

DESCRIPTION	REVISIONS	DATE

SURVEY CONTROL DATA

1. HORIZONTAL CONTROL:

- A. HORIZONTAL CONTROL FOR THIS SURVEY IS THE NGS OKLAHOMA STATE PLANE COORDINATE SYSTEM, NAD83 (1993), LAMBERT PROJECTION (North ZONE).
- B. ACCURACY - THE PRIMARY CONTROL NETWORK, THE SECONDARY CONTROL NETWORK AND SECTION BOUNDARIES FOR THIS SURVEY ARE IN GENERAL COMPLIANCE WITH THE NGS SECOND ORDER, CLASS II STANDARDS FOR HORIZONTAL CONTROL (1:20,000).

2. BEARINGS:

THE BEARINGS SHOWN HEREIN OR HEREON ARE GRID BEARINGS DERIVED FROM THE NGS OKLAHOMA STATE PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL. THE ANGLE OF VARIANCE BETWEEN GRID NORTH (GN) AND THE ASTRONOMICAL TRUE NORTH (TN) IS DEPICTED DIAGRAMMATICALLY.

3. VERTICAL CONTROLS:

- A. LEVEL DATUM IS NAVD 88.
- B. ACCURACY - VERTICAL CONTROL FOR THIS SURVEY IS WITHIN THE CLOSURE REQUIREMENT OF NOAA/NGS "CLASSIFICATION, STANDARDS OF ACCURACY, AND GENERAL SPECIFICATIONS OF GEODETIC CONTROL SURVEYS" (FEB. 1974, REPRINTED FEB. 1977) THIRD ORDER STANDARDS AS A MINIMUM.

SURVEY DATA SHEETS

INDEX OF SURVEY SHEETS

- 1. TITLE SHEET
- 2. SURVEY INFORMATION (notes, letters)
- 3-4. COGO POINTS & ALIGNMENT DATA (etc.)
- 5-12. SURVEY DATA SHEETS

SURVEY BEGAN: December 11, 2006.
 SURVEY COMPLETED: January 17, 2007.

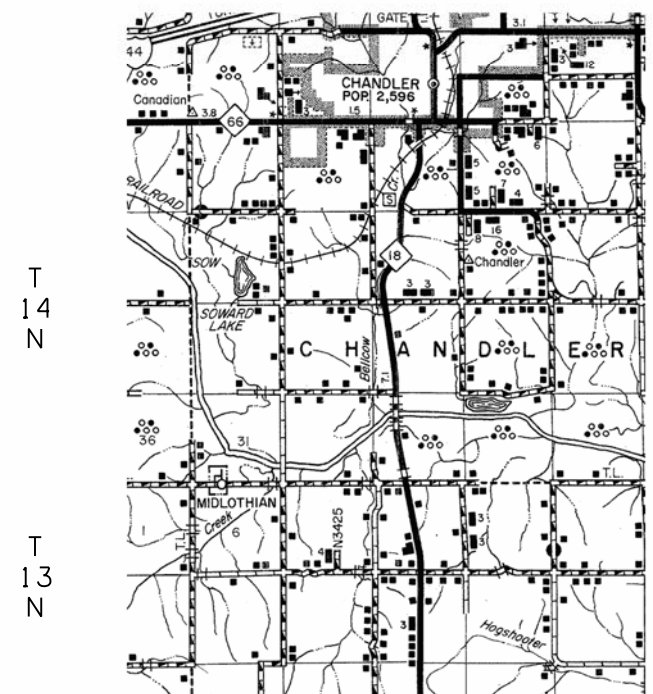
D. E. Anderson, Professional Land Surveyor
 C. W. Pauley, Transportation Specialist Lv. III
 D. D. O'Neal, Transportation Specialist Lv. II
 J. R. Wallace, Transportation Technician Lv. III

EQUIPMENT:

LEICA 1203 WData Recorder
 LEICA GPS530 GPS Sensors
 WILD NA-2 Level

SURVEY LOCATION MAP

R-4-E



SURVEY EXTENTS

LINCOLN COUNTY STATE HIGHWAY 18

SWO 4068(1)

STATE JOB NO.13403(04)

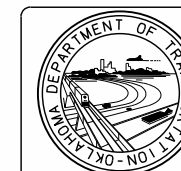
SCALES 1" = 50'

CONVENTIONAL SYMBOLS

- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- EXISTING ROADS
- BASE LINE
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- OILWELL
- DRAINAGE STRUCTURES - IN PLACE

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, JUNE 11, 2001.

SPECIFICATIONS FOR SURVEYS FOR PRIMARY AND SECONDARY HIGHWAYS DATED SEPTEMBER 11, 2001 GOVERN.



PREPARED BY:
 OKLAHOMA DEPARTMENT OF TRANSPORTATION
 SURVEY DIVISION

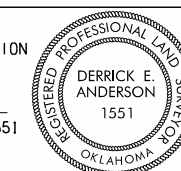
Derrick E. Anderson, R.P.L.S. 1551

DATE

SWO 4068(1)

J.P. 13403(04)

SHEET NO. SD-1



January 17, 2007

OKLAHOMA DEPARTMENT OF TRANSPORTATION				
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	TOTAL SHEETS
6	OKLA.			
DESCRIPTION		REVISIONS	DATE	

SEC. COR. O.D.O.T. MON. NO. L-41-505
NO. 4 REBAR WITH PLASTIC CAP FOUND IN PLACE THIS SURVEY AS PER OKLA. CERTIFIED CORNER RECORD FILED BY GREGORY M. HOLLAND, PLS 1120, 1995. THIS COR. EAST-WEST POSITION FITS WITHIN 0.6' OF PRORATED GOVERNMENT RESURVEY DIST. BETWEEN CORNERS 0.5 MILE WEST AND 0.5 MILE EAST AND ALSO FITS RIGHT OF WAY DEEDS FOR S.H. 18 WITHIN 0.7'. THE NORTH-SOUTH POSITION FITS WITHIN 0.8' OF THE AVERAGE ORIGINAL GOV. AND RESURVEY PRORATED DISTANCE BETWEEN CORNERS 1.0 MILE NORTH AND 1.0 MILE SOUTH. HELD THIS COR. POSITION. ALSO FOUND A NO. 5 REBAR IN PLACE. THIS CORNER FITS REF.'S AS PER OKLA. CERTIFIED CORNER RECORD BY BILLIE O. SCHOOLEY, PLS 1068, DATED 1983, 11.0' WEST AND 12.8' SOUTH OF THE CORNER HELD THIS SURVEY.

