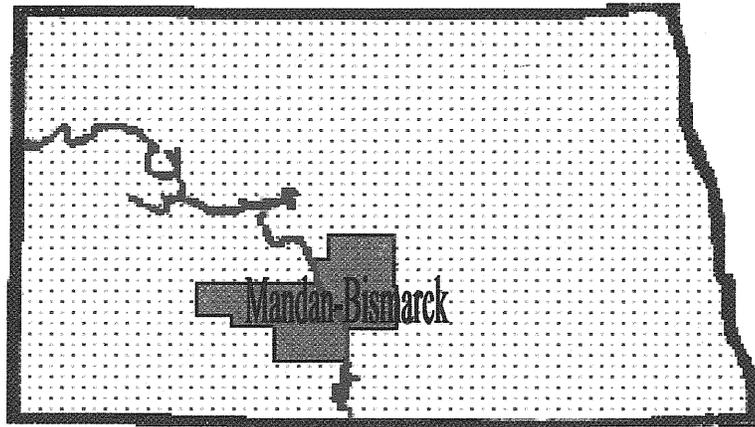
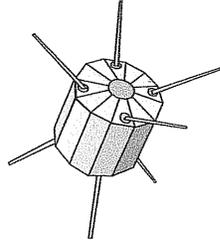


GLOBAL POSITIONING SYSTEM



Survey Control Data

City of Bismarck-Burleigh County
City of Mandan-Morton County

Introduction

It has been estimated that approximately 90% of the work of local governments relates to land, its uses, characteristics, value, and resources. Local government agencies must increasingly make complex decisions in land and resource management and manage an increasing flow of land records.

In 1993 the City of Bismarck, City of Mandan, Burleigh County, and Morton County began to develop a computer aided mapping system which in time, would be refined into a multi-department / multi-user geographic information system.

The objectives were:

- 1) To create accurate mapping which would serve as a common base to all city and county departments.
- 2) To develop (based on the mapping) a geographic information system (GIS). The GIS would consist of a relational database which would allow users to run queries, do complex spatial analysis, and generate reports on all types of land information.

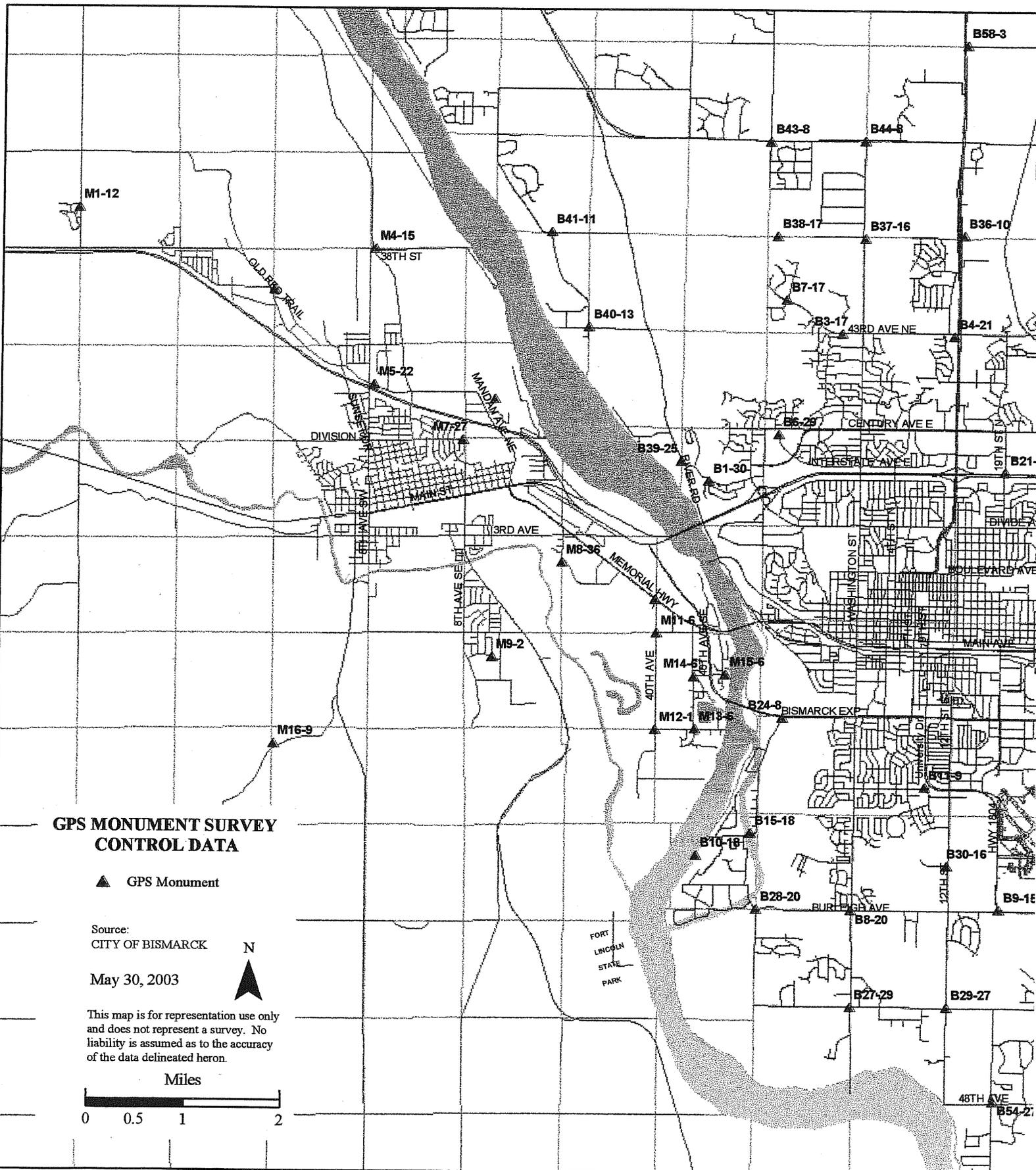
To do so would require the creation of a modern geodetic network.

A geodetic control network is a fundamental component of a land information system that serves as a positional framework for all spatial information. By establishing an accurate framework and relating information to it, a pool of compatible information is created on which decisions may be based.

All plats coming into the City of Bismarck now shall be tied to within twelve (12) inches of a minimum of two (2) accepted State Plane Coordinate monuments based on Nad 83 ND Zone South.

This book contains the location of the GPS monuments and their coordinates. Please use the monuments where possible and help us maintain them in good condition. If a monument needs attention or is threatened by construction, please contact

City of Bismarck
Engineering Department
222-6580



**GPS MONUMENT SURVEY
CONTROL DATA**

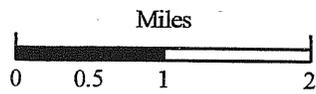
▲ GPS Monument

Source:
CITY OF BISMARCK

May 30, 2003



This map is for representation use only
and does not represent a survey. No
liability is assumed as to the accuracy
of the data delineated hereon.



