on a study of the preferred alternative, that is the construction of a 4-lane facility symmetrically about the existing centerline, the following findings are made. And these are presented in the Environmental Assessment as well.

As I mentioned before, there will be no relocation impacts anticipated. The proposed additional right-of-way will be secured following ODOT policy. And Diana Barlow with ODOT's Right-of-way Division will discuss a little bit about ODOT's policy with you here shortly.

A cultural resources survey was conducted and found no archaeological sites or other significant cultural resources that are eligible for National Register of Historic Places listing located in the corridor. And that was determined during a field survey. And we found no sites would be adversely affected by the preferred alternative.

The proposed project as planned will also have no effect on federally-listed endangered, threatened, or candidate species. And no wetlands were identified as being impacted by the preferred alternative.

Regarding the 100-year floodplain areas within the project corridor, all stream crossings will be constructed in conformance to the Corps of Engineer requirements. And the project will not increase the base 100-year flood elevation by more than one foot in any location.

The corridor was examined for both existing and future noise impacts. And that was done by projecting future noise levels for the preferred alignment and comparing those levels with the existing noise levels. And the traffic induced noise level difference does not result in a substantial increase of 15 dBA for any of the selected homes that were tested as receivers in this study. However, levels derived from the proposed roadway design and future traffic volumes do indicate

that 14 of the 17 residential receivers would experience future traffic induced noise levels that approach by 1 dBA, meet, or exceed ODOT's Noise Abatement Criteria. And for that reason, a sound barrier analysis was performed for this project. And ODOT's Noise Policy Directive requires that a sound barrier be both feasible and reasonable based on a set of criteria. The sound barrier analysis indicated that a barrier would be feasible but would not be reasonable based on ODOT's criteria. Therefore, no mitigation is included in the proposed project.

There are no hazardous no known hazardous underground storage tank contamination issues and no hazardous waste disposal sites within the extents of the preferred alternative. And, in addition, no health or safety issues associated with this alternative are anticipated.

ODOT also solicited comments related to social, economic, and environmental effects from 48 local, city, county, state, and federal agencies, organizations, and individuals. And the comments that were received and responded to are included in the EA.

The document also contains, in the appendices, complete copies of the Cultural Resources Report, Biological Evaluation, and the Traffic Noise Assessment.

And the conclusions of the EA are that the build alternates, that is building on the north side of the roadway, building on the southside of the roadway, or building symmetrically about the centerline are the most feasible and prudent alternatives. And that Alternative 4 is the preferred alternative based on the assessment of social, economic, and environmental effects. Another conclusion of the EA was that the long-term benefits associated with this project will be positive. And that the total quality of the human environment is expected to be enhanced by this project. Also the fourth conclusion is that, with the exception of noise impacts, there are no substantial adverse social or environmental impacts precipitated by the proposed improvements. Noise impacts cannot be mitigated due to relatively low overall magnitude of the noise levels and the projected cost of mitigation.

I know that's a lot of information. And at this point we're going to move on to the design presentation. But if you have any questions about anything that I just went over or anything that Wayne or Diana is about to present we will be having a question and answer period following Diana's presentation. And following adjournment of the hearing, we will be available at various tables in the room to discuss any of these issues with you further. Wayne.

WAYNE: Again, my name is Wayne Albury. I work for Triad Design Group. I will be the design engineer for this project. After the environmental issues are completed, we enter into a phase, what we call preliminary design phase. At that point what we start looking at is needed right-of-way and where will the utilities be relocated. Those are always 2 big issues that come up in the forefront of a project. Until we strike those lines sometimes as far as keeping the slopes reasonable and safety slopes meaning 6 to 1 slopes, and that's the problem out here on Highway 9 for a lot of that area there is there is really steep slopes coming off the edge of the paving. It's it's not friendly to the driver as far as being able to correct themselves if they get off the pavement. So by the time we strike that 6 to 1 slope, widen out for the additional lanes, we get into right-of-way issues with the existing right-of-way. That right-of-way line varies. It just depends on where you're at due to the steepness of some of the slopes. For instance, down the bottom of a hill what that does is that slope keeps traversing out there until we meet natural ground. What that does normally is it sets that right-of-way distance. So until we do that from a design standpoint, tonight I won't be able to tell you how much right-of-way we're talking about. That's always a comment people want to make. I just wanted to point that out that we will be determining that line.

If you want to just look at the concept of the additional lane widths, for instance, the 8 foot on the median, the center of the median, plus an additional lane of 12 feet, that's 20. Additional 2 foot on the shoulders for the cyclist lanes that's getting into 22 feet. So naturally that point already expands out laterally 22 feet. So in most cases that's how far it's going to be plus whatever it takes for the safety slopes. In some places it could require 35 feet of additional right-of-way. In some places it might not require any. It just depends on the slope and the topography that's out there.

As Aaron mentioned a project like this it starts breaking down on an old 2 lane highway when you start increasing traffic flows. She touched on the ADTs briefly. For instance presently right at 24th Avenue SE there's 16,300 cars a day traveling through that area. And as you progress east the counts are still 11,000 cars at 84th Street. Those are that's a lot of traffic for a 2 lane highway. And that's basically why it's breaking down. Adding the additional lane and the median, putting in safety slopes, other safety criteria with sight distance it improves the facility greatly from a safety standpoint. And that level of service with present traffic would be a level of service A as we call it. For future traffic 30 years from now for instance at 24th Avenue it goes up to 27 almost 28,000. And the traffic at 84th would increase to 22,600. That would still be a level of service C for you. So in 30 years you still got a good facility for you in most cases level of service C is acceptable to a lot of design people.

The signalization projects that will be...I must mention that the environmental covers to 84th Street from 24th to 84th. The construction contract part of this project only goes to 60th. That's due to funding. Anything's driven by money. This project will go through the 60th Avenue intersection. In the future there will be another project I'm sure that follows it up. But under this contract the first 3 miles will be completed under a construction contract and that's what I'll be preparing. As we discussed also the 12 foot shoulder would be set up for cyclists. There's a lot of cyclist traffic out on Highway 9. That would give the additional width for the cyclists to be able to use out on SH 9.

The project cost for instance if you're interested in it the estimate is probably about 6 ½ million dollars for those 3 miles. So you can see it gets fairly expensive and that's basically construction costs. That's not right-of-way and utilities. ODOT's schedule for right-of-way acquisition and moving utilities is set up right now for the spring of 2006. Construction scheduled for the fall of 2006.

Design speed issues. After we look at it I know some of 9 is signed for 50. Some of it's 60. With the increased development that's happening out there I can see it signed 50. It'd be a lot safer facility in that area.

Drainage wise again Aaron talked about it briefly on the FEMA areas. There is one area but it doesn't affect us that much. It stays on the south side of Highway 9 but we'll still be extending a rather large triple box structure underneath the roadway for that particular system. In the majority of the areas drainage-wise it will be basically about will remain the same just with roadway type ditches paved ditches where the slopes are steep.

And, again, the signalization projects at 24th Avenue SE, that one will upgraded modified. The one at in front of the Postal Training Facility will be modified. John Saxon Boulevard. And there will be a new one placed at 36th Street. There's a new development going in there. A large rather large subdivision planned in there. They're already have the boulevard entrance going into it. There will be a new signal placed there.

And that's the end of my presentation. I'll be here to answer any questions. And Diana Barlow will now present right-of-way issues.