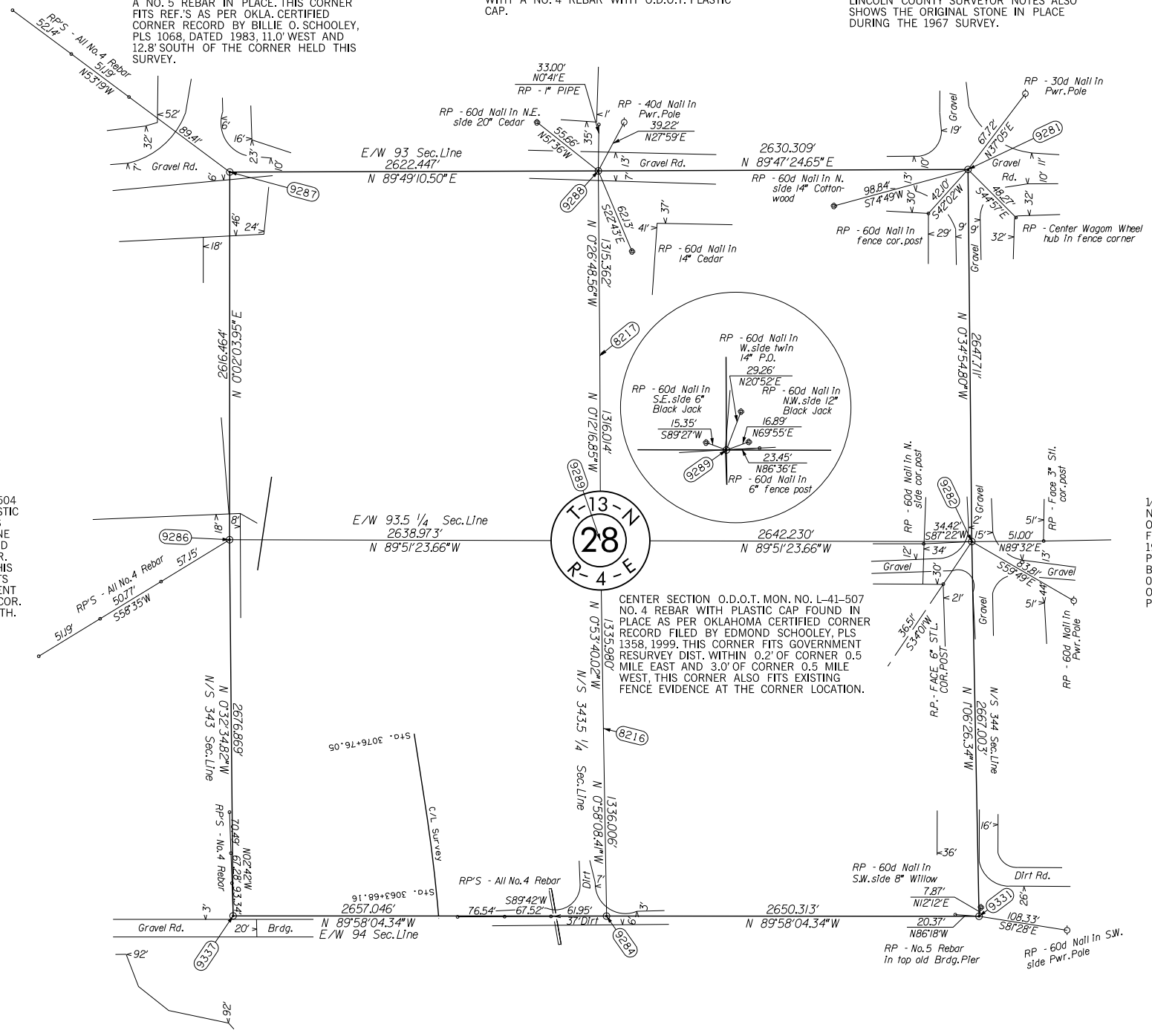
1/4 SEC. COR. O.D.O.T. MON. NO. L-41-506
FOUND BENT NO. 4 REBAR IN PLACE AS PER OKLAHOMA CERTIFIED CORNER RECORD FILED BY BILLIE O. SCHOOLEY, PLS 1068, 1982 AND BY GREGORY M. HOLLAND, PLS 1120, 1995. THIS CORNER ALSO FITS THE LINCOLN COUNTY SURVEYOR NOTES, DATED 1967. HELD AND REPLACED BENT NO. 4 WITH A NO. 4 REBAR WITH O.D.O.T. PLASTIC CAP.

SEC. COR. O.D.O.T. MON. NO. L-41-501
FOUND NO. 3 REBAR IN PLACE AS PER OKLAHOMA CERTIFIED CORNER RECORD FILED BY CURTIS HALE, PLS 1084, 1994. ONE REFERENCE ON MR. HALE'S CORNER RECORD SHEET IS THE SAME REFERENCE AS SHOWN ON THE LINCOLN COUNTY SURVEYOR NOTES, DATED 1967. THE LINCOLN COUNTY SURVEYOR NOTES ALSO SHOWS THE ORIGINAL STONE IN PLACE DURING THE 1967 SURVEY.

1/4 SEC. COR. O.D.O.T. MON. NO. L-41-504
SET NO. 4 REBAR WITH O.D.O.T. PLASTIC CAP THIS SURVEY. THIS CORNER WAS ESTABLISHED BY INTERSECTING A LINE BETWEEN THE EAST 1/4 SEC. COR. AND CENTER SECTION WITH THE SEC. COR. 0.5 MILE NORTH AND 0.5 MILE SOUTH. THIS CORNER NORTH-SOUTH POSITION FITS WITHIN 1.8' OF PRORATED GOVERNMENT RESURVEY DISTANCE BETWEEN THE COR. 0.5 MILE SOUTH AND 0.5 MILE NORTH.

CENTER SECTION O.D.O.T. MON. NO. L-41-507
NO. 4 REBAR WITH PLASTIC CAP FOUND IN PLACE AS PER OKLAHOMA CERTIFIED CORNER RECORD FILED BY EDMOND SCHOOLEY, PLS 1358, 1999. THIS CORNER FITS GOVERNMENT RESURVEY DIST. WITHIN 0.2' OF CORNER 0.5 MILE EAST AND 3.0' OF CORNER 0.5 MILE WEST. THIS CORNER ALSO FITS EXISTING FENCE EVIDENCE AT THE CORNER LOCATION.

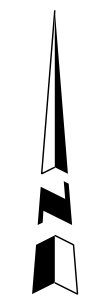
1/4 SEC. COR. O.D.O.T. MON. NO. L-41-502
NO. 4 REBAR FOUND IN PLACE AS PER OKLAHOMA CERTIFIED CORNER RECORD FILED BY BILLIE O. SCHOOLEY, PLS 1068, 1981. THIS CORNER FITS WITHIN 3.0' OF PRORATED GOVERNMENT RESURVEY DIST. BETWEEN CORNERS 0.5 MILE SOUTH AND 0.5 MILE NORTH. HELD AND PLACED A O.D.O.T. PLASTIC CAP ON NO. 4 FOUND IN PLACE.



SEC. COR. O.D.O.T. MON. NO. L-41-363
FOUND NO. 4 REBAR IN PLACE AS SHOWN AS ON OKLAHOMA CERTIFIED CORNER RECORD FILED BY EDMOND SCHOOLEY, LS NO. 1358, 1993 AND BY JON D. HALTOM, LS 932, 1996, UNDER SW03060(1). THIS CORNER ALSO USED UNDER SOW4006(1) SURVEY.

1/4 SEC. COR. O.D.O.T. MON. NO. L-41-503
SET NO. 4 REBAR WITH O.D.O.T. PLASTIC CAP THIS SURVEY. THIS COR. LOCATION ESTABLISHED ONLINE AND PROPORTIONATE TO GOVERNMENT RESURVEY DISTANCE BETWEEN CORNERS 0.5 WEST AND 0.5 MILE EAST.

SEC. COR. O.D.O.T. MON. NO. L-41-359
FOUND 1/2" IRON PIPE FROM REFERENCES AS SHOWN ON OKLAHOMA CERTIFIED CORNER RECORD AS FILED BY BILLIE O. SCHOOLEY, LS NO. 1068, 1981 AND BY JON D. HALTOM, LS 932, 1996, UNDER SW03060(1). THIS CORNER ALSO USED UNDER SW04006(1) SURVEY.



SCALE
1" = 500'

NOTE: REFERENCE'S SHOWN ARE NOT TO SCALE.

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION		
DRAWN	CWP	SURVEY DATA SHEET SHEET <u>12</u> OF <u>12</u>		
CHECKED	DEA			
APPROVED	LGM			
CREW	TECUMSEH			
		SWO 4068 (1)	PROJECT NO. 13403(04)	SHEET NO. SD-12

OKLAHOMA DEPARTMENT OF TRANSPORTATION				
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO. TOTAL SHEETS
6	OKLA.			
DESCRIPTION		REVISIONS	DATE	

SEC. COR. O.D.O.T. MON. NO. L-41-363
 FOUND NO. 4 REBAR IN PLACE
 AS SHOWN AS ON OKLAHOMA
 CERTIFIED CORNER RECORD
 FILED BY EDMOND SCHOOLEY,
 LS NO. 1358, 1993 AND BY JON
 D. HALTOM, LS 932, 1996, UNDER
 SW03060(1). THIS CORNER ALSO
 USED UNDER SW04006(1) SURVEY.

