

# GPS Calibration Report

*Project : I4744Calib*

<b>TIP Number</b>	I4744	<b>Date &amp; Time</b>	3:10:37 PM 9/15/2008
<b>User name</b>	aspielvogel	<b>Zone</b>	Zone from data collector
<b>Coordinate System</b>	Projection from data collector(at ground)	<b>Geoid Model</b>	G03NC
<b>Horizontal Datum</b>	(WGS 84)		
<b>Vertical Datum</b>			
<b>Coordinate Units</b>	US survey feet		
<b>Distance Units</b>	US survey feet		
<b>Height Units</b>	US survey feet		

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## LOCAL SITE INFORMATION

Localized around	
Latitude	35°46'03.12422"N
Longitude	78°44'10.60369"W
Site Scale Factor	1.00009856
Height	335.663sft

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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.

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## Datum Transformation Parameters

Datum Transformation computation not requested

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## Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

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## Horizontal Adjustment Parameters

<b>Northing coordinate of rotation center</b>	741577.378sft
<b>Easting coordinate of rotation center</b>	2078092.011sft
<b>Rotation about the center point</b>	0°00'00"
<b>Translation north</b>	0.034sft
<b>Translation east</b>	0.014sft
<b>Scale factor</b>	1.00000029

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## Vertical Adjustment Parameters

<b>Northing coordinate of origin point</b>	756322.117sft
<b>Easting coordinate of origin point</b>	2072121.085sft
<b>Vertical separation at origin</b>	-4.750sft
<b>Slope north</b>	1.090ppm
<b>Slope east</b>	-4.614ppm

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# Geoid Model Definition

G03NC

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

Summary			
	Maximum error	Root Mean Square error	Point
Horizontal	0.046sft	0.008	I4744-8_GPS
Vertical	0.080sft	0.011	Williford_GPS
Three-dimensional	0.080sft	0.014	Williford_GPS

### Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
<b>Point</b>	I4744-1_GPS	<b>Northing</b>	756322.117sft	<b>Point</b>	I4744-1
<b>Latitude</b>	35°49'40.23680"N	<b>Easting</b>	2072121.085sft	<b>Northing</b>	756322.115sft
<b>Longitude</b>	78°45'24.11829"W	<b>Elevation</b>	345.046sft	<b>Easting</b>	2072121.120sft
<b>Height</b>	243.850sft	<b>Horz error</b>	0.035sft	<b>Elevation</b>	345.016sft
		<b>Vert error</b>	0.030sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.046sft	<b>Quality</b>	Control quality
<b>Point</b>	I4744-2_GPS	<b>Northing</b>	755768.816sft	<b>Point</b>	I4744-2
<b>Latitude</b>	35°49'34.74540"N	<b>Easting</b>	2072930.790sft	<b>Northing</b>	755768.786sft
<b>Longitude</b>	78°45'14.30249"W	<b>Elevation</b>	332.440sft	<b>Easting</b>	2072930.758sft
<b>Height</b>	231.197sft	<b>Horz error</b>	0.044sft	<b>Elevation</b>	332.426sft
		<b>Vert error</b>	0.014sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.046sft	<b>Quality</b>	Control quality
<b>Point</b>	I4744-3_GPS	<b>Northing</b>	744679.075sft	<b>Point</b>	I4744-3
<b>Latitude</b>	35°47'44.99585"N	<b>Easting</b>	2076172.005sft	<b>Northing</b>	744679.078sft
<b>Longitude</b>	78°44'35.29292"W	<b>Elevation</b>	413.127sft	<b>Easting</b>	2076171.984sft
<b>Height</b>	311.518sft	<b>Horz error</b>	0.022sft	<b>Elevation</b>	413.115sft
		<b>Vert error</b>	0.012sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.025sft	<b>Quality</b>	Control quality
<b>Point</b>	I4744-4_GPS	<b>Northing</b>	743772.004sft	<b>Point</b>	I4744-4
<b>Latitude</b>	35°47'36.03644"N	<b>Easting</b>	2075748.349sft	<b>Northing</b>	743772.003sft
<b>Longitude</b>	78°44'40.46379"W	<b>Elevation</b>	424.862sft	<b>Easting</b>	2075748.333sft
<b>Height</b>	323.253sft	<b>Horz error</b>	0.016sft	<b>Elevation</b>	424.865sft
		<b>Vert error</b>	0.003sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.017sft	<b>Quality</b>	Control quality
<b>Point</b>	Williford_GPS	<b>Northing</b>	734383.214sft	<b>Point</b>	WILLIFORD
<b>Latitude</b>	35°46'03.12417"N	<b>Easting</b>	2078233.317sft	<b>Northing</b>	734383.214sft
<b>Longitude</b>	78°44'10.60368"W	<b>Elevation</b>	442.381sft	<b>Easting</b>	2078233.317sft
<b>Height</b>	340.465sft	<b>Horz error</b>	<b>0.000sft</b>	<b>Elevation</b>	442.381sft
		<b>Vert error</b>	<b>0.000sft</b>	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	<b>0.000sft</b>	<b>Quality</b>	Control quality
<b>Point</b>	I4744-7_GPS	<b>Northing</b>	730335.883sft	<b>Point</b>	I4744-7
<b>Latitude</b>	35°45'22.95456"N	<b>Easting</b>	2083532.288sft	<b>Northing</b>	730335.877sft