**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 1-30*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-49-48.099763

Long.W.100-49-37.837093

State Plane Coordinates

(Meters)

N.129,367.356900

E.575,039.098281

State Plane Coordinates

(Feet)

N. 424,433.5856299

E.1,886,611.2148327

LOCATION

Mandan Indian Village Site

LOCATION DESCRIPTION

Located in Southwest Quarter Sec 30-139-80 Burleigh County, North Dakota. From the entrance of the Mandan Indian Village Site that is on Burnt Boat Road go 800' west, to the southeast corner of the parking lot is the southeast corner of a guard rail, go 11' east and 3' north to a datum point inside a 6" pvc pipe with a cover stamped 1-30.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 2-30*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat N. 46-50-13.800067

Long.W.100-41-21.607402

State Plane Coordinate
(Meters)

N.130,126.352802

E.585,557.157840

State Plane Coordinate
(Feet)

N. 426,923.7296654

E.1,921,119.2842520

LOCATION

Landfill-west of radio microwave site

LOCATION DESCRIPTION

Located in the Northeast Quarter Sec 30-139-79 Burleigh County, North Dakota. From the intersection of Divide Avenue and 52nd Street North, go north 1600' to curve then 1000' east to City of Bismarck landfill scale. From there go east 4000' then north 500' to microwave tower site. On west side of microwave tower site is a line of power poles running north and south from the 2nd power pole south of I-94 go 10' north and 120' west to a datum point inside a 6" pvc pipe with a cover stamped 2-30.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 3-17*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-51-09.857532
Long. W. 100-47-53.378889

**State Plane Coordinate
(Meters)**

N. 131,883.039700
E. 577,262.363266

**State Plane Coordinate
(Feet)**

N. 432,523.0961286
E. 1,893,905.3912927

LOCATION

43rd Ave North and west of Washington Street (Southeast corner of the 43rd Avenue Water Tower)

LOCATION DESCRIPTION

Located in the Southeast Quarter Sec 17-139-80 Burleigh County, North Dakota. From the intersection of Washington Street & 43rd Avenue North, go 1000' west on Ash Coulee Drive to the City of Bismarck 43rd Avenue water tower site at Southeast corner of the chain link fence is datum point inside a 6" pvc pipe with a cover stamped 3-17

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 4-21*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-51-07.486548

Long.W.100-46-24.549633

State Plane Coordinate
(Meter)

N.131,802.982264

E.579,143.791383

State Plane Coordinate
(Feet)

N. 432,424.4824934

E.1,900,078.0557185

LOCATION

Southwest corner State Street and 43rd Avenue North (Welcome to Bismarck sign)

LOCATION DESCRIPTION

Located in the Northeast Quarter of Sec 21-139-80 Burleigh Country North Dakota. In the southwest corner of intersection of 43rd Avenue North and State Street is a "Welcome to Bismarck sign". From the east leg go 7' south 1' east to a datum point inside a 6" pvc pipe with a cover stamped 4-21.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 5-36*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-48-33.625465

Long. W. 100-43-02.980689

**State Plane Coordinates
(Meter)**

N. 127,038.750519

E. 583,400.561129

**State Plane Coordinates
(Feet)**

N. 416,793.8009154

E. 1,914,043.8357251

LOCATION

3000' East of Intersection of Hwy #10 and Bismarck Expressway (west of US West Bldg)

LOCATION DESCRIPTION

Located in the Southeast Quarter of Sec 36-139-80 Burleigh County North Dakota. From the intersection of Main Ave (Hwy #10) and Bismarck Expressway go East on Hwy #10 3000' to a small US West building on north side of Hwy #10. From the southwest corner of building go 24' west and 21' south to a datum point inside a 6" pvc pipe with a cover stamped 5-36.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 6-29*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-50-13.748332
Long. W. 100-48-43.017541

State Plane Coordinates
(Meters)

N. 130,154.598700
E. 576,203.981302

State Plane Coordinates
(Feet)

N. 427,016.3999344
E. 1,890,433.0095210

LOCATION

500' east of Clydesdale Drive and 500' south of Country West Road (Northeast corner of the Northwest Water Tower Site)

LOCATION DESCRIPTION

Located in the Northwest Quarter of Sec 29-139-80 Burleigh County North Dakota. At the northeast corner of the chain link fence at the City of Bismarck Northwest Water Tower Site is a datum point inside a 6" pvc pipe with a cover stamped 6-29.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 7-17*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-51-26.688126

Long.W.100-48-37.719642

**State Plane Coordinate
(Meter)**

N.132,406.369979

E.576,325.141530

**State Plane Coordinate
(Feet)**

N. 434,404.1009810

E.1,890,830.5168307

LOCATION

Northwest corner Ash Coulee Drive and Elkhorn Drive

Northwest Quarter 7-17-1996

LOCATION DESCRIPTION

Located in the Southwest Quarter Sec 17-139-80 Burleigh County North Dakota. From the intersection of Washington Street and 43rd Avenue North, go 4700' west of Washington Street to the intersection of Ash Coulee Drive and Elkhorn Drive. At the northwest Block Corner go 4' east and 3' north to a datum point inside a 6" pvc pipe with a cover stamped 7-17.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 8-20*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-45-56.198689
Long.W.100-47-42.049293

**State Plane Coordinate
(Meters)**

N.122,197.113066
E 577,465.986751

**State Plane Coordinate
(Feet)**

N. 400,909.1636024
E.1,894,573.4473458

LOCATION

Southwest corner Burleigh Avenue and Washington Street

LOCATION DESCRIPTION

Located in the Northeast Quarter of Sec 20-138-79 in Burleigh County, North Dakota. A found section corner in the middle of the intersection at Washington Street and Burleigh Avenue go 33' south and 45' west to a datum point inside a 6" pvc pipe with a cover stamped 8-20.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 9-15*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-45-56.892855

Long.E.100-45-45.513014

**State Plane Coordinate
(Meters)**

N.122,209.770600

E.579,938.655200

**State Plane Coordinate
(Feet)**

N. 400,950.6909449

E.1,902,685.8766404

LOCATION

West corner Burleigh Avenue and University Drive

LOCATION DESCRIPTION

Located in Southeast Quarter of Sec 15-138-80 in Burleigh County, North Dakota. At the intersection of University Drive and Burleigh Avenue. A found 1/4 corner on Burleigh Avenue go 144' east and 40' north to a datum point inside a 6" pvc pipe with a cover stamped 9-15.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 10-18*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-46'-25.418907"
Long. W. 100°-49'-44.640886"

**State Plane Coordinates
(Meters)**

N. 123,109.6871
E. 574,868.6957

**State Plane Coordinates
(International Feet)**

N. 403,903.172900
E. 1,886,052.15125

LOCATION

South end parking area, Fox Island boat ramp

LOCATION DESCRIPTION

Located in Section 18, Township 138 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Traynor Lane and Mills Avenue, go west to Fox Island Park; thence south to the south end of the asphalt parking area. The station is 4 feet south of the edge of asphalt, marked by a steel fence post. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 10-18.

*Coordinates furnished by the Ulteig Engineers -1999

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 11-9*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-47-02.968602

Long.W.100-46-44.635708

**State Plane Coordinate
(Meters)**

N.124,254.343800

E.578,691.477493

**State Plane Coordinate
(Feet)**

N. 407,658.6082677

E.1,898,594.0862631

LOCATION

University Drive and Wachter Avenue (west of Wachter Avenue pump station)

LOCATION DESCRIPTION

Located in the Southeast Quarter 9-138-80 Burleigh County, North Dakota. From the intersection of University Drive and Wachter Avenue go west on Wachter Avenue to the City of Bismarck Sanitary Sewer Lift Station. Then from the southwest corner of building go 40' west and 68' south to a datum point inside a 6" pvc pipe with a cover stamped 11-9.

Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 12-11*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-47'-13.978963"
Long. W. 100°-45'-07.856326"

**State Plane Coordinates
(Meters)**

N. 124,587.3752
E. 580,745.2714

**State Plane Coordinates
(International Feet)**

N. 408,751.230971
E. 1,905,332.25525

LOCATION

Southeast corner of Airway Avenue and South of 26th Street

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Southwest Quarter, Section 11, Township 138 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway # 94 and Bismarck Expressway, go south along Bismarck Expressway approximately 2.5 miles to South 26th Street; thence south along South 26th Street approximately 0.5 mile to Airway Avenue. The station is in the southeast quadrant of the intersection, 18.5 feet east of a telephone pedestal, and is a standard datum point inside a 6" PVC pipe with a cover stamped 12-11.

