

STATE OF OKLAHOMA DEPARTMENT OF TRANSPORTATION

SURVEY OF U.S. 169

SWO 4721(1)
STATE JOB NO. 24750(04)

NOWATA COUNTY, OKLAHOMA

BRIDGE OVER HICKORY CREEK
13.5 MILES NORTH OF U.S. 60

| OKLAHOMA DEPARTMENT OF TRANSPORTATION | | | | |
|---------------------------------------|-------|-----------|-------------|------------------------|
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. TOTAL SHEETS |
| 8 | | 24750(04) | 35 | 127 |
| DESCRIPTION | | REVISIONS | DATE | |

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| SURVEY BEGAN: 02/22/2013 | |
| SURVEY COMPLETED: 06/04/2013 | |
| PERSONNEL: | TITLE: |
| DUSTIN McNALLY | PROF. LAND SURVEYOR |
| CHRIS CAUTION | PROF. LAND SURVEYOR |
| JASON MOCK | SURVEY TECHNICIAN |
| JASON LILLY | SURVEY TECHNICIAN |
| RYAN HARRISON | LSIT |
| TIM DARRION | SURVEY TECHNICIAN |
| STEVENS MILLER | SURVEY TECHNICIAN |
| BRANDON TRAYLORS | SURVEY TECHNICIAN |
| AMANDA REID | SURVEY TECHNICIAN |
| VINCENT MILLER | SURVEY TECHNICIAN |
| BENJAMIN MARTS | ENGINEER INTERN |
| EQUIPMENT: | SERIAL NO. |
| TRIMBLE S6 ROBOTIC TOTAL STATION | 92810853; 92721064 |
| TRIMBLE R8 GPS RECEIVER | 4629119076; 4629119071 |
| CARLSON GPS RECEIVER | NAE10403001; NAE10443001 |
| SOKKIA B11 & 300 | 101384; 353373 |

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SWO 4721(1) J/P 24750(04) ; Nowata CO.

HORIZONTAL CONTROL:

Oklahoma Coordinate System of 1927 Zone.

Oklahoma Coordinate System of 1983 North Zone.

Oklahoma Dept. of Transportation Plane Coordinate System of 1927 Zone.

Oklahoma Dept. of Transportation Plane Coordinate System of 1983 Zone.

Arbitrary Coordinate System

HORIZONTAL PLANE DATUM DEFINITION:

Oklahoma Department of Transportation coordinates were derived by multiplying the Oklahoma Coordinate Systems of 1927 or 1983 by the combined adjustment factor of 1.00010. The ODOT Coordinate System is 2350 feet above sea level. HARN - E-17, CORS, MOCA.

1. SWO4721(1) adjusted to OKTU, OKPR 3rd Order

Stations

A) Closure before adjustment X ; Y Angles

Trav. Length No. Angles

B) ; is Order before adjustment.

C) Method of Distance Measurement:

Electronic GPS Triangulation Chained

D) Instrument used for angles Trimble R8 & Carlson GNSS GPS Receivers

2. Centerline adjusted to GPS Primary 3rd Order

Stations HARN E-17 CORS, MOCA, OKTU, OKPR

A) Closure before adjustment X ; Y Angles

B) ; is Order, Tied to

C) Method of Distance Measurement:

Electronic GPS Triangulation Chained

D) Instrument used for angles

VERTICAL CONTROL IS 3rd order. Level Line taken from GPS Primary 3rd order and tied to GPS Primary 3rd order.

NGVD 29 datum

NAVD 88 datum

ACCURACY DEFINITION:

(1) HORIZONTAL: (3rd Order = Class I = 1 : 10,000')

(3rd Order = Class II = 1 : 5,000')

(2) VERTICAL: (1st Order = 0.017 Ft. x sqrt of Mi.) (2nd Order = 0.035 Ft. x sqrt of Mi.)

(3rd Order = 0.050 Ft. x sqrt. of Mi.)

