

MISSOURI GEOGRAPHIC REFERENCE SYSTEM

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGY AND LAND SURVEY
LAND SURVEY PROGRAM

PO Box 250, Rolla, Missouri 65402, (573) 368-2300

STATION NAME: BU-16

PID: AD9789

COUNTY: Buchanan

STATE: Missouri

TOWNSHIP: 57 NORTH, RANGE: 35 WEST, SECTION: NW 1/4 OF 1

USGS 7.5' QUAD: St. Joseph North

DATE MONUMENTED: 1993

MONUMENTED BY: MODNR

TECHNICAL DATA TABLE:

(All data in meters 1 meter = 3.28083333 feet)

HORIZONTAL: NAD 1983**VERTICAL:** NAVD 1988

DATE OF OBSERVATIONS: 2001

DATE OF OBSERVATIONS: 2001

DATE OF ADJUSTMENT: 2000

DATE OF ADJUSTMENT: 2000

ORDER: 1st

ORDER:

LATITUDE: 39°47'15.98465"

ELEVATION: 296.5

LONGITUDE: 94°47'14.19020"

ELLIPSOID HEIGHT: 264.49

MISSOURI COORDINATE SYSTEM 1983:

NORTH (Y): 401944.711

EAST (X): 825394.127

ZONE: West

CONVERGENCE: -00°11'02"

GRID FACTOR: .9999071

AZIMUTH INFORMATION:

STATION: BU-16

AZIMUTH MARK: BU-16A

GEODETTIC:

ASTRONOMIC: 181°45'02"

GRID: 181°56'04"

REMARKS

The HORIZONTAL POSITION was determined by GPS observations and adjusted by the National Geodetic Survey in February 2000.

The AZIMUTH was determined by observation of Polaris with an estimated accuracy of 1 second of arc.

The ELEVATION was determined by GPS observations.

The ELLIPSOID HEIGHT was determined by GPS observations referenced to NAD83.

GEOID 99 was used in determining ELEVATION and ELLIPSOID HEIGHT.

STATION: BU-16

DESCRIPTION: The station is a standard DNR aluminum GRS disk stamped "BU-16, 1993", set in a 12 inch diameter concrete post flush with the ground surface. The station has an underground mark 0.786 meters below the surface disk. The azimuth mark is a standard DNR aluminum GRS disk stamped "BU-16A, 1993", set in a 12 inch diameter concrete post flush with the ground surface.

STATION, AZIMUTH MARKS AND REFERENCE TIES: The station is located in the northeast part of St. Joseph, MO, on the east side of Leonard Road, just south of the entrance to Oak Hill Estates, and in front of House #2305 Leonard Road. It is 11.8 feet south-southwest of the center of a water valve box; 5.0 feet north-northeast of the center of a gas valve box; 4.0 feet east of the back of curb; 18.0 feet east of the center line of Leonard Road; 17 feet south of the extended center of Hunter Drive and 30.6 feet south of the center of the entrance drive.

The azimuth mark is 0.25 mile south of the station and on the West Side of Leonard Road, in the southwest angle of its intersection with Rainbow Court. It is 35.4 feet south of the center of Rainbow; 19.4 feet west of the center of Leonard; 5.2 feet west of the back of curb; 7.2 feet northeast of an existing nail and shiner in the northeast face of a utility pole; 18.4 feet southeast of the center of a fire hydrant and 15.2 feet south-southeast of the south corner of a curb inlet.

STATION & AZIMUTH MARK TO REACH: To reach the station from the center of I-29 (Exit 47), Missouri Highway 6 and Frederick Avenue. Go east on Highway 6 for 0.35 mile to Leonard Road. Turn left and travel north on Leonard for 0.65 mile to the station on the right (east) side in the area mowed as yard for House #2305 Leonard.

To reach the azimuth mark from the station go back south on Leonard Road for 0.25 mile to azimuth mark on the right (west) side in the southwest angle of the junction of Rainbow Court as described.

