

CONTROL PACKAGE FOR STATE ROUTE 21 AT INTERSTATE 95

**PROJECT NO. TOTSDDDES100131
P.I. NO. 0012722**

CHATHAM COUNTY

**HORIZONTAL DATUM NAD88 (2007)
GEORGIA EAST ZONE (1001)**

VERTICAL DATUM NAVD88

**UNITS OF MEASUREMENT (US FOOT)
COMBINED SCALE FACTOR 1.000010557**

DATE 3-27-2014

NOTES

GEORGIA PORTS AUTHORITY PRIMARY CONTROL WAS RECOVERED AND USED TO ESTABLISH PRIMARY CONTROL AT SR21 AND INTERSTATE 95

A COPY OF THE CONTROL PACKAGE IS ATTACHED FOR STATE ROUTE 21 AND JIMMY DELOACH PARKWAY, PROJECT CSMCL-008-00(690), P.I. NO. 0008690 DATED 10-27-09.



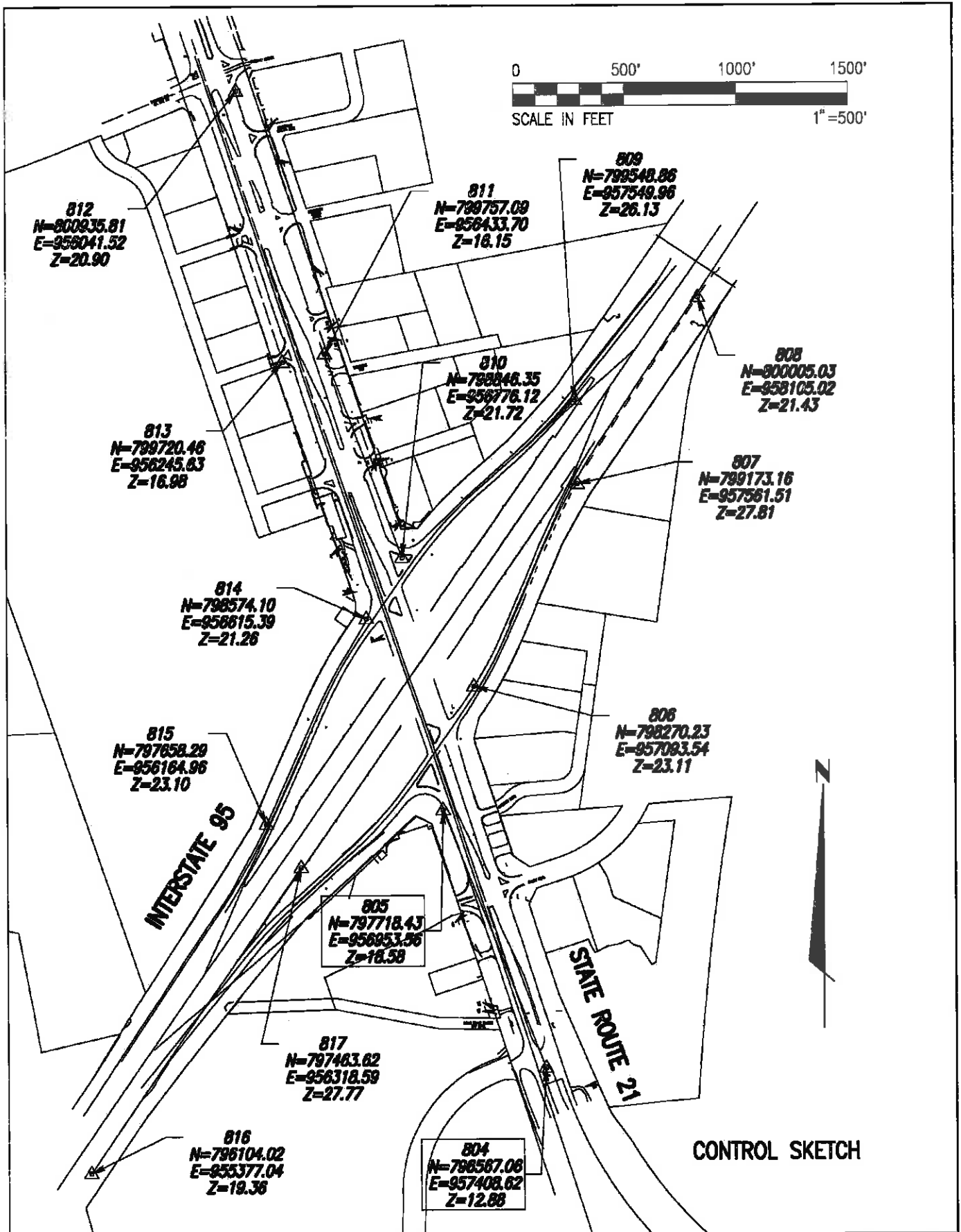
Infrastructure, buildings, environment, communications

FINAL AJDUSTED COORDINATES

POINT,	NORTHING ,	EASTING ,	ELEV.,	DESC.,	MATERIAL
804	,796567.0603,	957408.6227,	12.883,	SLCD-804,	5/8"REBAR
805	,797718.4278,	956953.5553,	18.568,	SLCD-805,	5/8"REBAR
806	,798270.2310,	957093.5430,	23.105,	SLCD-806,	5/8"REBAR
807	,799173.1630,	957561.5120,	27.805,	SLCD-807,	5/8"REBAR
808	,800005.0260,	958105.0170,	21.432,	SLCD-808,	5/8"REBAR
809	,799548.8620,	957549.9610,	26.133,	SLCD-809,	5/8"REBAR
810	,798846.3540,	956776.1250,	21.724,	SLCD-810,	5/8"REBAR
811	,799757.0920,	956433.6970,	16.153,	SLCD-811,	5/8"REBAR
812	,800935.8120,	956041.5190,	20.895,	SLCD-812,	5/8"REBAR
813	,799720.4620,	956245.6300,	16.979,	SLCD-813,	5/8"REBAR
814	,798574.1000,	956615.3960,	21.264,	SLCD-814,	5/8"REBAR
815	,797658.2860,	956164.9680,	23.099,	SLCD-815,	5/8"REBAR
816	,796104.0150,	955377.0510,	19.364,	SLCD-816,	5/8"REBAR
817	,797463.6200,	956318.5980,	27.771,	SLCD-817,	5/8"REBAR



Infrastructure, buildings, environment, communications



TRAVERSE ADJUSTMENTS

Traverse Report

Report Created: 2/15/2014

Time: 2:01pm

Overview

Traverse Points: 14 Total, 2 Fixed, 12 Free
Traverse Classification: Closed
Traverse Adjustments: Horizontal Angle , Elevation
Adjustment , Compass
Horizontal Angle Control: Yes
Horizontal Position Control: Yes
Vertical Position Control: Yes

Traverse

Unadjusted Area: 1754547.1 (Sq US Feet)
Adjusted Area: 1754539.1 (Sq US Feet)

Point	Azimuth	Length	Latitude	Departure	Northing	Easting	Elevation
△ 804					796567.06	957408.62	12.88
	158°26'03"	--	--	--			
△ 805					797718.43	956953.56	18.57
	14°14'04"	569.29	551.81	139.98			
	14°14'05"	569.28	551.80	139.99			
		[-0.00]	[-0.00]	[0.01]			
⊙ 806					798270.23	957093.54	23.04
	27°23'45"	1017.00	902.94	467.96	798270.23	957093.54	23.08
	27°23'46"	1017.00	902.93	467.97	[-0.00]	[0.01]	[0.04]
		[-0.00]	[-0.01]	[0.01]			
⊙ 807					799173.18	957561.49	27.66
	33°09'28"	993.68	831.88	543.49	799173.16	957561.51	27.77
	33°09'30"	993.68	831.86	543.50	[-0.01]	[0.02]	[0.11]
		[-0.00]	[-0.01]	[0.02]			
⊙ 808					800005.05	958104.98	21.24
	230°35'06"	718.45	-456.17	-555.05	800005.03	958105.02	21.42
	230°35'09"	718.45	-456.16	-555.06	[-0.03]	[0.04]	[0.17]

		[-0.00]	[0.00]	[-0.00]			
809					799548.88	957549.93	25.89
	227°45'56"	1045.15	-702.52	-773.83	799548.86	957549.96	26.11
	227°46'00"	1045.15	-702.51	-773.84	[-0.02]	[0.03]	[0.22]
		[-0.00]	[0.01]	[-0.01]			
810					798846.37	956776.10	21.41
	339°23'34"	972.99	910.74	-342.46	798846.35	956776.13	21.70
	339°23'39"	972.99	910.74	-342.43	[-0.01]	[0.03]	[0.29]
		[-0.01]	[0.00]	[0.03]			
811					799757.10	956433.64	15.80
	341°35'42"	1242.26	1178.72	-392.22	799757.09	956433.70	16.16
	341°35'48"	1242.25	1178.72	-392.18	[-0.01]	[0.05]	[0.36]
		[-0.01]	[0.00]	[0.04]			
812					800935.82	956041.42	20.51
	170°27'54"	1232.36	-1215.34	204.14	800935.81	956041.52	20.96
	170°28'01"	1232.37	-1215.35	204.11	[-0.01]	[0.09]	[0.44]
		[0.01]	[-0.01]	[-0.03]			
813					799720.48	956245.56	16.44
	162°07'15"	1204.51	-1146.34	369.80	799720.46	956245.63	16.97
	162°07'22"	1204.52	-1146.36	369.77	[-0.02]	[0.06]	[0.53]
		[0.01]	[-0.02]	[-0.03]			
814					798574.14	956615.36	20.66
	206°11'16"	1020.59	-915.83	-450.40	798574.10	956615.40	21.27
	206°11'24"	1020.59	-915.81	-450.43	[-0.04]	[0.03]	[0.61]
		[0.00]	[0.01]	[-0.03]			
815					797658.32	956164.96	22.47
	206°52'49"	1742.57	-1554.29	-787.86	797658.29	956164.97	23.15
	206°52'57"	1742.58	-1554.27	-787.92	[-0.03]	[0.00]	[0.68]
		[0.00]	[0.02]	[-0.06]			
816					796104.02	955377.10	18.52
	34°42'00"	1653.80	1359.66	941.47	796104.02	955377.05	19.31
	34°42'10"	1653.79	1359.60	941.55	[-0.01]	[-0.05]	[0.79]
		[-0.00]	[-0.05]	[0.07]			
817					797463.68	956318.58	26.83
	68°07'52"	684.17	254.84	634.94	797463.62	956318.60	27.73
	68°08'02"	684.18	254.81	634.96	[-0.06]	[0.02]	[0.90]
		[0.00]	[-0.04]	[0.02]			
805					797718.43	956953.56	18.57
	158°25'51"	---	---	---			
804		---	---	---	796567.06	957408.62	12.88
Total		14096.82	0.10	-0.04			
		14096.82	-0.00	0.00			
		[-0.00]	[-0.10]	[0.04]			

Error Analysis

End Azimuth:

		Error	Error Per Angle
Fixed	158°26'03"	---	---
Computed Original	158°25'51"	0°00'11"	0°00'01"

End Position:

