# N.E. 1/4 SEC. 27 AND N.W. 1/4 SEC 26, T. 13S, R. 30E, W.M.

anderson perry & associates, inc.

## NARRATIVE

THE PURPOSE OF THIS SURVEY IS TO RESOLVE THE LOCATION OF THE CENTERLINE AND RIGHT-OF-WAY OVER A PORTION OF THE JOHN DAY HIGHWAY (US HWY 26 & 395) FROM STATION 85+00 TO 110+00. THIS SURVEY ESTABLISHES A HORIZONTAL AND VERTICAL CONTROL NETWORK IN PREPARATION FOR THE REPLACEMENT OF BRIDGE 07696 (COLES), OVER THE JOHN DAY RIVER, AT MP 155.75, APPROXIMATELY 1.2 MILES EAST OF MOUNT VERNON, GRANT COUNTY, OREGON. RIGHT-OF-WAY MAP 7B-16-21 WAS USED FOR RECORD CENTERLINE INFORMATION.

THE BASIS OF BEARINGS WAS ESTABLISHED BY SATELLITE OBSERVATIONS FROM THE NGS CONTROL STATION 'OGILVIE' AND ARE BASED UPON THE OREGON STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 83.

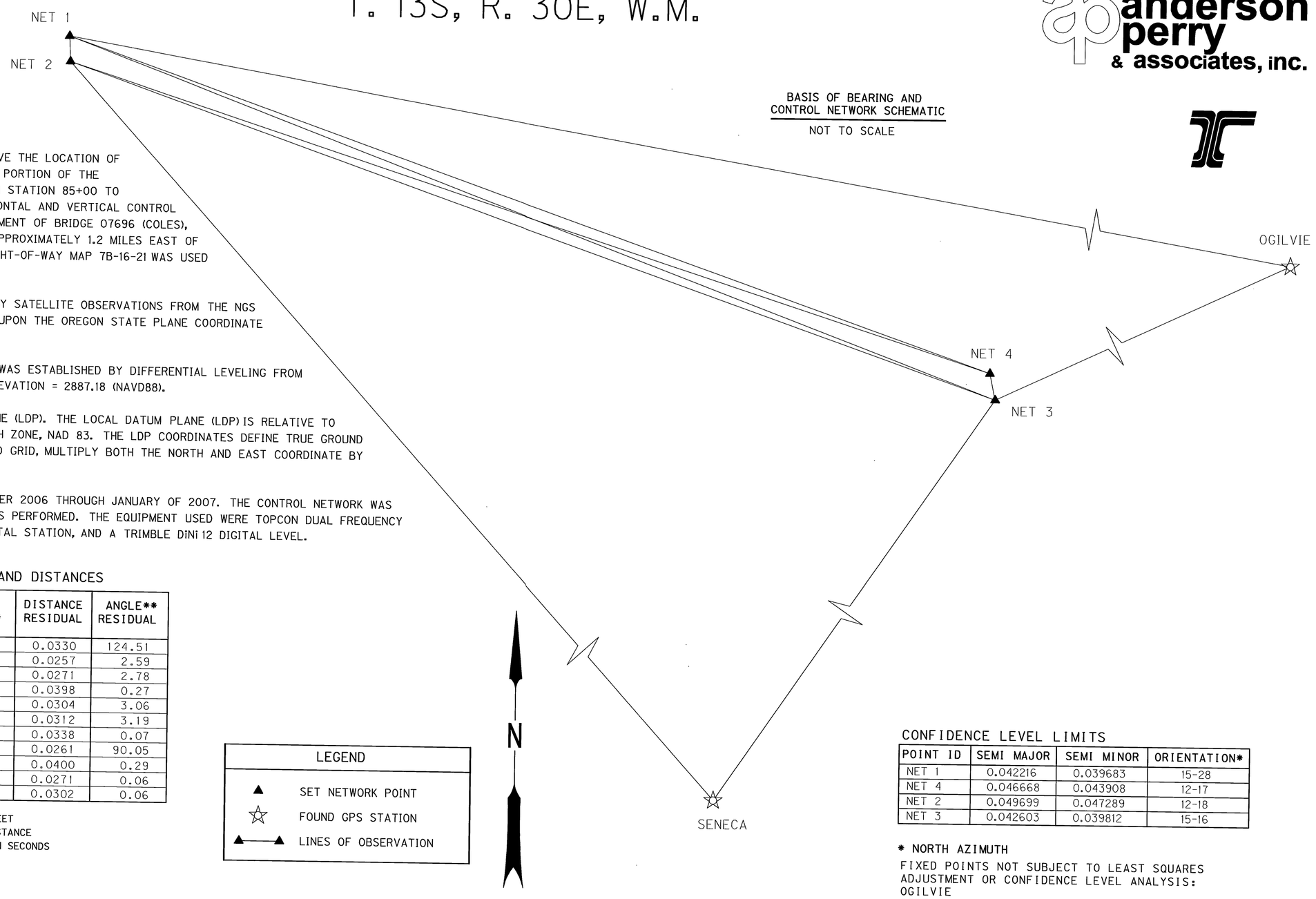
THE VERTICAL COMPONENT OF THE NETWORK WAS ESTABLISHED BY DIFFERENTIAL LEVELING FROM THE NGS BENCHMARK XX 33 (PID QC0349), ELEVATION = 2887.18 (NAVD88).