*Coordinates furnished by the the Ulteig Engineers -1999

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 13-14*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-46-48.465372
Long.W.100-43-53.336137

**State Plane Coordinate
(Meters)**

N.123,794.713200
E.582,323.444116

**State Plane Coordinate
(Feet)**

N. 406,150.6338583
E.1,910,509.9872572

LOCATION

1 mile north of the intersection of Lincoln Road and Yegen Road

LOCATION DESCRIPTION

Located in the Northeast Quarter Sec 14-138-80 Burleigh County, North Dakota. 1 mile north of intersection of Yegan Road and Lincoln Road go 2' south and 46' west to a datum point inside a 6" pvc pipe with a cover stamped 13-14.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 14-23*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-45-55.782607
Long. W. 100-43-54.143044

State Plane Coordinate
(Meters)

N. 122,168.053700
E. 582,301.529978

State Plane Coordinate
(Feet)

N. 400,813.8244751
E. 1,910,438.0904790

LOCATION

Southwest corner of Lincoln Road and Yegan Road

LOCATION DESCRIPTION

Located in the Northeast Quarter of Sec 23-138-80 in Burleigh County, North Dakota. A found section corner in the middle of intersection of Yegan Road and Lincoln Road go 53' south and 47' west to a datum point inside a 6" pvc pipe with a cover stamped 14-23.

* Coordinates furnished by the NDDOT-1996

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 15-18*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-46'-37.629317"
Long. W. 100°-49'-01.809617"

State Plane Coordinates (Meters)

N. 123,482.9748
E. 575,778.8475

State Plane Coordinates (International Feet)

N. 405,127.870079
E. 1,889,038.21358

LOCATION

North Side of Mills Avenue, 300' east of Traynor Lane

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 18, Township 138 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Traynor Lane and Mills Avenue, go east approximately 300 feet. The station is located on the north side of Mills Avenue, 24.0 feet west of a manhole inlet, and is a standard datum point inside a 6" PVC pipe with a cover stamped 15-18.

*Coordinates furnished by the Ulteig Engineers-1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 16-27*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-45-03.926367
Long.W.100-45-11.303958

**State Plane Coordinate
(Meters)**

N.120,571.922009
E.580,659.210167

**State Plane Coordinate
(Feet)**

N. 395,577.1719455
E.1,905,049.9021227

LOCATION

Southwest corner University Drive and 48th Avenue South

LOCATION DESCRIPTION

Located in the Northeast Quarter of Sec 27-138-80 in Burleigh County, North Dakota. A found section corner in the middle of the intersection of University Drive and 48th Avenue South, go 71' west and 37' south to a datum point inside a 6" pvc pipe with a cover stamped 16-27.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 17-1*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N 46-47-41.081399

Long. W.100-43-51.610208

**State Plane Coordinate
(Meters)**

N.125,419.258589

E.582,364.831688

**State Plane Coordinate
(Feet)**

N.411,480.5071818

E.1,910,645.7732546

LOCATION

Northeast corner Apple Creek Road and Yegan Road

LOCATON DESCRIPTION

Located in the Southwest Quarter Sec 1-138-80 Burleigh County, North Dakota. A found section corner in the middle of the intersection of Yegan Road and Apple Creek Road go 36' east and 37' north to a datum point inside a 6" pvc pipe with a cover stamped 17-1.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 18-26*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N 46-49-43.583833

Long.W.100-43-59.862269

State Plane Coordinate
(Meters)

N.129,202.363633

E.582,201.072427

State Plane Coordinate
(Feet)

N. 423,892.2691371

E.1,910,108.5053379

LOCATION

In the median at Divide Avenue and Miriam Avenue

LOCATION DESCRIPTION

Located in the Southeast Quarter Sec 26-139-80 Burleigh County, North Dakota. In the middle of the median at Divide Avenue and Miriam Avenue is a fire hydrant # 1055 (Miriam Avenue 1st west of Divide Avenue) go 89' east and 65' south to a datum point inside a 6" pvc pipe with a cover stamped 18-26.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 19-14*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-51-09.168363

Long.W.100-45-04.750224

State Plane Coordinate
(Meters)

N.131,849.266330

E.580,834.382407

State Plane Coordinate
(Feet)

N. 432,576.3331037

E.1,905,624.6141962

LOCATION

Northeast corner 26th Street and 43rd Avenue North

LOCATION DESCRIPTION

Located in the Southwest Quarter Sec 14-139-80 Burleigh County, North Dakota. A found section corner in middle of the intersection of 43rd Avenue North, and 26th Street North, go 62' east and 48' north to a datum point inside a 6" pvc pipe with a cover stamped 19-14.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 20-23*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-50-52.766809

Long.W.100-43-50.917820

**State Plane Coordinate
(Meters)**

N.131,338.021700

E.582,396.905416

**State Plane Coordinate
(Feet)**

N. 430,899.0213255

E.1,910,751.0020210

LOCATION

On Centennial Road at the northeast corner of KOA Campground

LOCATION DESCRIPTION

Located in the Northeast Quarter Sec 23-139-80 Burleigh County, North Dakota. From the intersection of Centennial Road and 43rd Avenue North, go south on Centennial Road 1600' to the northeast corner of KOA Campground. From the northeast corner of fence go 6' north and 1' west to a datum point inside a 6" pvc pipe with a cover stamped 20-23.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 21-27*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-49-54.219458
Long.W.100-45-43.942998

State Plane Coordinate
(Meters)

N.129,537.724151
E.579,996.427359

State Plane Coordinate
(Feet)

N. 424,992.5333038
E.1,902,875.4178445

LOCATION

North of I-94 and east of 19th Street

LOCATION DESCRIPTION

Located in the Northeast Quarter Sec 27-139-80 Burleigh County, North Dakota. From the intersection of 19th Street and Shiloh Drive go south to I-94 Overpass on the north side of I-94 and the east side of 19th street. From the northeast corner of guard rail go 9' north and 14' east is a datum point inside a 6" pvc pipe with a cover stamped 21-27.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 22-31*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-48-33.487057
Long.W.100-41-21.189042

**State Plane Coordinate
(Meters)**

N127,028.890227
E.585,558.561526

**State Plane Coordinate
(Feet)**

N. 416,761.4508760
E.1,921,123.8895210

LOCATION

Northwest corner of Hwy # 10 and 66th Street North

LOCATION DESCRIPTION

Located in Southeast Quarter of Sec 31-139-79 Burleigh County, North Dakota. A found section corner in the middle of the intersection of Hwy # 10 and 66th Street Northeast go 65' west and 103' north to a datum point inside a 6" pvc pipe with a cover stamped 22-31.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 23-30*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-49-27.318709

Long.W.100-41-20.194907

**State Plane Coordinate
(Meter)**

N.128,691.038569

E.585,583.635537

**State Plane Coordinate
(Feet)**

N. 422,214.6934678

E.1,921,206.1533366

LOCATION

Northwest corner of 17th Avenue and of 66th Street North

LOCATION DESCRIPTION

Located in the Southeast Quarter Sec 30-139-79 Burleigh County, North Dakota. A found section corner in the middle of intersection of 66th Street North, and 17th Avenue North, go 257' north and 33' west to a datum point inside a 6" pvc pipe with a cover stamped 23-30.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 24-8*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-47-40.278643

Long.W.100-48-37.859803

**State Plane Coordinate
(Meters)**

N.125,415,394386

E.576,294.537809

**State Plane Coordinate
(Feet)**

N. 411,467.8293504

E.1,890,730.1109219

LOCATION

South of Bismarck Expressway and west of Riverwood Drive (Welcome to Bismarck Sign)

LOCATION DESCRIPTION

Located in the Northwest Quarter of Sec 8-138-80 Burleigh County, North Dakota. From the intersection of Washington Street and Riverwood Drive go 4200' west on Riverwood Drive to bend in road going south. At the Northeast corner of the chain link fence next to Welcome to Bismarck sign on the west side of Riverwood Drive is a datum point inside a 6" pvc pipe with a cover stamped 24-8.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 25-1*

Order: First (Bismarck Area)

COORDINATES

Projection: NAD 1983

Zone: N.DAK-SOUTH

Geodetic Location

Lat. N. 46-48-04.576047
Long.W.100-43-50.917530

**State Plane Coordinate
(Meters)**

N.126,237.306255
E.582,381.924362

**State Plane Coordinate
(Feet)**

N 414,164.3906004
E.1,910,701.8515814

LOCATION

East of Bismarck at the Missouri Valley Fair grounds (west of lift Station)

LOCATION DESCRIPTION

Located in the Northwest 1/4 of the Northwest Quarter Sec 1-138-80 Burleigh County, North Dakota. From the intersection of Main Avenue (HWY #10) and Bismarck Expressway go 2100' south to the City of Bismarck sanitary sewer lift station. From the southwest corner of lift station building go 153' west and 23' south to a datum point inside a 6" pvc pipe with a cover stamped 25-1.