	Northing	Difference	Easting	Difference	Elevation	Difference
Fixed	797718.43	---	956953.56	---	18.57	---
Computed Original	797718.53	0.10	956953.52	-0.04	17.62	-0.95
Computed Horizontal	797718.51	0.09	956953.46	-0.09	17.62	-0.95
Computed Traverse	797718.43	-0.00	956953.56	-0.00	17.62	-0.95
Computed Elevation	797718.43	-0.00	956953.56	-0.00	18.57	0.00

Horizontal / Vertical Error:

	Horizontal Error	Vertical Error
Computed Original	0.11	0.95
Computed Horizontal	0.13	0.95
Computed Traverse	0.00	0.95
Computed Elevation	0.00	0.00

Horizontal Accuracy (Original): 1 : 131,962

Horizontal Accuracy (with Angular): 1 : 111,215

Vertical Accuracy (Original): 1 : 14,838

Observations

Azimuths:	0
Direction:	0
Horizontal Angles:	14
Horizontal Distances:	0
Slope Distances:	14
Vertical Angles:	0
Zenith Angles:	14
Height Differences:	0
Total:	42

Type	Backsight	Occupied	Foresight	Observation		Observation	Difference
Horizontal Angle	804	805	806	215°48'01"			
					Horizontal	215°48'02"	0°00'01"
					Compass	215°48'04"	0°00'02"
					Elevation	215°48'04"	0°00'02"
		4.83	4.99	3.77			
Horizontal Angle	805	806	807	193°09'41"			
					Horizontal	193°09'42"	0°00'02"
					Compass	193°09'42"	0°00'01"
					Elevation	193°09'42"	0°00'01"
		4.99	5.15	3.37			
Horizontal Angle	806	807	808	185°45'43"			
					Horizontal	185°45'46"	0°00'02"
					Compass	185°45'44"	0°00'01"
					Elevation	185°45'44"	0°00'01"
		5.15	5.13	3.24			
Horizontal Angle	807	808	809	17°25'38"			
					Horizontal	17°25'42"	0°00'03"
					Compass	17°25'35"	-0°00'03"
					Elevation	17°25'35"	-0°00'03"
		5.13	5.09	0.30			
Horizontal Angle	808	809	810	177°10'49"			
					Horizontal	177°10'53"	0°00'04"
					Compass	177°10'50"	0°00'01"
					Elevation	177°10'50"	0°00'01"
		5.09	5.02	3.09			
Horizontal Angle	809	810	811	291°37'38"			
					Horizontal	291°37'43"	0°00'05"
					Compass	291°37'42"	0°00'03"
					Elevation	291°37'42"	0°00'03"
		5.02	5.00	5.09			
Horizontal Angle	810	811	812	182°12'09"			
					Horizontal	182°12'14"	0°00'06"
					Compass	182°12'09"	0°00'01"
					Elevation	182°12'09"	0°00'01"
		5.00	5.04	3.18			
Horizontal Angle	811	812	813	8°52'12"			
					Horizontal	8°52'18"	0°00'06"
					Compass	8°52'11"	-0°00'01"
					Elevation	8°52'11"	-0°00'01"
		5.04	5.19	0.15			
Horizontal Angle	812	813	814	171°39'21"			
					Horizontal	171°39'28"	0°00'07"
					Compass	171°39'22"	0°00'01"
					Elevation	171°39'22"	0°00'01"
		5.19	5.02	3.00			
Horizontal Angle	813	814	815	224°04'01"	Horizontal	224°04'09"	0°00'08"

					Compass Elevation	224°04'01" 224°04'01"	-0°00'00" -0°00'00"
		5.02	5.10	3.91			
Horizontal Angle	814	815	816	180°41'33"	Horizontal Compass Elevation	180°41'42" 180°41'34" 180°41'34"	0°00'09" 0°00'01" 0°00'01"
		5.10	5.08	3.15			
Horizontal Angle	815	816	817	7°49'11"	Horizontal Compass Elevation	7°49'21" 7°49'16" 7°49'16"	0°00'10" 0°00'04" 0°00'04"
		5.08	4.88	0.14			
Horizontal Angle	816	817	805	213°25'52"	Horizontal Compass Elevation	213°26'02" 213°25'52" 213°25'52"	0°00'10" 0°00'01" 0°00'01"
		4.88	4.98	3.73			
Horizontal Angle	817	805	804	270°18'00"	Horizontal Compass Elevation	270°18'11" 270°17'59" 270°17'59"	0°00'11" -0°00'01" -0°00'01"
		4.98	5.39	4.72			
Zenith Angle		805	806	89°32'00"	Horizontal Compass Elevation	89°32'00" 89°32'00" 89°31'46"	0°00'00" -0°00'00" -0°00'14"
		4.83	4.99	1.56			
Zenith Angle		806	807	89°43'51"	Horizontal Compass Elevation	89°43'51" 89°43'51" 89°43'37"	0°00'00" -0°00'00" -0°00'14"
		4.99	5.15	1.57			
Zenith Angle		807	808	90°22'17"	Horizontal Compass Elevation	90°22'17" 90°22'17" 90°22'03"	0°00'00" 0°00'00" -0°00'14"
		5.15	5.13	1.58			
Zenith Angle		808	809	89°37'57"	Horizontal Compass Elevation	89°37'57" 89°37'57" 89°37'43"	0°00'00" -0°00'00" -0°00'14"
		5.13	5.09	1.56			
Zenith Angle		809	810	90°14'58"	Horizontal Compass Elevation	90°14'58" 90°14'58" 90°14'44"	0°00'00" 0°00'00" -0°00'14"

	5.09	5.02	1.58			
Zenith Angle	810	811	90°19'54"	Horizontal Compass Elevation	90°19'54" 90°19'54" 90°19'40"	0°00'00" 0°00'00" -0°00'14"
	5.02	5.00	1.58			
Zenith Angle	811	812	89°46'51"	Horizontal Compass Elevation	89°46'51" 89°46'51" 89°46'37"	0°00'00" -0°00'00" -0°00'14"
	5.00	5.04	1.57			
Zenith Angle	812	813	90°10'56"	Horizontal Compass Elevation	90°10'56" 90°10'56" 90°10'42"	0°00'00" -0°00'00" -0°00'14"
	5.04	5.19	1.57			
Zenith Angle	813	814	89°48'26"	Horizontal Compass Elevation	89°48'26" 89°48'26" 89°48'12"	0°00'00" 0°00'00" -0°00'14"
	5.19	5.02	1.57			
Zenith Angle	814	815	89°53'38"	Horizontal Compass Elevation	89°53'38" 89°53'38" 89°53'24"	0°00'00" 0°00'00" -0°00'14"
	5.02	5.10	1.57			
Zenith Angle	815	816	90°07'51"	Horizontal Compass Elevation	90°07'51" 90°07'51" 90°07'37"	0°00'00" -0°00'00" -0°00'14"
	5.10	5.08	1.57			
Zenith Angle	816	817	89°43'08"	Horizontal Compass Elevation	89°43'08" 89°43'08" 89°42'54"	0°00'00" -0°00'00" -0°00'14"
	5.08	4.88	1.57			
Zenith Angle	817	805	90°45'47"	Horizontal Compass Elevation	90°45'47" 90°41'00" 90°45'33"	0°00'00" -0°04'46" -0°00'14"
	4.88	4.98	1.58			
Zenith Angle	805	804	90°14'52"	Horizontal Compass Elevation	90°14'52" 90°14'52" 90°14'52"	0°00'00" 0°00'00" 0°00'00"
	4.98	5.39	1.58			
Slope	805	806	569.30			

Distance				Horizontal	569.30	0.00
				Compass	569.30	-0.00
				Elevation	569.30	-0.00
	4.83	4.99	569.30			
Slope	806	807	1017.01	Horizontal	1017.01	0.00
Distance				Compass	1017.01	-0.00
				Elevation	1017.01	-0.00
	4.99	5.15	1017.01			
Slope	807	808	993.70	Horizontal	993.70	0.00
Distance				Compass	993.70	-0.00
				Elevation	993.70	-0.00
	5.15	5.13	993.70			
Slope	808	809	718.47	Horizontal	718.47	0.00
Distance				Compass	718.47	-0.00
				Elevation	718.47	-0.00
	5.13	5.09	718.47			
Slope	809	810	1045.16	Horizontal	1045.16	0.00
Distance				Compass	1045.16	-0.00
				Elevation	1045.16	-0.00
	5.09	5.02	1045.16			
Slope	810	811	973.01	Horizontal	973.01	0.00
Distance				Compass	973.00	-0.01
				Elevation	973.00	-0.01
	5.02	5.00	973.01			
Slope	811	812	1242.27	Horizontal	1242.27	0.00
Distance				Compass	1242.26	-0.01
				Elevation	1242.26	-0.01
	5.00	5.04	1242.27			
Slope	812	813	1232.37	Horizontal	1232.37	0.00
Distance				Compass	1232.38	0.01
				Elevation	1232.38	0.01
	5.04	5.19	1232.37			
Slope	813	814	1204.52	Horizontal	1204.52	0.00
Distance				Compass	1204.53	0.01
				Elevation	1204.53	0.01
	5.19	5.02	1204.52			
Slope	814	815	1020.59	Horizontal	1020.59	0.00
Distance				Compass	1020.59	0.00

				Elevation	1020.59	0.00
	5.02	5.10	1020.59			
Slope	815	816	1742.58	Horizontal	1742.58	0.00
Distance				Compass	1742.58	0.00
				Elevation	1742.58	0.00
	5.10	5.08	1742.58			
Slope	816	817	1653.82	Horizontal	1653.82	0.00
Distance				Compass	1653.81	-0.00
				Elevation	1653.81	-0.00
	5.08	4.88	1653.82			
Slope	817	805	684.24	Horizontal	684.24	0.00
Distance				Compass	684.23	-0.01
				Elevation	684.24	0.00
	4.88	4.98	684.24			
Slope	805	804	1238.04	Horizontal	1238.04	0.00
Distance				Compass	1238.04	0.00
				Elevation	1238.04	0.00
	4.98	5.39	1238.04			

Points

	Northing	Difference	Easting	Difference	Elevation	Difference
△ 804						
Original	796567.06	---	957408.62	---	12.88	---
△ 805						
Original	797718.43	---	956953.56	---	18.57	---
⊙ 806						
Original	798270.23	---	957093.54	---	23.04	---
Horizontal	798270.23	-0.00	957093.54	0.00	23.04	0.00
Compass	798270.23	-0.00	957093.54	0.01	23.08	0.04
Elevation	---	---	---	---	23.08	0.04
⊙ 807						
Original	799173.18	---	957561.49	---	27.66	---
Horizontal	799173.17	-0.00	957561.50	0.01	27.66	0.00
Compass	799173.16	-0.01	957561.51	0.02	27.77	0.11
Elevation	---	---	---	---	27.77	0.11

⊙ 808						
Original	800005.05	---	958104.98	---	21.24	---
Horizontal	800005.04	-0.01	958105.00	0.02	21.24	0.00
Compass	800005.03	-0.03	958105.02	0.04	21.42	0.17
Elevation	---	---	---	---	21.42	0.17

⊙ 809						
Original	799548.88	---	957549.93	---	25.89	---
Horizontal	799548.88	-0.00	957549.94	0.01	25.89	0.00
Compass	799548.86	-0.02	957549.96	0.03	26.11	0.22
Elevation	---	---	---	---	26.11	0.22

