

# GPS Calibration Report

*Project : U3313sitecal*

<b>TIP Number</b>	U-3313	<b>Date &amp; Time</b>	12:56:03 PM 6/10/04
<b>User name</b>	khudson	<b>Zone</b>	North Carolina 3200
<b>Coordinate System</b>	US State Plane 1983(at ground)	<b>Geoid Model</b>	GEOID99 (Conus)
<b>Horizontal Datum</b>	NAD 1983 (Conus)		
<b>Vertical Datum</b>	NAVD88		
<b>Coordinate Units</b>	US survey feet		
<b>Distance Units</b>	US survey feet		
<b>Height Units</b>	US survey feet		

## LOCAL SITE INFORMATION

Localized around	U3313-2
Latitude	36°00'02.13263"N
Longitude	79°51'53.06753"W
Site Scale Factor	1.0000812750
Height	736.452sft

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

<b>Northing coordinate of rotation center</b>	830172.565sft
<b>Easting coordinate of rotation center</b>	1743525.032sft
<b>Rotation about the center point</b>	0°00'00"
<b>Translation north</b>	0.006sft
<b>Translation east</b>	-0.056sft

Scale factor 1.00000093

## Vertical Adjustment Parameters

Northing coordinate of origin point 797483.131sft  
 Easting coordinate of origin point 1695577.462sft  
 Vertical separation at origin 0.001sft  
 Slope north -0.035ppm  
 Slope east 0.014ppm

## Geoid Model Definition

GEOID99 (Conus)

## Residual Differences Between GPS (WGS84) And Local Coordinates

### Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.090sft	0.018	<a href="#">SCRAP - WGS84</a>
Vertical	0.003sft	0.001	<a href="#">GARDEN - WGS84</a>
Three-dimensional	0.090sft	0.018	<a href="#">SCRAP - WGS84</a>

### Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
<b>Point</b>	<a href="#">SCRAP - WGS84</a>	<b>Northing</b>	797483.131sft	<b>Point</b>	<a href="#">SCRAP - LOCAL</a>
<b>Latitude</b>	35°56'12.63704"N	<b>Easting</b>	1695577.462sft	<b>Northing</b>	797483.173sft
<b>Longitude</b>	80°01'42.06427"W	<b>Elevation</b>	908.655sft	<b>Easting</b>	1695577.382sft
<b>Height</b>	806.554sft	<b>Horz error</b>	<b>0.090sft</b>	<b>Elevation</b>	908.657sft
		<b>Vert error</b>	<b>0.002sft</b>	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	<b>0.090sft</b>	<b>Quality</b>	Control quality
<b>Point</b>	<a href="#">HAWTHOR - WGS84</a>	<b>Northing</b>	851338.895sft	<b>Point</b>	<a href="#">HAWTHOR - LOCAL</a>
<b>Latitude</b>	36°05'07.81268"N	<b>Easting</b>	1722539.382sft	<b>Northing</b>	851338.902sft
<b>Longitude</b>	79°56'20.41903"W	<b>Elevation</b>	890.889sft	<b>Easting</b>	1722539.321sft

<b>Height</b>	787.630sft
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<b>Horz error</b>	0.061sft
<b>Vert error</b>	0.002sft
<b>3D error</b>	0.061sft

<b>Elevation</b>	890.891sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	<a href="#">WYRICK - WGS84</a>
<b>Latitude</b>	36°10'59.62260"N
<b>Longitude</b>	79°46'26.92195"W
<b>Height</b>	698.024sft

<b>Northing</b>	886496.501sft
<b>Easting</b>	1771532.903sft
<b>Elevation</b>	800.822sft
<b>Horz error</b>	0.083sft
<b>Vert error</b>	0.000sft
<b>3D error</b>	0.083sft

<b>Point</b>	<a href="#">WYRICK - LOCAL</a>
<b>Northing</b>	886496.456sft
<b>Easting</b>	1771532.834sft
<b>Elevation</b>	800.822sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	<a href="#">GARDEN - WGS84</a>
<b>Latitude</b>	35°59'07.27851"N
<b>Longitude</b>	79°44'05.19724"W
<b>Height</b>	707.420sft

<b>Northing</b>	814371.364sft
<b>Easting</b>	1782618.945sft
<b>Elevation</b>	807.191sft
<b>Horz error</b>	<b>0.021sft</b>
<b>Vert error</b>	<b>0.003sft</b>
<b>3D error</b>	<b>0.021sft</b>

<b>Point</b>	<a href="#">GARDEN - LOCAL</a>
<b>Northing</b>	814371.344sft
<b>Easting</b>	1782618.953sft
<b>Elevation</b>	807.194sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	<a href="#">U3313-1 - WGS84</a>
<b>Latitude</b>	36°00'00.36044"N
<b>Longitude</b>	79°52'12.35332"W
<b>Height</b>	724.798sft

<b>Northing</b>	820062.700sft
<b>Easting</b>	1742628.814sft
<b>Elevation</b>	825.922sft
<b>Horz error</b>	0.050sft
<b>Vert error</b>	0.002sft
<b>3D error</b>	0.050sft

<b>Point</b>	<a href="#">U3313-1 - LOCAL</a>
<b>Northing</b>	820062.709sft
<b>Easting</b>	1742628.864sft
<b>Elevation</b>	825.920sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	<a href="#">U3313-2 - WGS84</a>
<b>Latitude</b>	36°00'02.13259"N
<b>Longitude</b>	79°51'53.06753"W
<b>Height</b>	736.452sft

<b>Northing</b>	820228.057sft
<b>Easting</b>	1744215.090sft
<b>Elevation</b>	837.522sft
<b>Horz error</b>	0.049sft
<b>Vert error</b>	0.002sft
<b>3D error</b>	0.049sft

<b>Point</b>	<a href="#">U3313-2 - LOCAL</a>
<b>Northing</b>	820228.063sft
<b>Easting</b>	1744215.138sft
<b>Elevation</b>	837.520sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	<a href="#">U3313-3 - WGS84</a>
<b>Latitude</b>	36°00'55.35571"N
<b>Longitude</b>	79°51'55.36388"W
<b>Height</b>	772.631sft

<b>Northing</b>	825611.739sft
<b>Easting</b>	1744073.314sft
<b>Elevation</b>	873.881sft
<b>Horz error</b>	0.052sft
<b>Vert error</b>	0.001sft
<b>3D error</b>	0.052sft

<b>Point</b>	<a href="#">U3313-3 - LOCAL</a>
<b>Northing</b>	825611.741sft
<b>Easting</b>	1744073.366sft
<b>Elevation</b>	873.880sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	<a href="#">U3313-4 - WGS84</a>
<b>Latitude</b>	36°00'57.18137"N
<b>Longitude</b>	79°51'43.93445"W

<b>Northing</b>	825788.185sft
<b>Easting</b>	1745013.897sft
<b>Elevation</b>	879.642sft

<b>Point</b>	<a href="#">U3313-4 - LOCAL</a>
<b>Northing</b>	825788.185sft
<b>Easting</b>	1745013.948sft

<b>Height</b>	778.422sft
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<b>Horz error</b>	0.051sft
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<b>Elevation</b>	879.640sft
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<b>Vert error</b>	0.002sft
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<b>Utilized</b>	Horz and Vert
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<b>3D error</b>	0.051sft
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<b>Quality</b>	Control quality
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