DIANA: My name is Diana Barlow and I'm here to represent the right-of-way division. And our office is in Oklahoma City. (End of tape 1, side A) I am here to briefly explain to you the main aspects of the Oklahoma Department of Transportation's Right-of-way Acquisition Program.

First are the steps used to acquire the property that are designed to assist those individuals, families, and businesses being displaced by the project and second is the relocation assistance.

Acquisition of the property begins at the appraisal stage. Once the final right-of-way limits are established a written appraisal of the property is made by a qualified appraiser using methods standard to the appraisal industry to determine an estimate of value. It is suggested that you accompany the appraiser on his inspection to point out anything you believe he should consider in preparing the appraisal. Once the appraisal is complete it is then reviewed by a senior member of our staff to insure accuracy. The final amount is called the "Fair Market Value."

Next is the negotiation phase. All property owners will be contacted by a right-of-way agent who will explain the right-of-way requirements and what effect it will have on their property. At this time the owner will be presented with a written offer for the full amount of the fair market value. The owner will be given a sufficient amount of time to consider the transfer of title to the State and payment will be made in about 30 days. If the owner does not agree with the State's offer, he or she is entitled to have the amount established by the court through an eminent domain proceedings. This process allows 3 disinterested parties called Commissioners who are appointed by the Judge to appraise the property and report their findings. If either the owner or the State are dissatisfied with the Commissioners award then either party can file for a jury trial. The jury would then set the final amount the State can pay. This completes the Acquisition phase.

Next I would like to discuss with you Relocation Assistance. Relocation Assistance is designed to help assist those of you who will be displaced by the project. If you are being displaced from your home or business by the project you will be contacted by Relocation Agent who will explain in detail the maximum benefits you may be entitled to according to your individual circumstances. Not everyone is eligible for the same things or the same amounts. The actual amount depends on whether you are an owner or a tenant. The residential or commercial property, the length of occupancy you have been in occupancy or your particular housing requirements and the cost of a comparable house available at the time you are displaced. Throughout the relocation process your agent will provide you with a list of available housing which meets decent, safe and sanitary standards and is within your financial means. Your agent will provide continuing information relating to the housing market such as current mortgage interest rates and listings of comparable housing. In short, we will do everything possible to help you collect the benefits for which you qualify.

Replacement housing payments are divided into two categories. First is a payment to offset the cost of increased rental rates and second is a payment to offset the additional cost of purchasing a replacement dwelling. This payment, along with the Fair Market Value money you receive should be sufficient for you to purchase or rent a comparable replacement without involuntarily incurring any additional debt. To be eligible for the replacement housing payment you must be in occupancy of the property being acquired by the state for at least 90 days prior to the date the written offer is presented.

Another type of relocation payment is one to cover the reasonable cost of moving your personal possessions to a new location not more than 50 miles. All persons being displaced regardless of the length of occupancy are eligible to receive moving payment. Commercial businesses may be entitled to certain re-establishment expenses at a new location in addition to a moving payment. There are several methods of moving to choose from. Whether you move yourself or hire a moving company, your relocation agent will explain these methods and the manner of reimbursement. They are also described in detail in the relocation brochures that are located to the side of the room.

At this time we do not anticipate any residential relocations or business relocations but we will know more after the final right-of-way line is defined.

No one will be required to move until adequate replacement housing is available and no one is required to move without at least 90 days notice from the Oklahoma Department of Transportation. Please do nothing about moving until your Relocation Agent advises you. His or her job is to assist you in any way to insure your move is accomplished as smoothly as possible. And this concludes my presentation. If you have any questions about the right-of-way acquisition procedures or the Oklahoma Department of Transportation relocation assistance program, I will be available during the question and answer session as well as after the hearing. Thank you.

AARON: I just want to reiterate that we do not anticipate any residential relocations as result of this project. And the presentation about right-of-way acquisition and relocation is a formality that's included in all ODOT hearings. So we appreciate you listening through all of that information. But again, we don't anticipate any residential relocations with this project.

Well we're going to have a question and answer period now. And if you have a question about the proposed project that's the focus of our hearing tonight then this is the time to ask it. I do ask that if you have a question if you would raise your hand and once you're called on if you could stand and state your question. I will repeat it into the microphone so

that everyone can hear it and also so that we can make sure that it gets included on our recording for tonight. And then either Wayne or Diana or I will do our best to answer it. In the interest of using everyone's time efficiently, we would like to address each question just one time. And this time is intended to answer your questions. If you have a comment that you would like to share we ask that you do go ahead and offer us those comments but that you do it writing on the paper that's provided to you tonight or by email or you can provide a verbal comment at the table at the back as I described before.

Following the question and answer period the hearing will adjourn. And after the hearing adjourns many of us will remain around here until 8:00 or until everyone leaves prior to 8:00 to discuss the project with you further. We have 3 tables set up for discussion purposes after the hearing adjourns. Actually only 2 tables but 3 stations. Right-of-way, Design and Environmental. So please feel free to stay around and to discuss any concerns that you might have.

With that I will go ahead and ask if anyone has a question.

Yes, sir. A sound barrier will not be constructed. And I see Kevin working his way up here. Are you wanting to address that? No. OK. I'm sorry. I told you I would repeat the question and then I didn't repeat it. The question was I stated in the presentation that a sound barrier was feasible but not reasonable. And will you have to just live with the sound levels the increased sound levels as a result of the project? And the answer to that question I guess would be yes in that there will not be a sound wall constructed as a part of this project. And if you would like to discuss your ... if you have a home along the corridor you were likely included in the noise study as a receiver and if you would like to look more closely at the noise study we can do that with you during the discussion period and see what the noise level increase is projected to be for your property.

Yes, sir. Would we know if our home was part of the study? Would you know if it was? Probably not unless you saw someone near your property line with a noise equipment during the study time. No. You may not know. Do you have the times and days and all that stuff from when the study was done? Yes. Uh-huh. We do.

Yes, sir. On an individual basis, how will you be contacted once the right-of-way line is established? I would have to defer to Diana to answer that question I'm afraid. How will they be contacted regarding their property once a right-of-way line is established if any right-of-way needs to be acquired on their property?

DIANA: For the properties that only land is being acquired or maybe buildings being acquired an acquisition agent will come and contact you personally after the appraisal is done. The appraiser will first contact you. And you'll accompany them on the appraisal process. Then, after the appraisal is completed and reviewed, then the acquisition people will come out and contact you and make you an offer. If there's any relocation involved, a relocation agent will also contact you and explain your relocation benefits.

AARON: Does that answer your question? How will you be contacted? By phone or in person? Is that what you're trying to get at?

DIANA: They are supposed to make a personal contact. They may call you to make an appointment if they can get a hold of you by phone. But they are supposed to make a personal contact.

AARON: So they'll come to your home and meet with you?

DIANA: They are supposed to make a personal contact. And they usually work after hours. They usually try to work around your schedule.

AARON: Yes, sir. OK. The question is we said that the construction will begin in fall 06. When will it be finished? About a year and half construction time was the answer. Hey, Wayne, will you say his question again so we can get it on the recorder?

WAYNE: He asked how the traffic will be going down SH 9 during construction. We're going to be doing it half at a time. And we'll have one lane each direction. What we'll do is utilize the shoulder and one traffic lane. The new construction would be to one side while the traffic is flowing within, say, 8 feet of the construction zone. It's going to be tight?