⊙ 810						
Original	798846.37	---	956776.10	---	21.41	---
Horizontal	798846.38	0.01	956776.10	-0.00	21.41	0.00
Compass	798846.35	-0.01	956776.13	0.03	21.70	0.29
Elevation	---	---	---	---	21.70	0.29

⊙ 811						
Original	799757.10	---	956433.64	---	15.80	---
Horizontal	799757.12	0.02	956433.66	0.02	15.80	0.00
Compass	799757.09	-0.01	956433.70	0.05	16.16	0.36
Elevation	---	---	---	---	16.16	0.36

⊙ 812						
Original	800935.82	---	956041.42	---	20.51	---
Horizontal	800935.85	0.03	956041.48	0.05	20.51	0.00
Compass	800935.81	-0.01	956041.52	0.09	20.96	0.44
Elevation	---	---	---	---	20.96	0.44

⊙ 813						
Original	799720.48	---	956245.56	---	16.44	---
Horizontal	799720.51	0.03	956245.58	0.01	16.44	0.00
Compass	799720.46	-0.02	956245.63	0.06	16.97	0.53
Elevation	---	---	---	---	16.97	0.53

⊙ 814						
Original	798574.14	---	956615.36	---	20.66	---
Horizontal	798574.16	0.01	956615.34	-0.03	20.66	0.00
Compass	798574.10	-0.04	956615.40	0.03	21.27	0.61
Elevation	---	---	---	---	21.27	0.61

⊙ 815						
Original	797658.32	---	956164.96	---	22.47	---
Horizontal	797658.35	0.03	956164.90	-0.06	22.47	0.00
Compass	797658.29	-0.03	956164.97	0.00	23.15	0.68
Elevation	---	---	---	---	23.15	0.68

⊙ 816

	796104.02	---	955377.10	---	18.52	---
Horizontal	796104.09	0.06	955376.97	-0.13	18.52	0.00
Compass	796104.02	-0.01	955377.05	-0.05	19.31	0.79
Elevation	---	---	---	---	19.31	0.79

⊙ **817**

Original	797463.68	---	956318.58	---	26.83	---
Horizontal	797463.70	0.02	956318.51	-0.07	26.83	0.00
Compass	797463.62	-0.06	956318.60	0.02	27.73	0.90
Elevation	---	---	---	---	27.73	0.90

△ **805**

Original	797718.43	---	956953.56	---	18.57	---
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△ **804**

Original	796567.06	---	957408.62	---	12.88	---
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DIGITAL LEVEL ADJUSTMENT

Turn	Backsight	Foresight	Distance	Height	ADJUSTMENT	FINAL ELEV.
				12.883	SLCD 804	
	3.8806		153.11			
1		5.2336	230.17			
1				11.53		
1	6.0515		241.2			
2		3.7683	189.51			
2				13.8131		
2	5.9499		196.05			
3		1.1808	245.03			
					SLCD	
3				18.5823	805	0.003083721
3	6.7234		176.99			18.579
4		3.6867	140.39			
4				21.619		
4	6.2265		122.21			
5		4.735	130.35			
					SLCD-	
5				23.1105	806	0.005139535
5	7.1008		187.17			23.105
6		3.5538	196.52			
6				26.6575		
6	5.7373		199.75			
7		3.4894	189.23			
7				28.9054		
7	4.9283		123.51			
8		6.0206	124.6			
					SLCD-	
8				27.8131	807	0.008223256
8	4.2959		172.05			27.805
9		6.7279	212.87			
9				25.3811		
9	3.6622		206.78			
10		5.6453	152.72			
10				23.3979		
10	4.1469		139.45			

11		6.1015	109.63				
11				21.4434	SLCD-808	0.011306977	21.432
11	6.7001		248.24				
12		3.825	111.5				
12				24.3185			
12	4.8817		191.29				
13		3.0535	244.56				
13				26.1467	SLCD-809	0.013362791	26.133
13	4.6617		195.88				
14		5.6112	195.65				
14				25.1972			
14	4.1836		194.84				
15		5.9716	181.75				
15				23.4092			
15	3.7579		187.56				
16		5.427	89.08				
16				21.74	SLCD-810	0.016446512	21.724
16	1.2331		195.71				
17		5.6233	202.8				
17				17.3498			
17	5.0501		239.94				
18		6.228	337.3				
18				16.1719	SLCD-811	0.018502326	16.153
18	6.6458		285.7				
19		2.0886	248.3				
19				20.7291			
19	5.3915		273.86				
20		5.3774	183.31				
20				20.7432			
20	4.4555		126.77				
21		4.2819	130.95				
21				20.9167	SLCD-812	0.021586047	20.895
21	5.6073		233.1				
22		5.9679	175.41				
22				20.5562			
22	4.9383		240.13				
23		6.7729	246.66				

23			18.7216			
23	3.1568		231.87			
24		4.8743	180.32			
24			17.0041	SLCD-813	0.024669767	16.979
24	4.5235		277.31			
25		4.3469	239.05			
25			17.1807			
25	5.8236		246.63			
26		3.8365	161.09			
26			19.1678			
26	6.4784		174.4			
27		4.3539	122.63			
27			21.2922	SLCD-814	0.027753488	21.264
27	6.4729		276.48			
28		4.4971	240.91			
28			23.268			
28	5.0742		255.17			
29		5.2134	248.44			
29			23.1289	SLCD-815	0.029809302	23.099
29	3.297		275.5			
30		7.9578	248.18			
30			18.4681			
30	3.1513		284.05			
31		4.3757	246.02			
31			17.2436			
31	6.2727		289.04			
32		3.4976	233.31			
32			20.0188			
32	5.126		117.68			
33		5.747	122.17			
33			19.3978	SLCD-816	0.03392093	19.364
33	4.683		207.7			
34		5.7943	243.53			
34			18.2864			
34	3.6794		286.5			
35		5.0332	243.33			
35			16.9326			
35	7.4464		231.27			

36		2.3339	204			
36				22.0451		
36	8.401		141.22			
37		2.6369	98.8			
37				27.8092	SLCD-817	0.038032558
37	1.3158		141.86			27.771
38		8.5757	56.29			
38				20.5493		
38	4.8325		295.25			
39		3.7277	202.17			
39				21.6541		
39	4.1047		231.11			
40		7.1391	128.45			
40				18.6197	SLCD-805	0.041116279
40	1.1747		247.18			18.579
41		5.9663	226.69			
41				13.828		
41	3.4624		246.27			
42		5.4569	177.72			
42				11.8334		
42	4.8891		198			
43		3.7954	159.03			
43				12.9272	SLCD-804	0.0442
						12.883

GEORGIA PORTS AUTHORITY

CONTROL PACKET

**STATE ROUTE 21 &
JIMMY DELOACH PARKWAY**

CHATHAM COUNTY

**PROJECT NO. CSMCL-008-00(690)
P.I. NO. 0008690**

DATE 10-27-09



Infrastructure, buildings, environment, communications

FINAL COORDINATES

SR 21

Project No.

P.I. No.

LENGTH: 5.50 Mi.

Date: January 20, 2008

County: Chatham

Horizontal Datum NAD 83 (2007)
Zone Georgia East Zone (1001)
Vertical Datum NAVD 88
Units of Measurement U.S. Feet
Combined Scale Factor 1.00001055157

Published Horizontal Monuments used

FORT PULASKI	0.51	0.47	1.00
PORT WENTWORTH	0.76	0.74	1.37
PURRYSBURG	0.67	0.63	1.23
MELDRIM=I 49	0.39	0.41	1.14

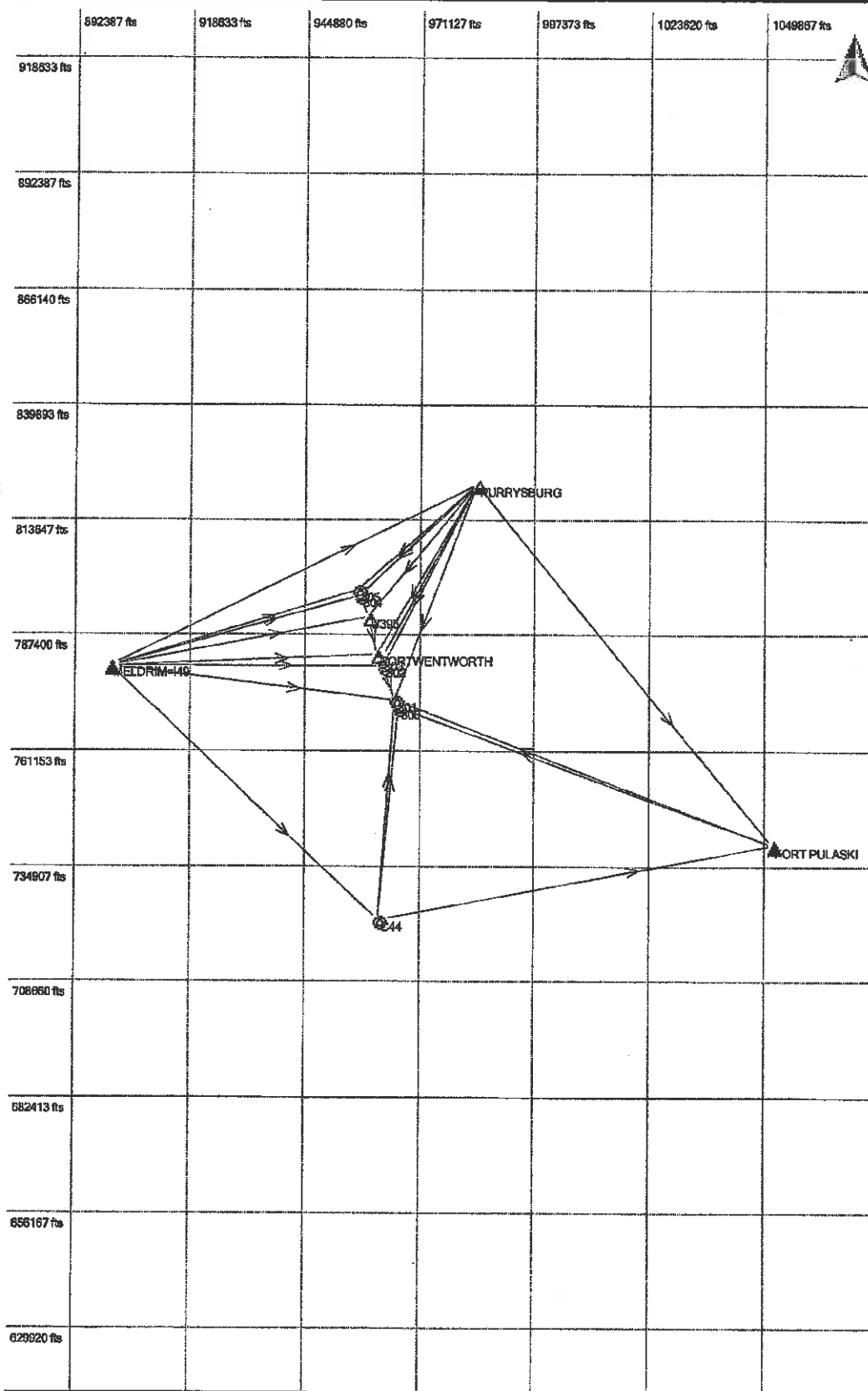
Vertical Monuments used

U 395	FIRST	CLASS II
PORT WENTWORTH	FIRST	CLASS II

Final Coordinates

PT	Northing	Easting	Elev.	Desc.
800,771023.2828,966073.2093,14.044,3/4				REBAR
801,772707.0767,965433.9972,8.704,3/4				REBAR
802,780562.5629,962705.6019,27.321,3/4				REBAR
803,781979.6047,962218.5350,40.460,3/4				REBAR
804,796567.0603,957408.6227,12.883,3/4				REBAR
805,797718.4278,956953.5553,18.568,3/4				REBAR