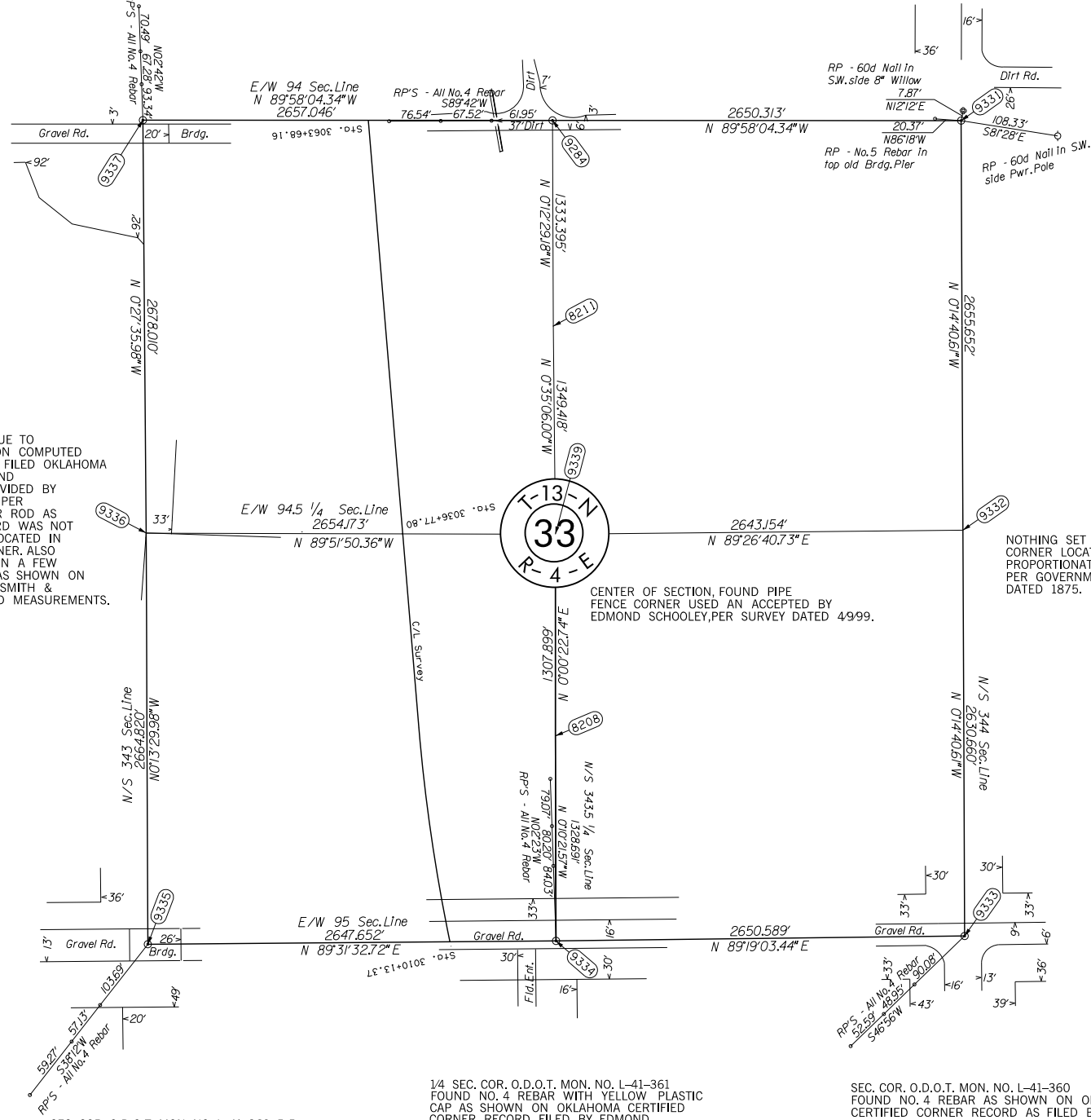
1/4 SEC. COR. O.D.O.T. MON. NO. L-41-503
 SET NO. 4 REBAR WITH O.D.O.T. PLASTIC
 CAP THIS SURVEY. THIS COR. LOCATION
 ESTABLISHED ONLINE AND PROPORTIONATE
 TO GOVERNMENT RESURVEY DISTANCE
 BETWEEN CORNERS 0.5 WEST AND 0.5
 MILE EAST.

SEC. COR. O.D.O.T. MON. NO. L-41-359
 FOUND 1/2 IRON PIPE PER REFERENCES
 AS SHOWN ON OKLAHOMA CERTIFIED
 CORNER RECORD FILED BY BILLIE
 D. SCHOOLEY, LS 1068, 1981 AND BY
 JON D. HALTOM, LS 932, 1996, UNDER
 SW03060(1). THIS CORNER ALSO USED
 UNDER SW04006(1) SURVEY.

NOTHING SET, INACCESSIBLE DUE TO
 BACK WATER. CORNER LOCATION COMPUTED
 ONLY PER REFERENCES FROM FILED OKLAHOMA
 CERTIFIED CORNER RECORD AND
 ADDITIONAL INFORMATION PROVIDED BY
 EDMOND SCHOOLEY, LS 1358, PER
 SURVEY DATED 5/19/95. SUCKER ROD AS
 INDICATED ON CORNER RECORD WAS NOT
 FOUND, BUT FENCE CORNER LOCATED IN
 FIELD IS AT CALCULATED CORNER. ALSO
 CALCULATED CORNER IS WITHIN A FEW
 FEET OF TIE TO 1/4 SEC. COR. AS SHOWN ON
 ALIGNMENT MAP FOR THE FT. SMITH &
 WESTERN RAILROAD PER FIELD MEASUREMENTS.

NOTHING SET INACCESSIBLE DUE TO BACK WATER.
 CORNER LOCATION COMPUTED ONLY BY SINGLE
 PROPORTIONATE MEASUREMENT BETWEEN SEC. COR.'S.
 PER GOVERNMENT RESURVEY BY H.C.F. HACKBUSCH,
 DATED 1875.

CENTER OF SECTION, FOUND PIPE
 FENCE CORNER USED AN ACCEPTED BY
 EDMOND SCHOOLEY, PER SURVEY DATED 4/9/99.



SEC. COR. O.D.O.T. MON. NO. L-41-362 R.R.
 SPIKE FOUND IN PLACE AS PER OKLAHOMA
 CERTIFIED CORNER RECORD AS FILED BY
 JON D. HALTOM, LS 932, 1996, UNDER
 SW03060(1).

1/4 SEC. COR. O.D.O.T. MON. NO. L-41-361
 FOUND NO. 4 REBAR WITH YELLOW PLASTIC
 CAP AS SHOWN ON OKLAHOMA CERTIFIED
 CORNER RECORD FILED BY EDMOND
 SCHOOLEY, LS 1358, 1996 AND BY JON
 D. HALTOM, LS 932, 1996, UNDER SW03060(1).
 THIS CORNER ALSO USED UNDER SW04006(1)
 SURVEY.

SEC. COR. O.D.O.T. MON. NO. L-41-360
 FOUND NO. 4 REBAR AS SHOWN ON OKLAHOMA
 CERTIFIED CORNER RECORD AS FILED BY JON
 D. HALTOM, LS 932, 1996, UNDER SW03060(1).
 THIS CORNER ALSO USED UNDER SW04006(1)
 SURVEY.



SCALE
 1" = 500'

NOTE: REFERENCE'S SHOWN ARE NOT TO SCALE.

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION SURVEY DATA SHEET SHEET <u>11</u> OF <u>12</u> CREW <u>TECUMSEH</u> SWO <u>4068</u> (1) PROJECT NO. <u>13403(04)</u> SHEET NO. <u>SD-11</u>
DRAWN	CWP	
CHECKED	DEA	
APPROVED	LGW	
CREW	TECUMSEH	

OKLAHOMA DEPARTMENT OF TRANSPORTATION				
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	TOTAL SHEETS
6	OKLA.			
DESCRIPTION		REVISIONS	DATE	

SEC. COR. O.D.O.T. MON. NO. L-41-362 R.R. SPIKE FOUND IN PLACE AS PER OKLAHOMA CERTIFIED CORNER RECORD AS FILED BY JON D. HALTOM, LS 932, 1996, UNDER SW03060(1).

1/4 SEC. COR. O.D.O.T. MON. NO. L-41-361 FOUND NO. 4 REBAR WITH YELLOW PLASTIC CAP AS SHOWN ON OKLAHOMA CERTIFIED CORNER RECORD FILED BY EDMOND SCHOOLEY, LS 1358, 1996 AND BY JON D. HALTOM, LS 932, 1996, UNDER SW04006(1). THIS CORNER ALSO USED UNDER SW04006(1) SURVEY.

SEC. COR. O.D.O.T. MON. NO. L-41-360 FOUND NO. 4 REBAR AS SHOWN ON OKLAHOMA CERTIFIED CORNER RECORD FILED BY JON D. HALTOM, LS 932, 1996, UNDER SW03060(1). THIS CORNER ALSO USED UNDER SW04006(1) SURVEY.