AARON: Did everybody hear that answer? OK. Yes, sir.

GENTLEMAN: Y'all say you ain't going to take no houses, right?

AARON: Right. We don't anticipate at this point any homes being taken as a result of the project.

GENTLEMAN: Well I'm about 25 foot from the highway at my house

WAYNE: Are you at 36th Street?

GENTLEMAN: Yeah. So you're going to drive right. You say that noise aint going to bother me a bit, right?

WAYNE: That's one house that was real close to the right-of-way line. Until I look at the actual design through there, I'm not sure whether the right-of-way is going to be an issue in front of that house.

GENTLEMAN: OK. What about a sound barrier there? If you don't take that house are we going to put a sound barrier up for me for them trucks when they let off on their jake brakes and rattle the windows and all that?

WAYNE: Usually sound barriers are not just individually put.

GENTLEMAN: Well you said it wouldn't bother no one and sound no one. Well right now they rattle the windows. You know what I mean? I mean when they let off on that jake brake and how many rock trucks is down that road they'll rattle the windows.

WAYNE: All I can say is I'm glad...I can understand your concerns.

GENTLEMAN: Now you're saying you're not going to take no house. You got a 12 foot right-of-way and I'm about 2 foot from the right-of-way right now. If you're going to come out another 12 foot and another 12 foot and then you're going to slope it, you've got to be in my house. In fact you're going to be driving through it.

WAYNE: Again, that's one area we need to look at.

GENTLEMAN: You know what I mean. Y'all said you wudn't going to take none. I didn't understand that because they'll be parking in my back yard. That's what I don't, you know what I mean, that's what aggravates me about the whole thing. I mean ain't no one come to talk to me about it or nothing.

AARON: Sir what we'd like to do is continue to address questions. And I understand that your concern is very valid. What we'd like to do is address your concern in more a one-on-one fashion. Can we do that following...

GENTLEMAN: That's fine. But when y'all say well you ain't going to take no houses somewhere there's a line that's bull crap.

AARON: OK. Noted. Thank you. Yes, sir.

So the question here would be how do we how do we plan to handle construction around that bridge between 60th and 72nd in the vicinity of Blue Creek Addition. And then also you were wondering how it would be handled when traffic has to transition from 4 lanes to 2 lanes at 60th. Can you address those?

WAYNE: There are many design issues to look at. And that's one we will be looking at.

AARON: And Wayne, did you, I wasn't, in your presentation did you explain how the traffic, the facility will remain 4 lane through the intersection?

WAYNE: Yes. The four lane will remain through the intersection to make it safe and then we start tapering down from 2 lanes into one. I understand. Until I actually get down and look at it on the board...

AARON: Yes, sir. Has the funding already been set aside is the question.

WAYNE: I believe it's fully funded. It's been established already. There won't be a change. It's funded and project will happen.

AARON: So will this facility be a limited access facility?

WAYNE: No it won't. And the 2 lanes as it was designed in the past was not a limited access facility. Well that's why the public hearing is, that's why we're doing it tonight. Your comments are welcome in any of the comment boxes in written comments to anything you have as a concern so...that's what we take a look at. That's why we hold these meetings.

AARON: The reason we've gotten this far into the project is because we have established that there is a need for improvements to SH 9 and of course we are here to hear your concerns. And as Wayne said, please do submit those to us because, unfortunately the recorder doesn't capture everything that you said just now.

WAYNE: That's where you get into a lot of right-of-way. That's correct. Where are you exactly at? Are you between...

AARON: SE 48th & Highway 9. I'm going to take a question right over here. Yes. A: What do we anticipate to be the most right-of-way needed generally?

WAYNE: Again it depends on where you're at topography wise. If you're at the bottom of a hill and there's that highway is, say 30 feet above the property below it. By the time you do safety slopes, 3 to 1 slopes, and extend the paving out for the additional 12 foot traffic lane it could be out there 70 feet. It could be out 30 feet. It just depends on where you're at. Like I say, until you actually get down and strike those lines from a safety slope standpoint I can't tell you how much right-of-way in one particular area until I get it on the board.

AARON: Right back here. OK. The question is for the shoulder that's improved for bicycle usage, will there be a rumble strip or other provisions to separate vehicle traffic from that area?

WAYNE: None that I know of. Not at this time. Normally this type of facility will require, say 10 foot shoulders. And what was out there, probably on that 24 foot section I believe are 10 foot shoulders. Yes.

AARON: Please make sure that you submit that in writing. OK. In the very back. It was not included as one of the alternatives in an attempt to bring the right-of-way in to as much a degree as possible. And the facility is in effect a 4-lane with a center turn lane. It'll be 4 lanes with a flush median, paved median, that will be diagonally striped but then will be also used as needed for a left turn lane. The question was, the City of Norman had submitted a resolution a while back requesting that the facility be a four lane facility with a separate pathway for cyclists and why we had not included that specific section particular section as an alternative in the alternatives analysis.

WAYNE: I'm going to try to answer this question. So don't shoot the messenger. It all gets down to money. It's an additional cost item when you have to build a separate cyclist path. It takes additional right-of-way. And it takes extra money to create such a facility for the cyclists. That issue was talked about after the first meeting. And I believe it was discussed with the City. At that time there was no guarantees on funding. It was a possibility that the City could go

through an enhancement type project. I don't know whatever happened to that thought. But again, it's just all money driven.

(End of Tape 1, Side B)

(Beginning of Tape 2, Side A)

AARON: Right-of-way is a consideration as well as the maintenance concerns associated with the green, the grass, in the median and getting the mowers and other equipment into that median. Do you want to address that, too?

WAYNE: There's also an issue with the type of development that's happening on the east side of Norman, also. This type facility would allow for, say, every quarter mile or third of a mile for a new development to come in that you can do adequate left turn lanes due to the striped-out flush median. If it's grass it's more of a limited access type thing where you'd have to do down and turn around and come back. This is actually a facility that lends itself more to development. Now I'm talking about a driveway that might go in every hundred feet that you're going to give them a left turn opening in the median. That's not what I'm saying.

GENTLEMAN: I think if you were to pole everybody around here they would prefer to have the more limited access. And if the greenbelt in the middle would be a possibility, I think, I don't even know if that's an option on the table at this point, actually.

WAYNE: That could be an option. Again, that's why we're here tonight to get your comments. That's a good comment. If that's what you'd rather like to see out here, then make that comment.

AARON: On other thing that I'd add to that is that the driveways are regulated by the Department of Transportation. And in order to have a cut, access cut on the highway, you do have to go through a process of getting approval through the division for that. So, there will be some control. Well, there will be control by ODOT on the location of access points.

GENTLEMAN: And the last question is related to bicycles and bikeways. And I would concur with whoever wants a bike path that's separate from the highway. I'd almost rather see the shoulder brought back down to 10 feet and the additional cost that could be saved the 2 feet on each side which is probably the highway specifications be put into a separate bikeway on one side or the other. I mean that would be my vote for sure.

AARON: Yes, sir. OK. OK. OK. Thank you. Question?

RICHARD ANDREWS (ODOT): You brought up a good point about the fact that you'll have joggers and walkers and skateboarders on there. And that's one of the reasons that's one of the reasons why we have elected not to go with the separate path. If you'll look at the transportation facility we're looking at here it is in essence a transportation facility. The bicyclists that are using it are the ones that are trying to commute from point A to point B. They are not going to be real conducive to using a bicycle path that has a lot of walkers and joggers and skateboarders on it. We tried widen the shoulders out wide enough to accommodate those experienced cyclists are using SH 9. I think that's part of the thought process there.