* Coordinates furnished by the NDDOT-1996

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 27-29*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-45'-03.829014"
Long. W. 100°-47'-41.976413"

**State Plane Coordinates
(Meters)**

N. 120,580.0727
E. 577,461.4606

**State Plane Coordinates
(International Feet)**

N. 395,603.913058
E. 1,894,558.59777

LOCATION

Southwest corner of 48th Avenue South and South Washington Street

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 29, Township 138 North, Range 80 West, Burleigh County, North Dakota. The station is located at the intersection of 48th Avenue South and South Washington Street, in the southwest quadrant of the intersection, 7.8 feet south southeast of the fence corner. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 27-29.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 28-20*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-45'-56.378637"
Long. W. 100°-48'-56.588019"

**State Plane Coordinates
(Meters)**

N. 122,208.8173
E. 575,884.4931

**State Plane Coordinates
(International Feet)**

N. 400,947.56332
E. 1,889,384.81988

LOCATION

Northeast corner of Tavis Road and Burleigh Avenue

LOCATION DESCRIPTION

The station is located at the intersection of Tavis Road and Burleigh Avenue in the northeast quadrant of the intersection, approximately 45.0 feet southeast of an electric vault. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 28-20.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 29-27*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-45'-03.969340"
Long. W. 100°-46'-25.413776"

State Plane Coordinates (Meters)

N. 120,578.5235
E. 579,086.3731

State Plane Coordinates (International Feet)

N. 395,598.830381
E. 1,899,889.67552

LOCATION

Southeast corner of 48th Avenue South and South 12th Street

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 27, Township 138 North, Range 80 West, Burleigh County, North Dakota. The station is located at the intersection of 48th Avenue South and South 12th Street, in the southeast quadrant, 22.5 feet southeast of the street sign. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 29-27.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 30-16*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-46'-20.531203"
Long. W. 100°-46'-26.220373"

**State Plane Coordinates
(Meters)**

N. 122,942.6110
E. 579,077.4990

**State Plane Coordinates
(International Feet)**

N. 403,355.022966
E. 1,899,860.56102

LOCATION

Southwest corner of 12th Street and "Cottonwood Soccer-Softball" driveway

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Southeast Quarter, Section 16, Township 138 North, Range 80 West, Burleigh County, North Dakota. From the intersection of 12th Street South and University Drive, go south along 12th Street South approximately 0.5 mile. The station is on the west side of 12th Street South, 17.3 feet north of an electric distribution pole with overhead lines extending to the north, south and east. The monument is a standard datum point inside a 6" PVC pipe with a cover stamped 30-16.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 31-1*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-47'-40.983639"
Long. W. 100°-42'-36.897420"

**State Plane Coordinates
(Meters)**

N. 125,411.7902
E. 583,949.1828

**State Plane Coordinates
(International Feet)**

N. 411,456.004593
E. 1,915,843.77559

LOCATION

Northwest corner of Apple Creek Road and South 52nd Street

LOCATION DESCRIPTION

Located in the Southeast Quarter of the Southeast Quarter, Section 1, Township 138 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Bismarck Expressway and Apple Creek Road, go east along Apple Creek Road approximately 1.3 miles to South 52nd Street. The station is in the northwest quadrant, 24.0 feet east northeast of a load restriction sign, and is a standard datum point inside a 6" PVC pipe with a cover stamped 31-1.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 32-32*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-48'-33.071218"
Long. W. 100°-40'-05.240691"

**State Plane Coordinates
(Meters)**

N. 127,012.3878
E. 587,168.6622

**State Plane Coordinates
(International Feet)**

N. 416,707.309055
E. 1,926,406.37205

LOCATION

Northwest corner of County Highway # 10 and 80th Street

LOCATION DESCRIPTION

Located in the Southeast Quarter of the Southeast Quarter, Section 32, Township 139 North, Range 79 West, Burleigh County, North Dakota. From the intersection of Bismarck Expressway and County Highway #10, go east along County Highway #10 approximately 3.0 miles to 80th Street. The station is in the northwest quadrant of the intersection, 24.7 feet south of a power pole, and is a standard datum point inside a 6" PVC pipe with a cover stamped 32-32.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 33-33*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-49'-24.087680"
Long. W. 100°-40'-02.539216"

State Plane Coordinates (Meters)

N. 128,587.5388
E. 587,229.2908

State Plane Coordinates (International Feet)

N. 421,875.127297
E. 1,926,605.28478

LOCATION

Southeast corner of 17th Avenue Northeast and 80th Street Northeast

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 33, Township 139 North, Range 79 West, Burleigh County, North Dakota. From the intersection of Interstate Highway # 94 and Bismarck Expressway, go south along Bismarck Expressway approximately 0.5 mile to 17th Avenue N.E.; thence east approximately 3.0 miles along 17th Avenue N.E. to 80th Street N.E. The station is in the southeast quadrant of the intersection, along west shoulder of approach to Burleigh Rural Water Users booster station. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 33-33.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 34-25*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-49'-38.174386"
Long. W. 100°-42'-35.664709"

State Plane Coordinates (Meters)

N. 129,030.2983
E. 583,984.9931

State Plane Coordinates (International Feet)

N. 423,327.750328
E. 1,915,961.26345

LOCATION

Northwest corner of Divide Avenue and 52nd Street

LOCATION DESCRIPTION

Located in the Southeast Quarter of the Southeast Quarter, Section 25, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and Bismarck Expressway, go south approximately 0.5 mile to East Divide Avenue; thence east approximately 1.0 mile to 52nd Street N.E. The station is in the northwest quadrant of the intersection, 7.5 feet southwest of a monitoring well, and is a standard datum point inside a 6" PVC pipe with a cover stamped 34-25.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 35-13*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-00.929263"
Long. W. 100°-43'-48.128248"

State Plane Coordinates
(Meters)

N. 133,442.5622
E. 582,462.1661

State Plane Coordinates
(International Feet)

N. 437,803.681759
E. 1,910,965.11188

LOCATION

Southeast Corner of 57th Avenue Northeast and Centennial Road

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 13, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 3.5 miles to 71st Avenue N.E., east on 71st Avenue N.E. 2 miles to Centennial Road, south on Centennial Road 1 mile to the intersection with 57th Avenue N.E. The station is in the southeast quadrant of the intersection, 12.9 feet northeast of a fence corner, and is a standard datum point inside a 6" PVC pipe with a cover stamped 35-13.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 36-10*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-01.981510"
Long. W. 100°-46'-17.612605"

**State Plane Coordinates
(Meters)**

N. 133,485.1606
E. 579,296.5584

**State Plane Coordinates
(International Feet)**

N. 437,943.440289
E. 1,900,579.25984

LOCATION

Northeast Corner of Ridgedale Street and Highway #83

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Southwest Quarter, Section 10, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 2.5 miles to the intersection of Ridgedale Street. The station is in the northeast quadrant of the intersection, 10.1 feet south of MDU Gas Pipeline Warning Post, and is a standard datum point inside a 6" PVC pipe with a cover stamped 36-10.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 37-16*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-00.019549"
Long. W. 100°-47'-36.000527"

State Plane Coordinates (Meters)

N. 133,430.5483
E. 577,636.2753

State Plane Coordinates (International Feet)

