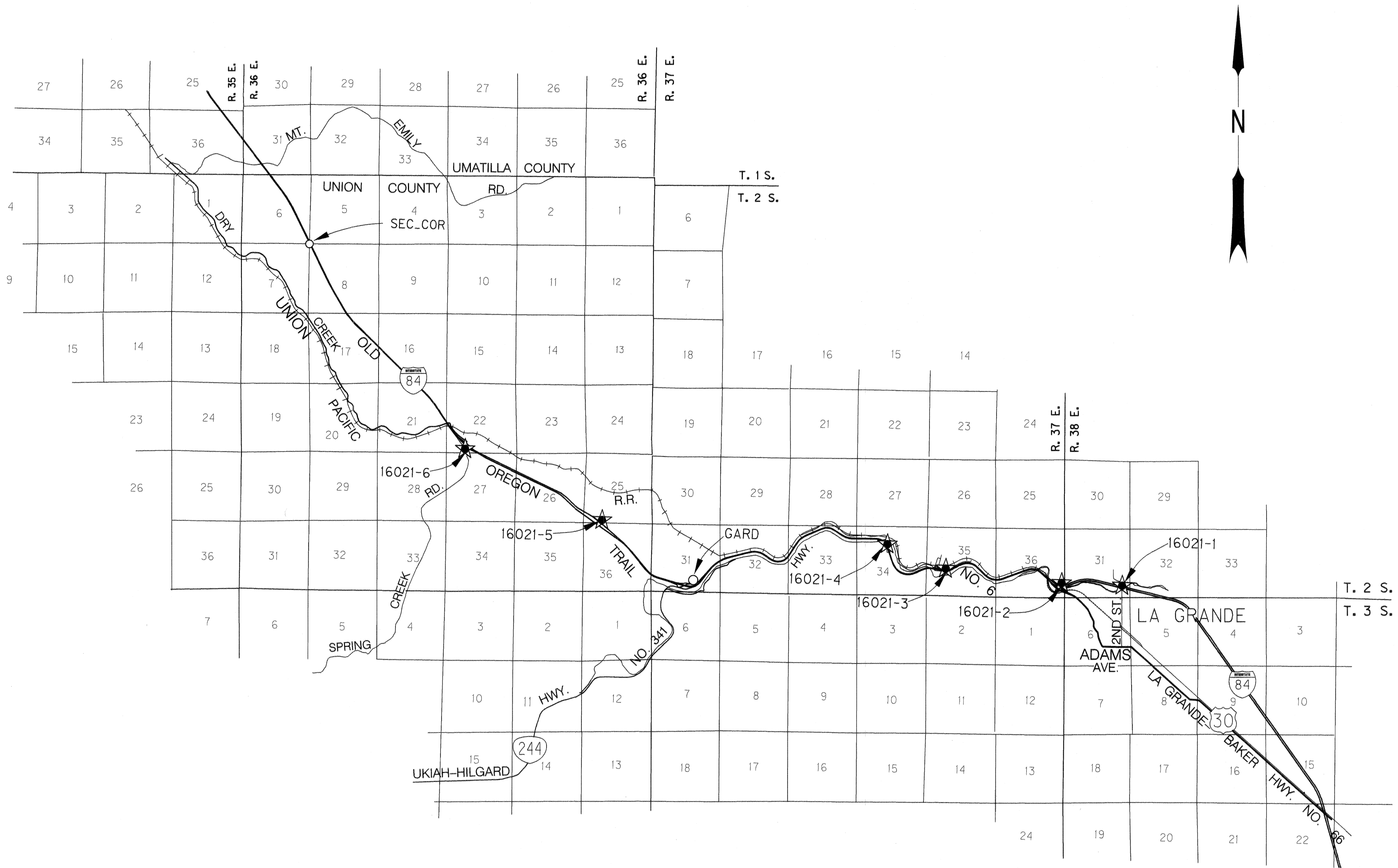


S.W. 1/4 SEC. 5, T. 2 S., R. 36 E.,	W.M. (SEC_COR)	N.W. 1/4 SEC. 34, T. 2 S., R. 37 E.,	W.M. (16021-4)
S.W. 1/4 SEC. 22, T. 2 S., R. 36 E.,	W.M. (16021-6)	S.W. 1/4 SEC. 35, T. 2 S., R. 37 E.,	W.M. (16021-3)
S.W. 1/4 SEC. 25, T. 2 S., R. 36 E.,	W.M. (16021-5)	S.E. 1/4 SEC. 36, T. 2 S., R. 37 E.,	W.M. (16021-2)
S.E. 1/4 SEC. 31, T. 2 S., R. 37 E.,	W.M. (GARD)	S.E. 1/4 SEC. 31, T. 2 S., R. 38 E.,	W.M. (16021-1)