Distribution:

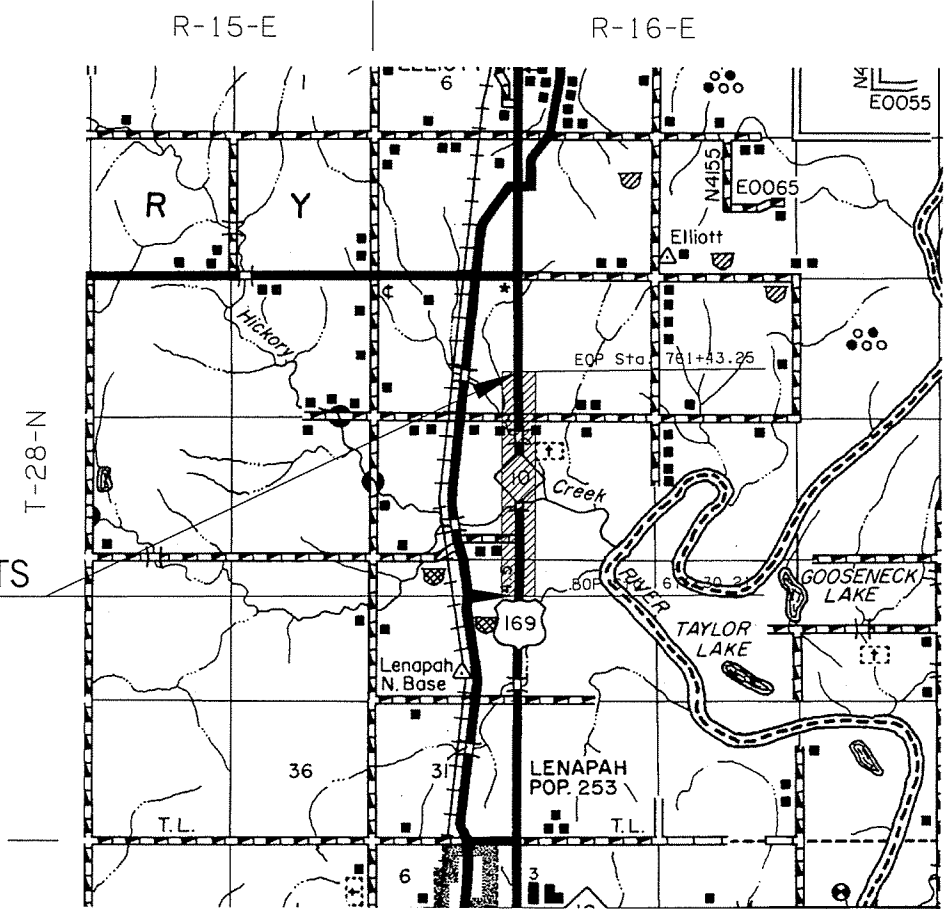
Copy w/survey reports

Copy in each Alignment and level book

(FORM SD #20)

Rev. 11/03

Dustin M. McNally
Professional Land Surveyor
06/28/13
Date



PROJECT EXTENTS

| Utility | Phone Number |
|---------------------------------|-------------------|
| Gas Lines: | |
| Postrock Energy Corp. | 620-431-9500 x241 |
| Southern Star Central Gas | 620-330-0323 |
| Electric Lines: | |
| Verdigris Valley Electric Co-op | 918-586-6250 |
| AEP-PSO | 1-888-216-3523 |
| Telephone Line: | |
| AT&T / USIC | 918-398-3443 |
| Water Lines: | |
| Nowata Co. RWD #7 | 1-918-255-6825 |

PROJECT LENGTH 8513.04 FT. 1.61 MI.

BEGINNING STATION : 671+30.21

ENDING STATION : 761+43.25

THIS SURVEY MEETS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED BY THE OKLAHOMA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS, MAY 11, 2010.

SPECIFICATIONS FOR SURVEYS FOR PRIMARY AND SECONDARY HIGHWAYS DATED JANUARY 1, 2011 GOVERN.

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| | | | |
|--|-----------|--|--|
| PLS | DMM | | OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION |
| DRAWN | ARR | | |
| CHECKED | VKM | | |
| APPROVED | DMM | | |
| CREW | GES, INC. | | |
| SWO 4721(1) PROJECT NO. 24750(04) SHEET NO. 35 | | | |

SURVEY DATA SHEET (1)