AARON: Sir, I'm sorry. I'm going to interrupt you just for a second. What we're trying to do during this period is address questions. If you have a question could you and Mr. Andrews possibly get together and discuss that? OK. I saw a question right here.

GENTLEMAN: You were speaking of noise levels that you don't have funding to put trees or a fence whatever out there. But then you go and let the gas company run a gas line down the highway. Who is going to change that? Where's the expense coming from?

AARON: Who will paying for relocating the utility? The gas line along there? No. You're question is who, who, who will be paying for that. That's the question. OK. Wayne? D.O.T. The Department of Transportation. Why did we allow, why did the D.O.T. allow a gas line to go there when we would have to turn around and move it is the question.

WAYNE: Yeah. That gas line was just laid. And I'm going to assume that it's in existing right-of-way. We can't stop the gas company from laying a line as long as it's in public right-of-way. And it was just laid. So if it's if it's in the facilities ODOT will be paying for it. Well, that's why I bought my 5 acres, too. It's because of the trees. I understand. I'm not sure about the power easement. I'd have to look at that area. But I don't think we would be buying an additional 20 foot from you for that power easement. We would provide enough. Our responsibility is to provide enough right-of-way for utilities to be moved in. First of all. So we would be buying adequate right-of-way for all of the utilities that would be paralleling the highway through there. I didn't allow the gas line to go in. But that was a good question. Well about 2 weeks ago.

AARON: OK. We're going to take a couple more questions and then we're going to break up and have discussion at the tables. What we'll need to do to answer questions about easements particular to your property is look at your specific property. Yeah. OK. Last question and then we're going to break up and have discussion at the tables. Yes, sir.

GENTLEMAN: What about the high-pressure gas line that's about 5 feet from my house. Will that be moved on over?

AARON: I assume that it will be moved out of the way. Yeah. OK. What we're going to do right now, the time is 7:10. We're going to adjourn this portion of the hearing. Representatives will be available at the tables for further comment and discussion. Thank you. I do want to say before anyone leaves, though, that if you have comments please submit those to us before October 28th. Thank you.

(End of recording.)

**WRITTEN COMMENT SUMMARY
FOR
PROPOSED IMPROVEMENTS TO SH-9 IN NORMAN FROM 24th
AVENUE S.E. TO 84th AVENUE S.E., CLEVELAND COUNTY**

The following categories were developed following comments received after the public hearing. A response has been developed for each category, and comments have been recorded following this section. Sixteen (16) written letters were received and various comments have been summarized as follows:

- Five (5) comments prefer a four lane divided facility with a grass median.
Response: ODOT recognizes that a four lane divided section with a grass median is an alternate solution for this project. However, the typical section will be a four lane section that is divided by a sixteen (16) foot wide flush paved median. This will allow for striping out the protected left turn lanes at all section line roads, and higher traffic generators, i.e. city streets.
- Eight (8) comments requested that the project include a separate bike path.
Response: The SH-9 improvement as proposed is consistent with the City of Norman's long-range Bikeway Master Plan adopted June 25, 1996. As part of the first anticipated construction project, the proposal will include additional width of paved shoulders from ten feet to twelve feet. This design feature will give bicyclists a safe means to continue using this portion of SH-9 as a city designated rural bike route. However, should the City of Norman choose to deviate from or modify their Bikeway Master Plan to recommend a separate bike path, this coordination should occur prior to the SH-9 right-of-way acquisition process. The City of Norman would be expected to participate in any additional costs associated with additional right-of-way as well as construction and maintenance of the future bike path.
- One (1) comment from a citizen who lives in Quail Creek Addition with the project limits expressed concern of increase noise levels and the project's potential in removing a natural barrier that consists of several trees and other vegetation between their home and SH-9.
Response: The noise analysis concluded that mitigation did not meet the reasonable criteria specified in the ODOT Noise Policy Directive due to low magnitude of noise levels and projected cost of mitigation. ODOT recognizes that noise is a sensitive issue for citizens living along a roadway such as SH-9 and any potential elevated noise levels due to increased traffic can have an impact on the quality of life. ODOT strives to mitigate impacts where feasible and reasonable in their current and future project planning and development. In addition, the project will be designed to minimize any additional right-of-way, and thus, better preserve existing trees and other natural vegetation.

- One (1) comment from a citizen who lives adjacent to SH-9 outside the project limits in the vicinity of SH-9/Imhoff Road intersection inquired if a sound barrier will be funded.

Response: The location of your residence is outside the limits of the SH-9 project as presented in this Environmental Assessment. There are no planned improvements currently listed in the ODOT 8-Year Construction Work Plan for this section of SH-9 at Imhoff Road. If, however a future SH-9 project is later proposed in this area, in accordance with Federal Guidelines, a traffic noise analysis will be performed during the project's pre-construction phase. In determining noise abatement for residents, the ODOT employs two governing factors: reasonableness and feasibility. The reasonableness of noise mitigation for a project is based on the cost of mitigation per resident, the residents' desire for a noise wall, and the date of construction for the highway. Feasibility primarily depends on the ability to construct a noise wall within right-of-way and safety constraints.

- Two (2) comments requested that the project include a center barrier system, i.e. cable system.

Response: The need for a center barrier system will be analyzed during the design phase.

- One (1) comment expressed concern that the project may disrupt spring water flow into their 2 acre pond.

Response: Efforts will be taken during design stages to identify the spring(s) and minimize to the fullest extent possible any effect to this resource.

- One (1) comment was made about the possible placement of a traffic signal at 48th Avenue S.E.

Response: The section line road crossing at 48th will be analyzed for signalization during the design phase. If the signal is warranted then placement will be made.

- One (1) comment was made about an existing historical site ~ "Dave Blue Trading Post 1870's."

Response: The ODOT completed a detailed cultural resources study for the proposed project on August 5, 2004. This study was reviewed and approved by the Oklahoma Archaeological Survey (September 24, 2004) and Oklahoma State Historic Preservation Office (October 7, 2004) and was determined that the project will have no affect on historic properties.

Mitch Baroff
PO Box 5891
Norman, Oklahoma 73070
October 12, 2005

Re: State Highway 9 widening and reconstruction from 24th Ave. SE to 84th Ave. SE.
Public Hearing this past September 27, 2005.

To the City of Norman Council, Triad Design Group in cooperation with the Oklahoma Department of Transportation (ODOT), Norman residents, and especially East Norman residents.

I SAW AN EYE SORE

I attended the State Highway 9 public hearing held at the Washington Elementary School late last month. A friend told me about the meeting. I had not heard a word around town about the meeting. I was disappointed after attending the presentation.

It is unfortunate that we need a four lane highway in East Norman, but it is well overdue. I am amazed it has taken so long to build. I travel all over the state, most towns of any size have a four lane State Highway(s) near and around them.

I was disappointed in the proposed design of the new Highway 9. I am sorry to say it is an engineering design solution with no aesthetics taken into account. The proposed widened highway will be seven lanes of pavement traveling straight to the Southwest side of the lake. The center island does not exist, it is a paved turning lane. Each lane is 12 feet wide, including the shoulders. The engineers and ODOT did acclaim that the shoulder was an additional 2' wider than standards, to accommodate bicyclists and joggers. So the road will be 84 feet wide.