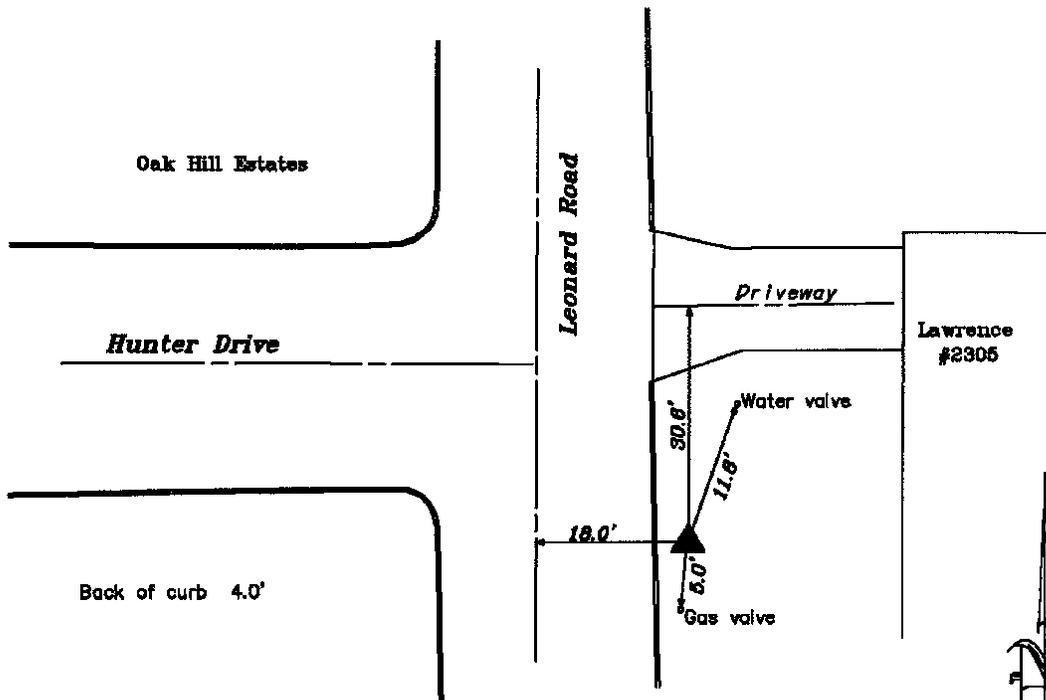
SPECIAL INFORMATION:

SUPERSEDED SURVEY CONTROL

NGS NAD 83(1997)-	39°47'15.98464"(N)	94°47'14.19021"(W)
NGS NAD 83(1997)-	39°47'15.98464"(N)	94°47'14.19022"(W)
NGS NAD 83(1986)-	39°47'15.98733"(N)	94°47'14.18597"(W)
MODNR NAD 83(1986)-	39°47'15.98711"(N)	94°47'14.18616"(W)

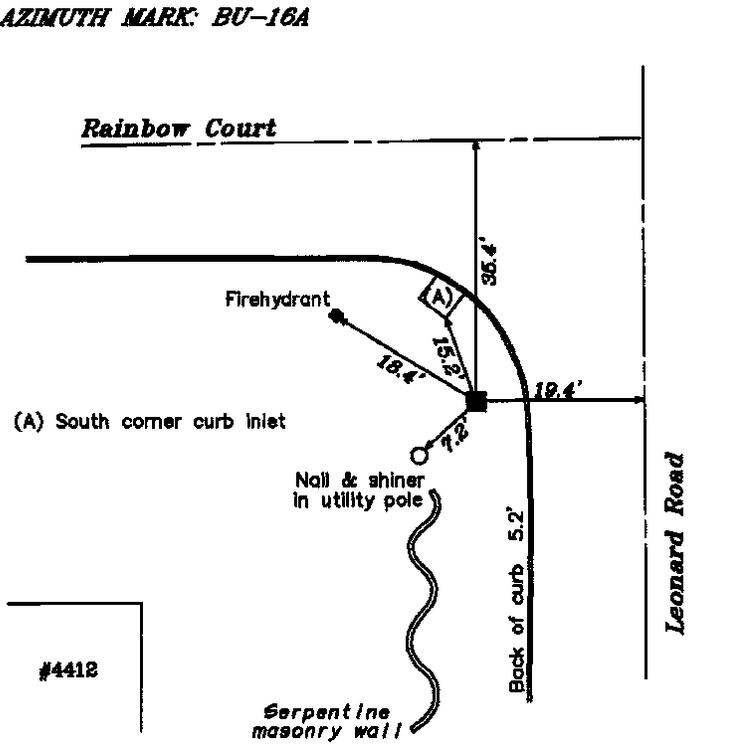
DATE of REPORT, 2002

STATION: BU-16



NOT TO SCALE

AZIMUTH MARK: BU-16A



DATE OF SKETCH 2001



STATION: BU-16 (LOOKING NORTH)



STATION: BU-16 (LOOKING WEST)