1/4 SEC. COR. O.D.O.T. MON. NO. L-41-407 NO. 4 REBAR WITH PLASTIC CAP FOUND IN PLACE THIS SURVEY AS PER OKLAHOMA CERTIFIED CORNER RECORD AS FILED BY GARY S. RHOADS, PLS 1102, ESTABLISHED UNDER SW04006(1) SURVEY. THIS CORNER LOCATION ALSO FITS THE POSITION OF RUFUS ROBINSON, PLS 511, 1980 CORNER LOCATION.

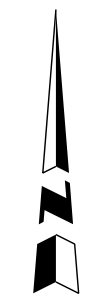
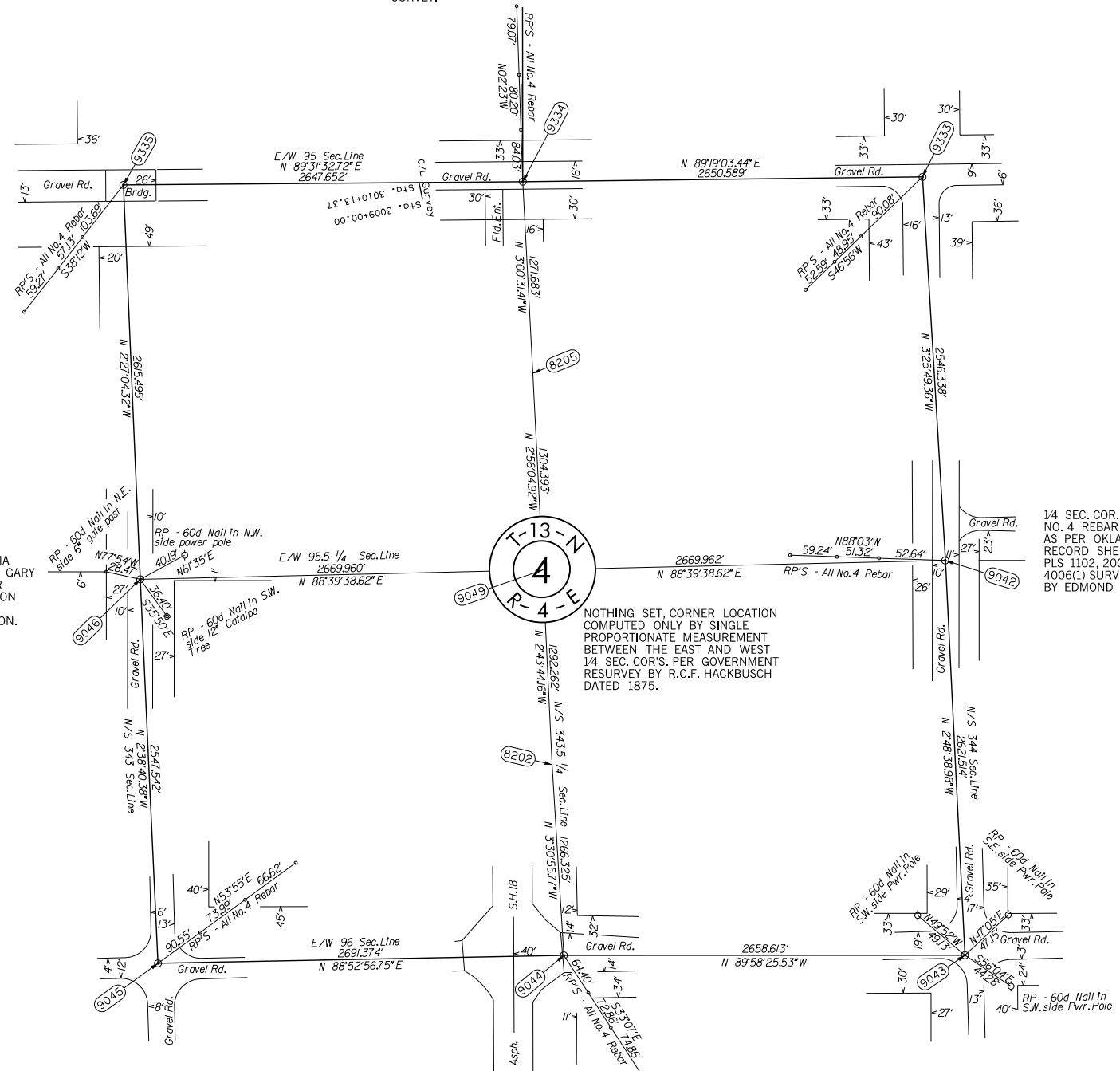
1/4 SEC. COR. O.D.O.T. MON. NO. L-41-403 NO. 4 REBAR WITH O.D.O.T. PLASTIC CAP AS PER OKLAHOMA CERTIFIED CORNER RECORD SHEET FILED BY GARY S. RHOADS, PLS 1102, 2001, ESTABLISHED UNDER SW04006(1) SURVEY. THIS CORNER ALSO ON FILE BY EDMOND SCHOOLEY, PLS 1358, 1997.

NOTHING SET, CORNER LOCATION COMPUTED ONLY BY SINGLE PROPORTIONATE MEASUREMENT BETWEEN THE EAST AND WEST 1/4 SEC. COR'S, PER GOVERNMENT RESURVEY BY R.C.F. HACKBUSCH DATED 1875.

SEC. COR. O.D.O.T. MON. NO. L-41-406 NO. 4 REBAR WITH O.D.O.T. PLASTIC CAP FOUND IN PLACE THIS SURVEY, AS PER OKLAHOMA CERTIFIED CORNER RECORD FILED BY GARY S. RHOADS, PLS 1102, 2001, ESTABLISHED UNDER SW04006(1) SURVEY. THIS CORNER LOCATION ALSO FITS CORNER LOCATION AS PER CERTIFIED CORNER RECORD SHEET OF RUFUS ROBINSON, PLS 511, 1980.

1/4 SEC. COR. O.D.O.T. MON. NO. L-41-405 NO. 4 REBAR WITH PLASTIC CAP. THIS CORNER WAS ESTABLISHED UNDER SW04006(1) SURVEY BY GARY S. RHOADS, PLS 1102, 2001.

SEC. COR. O.D.O.T. MON. NO. L-41-404 NO. 4 REBAR WITH O.D.O.T. PLASTIC CAP 2' BELOW GRADE. THIS CORNER WAS ESTABLISHED BY GARY S. RHOADS, PLS 1102, 2001, UNDER SW04006(1) SURVEY.



SCALE
1" = 500'

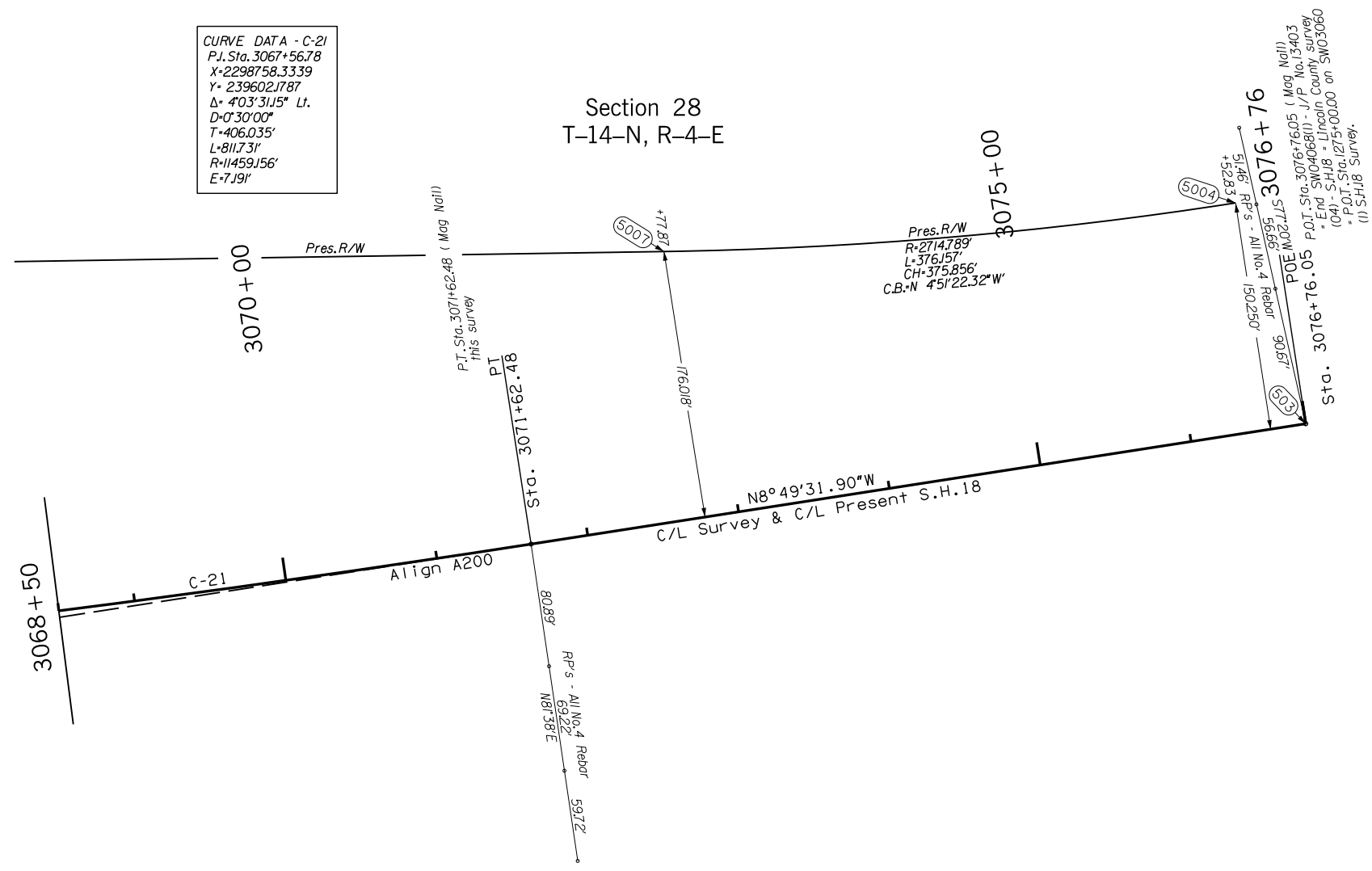
NOTE: REFERENCE'S SHOWN ARE NOT TO SCALE.