63802-01 SR21 CONTROL



+ Estimated
 [] Navigated
 [] SPP
 [] Measured
 [] Average
 [] Reference
 [] Adjusted
 [] Control - 1D
 [] Control - 2D
 [] Control - 3D

01/27/2008 19:33:13



PRIMARY CONTROL SHEET

STATION NAME PC # 864JOB/PI # GA063802000100001COUNTY CHATHAMDESCRIBED BY: Wesley MorrisDATE: 1-15-08

FEET () / METERS ()

HORZ. DATUM:

VERT. DATUM:

COMBINED
SCALE FACTOR

NORTHING(Y):

EASTING(X):

ELEVATION(Z):

GPS FIXED HEIGHT SETUP

GPS TRIPOD SETUP

FIXED HGT 2.000m ()HGT. RDG. (1:263)m
HEIGHT MOUNT() () ()
502 POLE / 502 PILLAR / 502 TRIPODHGT. RDG. (4.15)ft
TAPE MEASUREMENT

ECC. PT. NAME

OBJECT:

() 0.441m

() 0.389m

1200 ()

AZ:

DIST:

ELEV. DIFF:

SR399/CARRIER O/S

AT522 CARRIER O/S

502 TRIPOD

PRN # 'S OBSERVED:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

TIME:

BEGIN OBS.: 9:30am

GDDP:

BEGIN 3.8

C/S LIPS:

L1

TIME:

END OBS.: 10:57

GDDP:

END 2.8

C/S LIPS:

L2

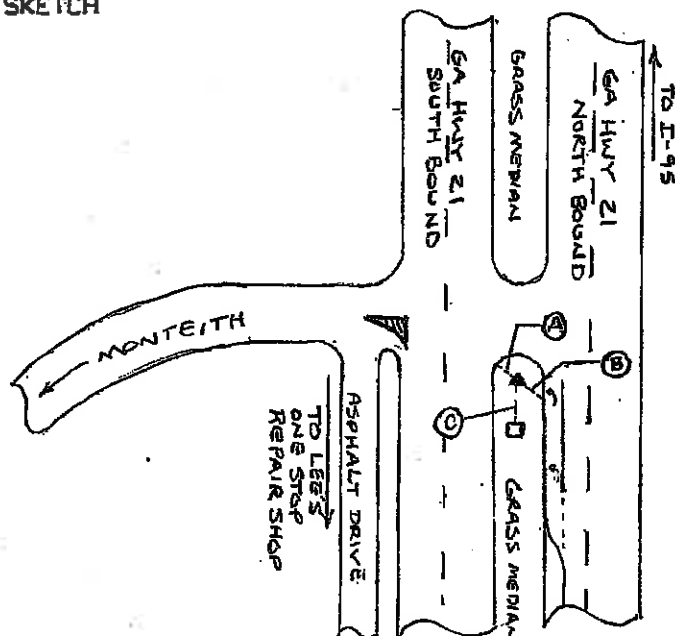
PROBLEMS/COMMENTS:

EPOCHS: 310

HOW TO GET TO DESCRIPTION & TIE DISTANCES

TIE A) 10.0' SE FROM E/PTIE B) 15.0' NW FROM E/PTIE C) 34' N. FROM NORTH APRON FACE OF MEDIAN DRAIN

SKETCH



N.T.S.



PRIMARY CONTROL SHEET

STATION NAME 805

JOB/PI # GA063802.0001.00001

COUNTY Chatham

DESCRIBED BY: M. ANDERSON

DATE: 01.15.08

FEET () / METERS ()

HORZ. DATUM:

VERT. DATUM:

COMBINED
SCALE FACTOR

NORTHING(Y)=

EASTING(X)=

ELEVATION(Z)=

GPS FIXED HEIGHT SETUP

FIXED HGT 2.000m M

() 1230 () ()

502 POLE / 502 PILLAR / 502 TRIPOD

ECC. PT. NAME

OBJECT:

AZ:

DIST:

ELEV. DIFF:

GPS TRIPOD SETUP

HGT. RDG. () m
HEIGHT HOOK

HGT. RDG. () ft

TAPE MEASUREMENT

() 0.441m () 0.389m ()
SR399 CARRIER O/S AT502 CARRIER O/S 502 TRIPOD

PRN # 'S OBSERVED:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

TIME: BEGIN OBS.: 9:25

GDOP: BEGIN 4.3

C/S LIPS: 1

TIME: END OBS.: 11:00

GDOP: END 2.8

C/S LIPS: 2

PROBLEMS/COMMENTS:

EPOCHS: 270

5/8" REBAR WITH DUST

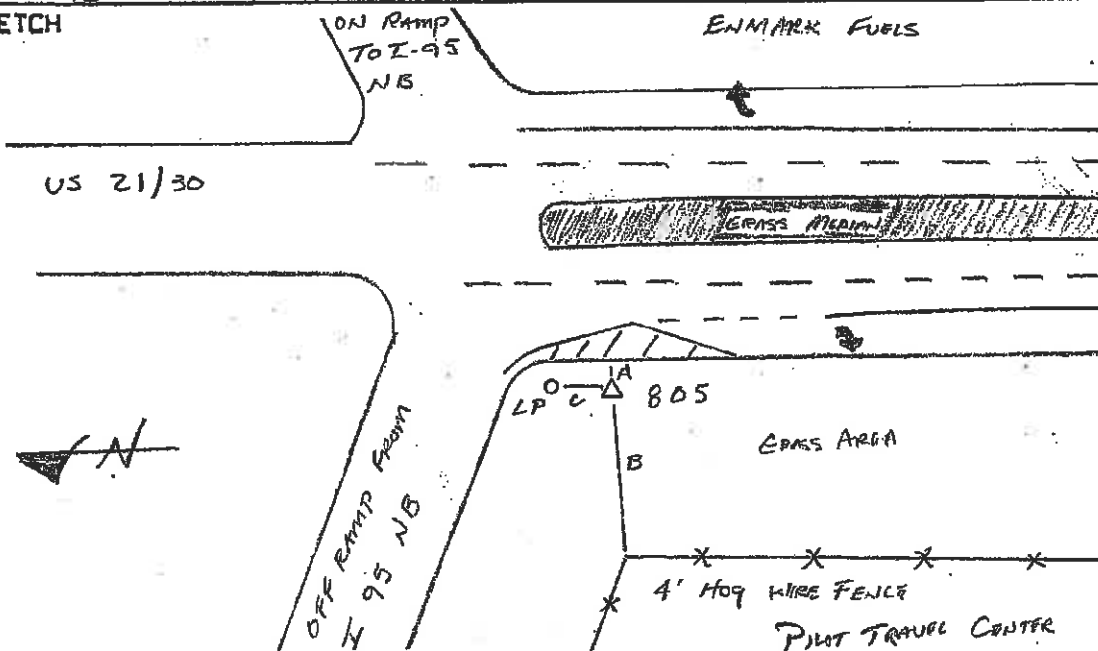
HOW TO GET TO DESCRIPTION & TIE DISTANCES

TIE A) 4' 0/3 TO EDGE OF PAVEMENT

TIE B) 78' TO FENCE CORNER

TIE C) 18' TO LIGHT POLE

SKETCH





PRIMARY CONTROL SHEET

STATION NAME U 395.

JOB/PI # LA 0638 02 0001 00001

COUNTY CANTHAM

DESCRIBED BY: JASON BUTTERFIELD

DATE: 1-15-08

FEET () / METERS ()

HORZ. DATUM:

VERT. DATUM:

COMBINED
SCALE FACTOR

NORTHING(Y)=

EASTING(X)=

ELEVATION(Z)=

GPS FIXED HEIGHT SETUP

GPS TRIPOD SETUP

FIXED HGT 2.000m ()

HGT. RDG. (0.915)m

HEIGHT HOOK

() () ()

HGT. RDG. (3.01)ft

502 POLE / 502 PILLAR / 502 TRIPOD

TAPE MEASUREMENT

ECC. PT. NAME

OBJECT:

() 0.441m

() 0.389m

() 502 TRIPOD

AZ:

DIST:

ELEV. DIFF:

BR399/CARRIER O/S AT502 CARRIER O/S

PRN # 'S OBSERVED:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

TIME:

BEGIN OBS.: 9.24

GOOP:

BEGIN 4.3

C/SLIPS:

11.7

TIME:

END OBS.: 10.58

GOOP:

END 2.8

C/SLIPS:

12.6

PROBLEMS/COMMENTS:

EPOCHS: 387

HOW TO GET TO DESCRIPTION & TIE DISTANCES

U395 IS A BASSCAP SET IN CONCRETE, STAMPED U359 1995.

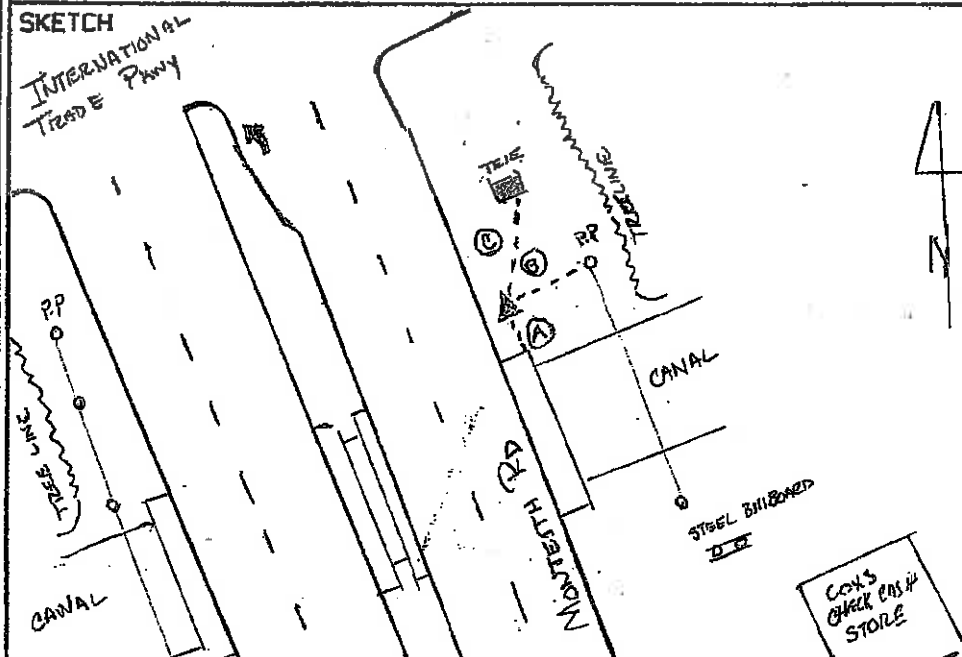
FROM INTERNATIONAL TRADE PKWY GO SOUTH TO BRIDGE, SET AT NE
CORNER OF BRIDGE

TIE A) 2.25' FROM CORNER OF WALL

TIE B) 30.7' FROM P.P. (POWER POLE)

