

GPS Calibration Report

Project I-5504

Project File Data		Coordinate System	
TIP Number	I-5504	Name:	NAD 83/NSRS 2007
User	Mark Parris, PLS	Datum:	Datum from Data Collector
Modified:	11/11/2016 7:46:00 AM (UTC: -6)	Zone:	North Carolina 3200
Time zone:	Eastern Daylight Savings	Geoid:	GEOID12A (Conus)
Horizontal Datum	US survey feet	Vertical datum:	NAVD 88
Coordinate Units	US survey feet		
Vertical Datum	US survey feet		

Local Site Information

Localized around	NCGS SHIPLEY
Northing	668713.5150 ft
Easting	928304.6690 ft
Elevation	2227.10 ft

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.

Site Calibration Report

Horizontal Calibration Parameters

Translation north:	0.206 ft
Translation east:	-0.108 ft
Rotation:	-0°00'01"
Origin northing:	669524.816 ft
Origin easting:	928143.987 ft
Scale factor:	1.0002114709

Vertical Calibration Parameters

Vertical shift at origin:	-4.852 ft
Slope north:	-8.741 ppm
Slope east:	4.210 ppm
Origin northing:	674925.571 ft
Origin easting:	927706.195 ft

Residual Differences Between GPS and Known Coordinates

Summary

	Maximum residual	Root Mean Square residual	Point
Horizontal	0.043 ft	0.031 ft	106_GNSS
Vertical	-0.042 ft	0.023 ft	105_GNSS
Three-dimensional	0.048 ft	0.038 ft	105_GNSS

Point Residuals

Residuals sign: Calculated-Control

GNSS Point		Calculated Point		Grid Point	
Point	107_GNSS	Point	107_GNSS	Point	107
Latitude	N35°33'03.45283"	Northing	674925.571 ft	Northing	674925.558 ft
Longitude	W82°36'20.87444"	Easting	927706.195 ft	Easting	927706.222 ft
Height	1925.838 ft	Elevation	2022.943 ft	Elevation	2022.920 ft
		Horiz. residual	0.030 ft	Type	Horz and Vert
		Vert. residual	0.023 ft		
		3D residual	0.037 ft		
Point	105_GNSS	Point	105_GNSS	Point	105
Latitude	N35°32'36.13008"	Northing	672169.661 ft	Northing	672169.642 ft
Longitude	W82°36'22.62351"	Easting	927461.402 ft	Easting	927461.387 ft
Height	1943.152 ft	Elevation	2040.245 ft	Elevation	2040.287 ft
		Horiz. residual	0.024 ft	Type	Horz and Vert
		Vert. residual	-0.042 ft		
		3D residual	0.048 ft		
Point	48_GNSS	Point	48_GNSS	Point	48
Latitude	N35°32'30.45930"	Northing	671504.429 ft	Northing	671504.339 ft
Longitude	W82°35'51.88376"	Easting	929979.565 ft	Easting	929979.589 ft
Height	2089.510 ft	Elevation	2186.688 ft	Elevation	2186.687 ft
		Horiz. residual	?	Type	Vertical
		Vert. residual	0.001 ft		
		3D residual	?		
Point	106_GNSS	Point	106_GNSS	Point	106
Latitude	N35°33'03.22234"	Northing	674936.974 ft	Northing	674937.004 ft
Longitude	W82°36'32.43145"	Easting	926750.892 ft	Easting	926750.861 ft
Height	1977.714 ft	Elevation	2074.786 ft	Elevation	2074.849 ft
		Horiz. residual	0.043 ft	Type	Horizontal
		Vert. residual	?		
		3D residual	?		
Point	SHIPLEY1_GNSS	Point	SHIPLEY1_GNSS	Point	SHIPLEY1
Latitude	N35°32'02.25303"	Northing	668710.964 ft	Northing	668710.955 ft
Longitude	W82°36'10.89690"	Easting	928305.655 ft	Easting	928305.693 ft
Height	2129.961 ft	Elevation	2227.079 ft	Elevation	2227.100 ft
		Horiz. residual	0.039 ft	Type	Horz and Vert
		Vert. residual	-0.021 ft		
		3D residual	0.044 ft		

Point	33_GNSS	Point	33_GNSS	Point	33
Latitude	N35°32'01.65984"	Northing	668685.135 ft	Northing	668685.107 ft
Longitude	W82°36'22.26683"	Easting	927364.273 ft	Easting	927364.222 ft
Height	2150.401 ft	Elevation	2247.486 ft	Elevation	2247.474 ft
		Horiz. residual	?	Type	Vertical
		Vert. residual	0.012 ft		
		3D residual	?		
Point	103_GNSS	Point	103_GNSS	Point	103
Latitude	N35°31'56.23922"	Northing	668126.103 ft	Northing	668126.122 ft
Longitude	W82°36'18.52168"	Easting	927653.737 ft	Easting	927653.740 ft
Height	2112.240 ft	Elevation	2209.337 ft	Elevation	2209.298 ft
		Horiz. residual	0.020 ft	Type	Horz and Vert
		Vert. residual	0.039 ft		
		3D residual	0.043 ft		
Point	31_GNSS	Point	31_GNSS	Point	31
Latitude	N35°31'46.45429"	Northing	667156.296 ft	Northing	667156.277 ft
Longitude	W82°36'24.85993"	Easting	927094.220 ft	Easting	927094.232 ft
Height	2100.452 ft	Elevation	2197.532 ft	Elevation	2197.544 ft
		Horiz. residual	0.023 ft	Type	Horz and Vert
		Vert. residual	-0.012 ft		
		3D residual	0.026 ft		
Point	101_GNSS	Point	101_GNSS	Point	101
Latitude	N35°31'30.69671"	Northing	665459.951 ft	Northing	665459.970 ft
Longitude	W82°35'50.19982"	Easting	929899.722 ft	Easting	929899.686 ft
Height	2059.246 ft	Elevation	2156.440 ft	Elevation	2156.434 ft
		Horiz. residual	0.041 ft	Type	Horz and Vert
		Vert. residual	0.006 ft		
		3D residual	0.041 ft		
Point	102_GNSS	Point	102_GNSS	Point	102
Latitude	N35°31'23.46729"	Northing	664714.654 ft	Northing	664714.646 ft
Longitude	W82°35'45.28578"	Easting	930279.214 ft	Easting	930279.217 ft
Height	2061.276 ft	Elevation	2158.495 ft	Elevation	2158.501 ft
		Horiz. residual	0.009 ft	Type	Horz and Vert
		Vert. residual	-0.006 ft		
		3D residual	0.011 ft		