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION SURVEY DATA SHEET SHEET <u>10</u> OF <u>12</u> CREW <u>TECUMSEH</u> SWO <u>4068</u> (1) PROJECT NO. <u>13403(04)</u> SHEET NO. <u>SD-10</u>
DRAWN	CWP	
CHECKED	DEA	
APPROVED	LGW	
CREW	TECUMSEH	

OKLAHOMA DEPARTMENT OF TRANSPORTATION				
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	TOTAL SHEETS
6	OKLA.			
DESCRIPTION		REVISIONS	DATE	

CURVE DATA - C-21
 P.I. Sta. 3067+56.78
 X= 2298758.3339
 Y= 2396021787
 Δ= 4°03'31.15" Lt.
 D= 0°30'00"
 T= 406.035'
 L= 8117.31'
 R= 11459156'
 E= 7.191'

Section 28
 T-14-N, R-4-E



SCALE
 1" = 50'

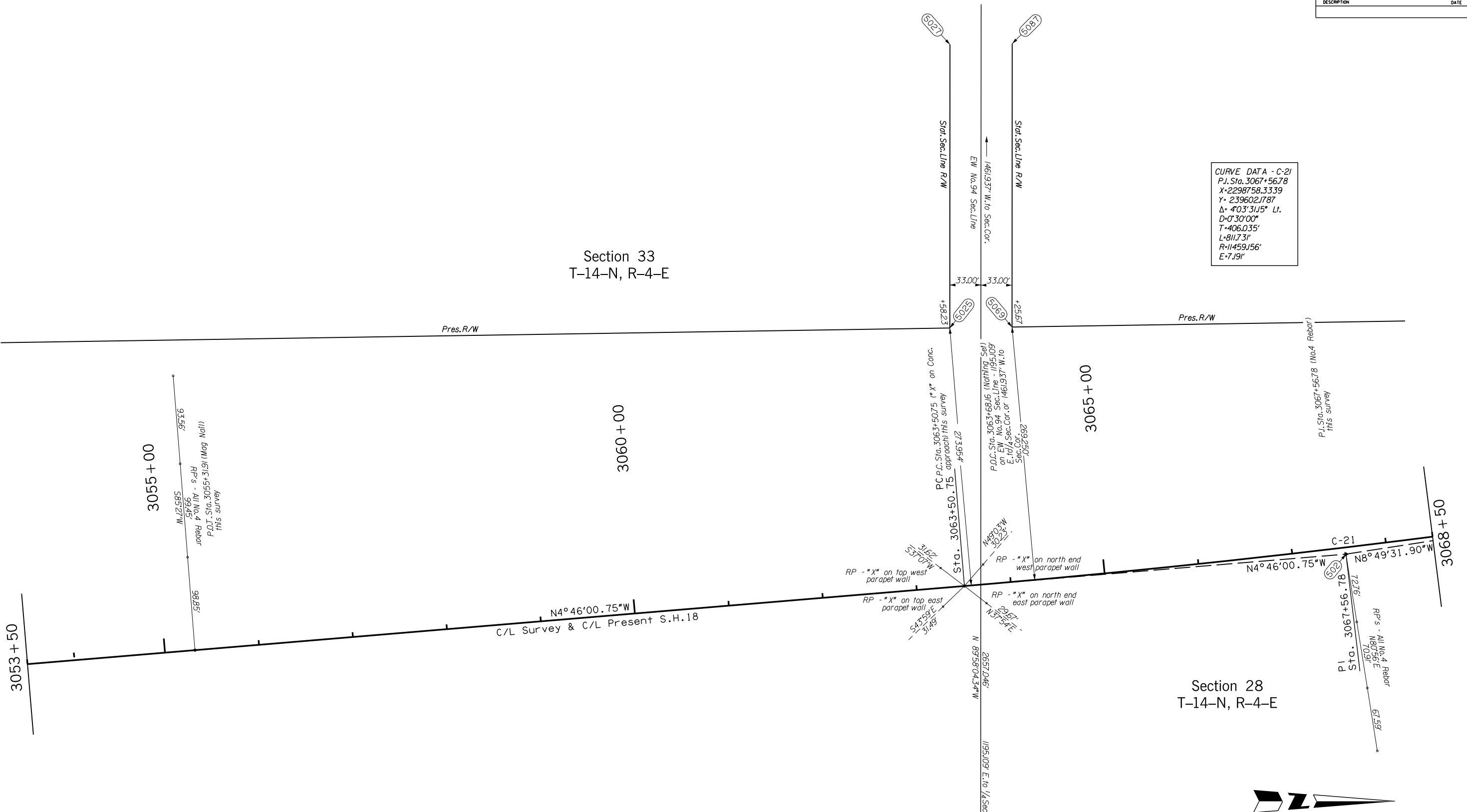
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DRAWN	CWP		
CHECKED	DEA		
APPROVED	WLT		

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION		REVISIONS		DATE	

CURVE DATA - C-21
 P.I. Sta. 3067+56.78
 X=2298758.3339
 Y=239602.1787
 Δ= 4°03'31.15" Lt.
 D= 30'00"
 T=406.035'
 L=811.731'
 R=11459.156'
 E=7.191'