<b>Longitude</b>	78°43'06.44456"W
<b>Height</b>	304.241sft

<b>Elevation</b>	406.461sft
<b>Horz error</b>	0.009sft
<b>Vert error</b>	0.026sft
<b>3D error</b>	0.027sft

<b>Easting</b>	2083532.282sft
<b>Elevation</b>	406.436sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	I4744-9_GPS
<b>Latitude</b>	35°48'29.85287"N
<b>Longitude</b>	78°43'29.29896"W
<b>Height</b>	278.472sft

<b>Northing</b>	749229.578sft
<b>Easting</b>	2081596.164sft
<b>Elevation</b>	380.226sft
<b>Horz error</b>	0.017sft
<b>Vert error</b>	0.007sft
<b>3D error</b>	0.018sft

<b>Point</b>	I4744-9
<b>Northing</b>	749229.572sft
<b>Easting</b>	2081596.180sft
<b>Elevation</b>	380.220sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	I4744-5_GPS
<b>Latitude</b>	35°45'57.57594"N
<b>Longitude</b>	78°44'07.12296"W
<b>Height</b>	351.859sft

<b>Northing</b>	733822.977sft
<b>Easting</b>	2078521.684sft
<b>Elevation</b>	453.799sft
<b>Horz error</b>	0.027sft
<b>Vert error</b>	0.036sft
<b>3D error</b>	0.029sft

<b>Point</b>	I4744-5
<b>Northing</b>	733822.953sft
<b>Easting</b>	2078521.698sft
<b>Elevation</b>	453.835sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	I4744-6_GPS
<b>Latitude</b>	35°45'25.89519"N
<b>Longitude</b>	78°43'18.33361"W
<b>Height</b>	312.460sft

<b>Northing</b>	730630.471sft
<b>Easting</b>	2082551.529sft
<b>Elevation</b>	414.635sft
<b>Horz error</b>	0.024sft
<b>Vert error</b>	0.059sft
<b>3D error</b>	0.063sft

<b>Point</b>	I4744-6
<b>Northing</b>	730630.493sft
<b>Easting</b>	2082551.536sft
<b>Elevation</b>	414.576sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	I4744-8_GPS
<b>Latitude</b>	35°48'35.74867"N
<b>Longitude</b>	78°43'38.96824"W
<b>Height</b>	260.623sft

<b>Northing</b>	749823.563sft
<b>Easting</b>	2080798.072sft
<b>Elevation</b>	362.331sft
<b>Horz error</b>	<b>0.046sft</b>
<b>Vert error</b>	<b>0.054sft</b>
<b>3D error</b>	<b>0.071sft</b>

<b>Point</b>	I4744-8
<b>Northing</b>	749823.605sft
<b>Easting</b>	2080798.091sft
<b>Elevation</b>	362.385sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality

<b>Point</b>	Walnut S_GPS
<b>Latitude</b>	35°45'05.80920"N
<b>Longitude</b>	78°44'28.09474"W
<b>Height</b>	382.881sft

<b>Northing</b>	728583.853sft
<b>Easting</b>	2076806.997sft
<b>Elevation</b>	484.861sft
<b>Horz error</b>	0.016sft
<b>Vert error</b>	0.001sft
<b>3D error</b>	0.016sft

<b>Point</b>	WALNUT SOUTH
<b>Northing</b>	728583.855sft
<b>Easting</b>	2076806.981sft
<b>Elevation</b>	484.863sft
<b>Utilized</b>	Horz and Vert
<b>Quality</b>	Control quality