

GPS Calibration Report

Project : r3421a&b

TIP Number		Date & Time	8:24:07 PM 11/23/04
User name	scranford	Zone	North Carolina 3200
Coordinate System	US State Plane 1983(at ground)	Geoid Model	GEOID99 (Conus)
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum			
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	
Latitude	34°57'05.57766"N
Longitude	79°50'45.03914"W
Site Scale Factor	1.0001243700
Height	127.740sft

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	443319.836sft
Easting coordinate of rotation center	1750826.203sft
Rotation about the center point	0°00'00"
Translation north	0.023sft
Translation east	-0.015sft

Scale factor 1.00000004

Vertical Adjustment Parameters

Northing coordinate of origin point 454623.608sft
 Easting coordinate of origin point 1746608.017sft
 Vertical separation at origin -0.015sft
 Slope north 3.056ppm
 Slope east -1.475ppm

Geoid Model Definition

GEOID99 (Conus)

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.025sft	0.003	R0000A-13 - WGS8
Vertical	0.016sft	0.002	R0000A-13 - WGS8
Three-dimensional	0.030sft	0.003	R0000A-13 - WGS8

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	R0000A-13 - WGS8	Northing	454623.608sft	Point	R0000A-13
Latitude	34°59'46.27678"N	Easting	1746608.017sft	Northing	454623.588sft
Longitude	79°50'46.02070"W	Elevation	200.758sft	Easting	1746608.033sft
Height	99.248sft	Horz error	0.025sft	Elevation	200.774sft
		Vert error	0.016sft	Utilized	Horz and Vert
		3D error	0.030sft	Quality	Control quality
Point	R3421-2 - WGS84	Northing	432593.055sft	Point	R3421-2
Latitude	34°56'08.56265"N	Easting	1748696.151sft	Northing	432593.053sft
Longitude	79°50'18.68696"W	Elevation	352.093sft	Easting	1748696.148sft

Height	250.360sft
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Horz error	0.004sft
Vert error	0.006sft
3D error	0.007sft

Elevation	352.099sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-5 - WGS84
Latitude	34°58'01.27395"N
Longitude	79°50'37.05364"W
Height	213.864sft

Northing	444001.291sft
Easting	1747263.823sft
Elevation	315.459sft
Horz error	0.005sft
Vert error	0.003sft
3D error	0.006sft

Point	R3421-5
Northing	444001.296sft
Easting	1747263.821sft
Elevation	315.456sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-1 - WGS84
Latitude	34°55'53.37663"N
Longitude	79°49'53.47966"W
Height	229.448sft

Northing	431040.072sft
Easting	1750781.997sft
Elevation	331.251sft
Horz error	0.007sft
Vert error	0.010sft
3D error	0.012sft

Point	R3421-1
Northing	431040.078sft
Easting	1750781.993sft
Elevation	331.261sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-3 - WGS84
Latitude	34°56'40.47449"N
Longitude	79°52'50.29688"W
Height	84.488sft

Northing	435928.678sft
Easting	1736102.080sft
Elevation	185.928sft
Horz error	0.006sft
Vert error	0.005sft
3D error	0.008sft

Point	R3421-3
Northing	435928.673sft
Easting	1736102.080sft
Elevation	185.923sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-4 - WGS84
Latitude	34°56'43.74783"N
Longitude	79°52'29.28993"W
Height	69.547sft

Northing	436244.154sft
Easting	1737853.794sft
Elevation	171.011sft
Horz error	0.006sft
Vert error	0.004sft
3D error	0.007sft

Point	R3421-4
Northing	436244.149sft
Easting	1737853.792sft
Elevation	171.006sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-11 - WGS84
Latitude	34°57'05.57740"N
Longitude	79°50'45.03890"W
Height	127.743sft

Northing	438375.940sft
Easting	1746551.262sft
Elevation	229.358sft
Horz error	0.006sft
Vert error	0.003sft
3D error	0.007sft

Point	R3421-11
Northing	438375.944sft
Easting	1746551.258sft
Elevation	229.355sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-12 - WGS84
Latitude	34°57'10.98975"N
Longitude	79°50'25.99291"W

Northing	438909.670sft
Easting	1748141.316sft
Elevation	305.729sft

Point	R3421-12
Northing	438909.674sft
Easting	1748141.311sft

Height	204.081sft
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Horz error	0.006sft
Vert error	0.003sft
3D error	0.007sft

Elevation	305.726sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-6 - WGS84
Latitude	34°58'05.65167"N
Longitude	79°50'50.31998"W
Height	175.528sft

Northing	444453.289sft
Easting	1746163.498sft
Elevation	277.096sft
Horz error	0.002sft
Vert error	0.007sft
3D error	0.007sft

Point	R3421-6
Northing	444453.289sft
Easting	1746163.496sft
Elevation	277.089sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-7 - WGS84
Latitude	34°58'43.71408"N
Longitude	79°48'10.17962"W
Height	217.073sft

Northing	448190.702sft
Easting	1759522.273sft
Elevation	318.920sft
Horz error	0.002sft
Vert error	0.001sft
3D error	0.002sft

Point	R3421-7
Northing	448190.705sft
Easting	1759522.273sft
Elevation	318.920sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-8 - WGS84
Latitude	34°58'59.28900"N
Longitude	79°48'19.96013"W
Height	246.791sft

Northing	449771.952sft
Easting	1758721.173sft
Elevation	348.603sft
Horz error	0.005sft
Vert error	0.002sft
3D error	0.006sft

Point	R3421-8
Northing	449771.957sft
Easting	1758721.175sft
Elevation	348.600sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-9 - WGS84
Latitude	34°59'35.03521"N
Longitude	79°46'42.22392"W
Height	291.417sft

Northing	453321.095sft
Easting	1766882.129sft
Elevation	393.410sft
Horz error	0.005sft
Vert error	0.002sft
3D error	0.005sft

Point	R3421-9
Northing	453321.099sft
Easting	1766882.130sft
Elevation	393.408sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	R3421-10 - WGS84
Latitude	34°59'58.65371"N
Longitude	79°46'35.58791"W
Height	321.043sft

Northing	455704.658sft
Easting	1767452.924sft
Elevation	423.027sft
Horz error	0.005sft
Vert error	0.003sft
3D error	0.006sft

Point	R3421-10
Northing	455704.661sft
Easting	1767452.928sft
Elevation	423.024sft
Utilized	Horz and Vert
Quality	Adjusted quality