UNION COUNTY, OREGON



UNION COUNTY
SURVEYOR

Date Received 8/17/11
Date Filed 8/18/11
By P. ROANSON, DEPUTY
File No. 026-2011

LEGEND

○ FOUND MONUMENT NOTED IN TABLE

★ SET GPS STATION

REGISTERED
PROFESSIONAL
LAND SURVEYOR

J. David Brinton

OREGON
DECEMBER 2, 1983
J. DAVID BRINTON
2065

EXPIRES 12-31-11

OREGON DEPARTMENT OF TRANSPORTATION

GEODETIC CONTROL REPORT

I-84 INTERCHANGE-ORO-DELL AND
I-84 SPRING CR. CLIMBING LN.
OLD OREGON TRAIL HWY.
UNION COUNTY, OREGON

ODOT GEOMETRONICS UNIT
4040 FAIRVIEW IND. DR.
SALEM, OR

JULY, 2011
NOT TO SCALE
SHEET 1 OF 3

S.W. 1/4 SEC. 5, T. 2 S., R. 36 E., W.M. (SEC_COR)
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 S.E. 1/4 SEC. 31, T. 2 S., R. 38 E., W.M. (16021-1)

UNION COUNTY, OREGON

STATION DESCRIPTIONS

16021-1	THE MARK IS A 3" DIAMETER BRASS DISK SET IN CONCRETE STAMPED, "OREGON DOT DO NOT DISTURB, GEODETIC CONTROL, 16021-1, 2011". THE MARK IS LOCATED IN LA GRANDE ON THE 2ND STREET OVER CROSSING AT I-84. IT IS BEHIND THE GUARD RAIL NEAR THE NORTH END OF THE BRIDGE AND ON THE EAST SIDE OF 2ND. STREET 6 FEET EAST OF THE EDGE OF PAVEMENT AND 4 FEET WEST OF AN ORANGE CARSONITE POST.
16021-2	THE MARK IS A 3" DIAMETER BRASS DISK SET IN CONCRETE STAMPED, "OREGON DOT DO NOT DISTURB, GEODETIC CONTROL, 16021-2, 2011". THE MARK IS 0.92 MILES WEST ALONG I-84 WEST BOUND FROM 2ND STREET-I 84 OVER CROSSING ALONG THE I-84 WEST AND 45.4 FEET FROM THE EDGE OF PAVEMENT AND 4 FEET SOUTH OF AN ORANGE CARSONITE GUARD POST.
16021-3	THE MARK IS A 3" DIAMETER BRASS DISK SET IN CONCRETE STAMPED, "OREGON DOT DO NOT DISTURB, GEODETIC CONTROL, 16021-3, 2011". THE MARK IS 2.88 MILES WEST ALONG I-84 WESTBOUND FROM THE 2ND STREET-I 84 OVER CROSSING IN LA GRANDE AND 29.3 FEET NORTH OF THE I-84 WESTBOUND EDGE OF PAVEMENT, 9.9 FEET SOUTH OF THE PERRY OFFRAMP SOUTH EDGE OF PAVEMENT AND 2.7 FEET SOUTH OF AN ORANGE CARSONITE POST.
16021-4	THE MARK IS A 3" DIAMETER BRASS DISK SET IN CONCRETE STAMPED, "OREGON DOT DO NOT DISTURB, GEODETIC CONTROL, 16021-4, 2011". THE MARK IS 3.99 MILES WEST OF THE 2ND STREET-I 84 OVER CROSSING IN LA GRANDE AND 11.5 FEET NORTHEAST OF I-84 WESTBOUND EDGE OF PAVEMENT AND 1.6 FEET SOUTHWEST OF AN ORANGE CARSONITE POST.
16021-5	THE MARK IS A 3" DIAMETER BRASS DISK SET IN CONCRETE STAMPED, "OREGON DOT DO NOT DISTURB, GEODETIC CONTROL, 16021-5, 2011". THE MARK IS 1.69 MILES WESTERLY FROM THE HILGARD INTERCHANGE AT I-84 AND HIGHWAY 244, 41 FEET NORTH OF THE WESTBOUND I-84 EDGE OF PAVEMENT AND 2 FEET SOUTH OF AN ORANGE CARSONITE POST.
16021-6	THE MARK IS A 3" DIAMETER BRASS DISK SET IN CONCRETE STAMPED, "OREGON DOT DO NOT DISTURB, GEODETIC CONTROL, 16021-6, 2011". THE MARK IS 3.96 MILES WESTERLY FROM THE HILGARD INTERCHANGE AT I-84 AND HIGHWAY 244 EXIT 248 (SPRING CREEK/KALAMA) INTERCHANGE OFF THE SOUTH EDGE OF PAVEMENT OF I-84 EASTBOUND ONRAMP 42.5 FEET SOUTH OF EDGE OF PAVEMENT, 1.2 FEET NORTH OF AN ORANGE CARSONITE POST.
GARD	THE MARK IS A STANDARD O.S.H.D TRIANGULATION DISK DISK SET IN CONCRETE STAMPED, "GARD 1992". THE MARK IS 7.08 MILES WEST OF THE 2ND. STREET-I 84 OVER CROSSING IN LA GRANDE AND BETWEEN THE OFFRAMP AND I-84 ABOUT 131 FEET NORTHEAST OF MILE POST 253. THE MARK IS 5 FEET SOUTHEAST OF THE SOUTH EDGE OF PAVEMENT AND 4 FEET NORTHWEST OF AN ORANGE CARSONITE POST.
SEC_COR	THE MARK IS A 2 1/2" ALUMINUM CAP ON AN ALUMINUM PIPE SET IN THE GROUND STAMPED, "T 2 S R 36 E S 6 S5 S7 S8 1995 OPLS 991 UNION COUNTY SURVEYOR". THE MARK IS LOCATED AT MILE POST 245.22 ON THE WEST SIDE OF I-84 AND IS 52 FEET WEST OF THE CENTERLINE OF THE EASTBOUND LANE AS PER CERTIFIED RECORD OF LAND CORNER MONUMENTATION SHEET FILE NUMBER 037-1995r FILED NOVEMBER 13, 1995