Section 33
T-14-N, R-4-E

Section 28
T-14-N, R-4-E



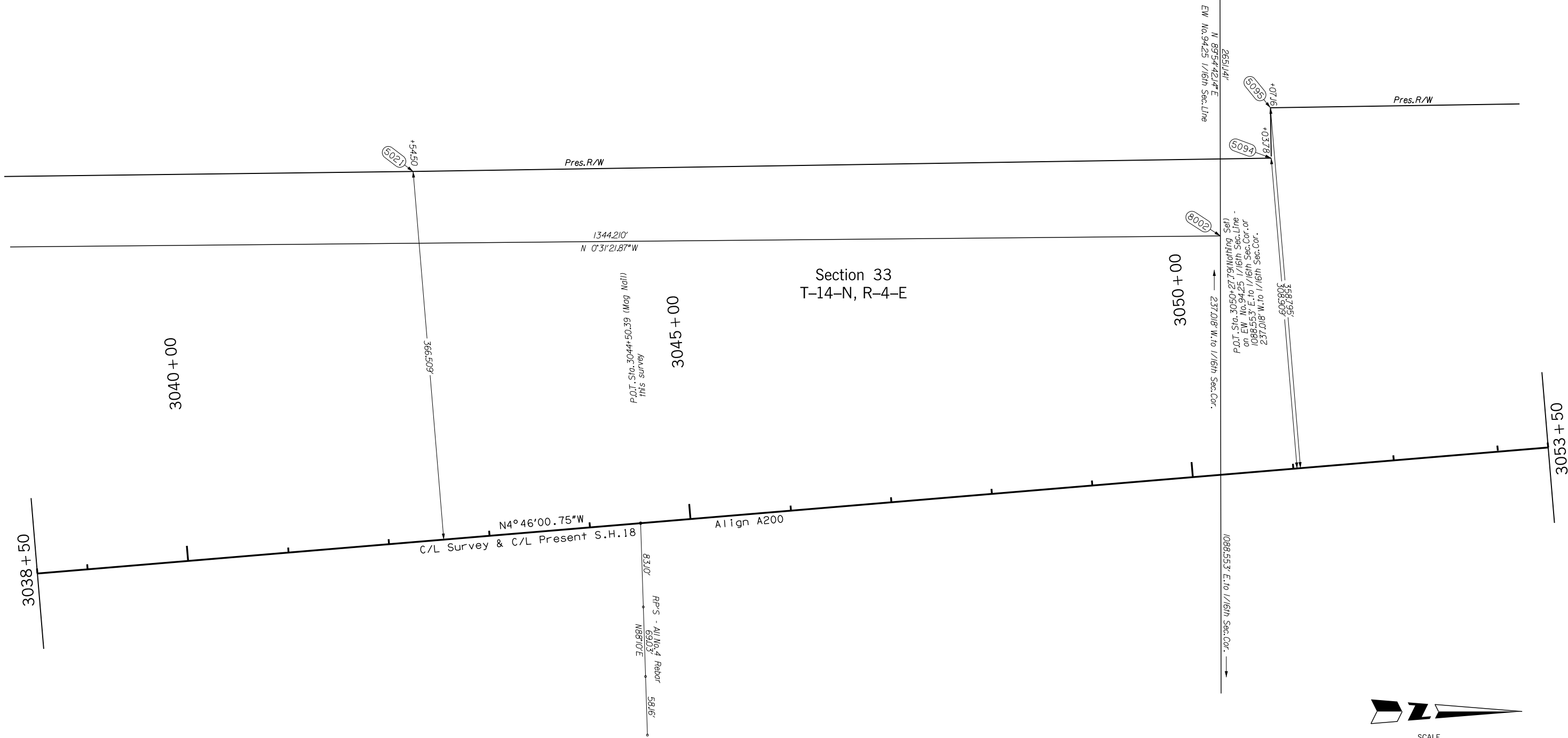
SCALE
1" = 50'

OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION	
PLS	DEA
DRAWN	CWP
CHECKED	DEA
APPROVED	WLT
CREW	TECUMSEH

SURVEY DATA SHEET
SHEET 8 OF 12

SWO 4068 (1) PROJECT NO. 13403(04) SHEET NO. SD-8

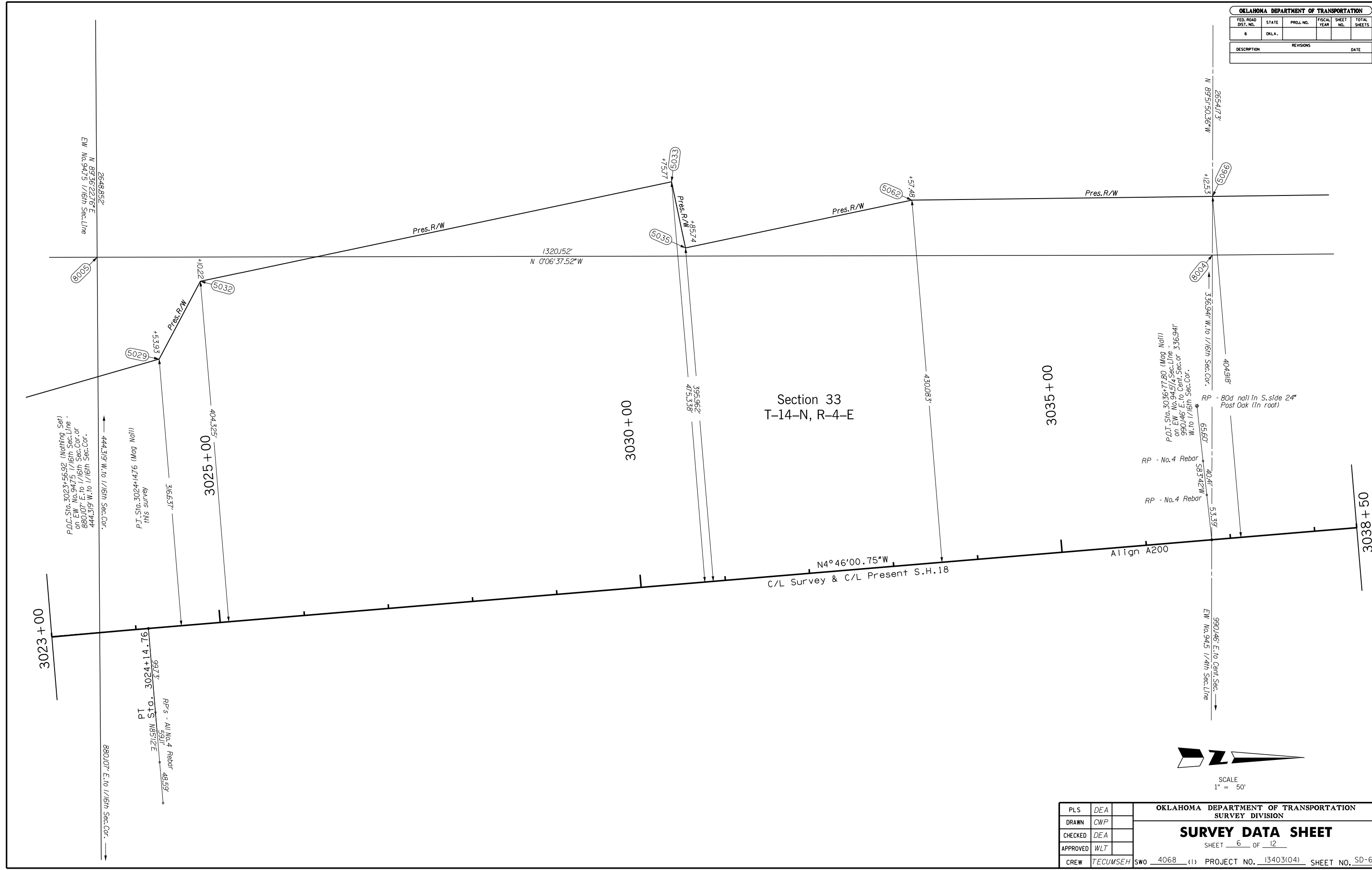
OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION		REVISIONS		DATE	



SCALE
1" = 50'

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION SURVEY DATA SHEET SHEET <u>7</u> OF <u>12</u> SWO <u>4068</u> (1) PROJECT NO. <u>13403(04)</u> SHEET NO. <u>SD-7</u>
DRAWN	CWP	
CHECKED	DEA	
APPROVED	WLT	
CREW	TECUMSEH	

OKLAHOMA DEPARTMENT OF TRANSPORTATION				
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	TOTAL SHEETS
6	OKLA.			
DESCRIPTION		REVISIONS	DATE	



