

GPS Calibration Report

Project : R4748ZCalibrate081117

TIP Number	R-4748	Date & Time	10:14:07 AM 11/17/2008
User name	rmcdonald	Zone	North Carolina 3200
Coordinate System	US State Plane 1983(at ground)	Geoid Model	Geoid03 (Conus) NC Sub Grid
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	GPS107
Latitude	35°09'42.52031"N
Longitude	83°22'44.37820"W
Site Scale Factor	1.0001948780
Height	2074.261sft

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	539859.008sft
Easting coordinate of rotation center	694088.684sft
Rotation about the center point	0°00'00"
Translation north	-0.006sft
Translation east	0.011sft
Scale factor	0.99999971

Vertical Adjustment Parameters

Northing coordinate of origin point	541618.419sft
Easting coordinate of origin point	690778.672sft
Vertical separation at origin	0.012sft
Slope north	-2.773ppm
Slope east	-2.457ppm

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	0.019sft	0.003	FRKN CORS_WGS84
Vertical	0.031sft	0.005	KYLE_WGS84
Three-dimensional	0.033sft	0.006	KYLE_WGS84

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	GPS105_WGS84	Northing	541618.419sft	Point	GPS105_Local
Latitude	35°09'31.65113"N	Easting	690778.672sft	Northing	541618.422sft
Longitude	83°22'54.44654"W	Elevation	2123.349sft	Easting	690778.670sft
Height	2030.193sft	Horz error	0.004sft	Elevation	2123.359sft
		Vert error	0.010sft	Utilized	Horz and Vert
		3D error	0.010sft	Quality	Survey quality
Point	GPS106_WGS84	Northing	542034.224sft	Point	GPS106_Local
Latitude	35°09'35.91061"N	Easting	691125.334sft	Northing	542034.227sft
Longitude	83°22'50.49684"W	Elevation	2126.437sft	Easting	691125.331sft
Height	2033.277sft	Horz error	0.004sft	Elevation	2126.460sft
		Vert error	0.023sft	Utilized	Horz and Vert
		3D error	0.023sft	Quality	Survey quality
Point	GPS107_WGS84	Northing	542679.506sft	Point	GPS107_Local
Latitude	35°09'42.52036"N	Easting	691662.386sft	Northing	542679.506sft
Longitude	83°22'44.37828"W	Elevation	2167.411sft	Easting	691662.380sft
Height	2074.245sft	Horz error	0.006sft	Elevation	2167.421sft
		Vert error	0.010sft	Utilized	Horz and Vert
		3D error	0.011sft	Quality	Survey quality
Point	GPS108_WGS84	Northing	542882.849sft	Point	GPS108_Local
Latitude	35°09'45.55889"N	Easting	694025.046sft	Northing	542882.849sft
Longitude	83°22'16.06034"W	Elevation	2164.901sft	Easting	694025.044sft
Height	2071.695sft	Horz error	0.002sft	Elevation	2164.911sft
		Vert error	0.010sft	Utilized	Horz and Vert
		3D error	0.010sft	Quality	Survey quality
Point	GPS109_WGS84	Northing	543950.712sft	Point	GPS109_Local
Latitude	35°09'56.32229"N	Easting	694513.735sft	Northing	543950.712sft
Longitude	83°22'10.74663"W	Elevation	2087.882sft	Easting	694513.734sft
Height	1994.674sft	Horz error	0.002sft	Elevation	2087.880sft
		Vert error	0.002sft	Utilized	Horz and Vert
		3D error	0.003sft	Quality	Survey quality
Point	GPS110_WGS84	Northing	544189.708sft	Point	GPS110_Local
Latitude	35°09'58.42625"N	Easting	693922.470sft	Northing	544189.712sft

Longitude	83°22'17.98734"W
Height	2066.928sft

Elevation	2160.125sft
Horz error	0.006sft
Vert error	0.006sft
3D error	0.009sft

Easting	693922.465sft
Elevation	2160.131sft
Utilized	Horz and Vert
Quality	Survey quality

Point	CITY_WGS84
Latitude	35°11'37.78819"N
Longitude	83°21'43.78119"W
Height	2059.028sft

Northing	554102.066sft
Easting	697201.268sft
Elevation	2152.214sft
Horz error	0.012sft
Vert error	0.020sft
3D error	0.023sft

Point	CITY_Local
Northing	554102.059sft
Easting	697201.277sft
Elevation	2152.194sft
Utilized	Horz and Vert
Quality	Survey quality

Point	FRKN CORS_WGS84
Latitude	35°11'30.68638"N
Longitude	83°23'41.74721"W
Height	2037.089sft

Northing	553816.414sft
Easting	687387.387sft
Elevation	2130.133sft
Horz error	0.019sft
Vert error	0.014sft
3D error	0.023sft

Point	FRKN CORS_Local
Northing	553816.427sft
Easting	687387.373sft
Elevation	2130.147sft
Utilized	Horz and Vert
Quality	Survey quality

Point	HEADY_WGS84
Latitude	35°02'40.79710"N
Longitude	83°03'50.21001"W
Height	3327.073sft

Northing	496069.530sft
Easting	784009.214sft
Elevation	3423.899sft
Horz error	0.010sft
Vert error	0.021sft
3D error	0.024sft

Point	HEADY_Local
Northing	496069.520sft
Easting	784009.214sft
Elevation	3423.878sft
Utilized	Horz and Vert
Quality	Survey quality

Point	KYLE_WGS84
Latitude	35°13'20.56015"N
Longitude	83°36'48.60775"W
Height	3119.728sft

Northing	567876.817sft
Easting	622656.800sft
Elevation	3211.754sft
Horz error	0.010sft
Vert error	0.031sft
3D error	0.033sft

Point	KYLE_Local
Northing	567876.809sft
Easting	622656.806sft
Elevation	3211.723sft
Utilized	Horz and Vert
Quality	Survey quality

Point	GRAY_WGS84
Latitude	35°04'10.28786"N
Longitude	83°23'14.33237"W
Height	1976.456sft

Northing	509228.777sft
Easting	687693.333sft
Elevation	2070.051sft
Horz error	0.017sft
Vert error	0.004sft
3D error	0.017sft

Point	GRAY_Local
Northing	509228.777sft
Easting	687693.350sft
Elevation	2070.055sft
Utilized	Horz and Vert
Quality	Survey quality