N. 437,764.266076
E. 1,895,132.13681

LOCATION

Southeast corner of 57th Avenue Northeast and North Washington Street

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 16, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 2.5 miles to Section Line Trail, west on Section Line Trail one mile to the intersection with North Washington Street. The station is in the southeast quadrant of the intersection, 29.0 feet north of a power pole, 7.8 feet southwest of a fence corner, and is a standard datum point inside a 6" PVC pipe with a cover stamped 37-16.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 38-17*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-01.080774"
Long. W. 100°-48'-45.495458"

State Plane Coordinates
(Meters)

N. 133,468.9932
E. 576,164.6664

State Plane Coordinates
(International Feet)

N. 437,890.397638
E. 1,890,304.02362

LOCATION

57th Avenue Northwest, 1 mile west of Washington Street

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Southwest Quarter, Section 8, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of North Washington Street and 57th Avenue Northwest, go west along 57th Avenue Northwest approximately 0.9 mile, located on the crest of the hill, 4.4 feet south of the railroad tie in the east-west fence line. It is a standard datum point inside a 6" PVC pipe with a cover stamped 38-17.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 39-25*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-49'-58.794536"
Long. W. 100°-49'-59.708119"

**State Plane Coordinates
(Meters)**

N. 129,699.5344
E. 574,577.0079

**State Plane Coordinates
(International Feet)**

N. 425,523.406824
E. 1,885,095.17028

LOCATION

River Road at Northeast corner Pioneer Park lift station

LOCATION DESCRIPTION

Located in the Northeast Quarter of Section 25, Township 139 North, Range 81 West, Burleigh County, North Dakota. At the intersection of Burnt Boat Road and River Road. The station is in the northwest quadrant, 7.2 feet southeast of the northwest chain link fence corner to the Pioneer Park pumping station. The monument is a standard datum point inside a 6" PVC pipe with a cover stamped 39-25.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 40-13*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-51'-11.004012"
Long. W. 100°-51'-14.112692"

State Plane Coordinates (Meters)

N. 131,936.0893
E. 573,010.3580

State Plane Coordinates (International Feet)

N. 432,861.185367
E. 1,879,955.24278

LOCATION

Northeast corner of Sandy River Drive and Fernwood Drive

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Southwest Quarter, Section 13, Township 139 North, Range 81 West, Burleigh County, North Dakota. The station is located at the intersection of Sandy River Drive and Fernwood Drive, in the northeast quadrant of the intersection, 4.9 feet southeast of the fence corner. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 40-13.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 41-11*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-02.385186"
Long. W. 100°-51'-44.959803"

State Plane Coordinates
(Meters)

N. 133,525.6027
E. 572,364.2467

State Plane Coordinates
(International Feet)

N. 438,076.124344
E. 1,877,835.45505

LOCATION

Northwest corner of Burnt Creek Loop and Fernwood Drive

LOCATION DESCRIPTION

Located in the Southeast Quarter of the Southwest Quarter, Section 11, Township 139 North, Range 81 West, Burleigh County, North Dakota. The station is located at the intersection of Fernwood Drive and Burnt Creek loop, in the northwest quadrant of the intersection, 7.3 feet north of a cable television pedestal. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 41-11.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 42-9*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-47'-39.058761"
Long. W. 100°-38'-50.308225"

State Plane Coordinates (Meters)

N. 125,341.4187
E. 588,754.1301

State Plane Coordinates (International Feet)

N. 411,225.126969
E. 1,931,608.03839

LOCATION

Southwest corner of Apple Creek Road and 93rd Street Southeast

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 9, Township 138 North, Range 79 West, Burleigh County, North Dakota. From the intersection of Bismarck Expressway and Apple Creek Road, go east along Apple Creek Road approximately 4.3 miles to 93rd Street S.E. The station is in the southwest quadrant of the intersection, at the top of ditch backslope, marked by a steel post and survey marker sign. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 42-9.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 43-8*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-52.223013"
Long. W. 100°-48'-51.769955"

**State Plane Coordinates
(Meters)**

N. 135,048.6878
E. 576,038.1081

**State Plane Coordinates
(International Feet)**

N. 443,073.122703
E. 1,889,888.80610

LOCATION

Southeast corner of Highway #1804 and 15th Street Northwest

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 8, Township 139 North, Range 80 West, Burleigh County, North Dakota. The station is at the intersection of North Dakota Highway #1804 and 15th Street Northwest, in the southeast quadrant of the intersection, 7.1 feet northwest of a concrete right-of-way marker post. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 43-8.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 44-8*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-52.844237"
Long. W. 100°-47'-37.259668"

State Plane Coordinates (Meters)

N. 135,061.7643
E. 577,615.7078

State Plane Coordinates (International Feet)

N. 443,116.024606
E. 1,895,064.65814

LOCATION

Southwest corner of Highway #1804 and North Washington Street

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 8, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 3.5 miles to Highway #1804, west on Highway #1804 1 mile to the intersection with North Washington St. The station is in the southwest quadrant of the intersection, 6.1 feet northeast of a fence corner, and is a standard datum point inside a 6" PVC pipe with a cover stamped 44-17.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 45-2*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-53.807720"
Long. W. 100°-45'-03.970629"

State Plane Coordinates (Meters)

N. 135,080.2608
E. 580,861.2251

State Plane Coordinates (International Feet)

N. 443,176.708661
E. 1,905,712.68077

LOCATION

Northeast corner 71st Avenue Northeast and 26th Street Northeast

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Southwest Quarter, Section 2, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 3.5 miles to 71st Avenue Northeast, east on 71st Avenue Northeast 1 mile to the intersection with 26th Street Northeast. The station is in the northeast quadrant of the intersection, 3.0 feet north of the south power pole anchor, and is a standard datum point inside a 6" PVC pipe with a cover stamped 45-2.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 46-1*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-53.835646"
Long. W. 100°-42'-34.172291"

State Plane Coordinates
(Meters)

N. 135,071.8252
E. 584,032.7344

State Plane Coordinates
(International Feet)

N. 443,149.032808
E. 1,916,117.89501

LOCATION

Northwest corner of 71st Avenue Northeast and 52nd Street Northeast.

LOCATION DESCRIPTION

Located in the Southeast Quarter of the Southeast Quarter, Section 1, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway # 94 and North Dakota State Highway #83 go north along State Highway #83 3.5 miles to 71st Avenue Northeast, thence go east on 71st Avenue Northeast 3 miles to the intersection with 52nd Street Northeast. The station is in the northwest quadrant of the intersection, 6.0 feet east of a fence corner, and is a standard datum point inside a 6" PVC pipe with a cover stamped 46-1.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 47-18*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-00.783105"
Long. W. 100°-42'-32.585849"

State Plane Coordinates (Meters)

N. 133,433.5780
E. 584,061.9628

State Plane Coordinates (International Feet)

N. 437,774.206037
E. 1,916,213.78871

LOCATION

Southeast corner of 57th Avenue Northeast and 52nd Street Northeast

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 18, Township 139 North, Range 79 West, Burleigh County, North Dakota. From the intersection of Interstate Highway # 94 and North Dakota State Highway #83 go north along State Highway #83 approximately 1.5 miles to 43rd Avenue Northeast, east on 43rd Avenue Northeast 3 miles to 52nd St. Northeast, north on 52nd Street Northeast 1 mile to the intersection with 57th Avenue Northeast. The station is in the southeast quadrant of the intersection, 7.6 feet north of a power pole, and is a standard datum point inside a 6" PVC pipe with a cover stamped 47-18.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 48-13*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-51'-09.495044"
Long. W. 100°-42'-34.118526"

State Plane Coordinates
(Meters)

N. 131,849.9947
E. 584,025.2811

State Plane Coordinates
(International Feet)

N. 432,578.722769
E. 1,916,093.44193

LOCATION

Northwest corner of 43rd Avenue Northeast and 52nd Street Northeast

LOCATION DESCRIPTION

Located in the Southeast Quarter of the Southeast Quarter, Section 13, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway # 94 and North Dakota State Highway #83 go north along State Highway #83 approximately 1.5 miles to 43rd Avenue Northeast, east on 43rd Avenue Northeast 3 miles to the intersection with 52nd St. Northeast. The station is in the northwest quadrant of the intersection, 3.2 feet east of a fence corner, and is a standard datum point inside a 6" PVC pipe with a cover stamped 48-13.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 49-24*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-45'-55.847190"
Long. W. 100°-42'-38.349891"