SURVEY NARRATIVE

THIS SURVEY WAS PERFORMED FOR AND AT THE REQUEST OF MARK FILSINGER, REPRESENTING REGION 5 OF THE OREGON DEPARTMENT OF TRANSPORTATION. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH COORDINATES ON TWO EXISTING MONUMENTS AND SIX NEW MARKS.

THE GPS PORTION OF THIS SURVEY WAS COMPLETED IN JUNE, 2011. GPS SESSIONS WERE OBSERVED USING FIVE LEICA SYSTEM 1200 DUAL FREQUENCY GPS RECEIVERS, MODEL GX1230, ANTENNA MODEL AX1202. THE SYSTEM 1200 HAS A STATED ACCURACY SPECIFICATION OF FIVE MILLIMETERS PLUS ONE PART PER-MILLION WHEN USED IN STATIC POST-PROCESSING MODE. AN ON LINE USER SERVICE POSITION (OPUS) WAS ESTABLISHED ON THE MARK NAMED "16021-1" AND GPS TIES WERE OBSERVED TO THE REMAINING MARKS IN THIS SURVEY CONTRAINING TO "16021-1". EACH OF THE STATIONS IN THE GPS NETWORK WERE OCCUPIED TWO OR MORE TIMES. ODOT GEOMETRONICS AND REGION 5 STAFF COMPLETED ALL OF THE OBSERVATIONS.

ANALYSIS AND ADJUSTMENT PROCEDURES ARE SUMMARIZED AS FOLLOWS. THE HORIZONTAL POSITIONS FOR THE SURVEY ARE BASED ON REFERENCE ELLIPSOID WGS84 AND NAD83 (CORS96) (EPOCH 2002.0) CALCULATED VALUE FOR THE OPUS POSITION ON MARK 16021-1. ALL ORTHOMETRIC HEIGHTS WERE ESTABLISHED USING DIFFERENTIAL LEVELING WITH A LEICA DNA03 AND A LEICA DNA10 DIGITAL LEVEL, CONSTRAINING TO BENCH MARK "W 196" (PIDRBO205) PUBLISHED VALUE.

ALL POST PROCESSING, INCLUDING CONVERSION TO THE PENDLETON-LA GRANDE ZONE WAS COMPLETED USING VERSION 7.1 OF LEICA GEO OFFICE SOFTWARE. LEICA GEO OFFICE CALLS A THIRD PARTY LEAST SQUARES ADJUSTMENT ROUTINE IDENTIFIED AS "MOVE 3" VERSION 4.1. AN ADJUSTMENT WAS APPLIED TO A NETWORK OF 49 BASELINES.

