

GPS Calibration Report

Project : b2146-z

TIP Number	B-2146		
User name	jjeffreys	Date & Time	10:42:34 AM 12/21/2004
Coordinate System	US State Plane 1983(at ground)	Zone	North Carolina 3200
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD 88	Geoid Model	GEOID03 (Conus) NC Sub Grid
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	B2146-1
Latitude	35°43'34.69546"N
Longitude	81°01'13.63158"W
Site Scale Factor	1.0001280164
Height	?

The North Carolina Department of Transportation uses a **Localized Coordinate System** which is very similar to North Carolina Zone 3200 from which it is derived.

Please take care in utilizing these coordinates to eliminate confusion of the two systems.

This file is to aid in the use of Real Time Kinematic (RTK) GPS during construction layout.

Datum Transformation Parameters

Datum Transformation computation not requested

Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

Horizontal Adjustment Parameters

Northing coordinate of rotation center	703618.399sft
Easting coordinate of rotation center	1386912.348sft
Rotation about the center point	0°00'00"
Translation north	0.009sft

Translation east -0.004sft
Scale factor 1.00000050

Vertical Adjustment Parameters

Northing coordinate of origin point 718113.853sft
Easting coordinate of origin point 1336919.353sft
Vertical separation at origin -0.005sft
Slope north -1.633ppm
Slope east -2.308ppm

Geoid Model Definition

GEOID03 (Conus) NC Sub Grid

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.042sft	0.008	M 002_GPS
Vertical	0.233sft	0.038	STATESVILLE 000_
Three-dimensional	0.234sft	0.039	STATESVILLE 000_

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	CONO PHASE CTR	Northing	718113.853sft	Point	CONO PHASE CTR
Latitude	35°42'09.46858"N	Easting	1336919.353sft	Northing	718113.865sft
Longitude	81°14'00.90073"W	Elevation	989.494sft	Easting	1336919.336sft
Height	884.372sft	Horz error	0.021sft	Elevation	989.499sft
		Vert error	0.005sft	Utilized	Horz and Vert
		3D error	0.022sft	Quality	Control quality
Point	CLASS_GPS	Northing	718619.761sft	Point	CLASS
Latitude	35°42'15.74501"N	Easting	1342673.177sft	Northing	718619.766sft

Longitude	81°12'51.29467"W
Height	943.558sft

Elevation	1048.623sft
Horz error	0.029sft
Vert error	0.030sft
3D error	0.041sft

Easting	1342673.205sft
Elevation	1048.653sft
Utilized	Horz and Vert
Quality	Control quality

Point	STATESVILLE 000
Latitude	35°45'50.97233"N
Longitude	80°57'06.84805"W
Height	854.572sft

Northing	738745.074sft
Easting	1420980.216sft
Elevation	959.378sft
Horz error	0.028sft
Vert error	0.233sft
3D error	0.234sft

Point	STATESVILLE 000
Northing	738745.051sft
Easting	1420980.200sft
Elevation	959.611sft
Utilized	Horz and Vert
Quality	Control quality

Point	POTTS GPS
Latitude	35°32'10.01375"N
Longitude	81°07'38.22807"W
Height	924.709sft

Northing	656819.201sft
Easting	1367175.740sft
Elevation	1028.366sft
Horz error	0.027sft
Vert error	0.064sft
3D error	0.069sft

Point	POTTS
Northing	656819.227sft
Easting	1367175.732sft
Elevation	1028.430sft
Utilized	Horz and Vert
Quality	Control quality

Point	M 002 GPS
Latitude	35°30'00.57380"N
Longitude	80°52'46.56200"W
Height	675.459sft

Northing	642246.045sft
Easting	1440608.788sft
Elevation	777.608sft
Horz error	0.042sft
Vert error	0.018sft
3D error	0.045sft

Point	M 002
Northing	642246.030sft
Easting	1440608.827sft
Elevation	777.590sft
Utilized	Horz and Vert
Quality	Control quality

Point	B2146-2 GPS
Latitude	35°43'34.91247"N
Longitude	81°01'22.12872"W
Height	701.009sft

Northing	725410.571sft
Easting	1399664.539sft
Elevation	805.655sft
Horz error	0.011sft
Vert error	0.158sft
3D error	0.158sft

Point	B2146-2
Northing	725410.569sft
Easting	1399664.529sft
Elevation	805.497sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	B2146-1 GPS
Latitude	35°43'34.69532"N
Longitude	81°01'13.63145"W
Height	745.577sft

Northing	725374.349sft
Easting	1400364.597sft
Elevation	850.214sft
Horz error	0.015sft
Vert error	0.156sft
3D error	0.157sft

Point	B2146-1
Northing	725374.345sft
Easting	1400364.582sft
Elevation	850.058sft
Utilized	Horz and Vert
Quality	Adjusted quality