State Plane Coordinates
(Meters)

N. 122,165.5199
E. 583,909.6761

State Plane Coordinates
(International Feet)

N. 400,805.511483
E. 1,915,714.16043

LOCATION

Southwest corner of Lincoln Road and 52nd Street Southeast

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 24, Township 138 North, Range 80 West, Burleigh County, North Dakota. The station is at the intersection of Lincoln Road and 52nd Street Southeast in the southwest quadrant of the intersection, 5.0 feet north of the fence corner. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 49-24.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 50-25*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-45'-03.605698"
Long. W. 100°-42'-38.913158"

State Plane Coordinates
(Meters)

N. 120,552.4697
E. 583,893.3961

State Plane Coordinates
(International Feet)

N. 395,513.352034
E. 1,915,660.74836

LOCATION

Southwest corner of 48th Avenue Southeast and 52nd Street Southeast

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 25, Township 138 North, Range 80 West, Burleigh County, North Dakota. The station is at the intersection of 52nd Street Southeast and 48th Avenue Southeast located in the southwest quadrant of the intersection, 48.0 feet southwest of the street sign. It is a standard datum point inside a 6" PVC pipe with a cover stamped 50-25.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 51-25*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-44'-12.284593"
Long. W. 100°-42'-39.920933"

State Plane Coordinates
(Meters)

N. 118,967.8676
E. 583,867.7496

State Plane Coordinates
(International Feet)

N. 390,314.526247
E. 1,915,576.60630

LOCATION

Northwest corner of 62nd Avenue and 52nd Street Southeast

LOCATION DESCRIPTION

Located in the Southeast Quarter of the Southeast Quarter, Section 25, Township 138 North, Range 80 West, Burleigh County, North Dakota. The station is at the intersection of 52nd Street Southeast and 62nd Avenue Southeast located in the northwest quadrant of the intersection, 7.7 feet southwest of the fence corner. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 51-25.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 52-25*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-44'-12.400821"
Long. W. 100°-43'-54.607935"

State Plane Coordinates
(Meters)

N. 118,975.9263
E. 582,282.2451

State Plane Coordinates
(International Feet)

N. 390,340.965551
E. 1,910,374.81988

LOCATION

Southwest corner of Section 25, 1 mile west of 52nd Street and 62nd Avenue

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Southwest Quarter, Section 25, Township 138 North, Range 80 West, Burleigh County, North Dakota. The station is at the intersection of 62nd Avenue Southeast and 41st Street Southeast, located in the northeast quadrant of the intersection, 3.0 feet south of the west gate post and 13.8 feet southeast of the fence corner. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 52-25.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 53-26*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-44'-30.384331"
Long. W. 100°-45'-10.226715"

State Plane Coordinates (Meters)

N. 119,536.1605
E. 580,678.7390

State Plane Coordinates (International Feet)

N. 392,179.004265
E. 1,905,113.97310

LOCATION

Northeast corner of Highway #1804 bridge over Apple Creek

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Southwest Quarter, Section 26, Township 138 North, Range 80 West, Burleigh County, North Dakota. The station is north of Apple Creek along State Highway #1804, 5.0 feet northeast of the north end of the east bridge guard rail. It is a standard datum point inside a 6" PVC pipe with a cover stamped 53-26.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 54-27*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-44'-12.899480"
Long. W. 100°-45'-48.156752"

State Plane Coordinates (Meters)

N. 118,998.9216
E. 579,871.7960

State Plane Coordinates (International Feet)

N. 390,416.409449
E. 1,902,466.52231

LOCATION

Northeast corner of Oahe Bend and Sibley Drive

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Southeast Quarter, Section 27, Township 138 North, Range 80 West, Burleigh County, North Dakota. The station is at the intersection of Sibley Drive and Oahe Bend located in the northeast quadrant of the intersection, 33.0 feet northeast of the east end of a circular metal pipe. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 54-27.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 55-19*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-51'-08.352849"
Long. W. 100°-41'-19.145696"

State Plane Coordinates (Meters)

N. 131,810.7015
E. 585,613.3652

State Plane Coordinates (International Feet)

N. 432,449.808071
E. 1,921,303.6916

LOCATION

Southwest corner of 43rd Avenue Northeast and 66th Street Northeast

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 19, Township 139 North, Range 79 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 1.5 miles to 43rd Avenue Northeast, east on 43rd Avenue Northeast 4 miles to the intersection with 66th St Northeast. The station is in the southwest quadrant of the intersection, 6.2 feet northeast of a fence corner, and is a standard datum point inside a 6" PVC pipe with a cover stamped 55-19.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 56-7*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-52.348649"
Long. W. 100°-41'-21.699549"

State Plane Coordinates (Meters)

N. 135,022.0142
E. 585,567.0067

State Plane Coordinates (International Feet)

N. 442,985.610892
E. 1,921,151.59678

LOCATION

Southwest corner of 71st Avenue Northeast and 66th Street Northeast

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 7, Township 139 North, Range 79 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 3.5 miles to 71st Avenue Northeast thence east along 71st Avenue Northeast 4 miles to the intersection with 66th St. Northeast. The station is in the southwest quadrant of the intersection, 3.8 feet east of a power pole, and is a standard datum point inside a 6" PVC pipe with a cover stamped 56.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 57-1*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-53'-44.982746"
Long. W. 100°-43'-47.027574"

State Plane Coordinates (Meters)

N. 136,655.4621
E. 582,494.8721

State Plane Coordinates (International Feet)

N. 448,344.691929
E. 1,911,072.41503

LOCATION

Southeast corner of 84th Avenue Northeast and 41st Street Northeast

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 1, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 4.5 miles to 84th Avenue Northeast, thence east along 84th Avenue Northeast 2 miles to 41st Street Northeast. The station is in the southeast quadrant of the intersection, 14.4 feet north of a power pole, and is a standard datum point inside a 6" PVC pipe with a cover stamped 57.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 58-3*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-53'-45.539438"
Long. W. 100°-46'-16.783689"

State Plane Coordinates (Meters)

N. 136,682.7609
E. 579,325.1577

State Plane Coordinates (International Feet)

N. 448,434.254921
E. 1,900,673.08957

LOCATION

Southeast corner of intersection, 1 mile south of 97th Avenue Northeast and Highway #83

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 3, Township 139 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 4.5 miles to the intersection with a road going east. The station is in the southeast quadrant of the intersection. The station is 6.5 feet west of a power pole and is a standard datum point inside a 6" PVC pipe with a cover stamped 58.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 59-1*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-54'-37.387421"
Long. W. 100°-46'-16.286073"

State Plane Coordinates (Meters)

N 138,283.6929
E. 579,341.2173

State Plane Coordinates (International Feet)

N. 453,686.656496
E. 1,900,725.77854

LOCATION

Southeast corner of 97th Avenue Northeast and State Highway #83

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 34, Township 140 North, Range 80 West, Burleigh County, North Dakota. From the intersection of Interstate Highway #94 and North Dakota State Highway #83 go north along State Highway #83 approximately 5.5 miles to 97th Avenue Northeast. The station is in the southwest quadrant of the intersection of State Highway #83 and 97th Avenue Northeast. The station is 4.7 feet northwest of a concrete right-of-way post. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 59-1.

*Coordinates furnished by Ulteig Engineers - 1999.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 60-4*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-42'-53.610042"
Long. W. 100°-46'-28.508106"

State Plane Coordinates
(Meters)

N. 116,553.6198
E. 579,006.6319

State Plane Coordinates
(International Feet)

N. 382,393.765748
E. 1,899,628.05741

LOCATION

Southwest corner of Sibley Drive and 12th Street Southeast

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Southeast Quarter, Section 4, Township 137 North, Range 80 West, Burleigh County, North Dakota. The station is at the intersection of Sibley Drive and 12th Street Southeast located in the southwest quadrant of the intersection, 4.6 feet east of the northeast corner of Lot "A" of Lot "1." The station is a standard datum point inside a 6" PVC pipe with a cover stamped Burleigh County.