I was disappointed in almost everything I saw and heard, other than Highway 9 will be four lanes, which is needed.

I recommend the following:

Similar to Highway 9 between the Interstate and the Postal Training center, make the center island a grass medium. Controlled turning lanes can be provided between section line roads where needed. Luckily, and surprisingly, there are not many driveways and development intersections between each section. This will minimize turning lanes, making the Highway a somewhat limited access and safer Highway; as well as much more aesthetic. Drive down Flood Street north of Robinson and imagine an additional two lanes added to each side. That is what is proposed for East Norman. The Highway drive out of Norman, East to the lake, is a drive into the country, not a drive into a heavily populated and densely commercial area. It does not need turning lanes everywhere. The proposal is very unaesthetic. It is an engineers solution. I do not believe it is what most Normanites would like to see.

The other major objection and recommendation I have is the lack of an off road jogging, walking, & bikeway on the side of the highway. This is the gateway to East Norman, a country environment, and to our great East asset, Lake Thunderbird. Take the saving of not paving the center of the road and the additional 2 feet of shoulders on both sides and use it for the off road improvements. It is time for an off road bikeway to the lake.

Make this project an Enhancement project, not a country eye sore.

Mitch Baroff

Wayne Albury

From: Brad Gambill [Brad.Gambill@ci.norman.ok.us]
Sent: Thursday, October 13, 2005 8:56 AM
To: Wayne Albury
Cc: Mary Hatley; Scott Martin
Subject: Highway 9

Wayne: Thanks again for your special meeting at the Norman City Hall. Council has directed we prepare a resolution addressing their concerns about the design of the Highway. We understand the design proposed as five lanes of concrete with a striped median. We also understand that the bike path is a part of the 12' shoulder design. Our Council would prefer a divided highway with a grass median and a separate bike/pedestrian path. We do appreciate the designers issue with additional ROW requirements to meet the separation. What other special issues occur when you have a divided highway? I assume some of those issues would be maintenance of the median, safety of the maintenance personnel in the median and future access points requiring construction of turn lanes. I would appreciate a response so we can tailor a resolution that covers the issue.

Brad Gambill
Norman City Manager

10/13/2005

The Greenbelt Commission

City of Norman

201 West Gray St., Bldg. A * P.O. Box 370
Norman, OK 73069 * 73070

(405) 366-5432

October 26, 2005

Wayne Albury
Triad Design Group
14313 North May Ave.
Oklahoma City OK 73134



Dear Mr. Albury:

Thank you for this opportunity to respond to the State Highway 9 widening design plan.

A year ago, the Norman Greenbelt Commission was established and charged with planning and implementing a greenbelt system for the approximately 190 square miles that make up the City of Norman. Part of that greenbelt system will be a trail system that will address these goals: add transportation choices that surveys indicate that Norman residents want and need as a solution to increased auto traffic and mobility issues; benefit individual health as a low-cost exercise option for a variety of abilities; create opportunities for business, tourism, outdoor travel, recreation and gatherings; and serve as an important adjunct to an improved storm water drainage system.

Additionally, for more than a decade, the City of Norman has identified the State Highway 9 corridor as ideal for a multi-modal parkway. Indeed, in a visit to Norman, internationally known planner and community designer Ian McHarg met with a group of local planners to study the possibility of the highway being transformed into such a parkway.

Because of these duties, the Commission is offering the following comments about the proposed design of the State Highway 9 widening plan.

Overall, the plan makes only a nodding reference to accommodating the concerns expressed by the Norman City Council in its July 23, 2003, resolution. Specifically the City Council's resolution called for the design to accommodate pedestrians, bicyclists and residential traffic with such features as exclusive left- and right-turn lanes at major intersections; separated bicycle path; and signalization and other such design features.

Unfortunately, the present design addresses almost none of these issues in a significant manner.

The Greenbelt Commission notes that the widening project design acknowledges the right of bicyclists to use State Highway 9 by designating wide shoulders for their use; however, this design, which does not separate the bike path from the traffic lanes, addresses that use poorly and will not provide for bicyclists' safety nor encourage their use of the highway. The current option ensures that only adults with the highest skill levels will be able to utilize the new facility.

No effort has been made to accommodate pedestrians with paths for their use or crossing assistance such as pedestrian bridges or walkways and better signalization. Local traffic also requires similar design accommodation.

The design only minimally addresses traffic safety through lane separation. The flush median may be easier to maintain but does not adequately separate opposing lanes of traffic. A widened highway will likely lead to higher automobile speeds. Poor lane separation will also likely lead to a greater number of crossovers and accidents.

While this road is a state highway carrying traffic through and beyond Norman, SH 9 also bears a great deal of local and residential traffic, as well as those drivers and bicyclists with recreational interests. Thus, the highway's design should reflect those needs in ways that maximizes safety, accommodates many needs and uses, and anticipates the likely growth patterns of eastern Norman.

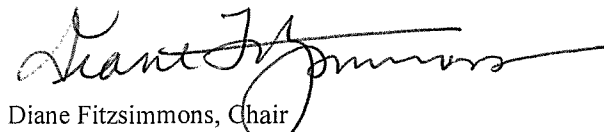
The Norman Greenbelt Commission proposes that the state Department of Transportation consider the following:

- √ Create a separated lane on the north side of the highway that can be used for walking, bicycling, jogging, wheelchairs, and other forms of non-automotive traffic. Lake Thunderbird is a major recreational destination, and polls of Norman residents indicate that they want to travel through eastern Norman to the lake using recreational forms of transportation, such as bicycles and jogging. This may require some increased right-of-way on the north side. If the right-of-way can be provided, the Greenbelt Commission would work with the Department of Transportation to get federal transportation funds for the trail construction project.
- √ The median should be landscaped with drought-resistant plants that require little water and tending, including native grasses, rugosa rose, sumac, artemisia, mint, and rosemary. This alternative could possibly reduce the width of the median, which could require less space, and make the roadway safer and more attractive.
- √ With a separated path, the shoulders can be the regular width. Wider width will no longer be needed, as bicyclists can use the separated path on the north side of the highway.

We understand these answers may prove more costly; however, city officials and residents have both indicated that they are willing to consider paying more for a well-designed highway. Additionally, we believe that poor or inadequate design, however, is more expensive -- both directly and indirectly -- to the taxpayer.

The Greenbelt Commission is available to meet with the design team and the state Department of Transportation. Thank you for your attention to the matter.

