

## 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-09

PID: AD9782

COUNTY: Buchanan

STATE: Missouri

TOWNSHIP: 57 NORTH, RANGE: 35 WEST, SECTION: NW 1/4 OF 22

USGS 7.5' QUAD: St. Joseph South

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: 1993

DATE OF OBSERVATIONS: 1993

DATE OF ADJUSTMENT: 2000

DATE OF ADJUSTMENT: 2000

ORDER: 1st

ORDER:

LATITUDE: 39°44'51.06303"

ELEVATION: 289.5

LONGITUDE: 94°49'18.72786"

ELLIPSOID HEIGHT: 257.54

**MISSOURI COORDINATE SYSTEM 1983:**

NORTH (Y): 397485.410

EAST (X): 822415.011

ZONE: West

CONVERGENCE: -00°12'21"

GRID FACTOR: .9999596

**AZIMUTH INFORMATION:**

STATION: BU-09

AZIMUTH MARK: BU-09A

GEODETTIC:

ASTRONOMIC: 359°36'06"

GRID: 359°48'27"

**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-09

**DESCRIPTION:** The station is a standard DNR aluminum GRS disk stamped "BU-09, 1993", set in a 12 inch diameter concrete post flush with the ground surface. The station has an underground mark 0.780 meters below the surface disk. The azimuth mark is a standard DNR aluminum GRS disk stamped "BU-09A, 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 central part of St. Joseph, MO, and on the east side of a crossover connection between the east bound lane of US Highway 36 and Hilltop Road. It is 43 feet south of the edge of the east bound lane pavement; 13.6 feet south-southwest of the center of a sign post (Yield and one-way) with a witness post sticker attached; 34.4 feet southwest of a cross on southeast part of an access box; 48.6 feet east-southeast of a cross on the south nose of a traffic island and 29.7 feet south of the south edge of the acceleration lane.

The azimuth mark is about 0.3 mile north of the station on the north side of Parkway Elementary School grounds and 115.5 feet east of the intersection of Duncan Road with 29th Street, (The center of 29th Street going south). It is 2.8 feet south of back of curb in line with the west side of House #2903 Duncan Road; 5.2 feet north of the sidewalk; and 66.3 feet east of a crosswalk edge.

**STATION & AZIMUTH MARK TO REACH:** To reach the station on the east bound lane of US Highway 36 under the 22nd Street overpass go east on Highway 36 for 0.65 mile to the Hilltop Road and 28th Street access and station on right (south) side as described.

To reach the azimuth mark from the station go west on Hilltop Road for 0.15 mile to T-junction with 28th Street; turn right and go north for 0.3 mile to Duncan Road; turn right and go east on Duncan Road for 0.15 mile and station on right (south) side as described.