THIS SURVEY UTILIZES A LOCAL DATUM PLANE (LDP). THE LOCAL DATUM PLANE (LDP) IS RELATIVE TO THE OREGON COORDINATE SYSTEM (OCS) NORTH ZONE, NAD 83. THE LDP COORDINATES DEFINE TRUE GROUND DISTANCES. TO RETURN THE COORDINATES TO GRID, MULTIPLY BOTH THE NORTH AND EAST COORDINATE BY 0.99998032.

THE SURVEY WORK WAS PERFORMED IN OCTOBER 2006 THROUGH JANUARY OF 2007. THE CONTROL NETWORK WAS SET, AND A LEAST SQUARES ADJUSTMENT WAS PERFORMED. THE EQUIPMENT USED WERE TOPCON DUAL FREQUENCY GPS RECEIVERS, A TRIMBLE 5603 DR200+ TOTAL STATION, AND A TRIMBLE DINI 12 DIGITAL LEVEL.

BASIS OF BEARING AND CONTROL NETWORK SCHEMATIC

NOT TO SCALE




### RESIDUALS FOR ANGLES AND DISTANCES

| AT | TO | DISTANCE* | DISTANCE RESIDUAL | ANGLE** RESIDUAL |
|---|---|---|---|---|
| NET 1 | NET 2 | 53.4899 | 0.0330 | 124.51 |
| NET 1 | NET 3 | 2097.9276 | 0.0257 | 2.59 |
| NET 1 | NET 4 | 2067.8663 | 0.0271 | 2.78 |
| NET 1 | OGILVIE | 32154.6596 | 0.0398 | 0.27 |
| NET 2 | NET 3 | 2077.5815 | 0.0304 | 3.06 |
| NET 2 | NET 4 | 2048.6870 | 0.0312 | 3.19 |
| NET 2 | SENECA | 91801.4355 | 0.0338 | 0.07 |
| NET 3 | NET 4 | 56.8925 | 0.0261 | 90.05 |
| NET 3 | OGILVIE | 30168.1181 | 0.0400 | 0.29 |
| NET 3 | SENECA | 90958.7236 | 0.0271 | 0.06 |
| NET 4 | SENECA | 91015.0835 | 0.0302 | 0.06 |

* CALCULATED HORIZONTAL DISTANCE IN FEET DERIVED FROM THE MEASURED SLOPE DISTANCE

** RELATIVE CONFIDENCE OF BEARINGS IS IN SECONDS

LEGEND

- ▲ SET NETWORK POINT
- ☆ FOUND GPS STATION
- ▲——▲ LINES OF OBSERVATION

### CONFIDENCE LEVEL LIMITS

| POINT ID | SEMI MAJOR | SEMI MINOR | ORIENTATION* |
|---|---|---|---|
| NET 1 | 0.042216 | 0.039683 | 15-28 |
| NET 4 | 0.046668 | 0.043908 | 12-17 |
| NET 2 | 0.049699 | 0.047289 | 12-18 |
| NET 3 | 0.042603 | 0.039812 | 15-16 |

* NORTH AZIMUTH

FIXED POINTS NOT SUBJECT TO LEAST SQUARES ADJUSTMENT OR CONFIDENCE LEVEL ANALYSIS:
OGILVIE
SENECA

### NETWORK POINT COORDINATE TABLE

| PT. NO. | LDP NORTHING | LDP EASTING | DATE | DESCRIPTION |
|---|---|---|---|---|
| NET 1 | 276249.77455 | 8572050.79939 | 10/18/06 | 5/8"x30" IRON ROD (REBAR) WITH 1 1/2" ALUMINUM CAP INSCRIBED "APA OR 2537 WA 35140 NET 1" |
| NET 2 | 276196.33665 | 8572052.95685 | 10/18/06 | 5/8"x30" IRON ROD (REBAR) WITH 1 1/2" ALUMINUM CAP INSCRIBED "APA OR 2537 WA 35140 NET 2" |
| NET 3 | 275507.57692 | 8574012.70053 | 10/18/06 | 5/8"x30" IRON ROD (REBAR) WITH 1 1/2" ALUMINUM CAP INSCRIBED "APA OR 2537 WA 35140 NET 3" |
| NET 4 | 275563.25087 | 8574001.03250 | 10/18/06 | 5/8"x30" IRON ROD (REBAR) WITH 1 1/2" ALUMINUM CAP INSCRIBED "APA OR 2537 WA 35140 NET 4" |
| SENECA | 184782.55715 | 8580308.29923 | N/A | SENECA 1 CORS ARP PID-DG8527 A GPS CORS (CONTINUOUSLY OPERATING REFERENCE STATION) |
| OGILVIE | 274804.87200 | 8604167.33700 | 12/19/06 | BRASS CAP INSCRIBED "OGILVIE 1989" PID-QC1049 FEDERAL BASE NETWORK CONTROL STATION |

RECEIVED AND FILED

SEPT 4, 2007
OFFICE OF COUNTY SURVEYOR
Attest:

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JAN. 21, 1992
HARMON S. McLENDON
2537
renews 12/31/08

ANDERSON-PERRY & ASSOCIATES
1901 N. FIR ST., LA GRANDE, OR., 97850

HORIZONTAL CONTROL, RECOVERY AND RETRACEMENT MAP
BRIDGE #07696, COLES
JOHN DAY HIGHWAY- OR HWY 5 (US 26, US 395) MP 155.75
GRANT COUNTY

FOR OBDP & ODOT REGION 5
1165 UNION ST., NE STE 200
SALEM, OR., 97301

AUGUST 2007
SCALE: N/A
SHEET 1 OF 2

MAP OF SURVEY NO. 1821