POSITIONAL ACCURACIES PUBLISHED ARE RELATIVE TO THE FIXED POINTS AND ARE STATED AT A 95% CONFIDENCE LEVEL. SUPPORTING DATA FOR THIS SURVEY IS LOCATED IN FILE K16021 OF THE ODOT GEOMETRONICS UNIT SALEM, OREGON.

UNION COUNTY SURVEYOR	
Date Received	8/17/11
Date Filed	8/18/11
By	R. Robinson, Deputy
File No.	026-2011

REGISTERED PROFESSIONAL LAND SURVEYOR
<i>J. David Brinton</i>
OREGON DECEMBER 2, 1983 J. DAVID BRINTON 2065
EXPIRES 12-31-11

OREGON DEPARTMENT OF TRANSPORTATION
 GEODETIC CONTROL REPORT
 I-84 INTERCHANGE-ORO-DELL AND
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 NOT TO SCALE
 SHEET 2 OF 3

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UNION COUNTY, OREGON

MONUMENT INFORMATION

GRID COORDINATES ARE OREGON COORDINATE REFERENCE SYSTEM PENDLETON-LA GRANDE ZONE
 HORIZONTAL DATUM IS NAD83(CORS 96, EPOCH 2002)
 VERTICAL DATUM IS NAVD88
 ALL LINEAR VALUES ARE EXPRESSED IN INTERNATIONAL FEET UNLESS NOTED
 VALUES MARKED WITH AN ASTERISK (*) WERE HELD
 ORIENTATION AZIMUTHS ARE EXPRESSED IN WHOLE DEGREES FROM LOCAL GEODETIC NORTH.
 CONVERGENCE ANGLES FROM GEODETIC NORTH TO GRID NORTH ARE EXPRESSED IN DEGREES, MINUTES, AND SECONDS IN THE CLOCKWISE DIRECTION.
 REFERENCE ELLIPSOID IS WGS84
 ALL ORTHOMETRIC HEIGHTS ARE DIFFERENTIALLY LEVELED

THE OREGON COORDINATE REFERENCE SYSTEM PENDLETON-LA GRANDE ZONE IS DEFINED AS FOLLOWS:

TRANSVERSE MERCATOR PROJECTION
 NORTH AMERICAN DATUM OF 1983

LATITUDE OF ORIGIN: 45 05 00 N
 CENTRAL MERIDIAN: 118 20 00 W
 FALSE NORTHING: 0.000 METERS
 FALSE EASTING: 30000.000 METERS
 CENTRAL MERIDIAN SCALE: 1.000175 (EXACT)

STATION	NORTHING	EASTING	LATITUDE	LONGITUDE	ELL. HT.	GEOID-SEP	LEVELED HT.
16021-1	94752.925	158650.654	45 20 34.49742*	118 05 56.96915*	2773.927*	NA	2832.408
16021-2	94790.043	153929.484	45 20 34.99400	118 07 03.05380	2809.455	NA	2867.799
16021-3	95833.239	144709.438	45 20 45.51532	118 09 12.08221	2840.539	NA	2898.796
16021-4	97700.991	140364.140	45 21 04.04383	118 10 12.85739	2934.128	NA	2992.447
16021-5	99489.598	117837.690	45 21 22.02915	118 15 28.20239	3311.264	NA	3370.092
16021-6	104974.304	107414.235	45 22 16.24102	118 17 54.10956	3393.303	NA	3452.425
GARD	94648.314	125476.821	45 20 34.15461	118 13 41.33430	2982.728	NA	3041.273
SEC_COR	120662.668	95178.322	45 24 51.12191	118 20 45.50662	3924.931	NA	NOT LEVELED

<----- 95% CONFIDENCE REGIONS ----->						
STATION	SEMI-MAJ	SEMI-MIN	ORIENT.	HEIGHT	CONVERGENCE	PROJECTION S.F.
16021-1	0.000	0.000	90	0.000	0 10 00	1.000175 (EXACT)
16021-2	0.018	0.011	6	0.025	0 09 13	1.000175 (EXACT)
16021-3	0.017	0.009	2	0.022	0 07 41	1.000175 (EXACT)
16021-4	0.021	0.016	10	0.033	0 06 58	1.000175 (EXACT)
16021-5	0.016	0.010	12	0.024	0 03 14	1.000175 (EXACT)
16021-6	0.016	0.011	13	0.025	0 01 30	1.000175 (EXACT)
GARD	0.017	0.011	8	0.027	0 04 29	1.000175 (EXACT)
SEC_COR	0.020	0.012	13	0.030	-0 00 33	1.000175 (EXACT)

**UNION COUNTY
SURVEYOR**

Date Received 8/17/11
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 By R. Robinson, Deputy
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