

GPS Calibration Report

Project : R2707A1

TIP Number	R2707A	Date & Time	12:36:30 PM 6/30/2010
User name	rdwoods	Zone	North Carolina 3200
Coordinate System	US State Plane 1983	Geoid Model	G99NC
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD 88		
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	M-77
Latitude	35°17'53.47519"N
Longitude	81°32'14.87764"W
Site Scale Factor	N/A
Height	747.565sft

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	564891.530sft
Easting coordinate of rotation center	1248940.722sft
Rotation about the center point	0°00'00"
Translation north	-1.241sft
Translation east	0.938sft
Scale factor	1.00015517

Vertical Adjustment Parameters

Northing coordinate of origin point	568742.403sft
Easting coordinate of origin point	1203773.275sft
Vertical separation at origin	0.211sft
Slope north	5.123ppm
Slope east	-1.547ppm

Geoid Model Definition

G99NC

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.050sft	0.009	GPS15
Vertical	0.045sft	0.008	MCBRAYER
Three-dimensional	0.057sft	0.012	MCBRAYER

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	MCBRAYER	Northing	568742.403sft	Point	McBrayer_Local
Latitude	35°16'59.95696"N	Easting	1203773.275sft	Northing	568742.428sft
Longitude	81°40'06.15783"W	Elevation	856.819sft	Easting	1203773.299sft
Height	751.773sft	Horz error	0.035sft	Elevation	856.774sft
		Vert error	0.045sft	Utilized	Horz and Vert
		3D error	0.057sft	Quality	Survey quality
Point	LATT-2	Northing	581073.131sft	Point	LATT-2_Local
Latitude	35°19'02.46223"N	Easting	1206029.125sft	Northing	581073.122sft
Longitude	81°39'42.94665"W	Elevation	925.966sft	Easting	1206029.126sft
Height	820.821sft	Horz error	0.009sft	Elevation	925.970sft
		Vert error	0.004sft	Utilized	Horz and Vert
		3D error	0.010sft	Quality	Survey quality
Point	GPS4	Northing	576194.767sft	Point	R2707-4_Local
Latitude	35°18'17.64678"N	Easting	1219011.564sft	Northing	576194.769sft
Longitude	81°37'04.79740"W	Elevation	875.093sft	Easting	1219011.540sft
Height	770.106sft	Horz error	0.024sft	Elevation	875.110sft
		Vert error	0.017sft	Utilized	Horz and Vert
		3D error	0.029sft	Quality	Survey quality
Point	M77	Northing	573127.494sft	Point	M77_Local
Latitude	35°17'53.47450"N	Easting	1242971.651sft	Northing	573127.522sft
Longitude	81°32'14.87790"W	Elevation	852.249sft	Easting	1242971.658sft
Height	747.535sft	Horz error	0.029sft	Elevation	852.279sft
		Vert error	0.030sft	Utilized	Horz and Vert
		3D error	0.042sft	Quality	Survey quality
Point	WALLACE	Northing	593880.476sft	Point	WALLACE_Local
Latitude	35°21'21.03039"N	Easting	1252431.750sft	Northing	593880.490sft
Longitude	81°30'27.11508"W	Elevation	968.736sft	Easting	1252431.739sft
Height	863.861sft	Horz error	0.018sft	Elevation	968.735sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.018sft	Quality	Survey quality
Point	GPS15	Northing	578350.583sft	Point	R2707-15_Local
Latitude	35°18'48.68592"N	Easting	1257235.473sft	Northing	578350.547sft
Longitude	81°29'24.43979"W	Elevation	936.723sft	Easting	1257235.438sft
Height	832.090sft	Horz error	0.050sft	Elevation	936.747sft
		Vert error	0.024sft	Utilized	Horz and Vert
		3D error	0.056sft	Quality	Survey quality
Point	2JS13	Northing	553976.489sft	Point	2-JS-13_Local
Latitude	35°14'52.39137"N	Easting	1276400.935sft	Northing	553976.474sft
Longitude	81°25'26.08075"W	Elevation	874.121sft	Easting	1276400.950sft
Height	770.050sft	Horz error	0.021sft	Elevation	874.077sft
		Vert error	0.044sft	Utilized	Horz and Vert
		3D error	0.049sft	Quality	Survey quality

Point	GPS23
Latitude	35°14'49.16395"N
Longitude	81°25'35.37802"W
Height	763.346sft

Northing	553669.095sft
Easting	1275622.024sft
Elevation	867.424sft
Horz error	0.017sft
Vert error	0.007sft
3D error	0.018sft

Point R2707-23_Local	
Northing	553669.094sft
Easting	1275622.041sft
Elevation	867.417sft
Utilized	Horz and Vert
Quality	Survey quality

Point	R26254
Latitude	35°13'23.79431"N
Longitude	81°23'00.98772"W
Height	846.141sft

Northing	544729.486sft
Easting	1288217.128sft
Elevation	949.783sft
Horz error	0.031sft
Vert error	0.017sft
3D error	0.036sft

Point R2625-4_Local	
Northing	544729.474sft
Easting	1288217.099sft
Elevation	949.766sft
Utilized	Horz and Vert
Quality	Survey quality

Point	W200
Latitude	35°10'05.36224"N
Longitude	81°27'02.08704"W
Height	776.498sft

Northing	525158.972sft
Easting	1267723.676sft
Elevation	880.183sft
Horz error	0.036sft
Vert error	0.039sft
3D error	0.053sft

Point W200_Local	
Northing	525158.975sft
Easting	1267723.712sft
Elevation	880.222sft
Utilized	Horz and Vert
Quality	Survey quality