Sincerely,



Diane Fitzsimmons, Chair
Norman Greenbelt Commission

Commission Members

Trey Bates
Jane Ingels
David Lollis
Jim McCampbell
Zev Trachtenberg
Caryn Vaughn
Lyntha Wesner

cc: Mayor Harold Haralson
Council Member Bob Thompson, Ward 1
Council Member Richard Stawicki, Ward 2
Council Member Jim Stanley, Ward 3
Council Member Cindy Rosenthal, Ward 4
Council Member Rachel Butler, Ward 5
Council Member David Hopper, Ward 6
Council Member Doug Cubberley, Ward 7
Council Member Mandy Haws, Ward 8
City Manager Brad Gambill
State Rep. Thad Balkman
State Rep. Doug Miller
State Senator Cal Hobson
Senator Jonathan Nichols



The City of **NORMAN**

201 West Gray, Bldg. A • P.O. Box 370
Norman, Oklahoma 73069 • 73070

PUBLIC WORKS DEPARTMENT
CITY TRAFFIC ENGINEER
Phone: 405-366-5327

October 27, 2005



Mrs. Dawn Sullivan, Planning Engineer
Oklahoma Department of Transportation
Planning and Research Division
200 NE 21st Street
Oklahoma City, OK 73105-3204

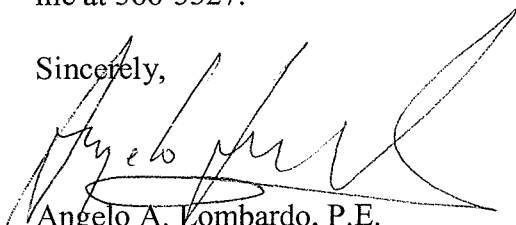
Dear Mrs. Sullivan:

Thank you very much for the State Highway 9 project special presentation on environmental impacts you made to the Norman City Council and staff. We are very supportive of any initiative to improve traffic safety along this vital regional transportation corridor.

As part of the environmental review process for the project, the City of Norman is requesting that a number of items and issues be addressed in the design. The Norman City Council, during their October 25, 2005 meeting articulated the community's concerns and desires as they relate to the current design proposal with the adoption of Resolution No. R-0506-75. We are enclosing this resolution as part of the written comment period and ask that changes in the proposed design be made to fully incorporate our suggestions.

Should you have any questions or need additional information, please do not hesitate to contact me at 366-5327.

Sincerely,



Angelo A. Lombardo, P.E.
City Traffic Engineer

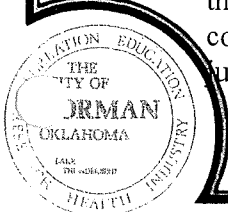
AAL

Enclosure

cc: Jimmy D. Berry, Director of Public Works
Wayne Albury, Triad Design Group

A RESOLUTION OF THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA, SUPPORTING THE PROPOSAL FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION TO RECONSTRUCT AND WIDEN STATE HIGHWAY 9 FROM JUST WEST OF 24TH AVENUE SOUTHEAST TO 84TH AVENUE SOUTHEAST, AND OFFERING COMMENTS FOR THE DESIGN OF THE PROJECT.

- § 1. WHEREAS, State Highway 9 serves the City of Norman and the State of Oklahoma as an important local and regional transportation route; and
- § 2. WHEREAS, traffic volumes on State Highway 9 have steadily increased over the last decade making the existing two-lane facility obsolete for both the current and future traffic; and
- § 3. WHEREAS, the frequency and severity of traffic collisions on State Highway 9 support the need to widen the roadway; and
- § 4. WHEREAS, the Oklahoma Department of Transportation has recognized the need to widen and improve State Highway 9 from the current two-way roadway to a modern four-lane facility; and
- § 5. WHEREAS, the City of Norman, Oklahoma, City Council submitted Resolution R-0304-21 to the Oklahoma Department of Transportation during the Summer of 2003 and that resolution called for "the project to be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of State Highway 9"; and
- § 6. WHEREAS, the high volume of traffic on State Highway 9 and the potential for catastrophic accidents caused by drivers being allowed to make left and u-turns throughout the length of the project deserves additional attention; and
- § 7. WHEREAS, the Oklahoma Department of Transportation hired the engineering firm of Triad Design Group to prepare an environmental assessment for this project; and
- § 8. WHEREAS, the NORMAN 2025 Land Use and Transportation Plan calls for most of the lands fronting both sides of this road section to be low density, mostly rural estates types of development except for a single, small commercial node, contrary to the stated future land uses indicated by Triad Design; and
- § 9. WHEREAS, safe access points onto Highway 9 can be better achieved through City of Norman efforts to limit future access points than the proposed design of a paved median with two-way continuous left turn lane; and
- §10. WHEREAS, this project is intended to improve safety, which would be significantly reduced through the availability of a paved median/two way continuous left turn lane AND this project does not contain the minimum physical conditions that the Oklahoma Department of Transportation uses for justifying a paved median/ two way continuous left turn lane.



NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA:

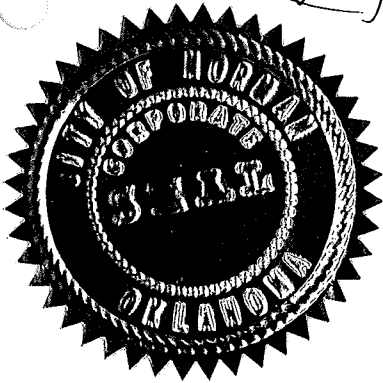
- §11. That the City of Norman hereby supports the proposal to reconstruct and widen State Highway 9 and offers the following comments for consideration in the design of the new roadway facility:
- §12. That the City of Norman would prefer that the project design be modified to eliminate the flush median in favor of a grassed median providing greater separation between eastbound and westbound traffic to include dedicated turn lanes.
- §13. That the project be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of State Highway 9.

PASSED AND ADOPTED THIS 25th day of October 2005.

Harold Hardison
Mayor

ATTEST:

Mary Hatley
City Clerk



Wendy Clymer
212 S. Flood Ave.
Norman, OK 73069

October 14, 2005

Wayne Albury, PE
Triad Design Group
14313 North May Ave.
Oklahoma City, OK 73134

Dear Mr. Albury:

I'm writing to provide input on the design for the widening of Highway 9 from 24th SW toward Lake Thunderbird.

I respectfully request that the plan be redesigned to incorporate a separate off-road jogging/walking/biking lane or path. Such a path would be safer and more pleasant for pedestrians, joggers and bicyclists. Additionally, a grass rather than concrete median would improve the aesthetics of the road.

Thank you for your consideration.



Wendy Clymer

Wayne Albury

From: NeLLC Oil and Gas [drillwithne@sbcglobal.net]
Sent: Tuesday, October 18, 2005 11:25 AM
To: Wayne Albury; Cindy Rosenthal
Subject: Highway 9 comments

I request that ODOT and your firm re-look at your plans for widening Highway 9 in east Norman and include a separate and distinct bike line instead of a wide shoulder which I feel is unsafe for bikes considering the speed of traffic.

Thank you

Glen Brown

448College

Norman 73069

*Glen Brown/NeLLC O&G
301 West Boyd suite 202
Norman,Ok 73069
405 366 1360
drillwithne@sbcglobal.net*

10/18/2005

Wayne Albury

From: Snell, Daniel C. [dcsnell@ou.edu]
Sent: Thursday, October 20, 2005 2:41 PM
To: Wayne Albury
Subject: bike path along SH 9

Sirs: I learned last night that the idea of a separate bike path is not included in your design. This seems to me a major omission and misses the opportunity really to do something new and interesting for tourism. I have biked along the present SH 9, and though it is safe and doable, it will never attract families and other more casual riders as an actual path would. Best wishes, Dan Snell, 504 Miller, Norman OK 73069

10/20/2005

October 24, 2005

Triad Design Group
Attention: Wayne Albury, P.E.
14313 N. May Ave.
Oklahoma City, OK 73134

Dear Mr. Albury:

I am writing to provide comments on the Highway 9 road project in Norman. It is my understanding that the project includes a wider shoulder to accommodate bicycles, runners and walkers.