TIE C) 55.2' FROM TELE BOX (TELEPHONE BOX)

SKETCH





PRIMARY CONTROL SHEET

STATION NAME PL# 800JOB/PI # GA 063802000100001COUNTY CHATHAMDESCRIBED BY: Wesley MANISDATE: 1-16-08

FEET () / METERS ()

HORZ. DATUM:

VERT. DATUM:

COMBINED
SCALE FACTOR

NORTHING(Y) =

EASTING(X) =

ELEVATION(Z) =

GPS FIXED HEIGHT SETUP

FIXED HGT 2.000m ()

GPS TRIPOD SETUP

HGT. RDG. (1.345) m
HEIGHT RODHGT. RDG. (4.28) ft
TAPE MEASUREMENT() () ()
502 POLE / 502 PILLAR / 502 TRIPOD

ECC. PT. NAME

OBJECT:

() 0.441m

() 0.389m

(200 N)

AZ: _____

DIST: _____

ELEV. DIFF: _____

SR399/CARRIER O/S AT 502 CARRIER O/S - 502 TRIPOD

PRN # 5 OBSERVED:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

TIME: BEGIN OBS.: 12:40 pmGOOD: BEGIN 2.4C/S IPS: L1TIME: END OBS.: 14:17 pmGOOD: END 3.1C/S IPS: L2

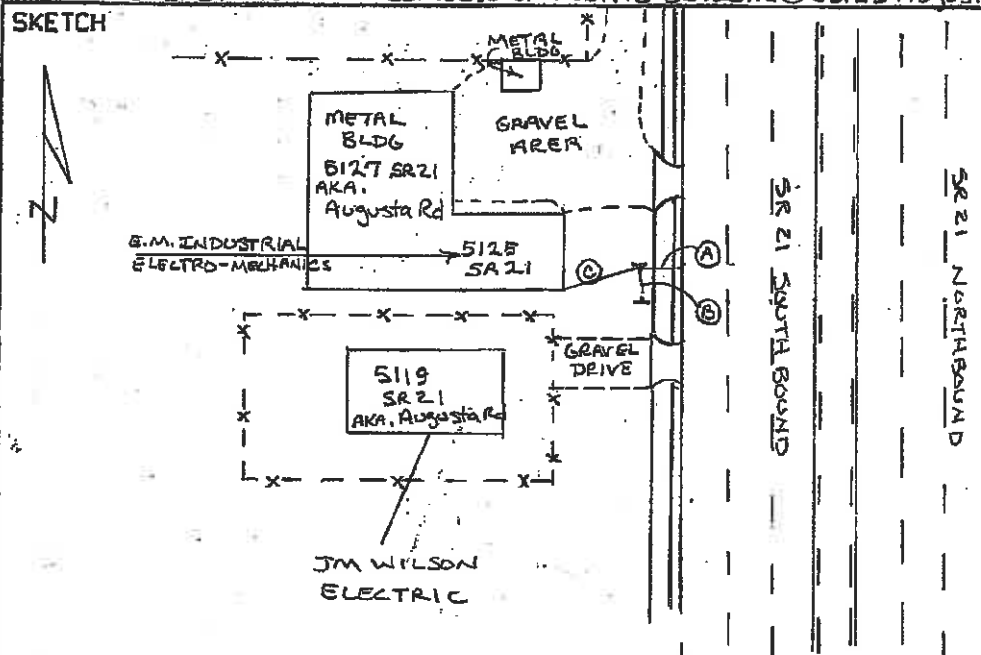
PROBLEMS/COMMENTS:

EPOCHS: 388

HOW TO GET TO DESCRIPTION & TIE DISTANCES

TIE A) 15' WEST FROM E/P OF SR 21TIE B) 24' NORTHWEST FROM MILE MARKER #9TIE C) 36' EAST FROM SE CORNER OF METAL BUILDING (5125 Augusta Rd)

SKETCH





PRIMARY CONTROL SHEET

STATION NAME 801

JOB/PI * EA063802.0001.00001

COUNTY Chatham

DESCRIBED BY: M. Anderson

DATE: 01.16.08

FEET () / METERS ()

HORZ. DATUM:

VERT. DATUM:

COMBINED
SCALE FACTOR

NORTHING(Y)=

EASTING(X)=

ELEVATION(Z)=

GPS FIXED HEIGHT SETUP

GPS TRIPOD SETUP

FIXED HGT. 2.000m (✓)

HGT. RDG. () m
HEIGHT HOOK() 1202 (✓) ()
502 POLE / 502 PILLAR / 502 TRIPODHGT. RDG. () ft
TAPE MEASUREMENT

ECC. PT. NAME OBJECT:

() 0.441m

() 0.389m

()

AZ. DIST. ELEV. DIFF.

SR399/CARRIER O/S AT 502 CARRIER O/S 502 TRIPOD

PRN # 'S OBSERVED:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

TIME: BEGIN OBS.: 12.48

GDDP: BEGIN 2.2

C/S LIPS:

L1

TIME: END OBS.: 14.18

GDDP: END 3.1

C/S LIPS:

L2

PROBLEMS/COMMENTS:

EPOCHS: 358

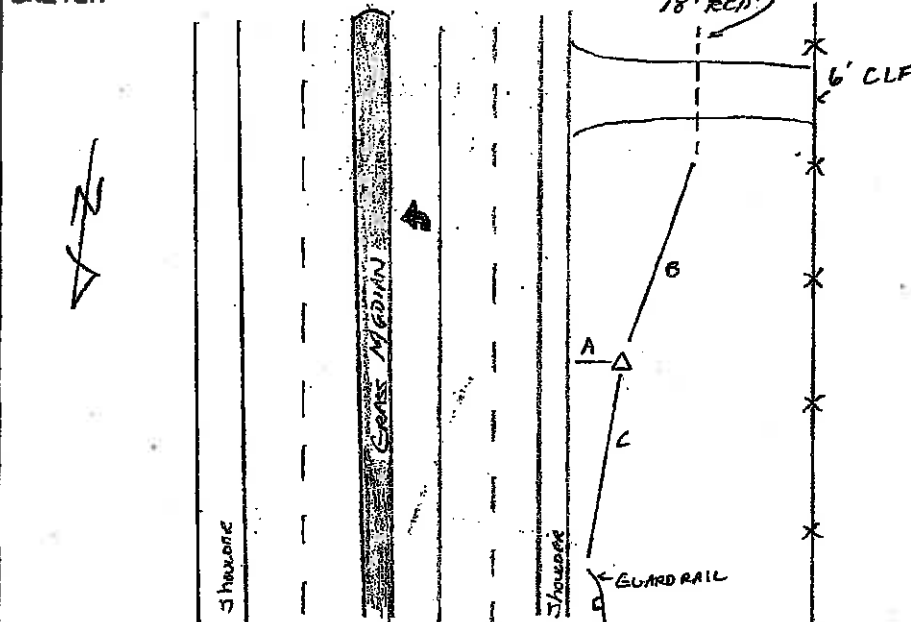
HOW TO GET TO DESCRIPTION & TIE DISTANCES

TIE A) 3' O/S TO EDGE OF PAVEMENT

TIE B) 92' TO END OF RCP

TIE C) 129' TO END OF GUARD RAIL

SKETCH





PRIMARY CONTROL SHEET

STATION NAME 802

JOB/PI * GA 63802 0001 00001

COUNTY CHATHAM

DESCRIBED BY JASON BUTTERFIELD

DATE: 1-16-08

FEET () / METERS ()

HORZ. DATUM:

VERT. DATUM:

COMBINED
SCALE FACTOR

NORTHING(Y):

EASTING(X):

ELEVATION(Z):

GPS FIXED HEIGHT SETUP

GPS TRIPOD SETUP

FIXED HGT 2.000m ()

HGT. RDG. (1.308) m
HEIGHT HOOK() () ()
502 POLE / 502 PILLAR / 502 TRIPODHGT. RDG. (4.3) ft
TAPE MEASUREMENT

ECC PT. NAME

OBJECT:

() 0.441m

() 0.389m

(✓)

AZ: ---

DIST: ---

ELEV. DIFF: ---

SR399/CARRIER O/S

AT502 CARRIER O/S

502 TRIPOD

PRN # 'S OBSERVED:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

TIME: 8:19
BEGIN OBS.: 8:19GDOP: 5.3
BEGIN 5:3

C/S LIPS:

1.31

TIME: 9:57
END OBS.: 9:57GDOP: 3.8
END 3.8

C/S LIPS:

1.21

PROBLEMS/COMMENTS:

EPOCHS: 389

HOW TO GET TO DESCRIPTION & TIE DISTANCES

802 is a 1" IRON PIN SET +/- 0.5' BELOW SURFACE FROM GULF STREAM

AND CROSS GATE GO SOUTH TO SECOND ISLAND FROM NORTH E.P. BULLNOSE

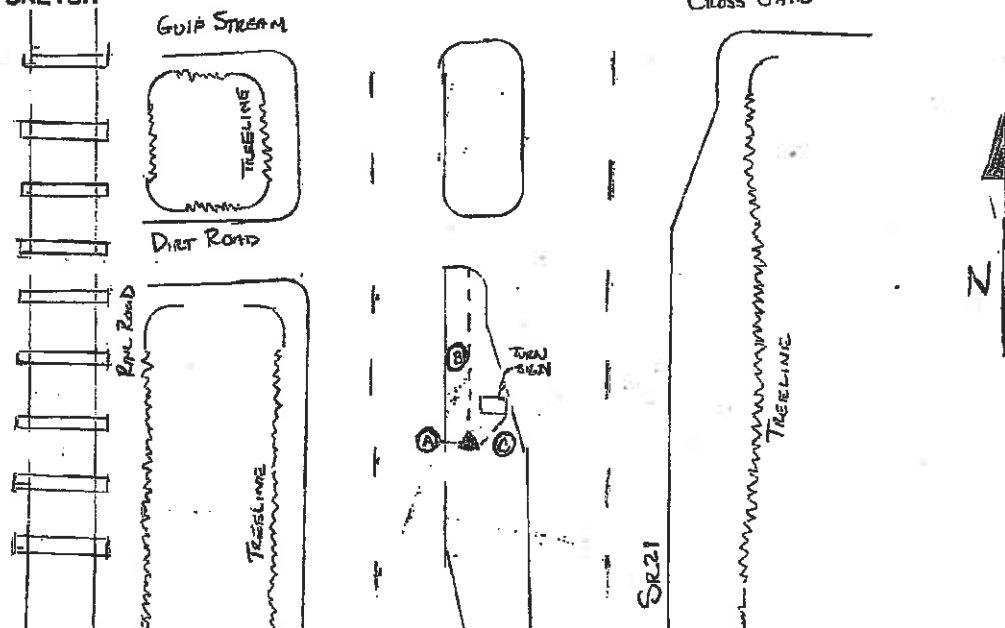
GO 191' SOUTH, 6' EAST FROM E.P.