*Coordinates furnished by Ulteig Engineers - 1999.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. B 61-31*

Order: First

COORDINATES

Projection: NAD 1983 (96)

Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-53'-45.70332"

Long. W. 100°-41'-17.08705"

State Plane Coordinates (Meters)

N 136,669.272

E. 585,668.607

State Plane Coordinates (Feet)

N. 448,390.0000

E. 1,921,484.9311

LOCATION

4 miles East of Highway #83 and 1 mile South of 97th Avenue

LOCATION DESCRIPTION

Located in the southeast corner of Section 31, Township 139 North, Range 79 West, Burleigh County, North Dakota. At the intersection of 97th Avenue and 52nd Street, go east 1 mile, then turn south on trail and go 1 mile to the monument on the right. At the southeast corner of the barbed wire fence 5 feet north and 7 feet west. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 61-31.

*Coordinates supplied by Kadrmas, Lee & Jackson - 2002.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. B 62-22*

Order: First

COORDINATES

Projection: NAD 1983 (96)

Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-51'-08.00335"

Long. W. 100°-38'-45.47241"

**State Plane Coordinates
(Meters)**

N 131,792.976

E. 588,868.668

**State Plane Coordinates
(Feet)**

N. 432,391.6535

E. 1,931,983.8189

LOCATION

43rd Avenue 4 miles East of Centennial Road

LOCATION DESCRIPTION

Located in the Northwest corner of Section 22, Township 139 North, Range 79 West, Burleigh County, North Dakota. At the intersection of 43rd Avenue and 80 Street, go 1 mile east. From the northwest corner of a barbed wire fence, go 34 feet east and 6.5 feet north. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 62-22.

*Coordinates furnished by Kadrmass, Lee & Jackson - 2002.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 1-12*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-52'-12.919310"
Long. W. 100°-57'-58.126742"

**State Plane Coordinates
(Meters)**

N. 133,892.5522
E. 564,463.5259

**State Plane Coordinates
(International Feet)**

N. 439,280.026903
E. 1,851,914.45505

LOCATION

West side of 56th Avenue Northwest at Northeast corner Roughrider Estates

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Southeast Quarter, Section 12, Township 139 North, Range 81 West, Morton County, North Dakota. The station is at northeast corner of Roughrider Estates along west side of 56th Avenue Northwest and north of Lariat Lane. The station is 18.1 feet east of an electric vault and 89.6 feet west of a telephone pedestal. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 3-17*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-51'-29.606035"
Long. W. 100°-55'-23.296460"

State Plane Coordinates
(Meters)

N. 132,536.5822
E. 567,735.0171

State Plane Coordinates
(International Feet)

N. 434,831.30643
E. 1,862,647.6939

LOCATION

East side of "Old Red Trail," at City 3 Mil Reservoir

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Northwest Quarter, Section 16, Township 139 North, Range 81 West, Morton County, North Dakota. At the intersection of Old Red Trail and 37th Street Northwest. The station is in the southeast quadrant located on the south edge of the underground water reservoir, 118.6 feet north of the north radio tower anchor. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 4-15*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-51'-52.362606"
Long. W. 100°-54'-03.782078"

State Plane Coordinates
(Meters)

N. 133,230.4165
E. 569,422.7858

State Plane Coordinates
(International Feet)

N. 437,107.665682
E. 1,868,184.99278

LOCATION

Southeast corner of 38th Street Northeast and Highway #1806

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 15, Township 139 North, Range 81 West, Morton County, North Dakota. At the intersection of Highway #1806 and 38th Street. The station is in the southeast quadrant of the intersection, 2.4 feet west of the fence corner. It is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 5-22*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-50'-38.725958"
Long. W. 100°-54'-03.521910"

State Plane Coordinates
(Meters)

N. 130,956.6640
E. 569,416.6894

State Plane Coordinates
(International Feet)

N. 429,647.847769
E. 1,868,164.99147

LOCATION

South side of "Old Red Trail" east of 8th Avenue Northwest, south Sharon Heights Reservoir

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Northwest Quarter, Section 22, Township 139 North, Range 81 West, Morton County, North Dakota. At the intersection of 8th Avenue Northwest and Old Red Trail. The station is in the southeast quadrant of the intersection, 118.2 feet east of the street light. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 6-23*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-50'-31.727261"
Long. W. 100°-52'-28.006376"

State Plane Coordinates
(Meters)

N. 130,730.5730
E. 571,439.2921

State Plane Coordinates
(International Feet)

N. 428,906.079396
E. 1,874,800.8271

LOCATION

At Union Cemetery

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Southwest Quarter, Section 23, Township 139 North, Range 81 West, Morton County, North Dakota. The station is in Union Cemetery, 4.5 feet southwest of the southeast corner of Lot #365. It is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 7-27*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-50'-09.264627"
Long. W. 100°-52'-52.657820"

**State Plane Coordinates
(Meters)**

N. 130,039.4939
E. 570,913.6303

**State Plane Coordinates
(International Feet)**

N. 426,638.759514
E. 1,873,076.21490

LOCATION

Southeast corner of Division Street Northeast and 8th Avenue Northeast

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 27, Township 139 North, Range 81 West, Morton County, North Dakota. At the intersection of Division Street and 8th Avenue Northeast, the station is in the southeast quadrant of the intersection, 16.8 feet north of a hydrant. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 8-36*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-49'-03.462077"
Long. W. 100°-51'-33.626638"

State Plane Coordinates
(Meters)

N. 127,999.7779
E. 572,578.9801

State Plane Coordinates
(International Feet)

N. 419,946.777887
E. 1,878,539.96096

LOCATION

24th Avenue Southeast on Heart River flood dike

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Northwest Quarter, Section 36, Township 139 North, Range 81 West, Morton County, North Dakota. From the intersection of 3rd Street Southeast and 24th Avenue Southeast, go south along 24th Avenue Southeast approximately 0.3 mile. The station is located on north shoulder of the flood dike and east shoulder of 24th Avenue Southeast, 2.9 feet north of steel pipe gate post. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 9-2*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-48'-11.845793"
Long. W. 100°-52'-28.026886"

State Plane Coordinates
(Meters)

N. 126,411.3854
E. 571,418.2686

State Plane Coordinates
(International Feet)

N. 414,735.516404
E. 1,874,731.85236

LOCATION

North side of 23rd Avenue Southeast and east of 12th Avenue Southeast

LOCATION DESCRIPTION

Located in the Southeast Quarter of the Northwest Quarter, Section 2, Township 138 North, Range 81 West, Morton County, North Dakota. From the intersection of 23rd Street Southeast and 12th Avenue Southeast, go east along 23rd Street Southeast approximately 0.1 mile. The station is on the north side of 23rd Street Southeast, 52.5 feet east of the 3-pole transmission line structure. It is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 10-36*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-48'-43.737713"
Long. W. 100°-50'-19.127698"

State Plane Coordinates
(Meters)

N. 127,383.7227
E. 574,155.4993

State Plane Coordinates
(International Feet)

N. 417,925.599409
E. 1,883,712.26804

LOCATION

North of lift station at 40th Avenue Southeast and Memorial Highway (Mandan Strip)

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Southeast Quarter, Section 36, Township 139 North, Range 81 West, Morton County, North Dakota. At the intersection of Memorial Highway and 40th Avenue Southeast. The station is in the southwest quadrant of the intersection, 22.0 feet north of a sanitary sewer lift station. It is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

CITY OF MANDAN, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. M 11-6*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-48'-25.525786"
Long. W. 100°-50'-17.744618"

State Plane Coordinates (Meters)

N. 126,821.2577
E. 574,182.3978

State Plane Coordinates (International Feet)

