

GPS Calibration Report

Project : R-0204 calibration

TIP Number	R0204DE	Date & Time	11:12:44 AM 10/24/2013
User name	gdcarver	Zone	North Carolina 3200
Coordinate System	US State Plane 1983(at ground)	Geoid Model	G12NC
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD88		
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	R2597-10
Latitude	35°29'43.30578"N
Longitude	81°59'04.12122"W
Site Scale Factor	1.0001661876
Height	969.171sft

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	693633.663sft
Easting coordinate of rotation center	1113355.141sft
Rotation about the center point	0°00'01"
Translation north	0.078sft
Translation east	-0.068sft
Scale factor	1.00000000

Vertical Adjustment Parameters

Northing coordinate of origin point	699769.762sft
Easting coordinate of origin point	1112881.851sft
Vertical separation at origin	-0.190sft
Slope north	6.056ppm
Slope east	36.080ppm

Geoid Model Definition

G12NC

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.091sft	0.016	R259710_GNSS
Vertical	0.044sft	0.009	GPS3_GNSS
Three-dimensional	0.091sft	0.018	R259710_GNSS

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	GPS1_GNSS	Northing	699769.762sft	Point	GPS1
Latitude	35°38'09.75063"N	Easting	1112881.851sft	Northing	699769.785sft
Longitude	81°59'09.71781"W	Elevation	1366.714sft	Easting	1112881.812sft
Height	1262.802sft	Horz error	0.045sft	Elevation	1366.740sft
		Vert error	0.026sft	Utilized	Horz and Vert
		3D error	0.052sft	Quality	Control quality
Point	GPS3_GNSS	Northing	703061.705sft	Point	GPS3
Latitude	35°38'42.34917"N	Easting	1113080.345sft	Northing	703061.708sft
Longitude	81°59'08.51375"W	Elevation	1430.466sft	Easting	1113080.397sft
Height	1326.540sft	Horz error	0.051sft	Elevation	1430.510sft
		Vert error	0.044sft	Utilized	Horz and Vert
		3D error	0.068sft	Quality	Control quality
Point	B38731_GNSS	Northing	709701.842sft	Point	B38731
Latitude	35°39'48.75878"N	Easting	1115688.874sft	Northing	709701.790sft
Longitude	81°58'39.33834"W	Elevation	1276.651sft	Easting	1115688.885sft
Height	1172.513sft	Horz error	0.053sft	Elevation	1276.650sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.053sft	Quality	Control quality
Point	GPS4_GNSS	Northing	702097.392sft	Point	GPS4
Latitude	35°38'32.67974"N	Easting	1112617.799sft	Northing	702097.367sft
Longitude	81°59'13.76346"W	Elevation	1398.958sft	Easting	1112617.782sft
Height	1295.065sft	Horz error	0.030sft	Elevation	1398.920sft
		Vert error	0.038sft	Utilized	Horz and Vert
		3D error	0.048sft	Quality	Control quality
Point	GPS20_GNSS	Northing	692320.869sft	Point	GPS20
Latitude	35°36'56.43235"N	Easting	1113929.092sft	Northing	692320.827sft
Longitude	81°58'54.32726"W	Elevation	1284.914sft	Easting	1113929.062sft
Height	1180.976sft	Horz error	0.052sft	Elevation	1284.920sft
		Vert error	0.006sft	Utilized	Horz and Vert
		3D error	0.053sft	Quality	Survey quality
Point	GPS2_GNSS	Northing	699917.231sft	Point	GPS2
Latitude	35°38'11.38720"N	Easting	1113483.445sft	Northing	699917.236sft
Longitude	81°59'02.48726"W	Elevation	1393.209sft	Easting	1113483.455sft
Height	1289.258sft	Horz error	0.011sft	Elevation	1393.170sft
		Vert error	0.039sft	Utilized	Horz and Vert
		3D error	0.040sft	Quality	Survey quality
Point	R259710_GNSS	Northing	648567.387sft	Point	R259710
Latitude	35°29'43.30554"N	Easting	1111804.099sft	Northing	648567.477sft
Longitude	81°59'04.12053"W	Elevation	1131.340sft	Easting	1111804.114sft
Height	1027.559sft	Horz error	0.091sft	Elevation	?
		Vert error	?	Utilized	Horizontal
		3D error	0.091sft	Quality	Control quality