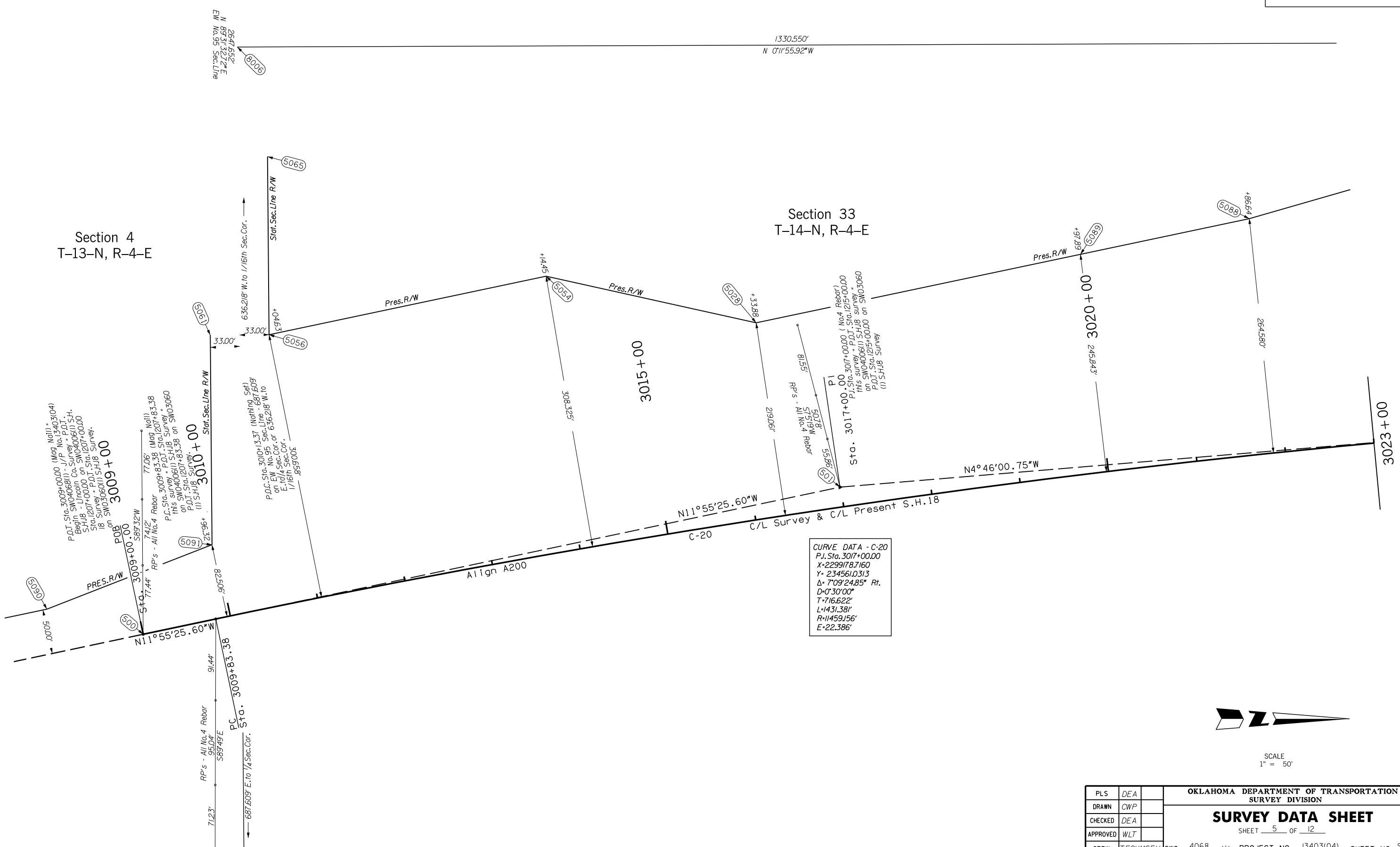
SCALE
1" = 50'

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION SURVEY DATA SHEET SHEET <u>6</u> OF <u>12</u> CREW <u>TECUMSEH</u> SWO <u>4068</u> (1) PROJECT NO. <u>13403(04)</u> SHEET NO. <u>SD-6</u>
DRAWN	CWP	
CHECKED	DEA	
APPROVED	WLT	
CREW	TECUMSEH	

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION		REVISIONS		DATE	

Section 4
T-13-N, R-4-E

Section 33
T-14-N, R-4-E



PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DATA SHEET SHEET <u>5</u> OF <u>12</u> CREW <u>TECUMSEH</u> SWO <u>4068</u> (1) PROJECT NO. <u>13403(04)</u> SHEET NO. <u>SD-5</u>
DRAWN	CWP	
CHECKED	DEA	
APPROVED	WLT	
CREW	TECUMSEH	

Check Levels					Bench Mark List		Sht. 1 Of 2
BM No.	Run 1	Run 2	Mean Diff.	Adjusted Diff.	Adjusted Elev.	BM Description	NAVD 1988 Datum
BM 17-A					880.06	BM 17-A (LEVEL SOURCE) R.R. Spk. in W. side 24" P.O. 152' Rt. Sta. 3001+49 = BM17-A R.R. Spk. in W. side 24" P.O. 152' Rt. Sta. 1199+49 on SW04006(1) survey.	
TO	-29.09	+29.09	-29.09	-29.08			
BM 18-A					850.98	BM 18-A (LEVEL COMPARISON) "[]" on S.W. cor. conc. slab on N. Tel. Ped. 120' Lt. Sta. 3009+99 = BM18-A "[]" on S.W. cor. conc. slab on N. Tel. Ped. 120' Lt. Sta. 1207+99 on SW04006(1) S.H.18 survey.	
TO	-37.59	+37.62	-37.605	-37.60			
BM 18-1					813.38	BM 18-1 80d Spk. in S.W. side 26" Elm 180' Rt. Sta. 3019+68.	
TO	+8.09	-8.09	+8.09	+8.09			
BM 18-2					821.47	BM 18-2 80d Spk. in 6" Cor. Post R/W Fence 165' Rt. Sta. 3027+84.	
TO	-2.58	+2.56	-2.57	-2.56			
BM 18-3					818.91	BM 18-3 60d Spk. in S.W. side 18" Hackberry 109' Rt. Sta. 3033+59.	
TO	+1.41	-1.43	+1.42	+1.42			
BM 20-A					820.34	BM 20-A (LEVEL SOURCE) 80d Spk. in N.E. side 24" Post Oak 651' Lt. Sta. 3037+44. = BM20-A 80d Spk. in N.E. side 24" P.O. 391' Lt. Sta. 1236+01 on SW04006(1) S.H.18 survey.	
TO	-7.43	+7.42	-7.42	-7.42			
BM 18-4					812.92	BM 18-4 "[]" on center W. conc. Hdwl. 54' Lt. Sta. 3039+48.	
TO	+16.05	-16.05	+16.05	+16.05			
BM 18-5					828.97	BM 18-5 "[]" on S.W. cor. of Parapet Wall @ S.E. cor. of bridge 19' Rt. Sta. 3048+37.	
TO	+1.04	-1.02	+1.03	+1.03			
BM 18-6					830.00	BM 18-6 "[]" on S.W. cor. of Parapet Wall @ S.E. cor. of bridge 20' Rt. Sta. 3058+75.	
TO	-23.94	+23.94	-23.94	-23.94			
BM 21-A					806.06	BM 21-A (LEVEL COMPARISON) "[]" on N.W. cor. N. conc. Hdwl. 216' Lt. Sta. 3064+08. = BM21-A "[]" on N.W. cor. N. conc. Hdwl. 203' Lt. Sta. 2063+99 on SW04006(1) S.H.18 survey.	
TO	+3.37	-3.39	+3.38	+3.38			
BM 18-7					809.44	BM 18-7 "[]" ON N.W. COR. N. CONC. HDWL. 203' LT. STA. 2063+99. 80d Spk. in fork of twin 15" Willow 112' Lt. Sta. 3075+98.	

Check Levels					Bench Mark List		Sht. 2 Of 2
BM No.	Run 1	Run 2	Mean Diff.	Adjusted Diff.	Adjusted Elev.	BM Description	NAVD 1988 Datum
BM 18-A					850.98	BM18-A "[]" on S.W. cor. conc. slab on N. Tel. Ped. 120' Lt. Sta. 3009+99 = BM18-A "[]" on S.W. cor. conc. slab on N. Tel. Ped. 120' Lt. Sta. 1207+99 on SW04006(1) S.H.18 survey.	
TO	+5.11	-5.12	+5.115	+5.12			
BM 18-B					856.10	BM18-B (LEVEL COMPARISON) 80d Spk. in S.E. side 12" Elm 381' Lt. Sta. 3011+23 = BM18-B 80d Spk. in S.E. side 12" Elm 380' Lt. Sta. 1209+28 on SW04006(1) S.H.18 survey.	

