

GPS Calibration Report

Project : u2928_LocalSiteCalib

TIP Number

User name	rstalls	Date & Time	10:46:22 AM 6/9/2009
Coordinate System	US State Plane 1983(at ground)	Zone	North Carolina 3200
Horizontal Datum	NAD 1983 (Conus)	Geoid Model	G03NC
Vertical Datum			
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	GTP 1
Latitude	35°19'23.94403"N
Longitude	77°36'40.24252"W
Site Scale Factor	1.0001248160
Height	-29.328sft

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	564682.793sft
Easting coordinate of rotation center	2412062.031sft
Rotation about the center point	0°00'00"
Translation north	-0.036sft
Translation east	-0.057sft
Scale factor	0.99999669

Vertical Adjustment Parameters

Northing coordinate of origin point	575495.627sft
Easting coordinate of origin point	2414245.080sft
Vertical separation at origin	-0.098sft
Slope north	-6.448ppm
Slope east	8.834ppm

Geoid Model Definition

G03NC

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.020sft	0.005	GTP 4_GPS
Vertical	0.013sft	0.003	GTP 1_GPS
Three-dimensional	0.020sft	0.005	GTP 4_GPS

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	GTP 1_GPS	Northing	575495.627sft	Point GTP 1	
Latitude	35°19'23.94478"N	Easting	2414245.080sft	Northing	575495.620sft
Longitude	77°36'40.24158"W	Elevation	88.523sft	Easting	2414245.070sft
Height	-29.218sft	Horz error	0.012sft	Elevation	88.510sft
		Vert error	0.013sft	Utilized	Horz and Vert
		3D error	0.018sft	Quality	Survey quality
Point	3_GPS	Northing	579505.451sft	Point 3	
Latitude	35°20'03.03314"N	Easting	2418314.057sft	Northing	579505.457sft
Longitude	77°35'50.45956"W	Elevation	77.798sft	Easting	2418314.060sft
Height	-39.974sft	Horz error	0.007sft	Elevation	77.808sft
		Vert error	0.010sft	Utilized	Horz and Vert
		3D error	0.012sft	Quality	Survey quality
Point	GTP 4_GPS	Northing	555616.358sft	Point GTP 4	
Latitude	35°16'07.56543"N	Easting	2412700.451sft	Northing	555616.339sft
Longitude	77°37'02.22133"W	Elevation	44.308sft	Easting	2412700.457sft
Height	-73.885sft	Horz error	0.020sft	Elevation	44.304sft
		Vert error	0.004sft	Utilized	Horz and Vert
		3D error	0.020sft	Quality	Survey quality
Point	GTP 6_GPS	Northing	558182.015sft	Point GTP 6	
Latitude	35°16'33.66789"N	Easting	2407369.371sft	Northing	558182.019sft
Longitude	77°38'06.08061"W	Elevation	72.171sft	Easting	2407369.382sft
Height	-45.795sft	Horz error	0.012sft	Elevation	72.178sft
		Vert error	0.007sft	Utilized	Horz and Vert
		3D error	0.014sft	Quality	Survey quality
Point	GTP 7_GPS	Northing	554614.338sft	Point GTP 7	
Latitude	35°15'58.34333"N	Easting	2407680.912sft	Northing	554614.354sft
Longitude	77°38'02.91559"W	Elevation	44.803sft	Easting	2407680.901sft
Height	-73.262sft	Horz error	0.019sft	Elevation	44.947sft
		Vert error	?	Utilized	Horizontal
		3D error	0.019sft	Quality	Survey quality