I suggest enhancing the plan to include a path that is separate from the road. This path would be for bicycles, runners and walkers. The current plan of adding a few feet of pavement and calling it a path for people is extremely inadequate. The quality of experience of riding, walking or running next to cars traveling sixty miles an hour is low and arguably dangerous. A separate path would make a larger positive lasting impression to this area. A separate path would add value to the community.

People are in great need of opportunities to be active. The rate of obesity in Oklahoma is alarming. Separate biking, running and walking paths provide people with the opportunity to be active and add healthy activities to life. In many ways we are slaves to the cars we drive and the costly and unhealthy side effects. In an effort to build quality of life I am asking you to modify the Highway 9 plan to include a separate path for biking, running and walking.

Sincerely,



John Raeside

John Raeside
4103 W. Main. Apt. J
Norman, OK 73072
405-321-4518

**A note from the
City of Norman
Bicycle Advisory Committee**

At the October, 2005 regular meeting of City of Norman Bicycle Advisory Committee, the members reviewed and discussed the handouts from the September 27, 2005, Public Hearing on the State Highway 9 Reconstruction Project. Some members of the Bike Committee attended this meeting and shared their notes on the subject, as well.

After review of the available information regarding the proposed reconstruction, and with a knowledge of the resolution sent from the Norman City Council to ODOT and what it recommended—the general feeling was that the proposal from Triad Design Group and ODOT was incomplete.

There was no mention in the Public Hearing handout about a considered alternative which would have constructed a separate bike path parallel to the Highway 9 reconstruction, as was part of the resolution from Norman City Council dated 22 July, 2003 (“...the City of Norman hereby supports the proposal to reconstruct and widen State Highway 9 and offers the following comments for consideration. . . that the project be designed as a multi-modal transportation facility that addresses the needs of bicyclists with the construction of a separate bicycle path along the north side of State Highway 9, between the west end of the proposed project and the easternmost entrance to the Lake Thunderbird State Park [as per the adopted City of Norman bicycle Transportation Master Plan]”).

When asked at the Public Hearing about this alternative by City staff from the Parks and Recreation Department, those conducting the hearing “put it frankly” that the cost of such an alternative would be prohibitive due to the additional right-of-way acquisition, design time and physical materials and labor needed to achieve such a project.

The obvious response to this line of thinking is that it would be far more expensive, then, to do such a bike path in the future when it could not be joined to a project taking place directly adjacent to the path. In other words, we do not envision State Highway 9 being reconstructed after this project for decades to come; so we should explore every reasonable concept (even the expensive ones) which can create the multi-modal transportation system being sought by the City of Norman officials and a great number of their constituents.

This committee represents recreational cyclist (both with and without children), “hardcore” cyclists who are comfortable riding on high-speed, high-volume roadways, commuter cyclists, those who use bicycles as their primary mode of transport, and (by request or invitation) any other persons who bicycle for any reason. It is not a matter of cost now versus cost later; but one of opportunity now versus no opportunity later. As Norman’s population continues to increase, so will (by percentage, alone) its number of cyclists. What good does it do us to delay construction of a separated bicycle path from a

large population center (urbanized Norman) to one of the most popular State Park Lakes (Thunderbird) along a State Highway when demand is almost certain to increase over time? It seems foolish to put less experienced or less confident riders on a shoulder of a 65mph State Highway when such action is sure to increase (at least statistically) the likelihood of a cyclist-vehicle accident as the number of cyclists and cars both go up.

Notwithstanding the concerns this committee has heard from others interested in this project (City of Norman Planning Department, Norman Greenbelt Committee, City Council Members, and others) regarding the paved median versus grass median, population density projections, design concepts, etc., the Bicycle Advisory Committee would like to make comment on the proposed non-inclusion of a separated bike path. The inclusion of the separated bicycle path at this stage of the project would be the ideal situation. In short conversation with staff from the ODOT Special Projects Division, the idea was proposed that, if nothing else, the Right-of-Way be acquired for the bicycle path as part of this project and then utilize city funds as leverage to apply for ODOT and Federal Enhancement funds and/or other grant programs to build the bike path in near-future years. In this same vein, the proposal could be made to supply funding from the City of Norman Capital Projects Accounts or through Bond propositions to construct a bicycle path (in sections over time) in the acquired right-of-way.

Whether these methods or others are used to create the desired path, this committee would like to see a design consideration and/or a cost breakdown of a project alternative to construct the highway 9 roadway with a separate bike path on the north side of the Highway. This way, the City and its citizens can at least consider the costs of such a project—since cost was the gut reaction of those at the Public Hearing as a reason the requested bike path was not even described as a considered alternative for this much-needed Reconstruction Project.

In summary, the Bicycle Advisory Committee would like to see two major changes to the proposed Reconstruction Project, as it stands today:

1. Demonstration of some exploration of a design alternative which constructs a bike path separate from and on the north side of State Highway 9.
2. If this alternative is not selected as the final design, describe a process whereby this project can include a right-of-way acquisition to accommodate future construction of a separate bike path through whatever source(s) of funding may be available in such a future.

Thank you for your interest in our thoughts,

James Briggs
Staff Liaison to the Norman Bicycle Advisory Committee

Wayne Albury

From: JanetDulin@cs.com
Sent: Wednesday, September 28, 2005 8:33 AM
To: Wayne Albury
Subject: Comment Regarding Highway 9 Project

Mr. Albury,

My wife and I are homeowners in the Quail Creek Addition located at Highway 9 and 60th Street Southeast. Our home and others in the addition are adjacent to highway 9 on the north side. Noise from the traffic on the highway is already a problem and adding lanes to the north will increase the noise level.

There are several trees and natural growth that provide a blind between the highway and our residence giving a degree of privacy which helps. We are concerned that the project work will require removal of most of the growth eliminating the natural separation/privacy from the highway. When we chose to build our house we were willing to accept the existing highway traffic situation because of its current location and the privacy afforded by the natural growth.

In an effort to protect the value of our property and keep the highway and traffic noise encroachment from expanding toward our homes we respectfully request that consideration be given to expanding the highway to the south in our area. No development has been done on the south side of the highway along the entire mile between 48th & 60th Southeast. Additionally, a wall of sufficient height to act as both a blind and barrier to the traffic noise could be constructed along the property line.

Respectfully,

Robert & Janet Dulin
2310 Forest Road Circle
Norman, OK 73026

10/26/2005

Wayne Albury

From: Chris! [crswhitaker@cox.net]
Sent: Thursday, October 06, 2005 2:41 PM
To: Wayne Albury
Subject: Highway 9 widening?

Hello, I am a resident of a housing addition at Highway 9 and Imhoff. My house backs on to Highway 9. Currently there is a pathetic version of a chain length fence behind my privacy fence. I was wondering if any funds were being allotted to cover the construction of a sound barrier along the housing stretches of highway 9. I think this is only fair, I-240 area near May is what I am thinking should be offered. What are the current plans, and do they even attempt to ease the homeowners concern over sound and increase traffic noise even closer to the houses? Thank you for you reply.

Chris Whitaker

Wayne Albury

From: Trudy Sickles [tkhs52@hotmail.com]
Sent: Thursday, September 29, 2005 12:42 PM
To: Wayne Albury
Subject: SH 9 widening project

Mr. Albury -

I write to strongly urge ODOT planners to include a cable system in the SH 9 widening project to avoid inevitable crossover accidents. The history of this stretch of highway, while improved in the past few years, still begs for this preventive measure, especially when considering that the median is planned to be flush with the highway.

