

GPS Calibration Report

Project : R-2519B

TIP Number	R-2519B	Date & Time	9:48:19 AM 3/4/2008
User name	jgordon	Zone	North Carolina 3200
Coordinate System	US State Plane 1983(at ground)	Geoid Model	Geoid99 (Conus) NC Sub Grid
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	R2519A-1
Latitude	35°54'40.40569"N
Longitude	82°21'10.08524"W
Site Scale Factor	1.0001780300
Height	2462.2613sft

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	800313.0555sft
Easting coordinate of rotation center	1070553.7449sft
Rotation about the center point	0°00'01"
Translation north	0.2056sft
Translation east	0.0149sft
Scale factor	0.99999930

Vertical Adjustment Parameters

Northing coordinate of origin point	803620.8757sft
Easting coordinate of origin point	1040695.7653sft
Vertical separation at origin	-0.1990sft
Slope north	-5.824ppm
Slope east	2.364ppm

Geoid Model Definition

Geoid99 (Conus) NC Sub Grid

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary			
	Maximum error	Root Mean Square error	Point
Horizontal	0.078sft	0.011	MORRISON_WGS84
Vertical	0.149sft	0.017	R-2519-1_WGS84
Three-dimensional	0.154sft	0.020	R-2519-1_WGS84

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	WINDOM_WGS84	Northing	803620.8757sft	Point	WINDOM_Local
Latitude	35°54'54.05760"N	Easting	1040695.7653sft	Northing	803620.8862sft
Longitude	82°14'24.97769"W	Elevation	2517.3402sft	Easting	1040695.7565sft
Height	2417.7576sft	Horz error	0.014sft	Elevation	2517.3998sft
		Vert error	0.060sft	Utilized	Horz and Vert
		3D error	0.061sft	Quality	Survey quality
Point	CRABTREE_WGS84	Northing	801990.1987sft	Point	CRABTREE_Local
Latitude	35°54'38.82569"N	Easting	1043438.2131sft	Northing	801990.2202sft
Longitude	82°13'51.01463"W	Elevation	2490.8131sft	Easting	1043438.1592sft
Height	2391.1665sft	Horz error	0.058sft	Elevation	2490.8874sft
		Vert error	0.074sft	Utilized	Horz and Vert
		3D error	0.094sft	Quality	Survey quality
Point	R-2519A-119_WGS8	Northing	801319.7154sft	Point	R-2519A-119_Loca
Latitude	35°54'33.85092"N	Easting	1048584.4543sft	Northing	801319.7130sft
Longitude	82°12'48.23207"W	Elevation	2454.6084sft	Easting	1048584.4514sft
Height	2354.7984sft	Horz error	0.004sft	Elevation	2454.6244sft
		Vert error	0.016sft	Utilized	Horz and Vert
		3D error	0.016sft	Quality	Survey quality
Point	R-2519A-118_WGS8	Northing	800965.5875sft	Point	R-2519A-118_Loca
Latitude	35°54'30.02333"N	Easting	1047560.8523sft	Northing	800965.5897sft
Longitude	82°13'00.52754"W	Elevation	2478.6404sft	Easting	1047560.8708sft
Height	2378.8666sft	Horz error	0.019sft	Elevation	2478.6335sft
		Vert error	0.007sft	Utilized	Horz and Vert
		3D error	0.020sft	Quality	Survey quality
Point	MICA SCHOOL_WGS8	Northing	800074.9713sft	Point	MICA SCHOOL_Loca
Latitude	35°54'21.33698"N	Easting	1047921.4939sft	Northing	800074.9418sft
Longitude	82°12'55.79584"W	Elevation	2463.8322sft	Easting	1047921.5393sft
Height	2364.0504sft	Horz error	0.054sft	Elevation	2463.8468sft
		Vert error	0.015sft	Utilized	Horz and Vert
		3D error	0.056sft	Quality	Survey quality
Point	GPS-124_WGS84	Northing	799364.8398sft	Point	GPS-124_Local
Latitude	35°54'18.03226"N	Easting	1059588.2018sft	Northing	799364.8350sft

Longitude	82°10'33.79428"W
Height	2484.7818sft

Elevation	2584.9544sft
Horz error	0.005sft
Vert error	0.019sft
3D error	0.019sft

Easting	1059588.2023sft
Elevation	2584.9358sft
Utilized	Horz and Vert
Quality	Survey quality

Point	GPS-123_WGS84
Latitude	35°54'15.34908"N
Longitude	82°10'37.78564"W
Height	2470.9039sft

Northing	799104.1322sft
Easting	1059251.2853sft
Elevation	2571.0657sft
Horz error	0.007sft
Vert error	0.005sft
3D error	0.009sft

Point	GPS-123_Local
Northing	799104.1269sft
Easting	1059251.2903sft
Elevation	2571.0611sft
Utilized	Horz and Vert
Quality	Survey quality

Point	COXCOMB_WGS84
Latitude	35°54'07.61511"N
Longitude	82°09'47.14205"W
Height	2640.3786sft

Northing	798189.3245sft
Easting	1063391.1261sft
Elevation	2740.6791sft
Horz error	0.047sft
Vert error	0.022sft
3D error	0.052sft

Point	COXCOMB_Local
Northing	798189.2796sft
Easting	1063391.1114sft
Elevation	2740.6572sft
Utilized	Horz and Vert
Quality	Survey quality

Point	GPS-125_WGS84
Latitude	35°54'06.56653"N
Longitude	82°08'46.42509"W
Height	2462.6722sft

Northing	797924.5850sft
Easting	1068381.0844sft
Elevation	2563.1344sft
Horz error	0.005sft
Vert error	0.059sft
3D error	0.059sft