TIE A) 6' E FROM EP

TIE B) 191' S. FROM E.P. BULL NOSE

TIE C) 55.3' SE FROM MUST TURN LEFT SIGN

SKETCH





PRIMARY CONTROL SHEET

STATION NAME PL #803JOB/PI # GA063802000100001COUNTY CHATHAMDESCRIBED BY: Wesley MavisDATE: 1-15-08

FEET () / METERS ()

HORZ. DATUM:

VERT. DATUM:

COMBINED
SCALE FACTOR

NORTHING(I)=

EASTING(XI)=

ELEVATION(ZI)=

GPS FIXED HEIGHT SETUP

GPS TRIPOD SETUP

FIXED HGT 2.000m ()HGT. RDG. (1.293)m

HEIGHT HOOK

() () ()

HGT. RDG. (4.27)ft

TAPE MEASUREMENT

ECC. PT. NAME

OBJECT:

() 0.441m

() 0.389m (1.00 (V))

AZ:

DIST:

ELEV. DIFF:

SR399/CARRIER O/S AT502 CARRIER O/S 502 TRIPOD

PRN #S OBSERVED:

(2) 3 (4) 5 6 7 8 9 (10) 11 (12) 13 14 15 16 (17) 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

TIME: BEGIN OBS.: 13:06TIME: BEGIN 2:4

C/S LIPS:

L1

TIME: END OBS.: 14:35TIME: END 2:9

C/S LIPS:

L2

PROBLEMS/COMMENTS:

EPOCHS: 357

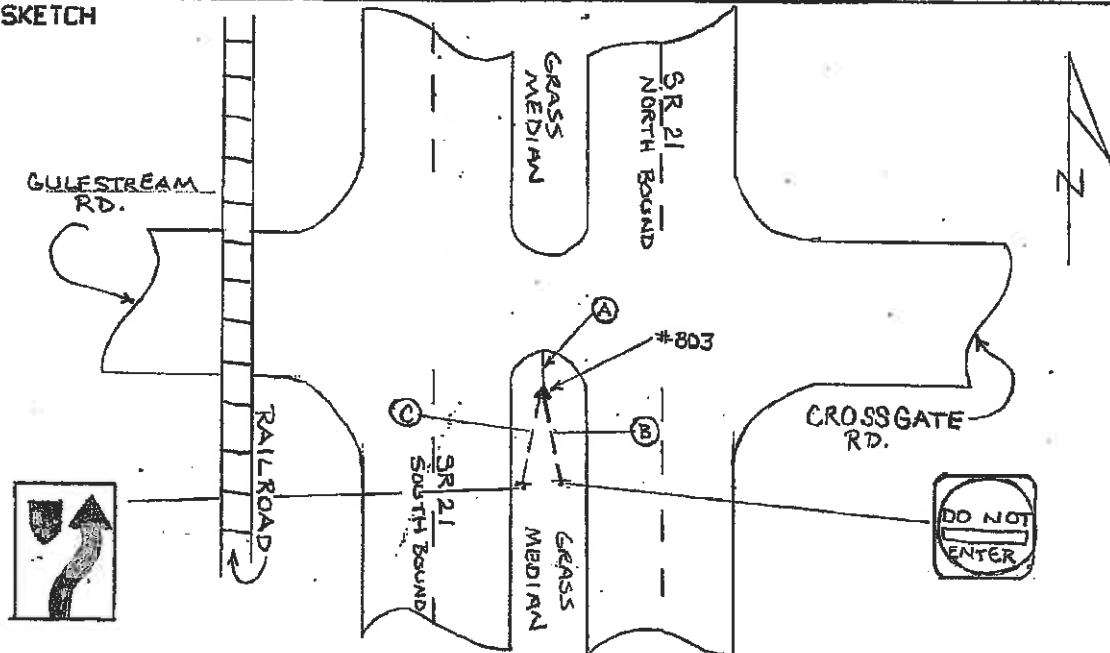
HOW TO GET TO DESCRIPTION & TIE DISTANCES

TIE A) 9' SOUTH FROM E/P

TIE B) 14.5' N.W FROM "DO NOT ENTER" SIGN

TIE C) 14.5' N.E FROM DIVIDED HIGHWAY SIGN

SKETCH



The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE =
PROGRAM

= datasheet, VERSION = 7.73

1 National Geodetic Survey, Retrieval Date = OCTOBER 26, 2009

CK3214 *****

CK3214 DESIGNATION - PORT WENTWORTH
CK3214 PID - CK3214
CK3214 STATE/COUNTY- GA/CHATHAM
CK3214 USGS QUAD - PORT WENTWORTH (1993)

CK3214
CK3214 *CURRENT SURVEY CONTROL

CK3214* NAD 83(2007)- 32 08 57.85042(N) 081 10 50.63995(W) ADJUSTED
CK3214* NAVD 88 - 12.826 (meters) 42.08 (feet) ADJUSTED

CK3214
CK3214 EPOCH DATE - 2002.00
CK3214 X - 828,722.133 (meters) COMP
CK3214 Y - -5,341,338.429 (meters) COMP
CK3214 Z - 3,374,459.878 (meters) COMP
CK3214 LAPLACE CORR- -2.47 (seconds) USDV2009
CK3214 ELLIP HEIGHT- -18.250 (meters) (02/10/07) ADJUSTED
CK3214 GEOID HEIGHT- -31.07 (meters) GEOID09
CK3214 DYNAMIC HT - 12.811 (meters) 42.03 (feet) COMP

CK3214 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
CK3214 Type PID Designation North East Ellip
CK3214
CK3214 NETWORK CK3214 PORT WENTWORTH 0.76 0.74 1.37

CK3214
CK3214 MODELED GRAV- 979,484.2 (mgal) NAVD 88

CK3214
CK3214 VERT ORDER - FIRST CLASS II

CK3214.The horizontal coordinates were established by GPS observations
CK3214.and adjusted by the National Geodetic Survey in February 2007.

CK3214

CK3214.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).

CK3214.See National Readjustment for more information.

CK3214.The horizontal coordinates are valid at the epoch date displayed above.

CK3214.The epoch date for horizontal control is a decimal equivalence

CK3214.of Year/Month/Day.

CK3214

CK3214.The orthometric height was determined by differential leveling

CK3214.and adjusted in April 1998.

CK3214

CK3214.Photographs are available for this station.

CK3214

CK3214.The X, Y, and Z were computed from the position and the ellipsoidal ht.

CK3214

CK3214.The Laplace correction was computed from DEFLEC99 derived deflections.

CK3214

CK3214.The ellipsoidal height was determined by GPS observations

CK3214.and is referenced to NAD 83.

CK3214

CK3214.The geoid height was determined by GEOID09.

CK3214

CK3214.The dynamic height is computed by dividing the NAVD 88

CK3214.geopotential number by the normal gravity value computed on the

CK3214.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

CK3214.degrees latitude (g = 980.6199 gals.).

CK3214

CK3214.The modeled gravity was interpolated from observed gravity values.

CK3214

CK3214;	North	East	Units	Scale	Factor	Converg.
CK3214;SPC GA E -	238,708.051	293,005.260	MT	1.00000664	+0 31 28.9	
CK3214;SPC GA E -	783,161.33	961,301.42	SFT	1.00000664	+0 31 28.9	
CK3214;SPC SC -	35,070.485	592,547.282	MT	1.00014185	-0 06 00.7	
CK3214;SPC SC -	115,060.65	1,944,052.76	iFT	1.00014185	-0 06 00.7	
CK3214;UTM 17 -	3,557,010.376	482,956.499	MT	0.99960358	-0 05 46.2	

CK3214

CK3214! Elev Factor x Scale Factor = Combined Factor

CK3214!SPC GA E - 1.00000287 x 1.00000664 = 1.00000951
 CK3214!SPC SC - 1.00000287 x 1.00014185 = 1.00014472
 CK3214!UTM 17 - 1.00000287 x 0.99960358 = 0.99960644

PID	Reference Object	Distance	Geod. Az ddmmss.s
CK6120	PORT WENTWORTH RM 3	179.708 METERS	04904
CK6118	PORT WENTWORTH RM 1	29.436 METERS	11829
CK6119	PORT WENTWORTH RM 2	29.918 METERS	20656

SUPERSEDED SURVEY CONTROL

CK3214	NAD 83(2001)- 32 08 57.85055(N)	081 10 50.63969(W)	AD()	1
CK3214	ELLIP H (03/13/03) -18.261 (m)		GP()	4 2
CK3214	NAD 83(1986)- 32 08 57.86275(N)	081 10 50.64950(W)	AD()	1
CK3214	NAD 83(1994)- 32 08 57.85057(N)	081 10 50.64076(W)	AD()	1
CK3214	ELLIP H (12/05/00) -18.225 (m)		GP()	4 1
CK3214	NAD 83(1994)- 32 08 57.85285(N)	081 10 50.64360(W)	AD()	1
CK3214	ELLIP H (09/03/97) -18.252 (m)		GP()	4 2
CK3214	NAD 83(1986)- 32 08 57.86505(N)	081 10 50.65799(W)	AD()	1
CK3214	NAD 27 - 32 08 57.13791(N)	081 10 51.25753(W)	AD()	1
CK3214	NAVD 88 (12/05/00) 12.83 (m)	42.1 (f)	LEVELING	3
CK3214	NGVD 29 (10/08/91) 13.11 (m)	43.0 (f)	LEVELING	3

CK3214.Superseded values are not recommended for survey control.
 CK3214.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 CK3214.See file dsdata.txt to determine how the superseded data were derived.

CK3214_U.S. NATIONAL GRID SPATIAL ADDRESS: 17SMR8295657010(NAD 83)
 CK3214_MARKER: DD = SURVEY DISK
 CK3214_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 CK3214_SP_SET: SET IN TOP OF CONCRETE MONUMENT
 CK3214_STAMPING: PORT WENTWORTH 1982
 CK3214_MARK LOGO: GADT
 CK3214_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
 CK3214_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 CK3214+STABILITY: SURFACE MOTION
 CK3214_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 CK3214+SATELLITE: SATELLITE OBSERVATIONS - November 09, 2008

HISTORY	- Date	Condition	Report By
CK3214	- 1982	MONUMENTED	GADT
CK3214	- 1982	GOOD	GADT
CK3214	- 1983	GOOD	NGS
CK3214	- 19870212	GOOD	
CK3214	- 19941025	GOOD	NGS
CK3214	- 19950128	GOOD	NGS
CK3214	- 19961120	GOOD	SCGS
CK3214	- 20000911	GOOD	SCGS
CK3214	- 20060515	GOOD	GADT
CK3214	- 20060612	GOOD	JCLS
CK3214	- 20081109	GOOD	JCLS
CK3214	- 20081119	POOR	JCLS