Project Name: SW04068_1_V1
Description: Bridges on S.H.18 over Deep Fork River and overflow Bridges
Horizontal Alignment Name: A200
Description: Centerline S.H.18 New Alignment
Style: Centerline
Input Factor: 1.0000000

	STATION	X-COORD.	Y-COORD.
Element: Linear			
POB (500)	3009+00.00	2299344.0042	233778.2927
PC (16)	3009+83.38	2299326.7775	233859.8712
Tangent Direction:		N 11°55'25.60" W	
Tangent Length:		83.378'	
Element: Circular			
PC (16)	3009+83.38	2299326.7775	233859.8712
PI (501)	3017+00.00	2299178.7160	234561.0313
CC (17)		2310538.6829	236227.4505
PT (18)	3024+14.76	2299119.1634	235275.1749
Radius:		11459.156'	
Delta:		7°09'24.85" Right	
Degree of Curvature(Arc):		0°30'00.00"	
Length:		1431.381'	
Tangent:		716.622'	
Chord:		1430.450'	
Middle Ordinate:		22.342'	
External:		22.386'	
Tangent Direction:		N 11°55'25.60" W	
Radial Direction:		N 78°04'34.40" E	
Chord Direction:		N 8°20'43.18" W	
Radial Direction:		N 85°13'59.25" E	
Tangent Direction:		N 4°46'00.75" W	
Element: Linear			
PT (18)	3024+14.76	2299119.1634	235275.1749
PC (19)	3063+50.75	2298792.0761	239197.5481
Tangent Direction:		N 4°46'00.75" W	
Tangent Length:		3935.987'	
Element: Circular			
PC (19)	3063+50.75	2298792.0761	239197.5481
PI (502)	3067+56.78	2298758.3339	239602.1787
CC (20)		2287372.5566	238245.2725
PT (21)	3071+62.48	2298696.0375	240003.4064
Radius:		11459.156'	
Delta:		4°03'31.15" Left	
Degree of Curvature(Arc):		0°30'00.00"	
Length:		811.731'	
Tangent:		406.035'	
Chord:		811.561'	
Middle Ordinate:		7.187'	
External:		7.191'	
Tangent Direction:		N 4°46'00.75" W	
Radial Direction:		N 85°13'59.25" E	
Chord Direction:		N 6°47'46.33" W	
Radial Direction:		N 81°10'28.10" E	
Tangent Direction:		N 8°49'31.90" W	
Element: Linear			
PT (21)	3071+62.48	2298696.0375	240003.4064
POE (503)	3076+76.05	2298617.2426	240510.8950
Tangent Direction:		N 8°49'31.90" W	
Tangent Length:		513.569'	

SCALE
1" = 50'

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION		REVISIONS		DATE	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
 SURVEY DIVISION (405) 521-2621 FAX 405-522-0364

Date: January 17, 2007

To Mr. Larry D. Reser, Chief of Surveys
 From Derrick E. Anderson, Professional Land Surveyor
 Subject SW04068(1) - J/P No. 13403(04) - SH 18 - Lincoln County.
 Bridge & overflow structures over Deep Fork River.
 (Re-establishment of Forested Wetland)

HISTORICAL LETTER AND WRITTEN REPORT

GENERAL:
 Survey Began: December 11, 2006
 Survey Completed: January 18, 2007

Personnel on this survey:
 Derrick E. Anderson Professional Land Surveyor Lv. III
 Charles W. Pauley Transportation Specialist Lv. III
 David D. O'Neal Transportation Specialist Lv. III
 Jimmie R. Wallace Transportation Technician Lv. III

Previous surveys relevant to this project:
 BRFY-041C(240) S.H.18 Plans - These plans began at station 3006+00.00 on the new S.H.18 alignment, and extended northerly to station 3081+00.00, without equation.
 By: Garver Engineers

SW04068(1) - J/P No. 17682(04) - S.H.18 - Lincoln Co. - This survey was the survey for the proposed new alignment of S.H.18 and Bridge & overflow structures over Deep Fork River.
 By: Derrick E. Anderson, PLS, Tecumseh Survey Crew - Oklahoma Department of Transportation.

SW04006(1) - J/P No. 13403(04) - S.H.18 - Lincoln Co. - This survey was for the bridge over the abandoned railroad overpass 3.8 miles south of U.S.66 at Chandler. This survey began south of the abandoned railroad overpass, and extended north to the south bank of the Deep Fork River, along the centerline of S.H.18 during the time this survey was done.
 By: Gary S. Rhoads, PLS - Oklahoma Department of Transportation

ASSIGNMENT:
 This survey was verbally assigned to Mr. Derrick E. Anderson, Professional Land Surveyor by Mr. Larry G. Williams, Transportation Survey Manager, on November 27, 2006.

PURPOSE: The purpose of this project is to obtain sufficient information for the design and preparation of construction plans for re-establishing forested wetland.

SURVEY LIMITS: This survey begins at station 3009+00.00 on the new S.H.18 alignment, thence northerly along the new centerline of S.H.18 to ending station 3076+53. All necessary survey data was located from the west edge of the new S.H.18 pavement, west to the west Right of Way line of S.H.18.

Work on this project was done by the Tecumseh Survey Crew, under the direct supervision of Charles W. Pauley, Transportation Specialist Lv. III.

SURVEY METHOD:
 This survey was performed using conventional methods to obtained all topographic features.

ALIGNMENT:
 Centerline Survey for this project is along and identical to the new centerline as depicted on BRFY-041C(240) S.H.18 plans.

STATIONING:
 Stationing for the survey was taken from BRFY-041C(240) S.H.18 plans. The beginning station for this survey is 3009+00.00, thence northerly along the new centerline of S.H.18 to the ending station 3076+53, without equation.

HORIZONTAL CONTROL:
 Horizontal Control for this survey is NGS NAD83(1993) HARN as established under SW04006(1) survey. This horizontal control was also used under the original SW04068(1) survey.

COORDINATES:
 Coordinates shown on this survey are the National Geodetic Survey (NGS) Oklahoma State Plane Coordinate System of 1983(1993 HARN), North Zone.

VERTICAL CONTROL:
 Vertical control datum for this survey is NGS NAVD 88. The vertical control for this survey was established under SW04006(1) survey, and also used under SW04068(1) survey. A benchmark list depicting newly established benchmarks, as well as results of the control leveling has been placed in the archived Microstation Design File.

MEASUREMENT UNITS:
 The distances, coordinates, and elevations shown on this survey are in U.S. Survey Feet. All angles and bearings shown are in degrees, minutes, and seconds.

TOPOGRAPHY:
 The following topography information was obtained during the course of this survey:
 - Horizontal and vertical location of all topographic features from the west edge of the new S.H.18 pavement west to the west Right of Way line of S.H.18 from Sta. 3009+00.00 to 3076+53.

UNDERGROUND STORAGE TANKS/HAZARDOUS WASTE SITES:
 There were no Underground Storage Tanks or Hazardous Waste Sites encountered during this survey.

UTILITIES:
 All utility companies that have services within the project extents were contacted during the course of this survey. Survey Crew Personnel met with Company Representatives in the field, when possible, to obtain horizontal locations of underground utilities. Depth information was not given by any owning companies.

RIGHT OF WAY:
 The Existing Right of Way shown on this survey was taken from SW04068(1) survey.

LAND TIES:
 Land ties shown on this survey was established under SW04006(1) & SW04068(1) surveys.

SCALE
 1" = 50'

Derrick E. Anderson
 Professional Land Surveyor
 Oklahoma Department of Transportation
 Survey Division

PLS	DEA		OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION SURVEY DATA SHEET SHEET <u>2</u> OF <u>12</u> SW0 4068 (1) PROJECT NO. 13403(04) SHEET NO. SD-2
DRAWN	CWP		
CHECKED	DEA		
APPROVED	WLT		
CREW	TECUMSEH		

STATE OF OKLAHOMA
 DEPARTMENT OF TRANSPORTATION

SW04068(1) Job/Piece 13403 (04) Engr. Contract No. _____

LAND SURVEYOR'S CERTIFICATION

I hereby certify that all land and property sub-division distances, angles, corners and monumentation made or used in conjunction with this survey and depicted or recorded herein or hereon were recovered, established or re-established in substantial conformity with:

- applicable instructions contained in the U.S. Government Bureau of Land Management publication "Manual of Surveying Instructions";
- its supplement, "Restoration of Lost or Obliterated Corners and Subdivision of Sections";
- "Oklahoma Minimum Standards for the Practice of Land Surveying" as adopted by the State Board of Registration for Professional Engineers and Land Surveyors; and
- sound land surveying practices;

Including a thorough search, study, analysis and consideration of all existing records and field evidence.

I further certify that all survey monuments depicted exist and that all land survey work was done by me or under my direct supervision and that it is true, accurate and correct to the best of my knowledge and belief.

Dated this 17th day of January 2007

(seal)
 Land Surveyor Derrick E. Anderson
 Signature

 Printed Name

Oklahoma Registered Land Surveyor No. 1551
 Certificate of Authorization No. _____ Exp. Date _____