Point	GPS-125_Local
Northing	797924.5885sft
Easting	1068381.0883sft
Elevation	2563.0756sft
Utilized	Horz and Vert
Quality	Survey quality

Point	GPS-126_WGS84
Latitude	35°54'01.70889"N
Longitude	82°08'44.47410"W
Height	2439.9951sft

Northing	797428.4842sft
Easting	1068525.9675sft
Elevation	2540.4653sft
Horz error	0.017sft
Vert error	0.027sft
3D error	0.032sft

Point	GPS-126_Local
Northing	797428.4675sft
Easting	1068525.9633sft
Elevation	2540.4378sft
Utilized	Horz and Vert
Quality	Survey quality

Point	7_WGS84
Latitude	35°53'41.47573"N
Longitude	82°08'45.47785"W
Height	2455.2576sft

Northing	795385.9212sft
Easting	1068378.5767sft
Elevation	2555.7359sft
Horz error	0.025sft
Vert error	0.003sft
3D error	0.025sft

Point	P-7_Local
Northing	795385.8961sft
Easting	1068378.5785sft
Elevation	2555.7331sft
Utilized	Horz and Vert
Quality	Survey quality

Point	GPS-128_WGS84
Latitude	35°54'18.12418"N
Longitude	82°06'51.19908"W
Height	2590.7264sft

Northing	798793.9197sft
Easting	1077893.9617sft
Elevation	2691.5023sft
Horz error	0.027sft
Vert error	0.054sft
3D error	0.061sft

Point	GPS-128_Local
Northing	798793.9470sft
Easting	1077893.9630sft
Elevation	2691.4480sft
Utilized	Horz and Vert
Quality	Survey quality

Point	GPS-127_WGS84
Latitude	35°54'11.19478"N
Longitude	82°06'49.70074"W
Height	2587.3111sft

Northing	798089.6160sft
Easting	1077995.2014sft
Elevation	2688.0994sft
Horz error	0.002sft
Vert error	0.011sft
3D error	0.011sft

Point	GPS-127_Local
Northing	798089.6177sft
Easting	1077995.2029sft
Elevation	2688.0885sft
Utilized	Horz and Vert
Quality	Survey quality

Point	1 JS 6 OS_WGS84
Latitude	35°55'50.04450"N

Northing	807882.1894sft
Easting	1084684.8005sft

Point	1 JS 6 OS_Local
Northing	807882.2195sft

Longitude	82°05'32.14422"W
Height	2541.2974sft

Elevation	2642.1412sft
Horz error	0.030sft
Vert error	0.070sft
3D error	0.076sft

Easting	1084684.7991sft
Elevation	2642.0715sft
Utilized	Horz and Vert
Quality	Survey quality

Point	GPS-129_WGS84
Latitude	35°54'46.73828"N
Longitude	82°05'31.52743"W
Height	2676.3956sft

Northing	801481.4122sft
Easting	1084536.1014sft
Elevation	2777.3734sft
Horz error	0.059sft
Vert error	0.092sft
3D error	0.110sft

Point	GPS-129_Local
Northing	801481.4712sft
Easting	1084536.1085sft
Elevation	2777.2812sft
Utilized	Horz and Vert
Quality	Survey quality

Point	GPS-130_WGS84
Latitude	35°54'43.86838"N
Longitude	82°05'26.80896"W
Height	2655.8116sft

Northing	801179.2264sft
Easting	1084915.0646sft
Elevation	2756.8084sft
Horz error	0.028sft
Vert error	0.019sft
3D error	0.034sft

Point	GPS-130_Local
Northing	801179.2539sft
Easting	1084915.0677sft
Elevation	2756.7891sft
Utilized	Horz and Vert
Quality	Survey quality

Point	1 JS 2_WGS84
Latitude	35°54'59.25835"N
Longitude	82°04'09.21486"W
Height	2437.7084sft

Northing	802536.8505sft
Easting	1091343.8205sft
Elevation	2538.9065sft
Horz error	0.052sft
Vert error	0.030sft
3D error	0.060sft

Point	1 JS 2_Local
Northing	802536.9021sft
Easting	1091343.8212sft
Elevation	2538.8762sft
Utilized	Horz and Vert
Quality	Survey quality

Point	16_WGS84
Latitude	35°53'42.45981"N
Longitude	82°04'30.09306"W
Height	2527.7016sft

Northing	794826.9608sft
Easting	1089386.5029sft
Elevation	2629.0096sft
Horz error	0.011sft
Vert error	0.011sft
3D error	0.015sft

Point	P-16_Local
Northing	794826.9668sft
Easting	1089386.5122sft
Elevation	2629.0203sft
Utilized	Horz and Vert
Quality	Survey quality

Point	R-2519-1_WGS84
Latitude	35°53'14.14765"N
Longitude	82°03'45.84035"W
Height	2489.6308sft

Northing	791852.5159sft
Easting	1092937.8950sft
Elevation	2591.1711sft
Horz error	0.039sft
Vert error	0.149sft
3D error	0.154sft

Point	R-2519-1_Local
Northing	791852.4780sft
Easting	1092937.9060sft
Elevation	2591.3203sft
Utilized	Horz and Vert
Quality	Survey quality

Point	MORRISON_WGS84
Latitude	35°57'01.20615"N
Longitude	82°00'06.61923"W
Height	2577.6031sft

Northing	814253.8953sft
Easting	1111664.8272sft
Elevation	2679.1369sft
Horz error	0.078sft
Vert error	0.093sft
3D error	0.122sft

Point	MORRISON_Local
Northing	814253.8210sft
Easting	1111664.8042sft
Elevation	2679.2302sft
Utilized	Horz and Vert
Quality	Survey quality