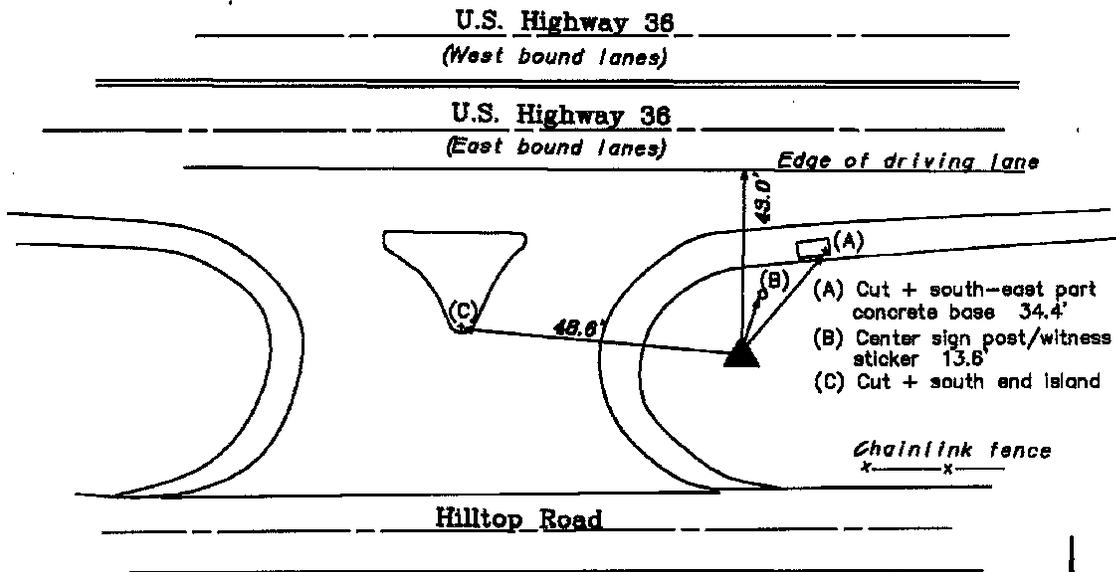
**SPECIAL INFORMATION:**

**SUPERSEDED SURVEY CONTROL**

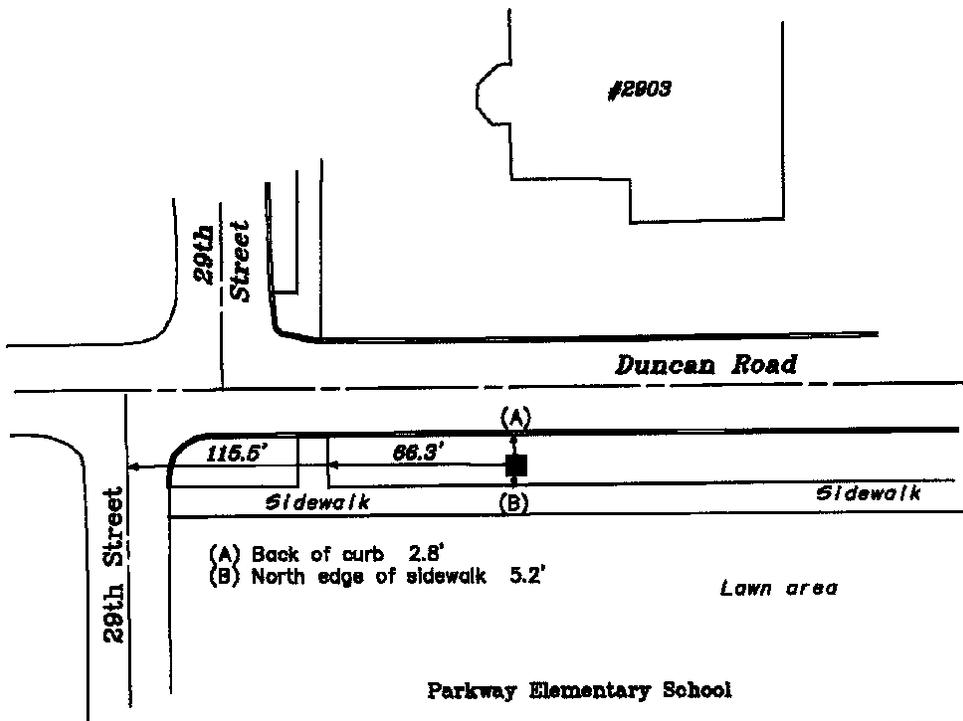
NGS NAD 83(1997)-	39°44'51.06302"(N)	94°49'18.72787"(W)
NGS NAD 83(1997)-	39°44'51.06302"(N)	94°49'18.72788"(W)
NGS NAD 83(1986)-	39°44'51.06577"(N)	94°49'18.72415"(W)
MODNR NAD 83(1986)-	39°44'51.06517"(N)	94°49'18.72423"(W)

**DATE of REPORT, 2002**

STATION: BU-09



AZIMUTH MARK: BU-09A



NOT TO SCALE

DATE OF SKETCH 2001



STATION: BU-09 (LOOKING WEST)



STATION: BU-09 (LOOKING NORTH)