STATION DESCRIPTION

CK3214'DESCRIBED BY GEORGIA DEPARTMENT OF TRANSPORTATION 1982 (WRN)
 CK3214'THE STATION IS LOCATED IN THE CITY OF PORT WENTWORTH.
 CK3214'OWNERSHIP--CITY OF SAVANNAH WATER WORKS.
 CK3214'
 CK3214'TO REACH THE STATION FROM THE JUNCTION OF STATE ROUTE 30 AND
 CK3214'STATE ROUTE 21 IN PORT WENTWORTH (AT A RAIL ROAD OVERPASS), GO
 CK3214'SOUTH ALONG STATE ROUTE 21 FOR 0.4 KM (0.25 MI) TO THE
 CK3214'REFERENCE MARK 3 ON THE LEFT. CONTINUE GOING SOUTH ALONG STATE
 CK3214'ROUTE 21 FOR 0.15 KM (0.1 MI) TO THE ENTRANCE TO THE CITY OF
 CK3214'SAVANNAH WATER PLANT (INDUSTRIAL AND COMMERCIAL) ON THE RIGHT.
 CK3214'TURN RIGHT GOING WEST ALONG THE PAVED ENTRANCE (CROSSING OVER
 CK3214'THE RAILROAD TRACKS AND ENTERING THROUGH A GATE) FOR 0.15 KM
 CK3214'(0.1 MI) TO THE STATION ON THE RIGHT.
 CK3214'

CK3214' THE STATION IS A STANDARD GADT DISK
 CK3214' STAMPED---PORT WENTWORTH 1982---,
 CK3214' SET INTO THE TOP OF A ROUND CONCRETE MONUMENT 30.5 CM IN DIAMETER
 CK3214' RECESSED 30. CM BELOW THE GROUND. IT IS LOCATED
 CK3214' 17.16 METERS (56.30 FT) NORTHWEST FROM THE CENTERLINE OF THE
 CK3214' PAVED ENTRANCE ROAD OF THE WATER PLANT,
 CK3214' 46.94 METERS (154 FT) EAST FROM THE EAST CORNER OF A CONCRETE
 CK3214' BLOCK WATER PLANT BUILDING ,
 CK3214' 48.40 METERS (158.8 FT) NORTH-NORTHWEST FROM THE WEST CORNER OF
 CK3214' A WHITE METAL BUILDING ON THE SOUTH EAST SIDE OF THE ENTRANCE
 CK3214' ROAD,
 CK3214' 38.74 METERS (127.1 FT) WEST FROM THE WESTERN CORNER OF A
 CK3214' 6 FOOT CHAINLINK FENCE ON THE SOUTHEAST SIDE OF THE ENTRANCE ROAD,
 CK3214' 0.94 METER (3.1 FT) SOUTHEAST FROM A METAL WITNESS POST.
 CK3214' THE UNDERGROUND MARK IS A STANDARD GADT DISK
 CK3214' STAMPED---PORTM WENTWORTH 1982---,
 CK3214' SET INTO AN IRREGULAR MASS OF CONCRETE 0.9 METERS BELOW THE SURFACE.
 CK3214'
 CK3214' REFERENCE MARK NUMBER 1 IS A STANDARD GADT DISK
 CK3214' STAMPED---PORT WENTWORTH 1982 RM 1---,
 CK3214' SET INTO THE TOP OF A ROUND CONCRETE MONUMENT 30.5 CM IN DIAMETER
 CK3214' RECESSED 2.5 CM BELOW THE GROUND. IT IS LOCATED
 CK3214' 4.18 METERS (13.70 FT) SOUTHEAST FROM THE CENTERLINE OF THE PAVED
 CK3214' ENTRANCE ROAD,
 CK3214' 9.75 METERS (32 FT) WEST-SOUTHWEST FROM THE WEST CORNER OF THE
 CK3214' 6 FOOT CHAINLINK FENCE,
 CK3214' 28.62 METERS (93.90 FT) NORTH-NORTHWEST FROM THE NORTHERN POST
 CK3214' CORNER OF THE WHITE METAL BUILDING,
 CK3214' 22.65 METERS (74.30 FT) NORTH-NORTHEAST FROM THE CENTER OF A MAN
 CK3214' HOLE COVER, AND
 CK3214' 1.16 METERS (3.8 FT) NORTHWEST FROM A METAL WITNESS POST.
 CK3214' MARK IS BELOW STATION 0.3 METERS.
 CK3214'
 CK3214' REFERENCE MARK NUMBER 2 IS A STANDARD GADT DISK
 CK3214' STAMPED---PORT WENTWORTH 1982 RM 2---,
 CK3214' SET INTO THE TOP OF A ROUND CONCRETE MONUMENT 30.5 CM IN DIAMETER
 CK3214' RECESSED 2.5 CM BELOW THE GROUND. IT IS LOCATED
 CK3214' 4.15 METERS (13.60 FT) SOUTHEAST FROM THE CENTERLINE OF THE
 CK3214' PAVED ENTRANCE ROAD,
 CK3214' 21.92 METERS (71.90 FT) WEST FROM THE CENTER OF THE MAN HOLE
 CK3214' COVER,
 CK3214' 29.69 METERS (97.40 FT) WEST-NORTHWEST FROM THE WESTERN MOST
 CK3214' CORNER OF THE WHITE METAL BUILDING, AND
 CK3214' 1.16 METERS (3.8 FT) NORTHWEST FROM A METAL WITNESS POST.
 CK3214' MARK IS BELOW STATION 0.3 METERS.
 CK3214'
 CK3214' REFERENCE MARK NUMBER 3 IS A STANDARD GADT DISK
 CK3214' STAMPED---PORT WENTWORTH 1982 NO 3---,
 CK3214' SET INTO THE TOP OF A ROUND CONCRETE MONUMENT 30. 5 CM IN
 CK3214' DIAMETER RECESSED 2.5 CM BELOW THE GROUND. IT IS LOCATED
 CK3214' 7.89 METERS (25.90 FT) EAST-NORTHEAST FROM THE CENTERLINE
 CK3214' OF THE NORTH BOUND LANE OF STATE ROUTE 21,
 CK3214' 26.18 METERS (85.90 FT) SOUTH-SOUTHWEST FROM A RIGHT OF WAY
 CK3214' MARKER OF STATE ROUTE 21,
 CK3214' 48.89 METERS (160.4 FT) NORTHWEST FROM ANOTHER RIGHT OF WAY
 CK3214' MARKER OF STATE ROUTE 21, AND
 CK3214' 0.70 METER (2.3 FT) WEST-SOUTHWEST FROM A METAL WITNESS POST.
 CK3214'
 CK3214' HEIGHT OF LIGHT SHOWN ABOVE THE MARK WAS 34 METERS.
 CK3214' THE UNDERGROUND MARK IS A STANDARD GADT DISK
 CK3214' STAMPED---PORT WENTWORTH 1982 NO 3---,
 CK3214' SET INTO AN IRREGULAR MASS OF CONCRETE 0.92 METER BELOW THE
 CK3214' SURFACE.
 CK3214'
 CK3214' COUNTY ROAD NUMBERS OBTAINED FROM--GENERAL HIGHWAY MAP CHATHAM
 CK3214' COUNTY GEORGIA 1977. REVISED OCTOBER 1977.
 CK3214'
 CK3214' DESCRIBED BY W M JONES.
 CK3214'
 CK3214'
 CK3214' STATION RECOVERY (1982)
 CK3214'
 CK3214' RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 1982 (WRN)

CK3214'THE STATION WAS LOCATED AND FOUND AS DESCRIBED IN PROJECT
CK3214'G16953, VICINITY OF SAVANNAH AND JESUP.

CK3214'HEIGHT OF LIGHT SHOWN ABOVE THE MARK WAS 1.50 METERS.

CK3214

CK3214

STATION RECOVERY (1983)

CK3214

CK3214'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983 (BMP)

CK3214'THE STATION WAS FOUND AS DESCRIBED IN 1982 ON PROJECT G16953,

CK3214'VICINITY OF SAVANNAH-JESUP.

CK3214'

CK3214'DESCRIBED BY B.M. PUTZIGER.

CK3214

CK3214

STATION RECOVERY (1987)

CK3214

CK3214'RECOVERED 1987

CK3214'RECOVERED IN GOOD CONDITION.

CK3214

CK3214

STATION RECOVERY (1994)

CK3214

CK3214'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (JRO)

CK3214'STATION AND RM 2 RECOVERED AS DESCRIBED. RM 1 NOT LOOKED FOR. RM 3

CK3214'(AZIMUTH MARK) BELIEVED DESTROYED BY HIGHWAY WIDENING. STATION IS

CK3214'WIDE OPEN FOR GPS. ACCESS IS CONTROLLED BY HOURS THAT WATER

CK3214'DEPARTMENT HAS GATE OPEN.

CK3214

CK3214

STATION RECOVERY (1995)

CK3214

CK3214'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1995 (JRO)

CK3214'RECOVERED AS DESCRIBED AT SAVANNAH FILTRATION PLANT.

CK3214

CK3214

STATION RECOVERY (1996)

CK3214

CK3214'RECOVERY NOTE BY SOUTH CAROLINA GEODETIC SURVEY 1996 (DDW)

CK3214'STATION IS LOCATED 6.75 MILES (10.86 KM) NORTHWEST OF SAVANNAH, 1.0

CK3214'MILE (1.6 KM) WEST OF PORT WENTWORTH. OWNERSHIP--INDUSTRIAL AND

CK3214'DOMESTIC WATER SUPPLY, 6183 HIGHWAY 21 (31407), PORT WENTWORTH, GA

CK3214'PHONE 912-964-0698. TO REACH THE STATION FROM THE SOUTH JUNCTION OF

CK3214'STATE HIGHWAYS 30 (BONNY BRIDGE ROAD) AND 21, 3.9 MILES (6.3 KM) NORTH

CK3214'NORTHWEST OF PORT WENTWORTH, GO SOUTH SOUTHEAST ON HIGHWAY 21 FOR 0.3

CK3214'MILE (0.5 KM) TO THE JUNCTION OF A PAVED ROAD RIGHT (ENTRANCE TO

CK3214'SAVANNAH WATER PLANT), TURN RIGHT ON PAVED ROAD FOR 0.1 MILE (0.2 KM)

CK3214'TO THE STATION ON THE RIGHT IN A GRASSY AREA JUST BEFORE REACHING THE

CK3214'WATER PLANT. STATION IS A CONCRETE POST RECESSED 1.0 FOOT (0.3 M) AND

CK3214'1.0 FOOT (0.3 M) BELOW THE ENTRANCE ROAD, 57.0 FEET (17.4 M) NORTH

CK3214'NORTHWEST OF THE CENTER OF THE ROAD, 136.3 FEET (41.5 M) WEST

CK3214'SOUTHWEST OF THE SOUTHWEST CORNER OF A LARGE PUMP HOUSE WITH PIPE

CK3214'ATTACHED, 121.3 FEET (37.0 M) EAST NORTHEAST OF A FIRE HYDRANT, 98.0

CK3214'FEET (29.9 M) WEST NORTHWEST OF SURVEY STATION PORT WENTWORTH RM 1,

CK3214'98.0 FEET (29.9 M) NORTH NORTHEAST OF SURVEY STATION PORT WENTWORTH RM

CK3214'2, 3.1 FEET (0.9 M) SOUTHEAST OF A WITNESS POST. RECOVERED BY R.W.

CK3214'ROBERTS.