I am particularly concerned about this, as, having lived in central Norman for 40+ years, we are currently building a home at SE 60th and E. Lindsey. My husband, my children, and I will all be using State Highway 9 on a daily basis to go to work, school, etc., and would have a much greater measure of comfort with our decision to build there, knowing we will be better protected from crossover accidents.

Let's not wait for traffic fatalities to occur, and then "retrofit it with a cable system" after unnecessary loss of life.

Thank you,

Trudy Sickles

Wayne Albury

From: Ken Zagzebski [kzagzebski@cox.net]
Sent: Saturday, October 01, 2005 1:30 PM
To: Wayne Albury
Subject: Comment on HiWay9 Widening

I am simply astounded that a median barrier is not part of the project. Basically you are saying "let's wait and see how many people the public will tolerate being killed before you decide if it is needed". Median crossovers WILL happen, and they are the most fatal type of accidents. Also, if you drove I-35 when the barrier was installed there, you would know that such a project is quite disruptive to traffic. So put the median barrier in NOW.

Ken Zagzebski
Norman

Wayne Albury

From: Kellie Martin [kellieamartin@yahoo.com]
ent: Thursday, October 27, 2005 10:33 PM
o: Wayne Albury
Subject: comments regarding HWY9 East

Dear Mr. Albury,

We have the following concerns about our property that fronts 4600 East State Hwy 9 in Norman.

Our 2 acre pond is fairly close to East Hwy 9 on 46th Street. It is a multiple spring-fed pond. We are concerned about the disruption of the springs that are south of the pond and near East State Hwy 9.

We understand there will not be a median in the middle of East State Hwy 9 in front of our driveway at 46th Street. This would allow us to have direct access on and off Hwy 9 in either direction. In speaking with someone else who attended the mtg on 9-27-05 at Washington Schools in Norman, they understood that there would be a median in front of our property which would not allow for direct access to East State Hwy 9 in either direction.

Please let us know that you did receive this e-mail message and let us know the answers that you might have at this time.

Thank You,
Pepper and Kellie Martin
4600 East State Hwy 9
Norman, Ok 73026
405-364-0112 home phone
405-833-7338 Pepper's cell phone

Yahoo! FareChase - Search multiple travel sites in one click. <http://us.lrd.yahoo.com/_ylc=X3oDMTFqODRtdXQ4BF9TAzMyOTc1MDIEX3MDOTY2ODgxNjkEcG9zAzEEc2VjA21haWwtZm9vdGVyBHNSawNmYw--/SIG=110oav78o/**http%3a//farechase.yahoo.com/>

WRITTEN COMMENTS

Proposed Widening and Improvement to State Highway 9 from just west of 24th Avenue S.E. to 84th Avenue S.E.

This form may be used for submitting written comments relating to the proposed project. Please turn in this form at the sign-in table this evening or mail it to:

Wayne Albury, P.E.
Triad Design Group
14313 North May Avenue
Oklahoma City, OK 73134

Comments may also be emailed to walbury@triaddesigngroup.com. Please include your name, address, and phone number in all correspondence. **Please submit all comments by October 28, 2005.**

SUBMITTED BY:

Name: B CARBINESS

Phone: 321-8324

Address: 1001 HIGHLAND HILLS DRIVE NORMAN, OK 73026

Today's Date: 10-12-05

COMMENTS:

① NEED SPECIAL CONSIDERATION FOR ^{TRAFFIC} SIGNALS AT 48TH AVE SE AND SH-9 DUE TO TWO (2) SCHOOLS IN CLOSE PROXIMITY (WASHINGTON ELEM. & NOBLE PUBLIC SCHOOLS) THAT HAVE LARGE AMOUNTS OF SCHOOL BUS TRAFFIC USING THIS INTERSECTION.

② ACCESS TO WESTBOUND SH-9 FROM RESIDENTIAL DRIVES ON THE SOUTH SIDE OF SH-9 (I.E. NO MEDIAN OPENINGS) NEAR 48TH AVE SE.

4 October 2005

Triad Design Group
Attn: Mr. Wayne Albury (walbury@triaddesigngroup.com)
14313 North May Avenue
Oklahoma City, OK 73134

Re: Environmental Assessment on State Highway 9, Reconstruction Project
Cleveland County, Oklahoma, Submittal Date 1 July 2005

Dear Mr. Wayne Albury:

I have completed my review of subject Environmental Assessment (EA). The following comments are provided:

(1) EA, IV., Cultural Resources, page 3, states, "A cultural resources survey was conducted and no archaeological sites... were located..."

Comment: See comments for item (2) below.

(2) EA, V., Comments and Coordination, Oklahoma Historical Society, page 6, states, "...no significant historical resources are present within the proposed project limits."

Comment: A visual examination of the project area, at the northwest corner of intersection 48th Ave S.E. and State Highway 9, identified a permanent Oklahoma Historical Society Marker. Subject marker identifies the location of the "Dave Blue Trading Post 1870s". Specifically, Dave Blue, Cherokee Indian, was well known as a buffalo hunter, in the Unassigned Lands. Although a one time resident of Chouteau's, Blue he is better known for the cabin he built on Dave Blue Creek (see reference 3 below). The historical marker lies within the State Highway 9 reconstruction project area.

Comment: Subject EA failed to identify or make provision for the restoration, protection and security of the historical site and the existing marker. The site deserves to be evaluated, by the Oklahoma Historical Society, prior to the start of construction.

Comment: Recommend that the portion of nearby Dave Blue Creek, which will be impacted by the reconstruction project, be evaluated prior to the start of construction, by the Oklahoma Historical Society to ensure that any outlying portions of the site are properly identified and preserved.

Comment: Subject EA identifies the application for a 404 USACE Permit regarding State Highway 9 reconstruction impact to Dave Blue Creek. Recommend that the USACE be notified of the historical significance of Dave Blue Creek, and that all necessary archaeological evaluations be completed prior to the start of construction.

Thank you for your time and consideration of my comments. I look forward to your response.

David Brown



4221 Upper Lake Drive
Norman, OK 73072

References: (1) Letter, Oklahoma Historical Society, dated 7 October 2004, Re: File No. 2575-04; Cleveland County Proposed Widening of SH-9 from US-77 to S.E. 84th, Norman; Structures No. 1-4, Sites 34CL372-34CL375, 34CL377 & 34CL380 (see subject EA, Appendix 2),
(2) Letter, Oklahoma Historical Society, dated 29 July 2003, Re: File No. 1961-03; SH-9 Reconstruction Project (see subject EA, Appendix 5), and
(3) *Chronicles of Oklahoma*, Vol. 13, No. 3, September 1935, The History of Camp Holmes and Chouteau's Trading Post, by Howard F. Van Zandt.

Cc: The Norman Transcript
Attn: Ms. Carol Cole
215 East Comanche Street
P.O. Drawer 1058
Norman, OK 73070

Mr. John D. Hartley
Cultural Resources Coord/Mgr
Dept of Transportation – Env Studies
200 Northeast 21st Street
Oklahoma City, OK 73105-3204

Oklahoma Historical Society
Attn: Mr. Charles Wallis, RPA
Historical Archaeologist
2100 North Lincoln Blvd.
Oklahoma City, OK 73105