N. 416,080.241798
E. 1,883,800.51772

LOCATION

Southeast corner of 19th Street Southeast and 40th Avenue Southeast

LOCATION DESCRIPTION

Located in the Northwest Quarter of the Northwest Quarter, Section 6, Township 138 North, Range 80 West, Morton County, North Dakota. At the intersection of 40th Avenue Southeast and 19th Street Southeast. The station is in the southeast quadrant of the intersection, 63.7 feet south of the hydrant. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 12-1*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-47'-33.496770"
Long. W. 100°-50'-18.293063"

**State Plane Coordinates
(Meters)**

N. 125,214.7848
E. 574,163.8492

**State Plane Coordinates
(International Feet)**

N. 410,809.661417
E. 1,883,739.66273

LOCATION

Southwest corner of South Bay Drive Southeast and 40th Avenue Southeast

LOCATION DESCRIPTION

Located in the Northeast Quarter of the Northeast Quarter, Section 12, Township 138 North, Range 81 West, Morton County, North Dakota. At the intersection of 35th Street Southeast and 40th Avenue Southeast. The station is in the southwest quadrant of the intersection, 10.8 feet southwest of a U.S. West telephone pedestal. It is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

**CITY OF MANDAN, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 13-6*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-47'-34.083146"
Long. W. 100°-49'-46.529791"

**State Plane Coordinates
(Meters)**

N. 125,230.0265
E. 574,837.5199

**State Plane Coordinates
(International Feet)**

N. 410,859.666995
E. 1,885,949.86844

LOCATION

Northeast corner of South Bay Drive Southeast and 46th Avenue Southeast

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Southeast Quarter, Section 6, Township 138 North, Range 80 West, Morton County, North Dakota. At the intersection of 35th Street Southeast and 46th Avenue Southeast. The station is in the northeast quadrant of the intersection, 12.0 feet west of power pole. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

CITY OF MANDAN, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. M 14-6*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-48'-02.180690"
Long. W. 100°-49'-47.720704"

State Plane Coordinates (Meters)

N. 126,097.7128
E. 574,815.9084

State Plane Coordinates (International Feet)

N. 413,706.406824
E. 1,885,878.96457

LOCATION

Southwest corner of McKenzie Drive Southeast and 46th Avenue Southeast

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Northeast Quarter, Section 6, Township 138 North, Range 80 West, Morton County, North Dakota. At the intersection of McKenzie Drive and 46th Avenue Southeast. The station is in the southwest quadrant, 2.7 feet south of the directional arrow street sign. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

CITY OF MANDAN, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. M 15-6*

Order: First

COORDINATES

Projection: NAD 1983
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-48'-03.517745"
Long. W. 100°-49'-22.889853"

State Plane Coordinates (Meters)

N. 126,136.8095
E. 575,342.5815

State Plane Coordinates (International Feet)

N. 413,834.676837
E. 1,887,606.89469

LOCATION

Southeast corner of McKenzie Drive Southeast and Marina Road Southeast

LOCATION DESCRIPTION

Located in the Southwest Quarter of the Northeast Quarter, Section 6, Township 138 North, Range 80 West, Morton County, North Dakota. At the intersection of McKenzie Drive and Marina Road South. The station is in the east quadrant, 43.0 feet north of a Montana Dakota Utility's electric vault. The station is a standard datum point inside a 6" PVC pipe with a cover stamped City of Mandan.

*Coordinates furnished by the NDDOT - 1996.

CITY OF BISMARCK, NORTH DAKOTA GPS CONTROL MONUMENT

Monument No. M 16-9*

Order: First

COORDINATES

Projection: NAD 1983 (96)
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-47'-23.76199"
Long. W. 100°-55'-19.14774"

State Plane Coordinates (Meters)

N 124,945.082
E. 567,782.112

State Plane Coordinates (Feet)

N. 409,924.8097
E. 1,862,802.2047

LOCATION

44th Street .9 mile West of Highway # 6

LOCATION DESCRIPTION

Located in Section 9, Township 138 North, Range 81 West, Morton County, North Dakota. At the intersection of Highway #6 and 44th Street, go west .9 mile to the monument on the right side of the road. From the northwest corner of the barbed wire fence, go 145 feet south and 7 feet west. The station is a standard datum point inside a 6" PVC pipe with a cover stamped M-16.

*Coordinates furnished by Kadrmass, Lee & Jackson - 2002.

**CITY OF BISMARCK, NORTH DAKOTA
GPS CONTROL MONUMENT**

Monument No. M 17-34*

Order: First

COORDINATES

Projection: NAD 1983 (96)
Zone: North Dakota-South

Geodetic Location

Lat. N. 46°-43'-12.76730"
Long. W. 100°-52'-47.39362"

State Plane Coordinates
(Meters)

N 117,178.655
E. 570,962.993

State Plane Coordinates
(Feet)

N. 384,444.4062
E. 1,873,238.1660

LOCATION

Northwest corner of 20th Avenue and 19th Avenue

LOCATION DESCRIPTION

Located in the southwest corner of Section 34, Township 138 North, Range 81 West, Morton County, North Dakota. The station is at the intersection of 20th Avenue and 19th Avenue. The station is in the northwest quadrant of the intersection, from the southeast corner of the barbed wire fence, go 2 feet north and 7 feet east. The station is a standard datum point inside a 6" PVC pipe with a cover stamped 61-31.

*Coordinates furnished by Kadrmass, Lee & Jackson - 2002.

The control used on this project is as follows:

Horizontal

1. Station BAP located at the Bismarck Airport in Section 10, Township 138 North, Range 80 West, Burleigh County, North Dakota.

	State Plane Coordinates (Meters)
	NAD 1983
<u>Geodetic Location</u>	<u>North Dakota - South Zone</u>
Lat. 46°-46'-55.75925 N	N. 124,027.349
Long. 100°-45'-44.60676 W	E. 579,963.955
	Elev. 503.128

2. Station FAA Y19A located at the Mandan Airport in Section 15, Township 138 North, Range 81 West, Morton County, North Dakota.

	State Plane Coordinates (Meters)
	NAD 1983
<u>Geodetic Location</u>	<u>North Dakota - South Zone</u>
Lat. 46°-46'-11.98026 N	N. 122,717.867
Long. 100°-53'-41.26180 W	E. 569,846.906
	Elev. 590.61

3. Station McGarvey 2 located in Section 18, Township 139 North, Range 79 West, Burleigh County, North Dakota.

	State Plane Coordinates (Meters)
	NAD 1983
<u>Geodetic Location</u>	<u>North Dakota - South Zone</u>
Lat. 46°-51'-27.59429 N	N. 132,408.673
Long. 100°-42'-30.76750 W	E. 584,097.750
	Elev. 586.23

4. Station BSC located at the Bismarck Junior College in Section 31, Township 139 North, Range 80 West, Burleigh County, North Dakota.

	State Plane Coordinates (Meters)
	NAD 1983
<u>Geodetic Location</u>	<u>North Dakota - South Zone</u>
Lat. 46°-49'-16.02752 N	N. 128,373.760
Long. 100°-49'-00.04312 W	E. 575,836.037
	Elev. 573.6

Vertical

1. Station V-10 located in Section 2, Township 138 North, Range 80 West, Burleigh County, North Dakota.

NAVD 88 = 506.748 meters

2. Station H-487 located in Section 15, Township 139 North, Range 80 West, Burleigh County, North Dakota.

NAVD 88 = 563.175 meters

3. Station Z-488 located in Section 5, Township 138 West, Range 80 West, Burleigh County, North Dakota.

NAVD 88 = 512.657 meters

Station BAP was held for the horizontal control on this project with checks made to BSC, McGarvey 2, and FAA Y19A.

Station H-487 was held for the vertical control with checks made to Z-488, V-10, FAA Y19A, and BAP. H-487 and V-10 were held fixed for the final adjustment.

The baselines which showed a high reference variance in the Baseline Solution Summary were addressed by disabling the vectors with a Tau Value over 1.00 in the adjustment routine.