CK3214

CK3214

STATION RECOVERY (2000)

CK3214

CK3214'RECOVERY NOTE BY SOUTH CAROLINA GEODETIC SURVEY 2000 (DDW)

CK3214'STATION IS LOCATED 1.0 MILE (1.6 KM) WEST OF PORT WENTWORTH, 6.75

CK3214'MILES (10.86 KM) NORTHWEST OF SAVANNAH. OWNERSHIP--INDUSTRIAL AND

CK3214'DOMESTIC WATER SUPPLY, 6183 HIGHWAY 21 (31407), PORT WENTWORTH, GA,

CK3214'PHONE 912, 964-0698. TO REACH THE STATION FROM THE SOUTH JUNCTION OF

CK3214'STATE HIGHWAYS 30 (BONNEY BRIDGE ROAD) AND 21, 3.9 MILES (6.3 KM)

CK3214'NORTH NORTHWEST OF PORT WENTWORTH, GO SOUTH SOUTHEAST ON HIGHWAY 21

CK3214'FOR 0.3 MILE (0.5 KM) TO THE JUNCTION OF A PAVED ROAD RIGHT (ENTRANCE

CK3214'TO SAVANNAH WATER PLANT), TURN RIGHT ON THE PAVED ROAD FOR 0.1 MILE

CK3214'(0.2 KM) TO THE STATION ON THE RIGHT IN A GRASSY AREA, JUST BEFORE

CK3214'REACHING THE WATER PLANT. STATION IS A CONCRETE POST RECESSED 1.5

CK3214'FEET (0.5 M) AND 0.5 FOOT (15.2 CM) BELOW THE ENTRANCE ROAD, 56.5 FEET

CK3214'(17.2 M) NORTH OF THE CENTER OF THE ENTRANCE ROAD, 136.3 FEET (41.5 M)

CK3214'WEST OF THE SOUTHWEST CORNER OF A LARGE PUMP HOUSE WITH A PIPE

CK3214'ATTACHED, 121.3 FEET (37.0 M) EAST NORTHEAST OF A FIRE HYDRANT, 98.0

CK3214'FEET (29.9 M) WEST NORTHWEST OF SURVEY STATION PORT WENTWORTH RM 1,

CK3214'98.0 FEET (29.9 M) NORTH NORTHEAST OF SURVEY STATION PORT WENTWORTH RM

CK3214'2, 3.0 FEET (0.9 M) SOUTHEAST OF A WITNESS POST. RECOVERED BY J.B.

CK3214'SMOAK.

CK3214

CK3214

STATION RECOVERY (2006)

CK3214

CK3214'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 2006

CK3214'RECOVERED IN GOOD CONDITION.

CK3214

CK3214

STATION RECOVERY (2006)

CK3214

CK3214'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2006

CK3214'RECOVERED IN GOOD CONDITION.

CK3214

CK3214

STATION RECOVERY (2008)

CK3214

CK3214'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2008 (MRY)

CK3214'RECOVERED IN GOOD CONDITION.

CK3214

CK3214

STATION RECOVERY (2008)

CK3214

CK3214'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2008 (MD)

CK3214'MARK RECOVERED IN POOR CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:00

The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE =
PROGRAM = datasheet, VERSION = 7.73

1 National Geodetic Survey, Retrieval Date = OCTOBER 26, 2009

AB3059 *****

AB3059 DESIGNATION - U 395
AB3059 PID - AB3059
AB3059 STATE/COUNTY- GA/CHATHAM
AB3059 USGS QUAD - PORT WENTWORTH (1993)

AB3059
AB3059 *CURRENT SURVEY CONTROL

AB3059*	NAD 83(1986)-	32 10 24.	(N)	081 11 13.	(W)			SCALED	
AB3059*	NAVD 88	-	4.175	(meters)	13.70	(feet)		ADJUSTED	

AB3059	GEOID HEIGHT-	-31.06	(meters)					GEOID09	
AB3059	DYNAMIC HT -	4.170	(meters)		13.68	(feet)		COMP	
AB3059	MODELED GRAV-	979,486.5	(mgal)					NAVD 88	

AB3059 VERT ORDER - FIRST CLASS II

AB3059 The horizontal coordinates were scaled from a topographic map and have
AB3059 an estimated accuracy of +/- 6 seconds.

AB3059 The orthometric height was determined by differential leveling
AB3059 and adjusted in April 1998.

AB3059 The geoid height was determined by GEOID09.

AB3059 The dynamic height is computed by dividing the NAVD 88
AB3059 geopotential number by the normal gravity value computed on the
AB3059 Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AB3059 degrees latitude (g = 980.6199 gals.).

AB3059 The modeled gravity was interpolated from observed gravity values.

		North	East	Units	Estimated Accuracy
AB3059;	SPC GA E	- 241,360.	292,400.	MT	(+/- 180 meters Scaled)

AB3059
AB3059 SUPERSEDED SURVEY CONTROL

AB3059 No superseded survey control is available for this station.

AB3059 U.S. NATIONAL GRID SPATIAL ADDRESS: 17SMR823596(NAD 83)

AB3059 MARKER: DV = VERTICAL CONTROL DISK

AB3059 SETTING: 32 = SET IN A RETAINING WALL OR CONCRETE LEDGE

AB3059 SP_SET: BRIDGE RETAINING WALL

AB3059 STAMPING: U 395 1995

AB3059 MARK LOGO: NGS

AB3059 MAGNETIC: A = STEEL ROD ADJACENT TO MONUMENT

AB3059 STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AB3059 STABILITY: SURFACE MOTION

AB3059 SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AB3059 SATELLITE: SATELLITE OBSERVATIONS - 1995

AB3059	HISTORY	- Date	Condition	Report By
AB3059	HISTORY	- 1995	MONUMENTED	NGS

AB3059
AB3059 STATION DESCRIPTION

AB3059 DESCRIBED BY NATIONAL GEODETIC SURVEY 1995 (JRO)
AB3059 IN PORT WENTWORTH, 1.8 MILES (2.9 KM) NORTH ALONG STATE HWY 21 FROM
AB3059 GULFSTREAM RD, 1.35 MILES (2.17 KM) SOUTHERLY FROM I-95, 0.4 MILE (0.6
AB3059 KM) SOUTH OF PORT WENTWORTH FIRE STATION, AT THE NE CORNER OF BRIDGE
AB3059 CARRYING NORTHBOUND SR 21 OVER ST AUGUSTINE CREEK, 26 FT (7.9 M) EAST
AB3059 OF NORTHBOUND HIGHWAY LANES, 3.5 FT (1.1 M) SOUTH OF NORTH END OF
AB3059 RETAINING WALL, 2 FT (0.6 M) NORTH OF NORTH END OF PARAPET, 1 FT (0.3
AB3059 M) EAST OF PARAPET EAST FACE, 0.5 FT (15.2 CM) ABOVE HIGHWAY.

*** retrieval complete.
Elapsed Time = 00:00:00

The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE =
PROGRAM = datasheet, VERSION = 7.73

1 National Geodetic Survey, Retrieval Date = OCTOBER 27, 2009

CK3760 *****

CK3760 DESIGNATION - FORT PULASKI
CK3760 PID - CK3760
CK3760 STATE/COUNTY- GA/CHATHAM
CK3760 USGS QUAD - FORT PULASKI (1978)

CK3760
CK3760 *CURRENT SURVEY CONTROL

CK3760* NAD 83(2007)- 32 01 39.70845(N) 080 53 26.94846(W) ADJUSTED
CK3760* NAVD 88 - 9.069 (meters) 29.75 (feet) ADJUSTED

CK3760 EPOCH DATE - 2002.00
CK3760 X - 856,872.825 (meters) COMP
CK3760 Y - -5,344,152.191 (meters) COMP
CK3760 Z - 3,363,023.684 (meters) COMP
CK3760 LAPLACE CORR- -2.28 (seconds) USDV2009
CK3760 ELLIP HEIGHT- -22.430 (meters) (02/10/07) ADJUSTED
CK3760 GEOID HEIGHT- -31.50 (meters) GEOID09
CK3760 DYNAMIC HT - 9.058 (meters) 29.72 (feet) COMP

CK3760 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----

CK3760 Type PID Designation North East Ellip

CK3760 NETWORK CK3760 FORT PULASKI 0.51 0.47 1.00

CK3760 MODELED GRAV- 979,476.9 (mgal) NAVD 88

CK3760 VERT ORDER - FIRST CLASS II

CK3760.The horizontal coordinates were established by GPS observations
CK3760.and adjusted by the National Geodetic Survey in February 2007.

CK3760.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
CK3760.See National Readjustment for more information.

CK3760.The horizontal coordinates are valid at the epoch date displayed above.

CK3760.The epoch date for horizontal control is a decimal equivalence
CK3760.of Year/Month/Day.

CK3760.The orthometric height was determined by differential leveling
CK3760.and adjusted in May 1994.

CK3760.The X, Y, and Z were computed from the position and the ellipsoidal ht.

CK3760.The Laplace correction was computed from DEFLEC99 derived deflections.

CK3760.The ellipsoidal height was determined by GPS observations
CK3760.and is referenced to NAD 83.

CK3760.The geoid height was determined by GEOID09.

CK3760.The dynamic height is computed by dividing the NAVD 88
CK3760.geopotential number by the normal gravity value computed on the
CK3760.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
CK3760.degrees latitude (g = 980.6199 gals.).

CK3760.The modeled gravity was interpolated from observed gravity values.

CK3760;
CK3760;SPC GA E - North East Units Scale Factor Converg.
CK3760;SPC GA E - 225,499.438 320,514.938 MT 1.00007906 +0 40 36.1
CK3760;SPC GA E - 739,826.07 1,051,556.09 SFT 1.00007906 +0 40 36.1
CK3760;SPC SC - 21,562.934 619,915.809 MT 1.00019967 +0 03 37.9
CK3760;SPC SC - 70,744.53 2,033,844.52 iFT 1.00019967 +0 03 37.9
CK3760;UTM 17 - 3,543,510.890 510,309.629 MT 0.99960131 +0 03 28.4

CK3760!
CK3760!SPC GA E - Elev Factor x Scale Factor = Combined Factor
CK3760!SPC GA E - 1.00000352 x 1.00007906 = 1.00008258
CK3760!SPC SC - 1.00000352 x 1.00019967 = 1.00020319
CK3760!UTM 17 - 1.00000352 x 0.99960131 = 0.99960483
CK3760

CK3760

CK3760

CK3760

CK3760

CK3760.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

CK3760

CK3760_MARKER: X = CHISELED CROSS

CK3760_SP_SET: LARGE WALL

CK3760_MAGNETIC: N = NO MAGNETIC MATERIAL

CK3760_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR

CK3760

CK3760

CK3760

CK3760' THE STATION IS LOCATED ABOUT 1.0 MILE NORTH OF U.S. HIGHWAY 80. 2

CK3760' EAST-SOUTHEAST OF SAVANNAH ON THE NORTHWEST CORNER OF OLD FORT

CK3760 *

CK3760' STATION, IS MARKED BY A CROSS FILED IN THE TOP OF A PINTLE BOLT FOR
CK3760' THE GUN MOUNT IN THE NORTHWEST CORNER OF THE FORT, THE PINTLE BOLT
CK3760' IS 1-1/2 INCHES IN DIAMETER AND PROJECTS 4 INCHES FROM AND A PART
CK3760' OF A HEAVY FLAT IRON PLAT ABOUT 18 INCHES IN DIAMETER WHICH IS
CK3760' SECURELY FASTENED TO THE MASONRY, U S C S IS SCRATCHED ON THE IRON
CK3760' BASE. THE MARK IS 3.4 FEET SOUTHEAST OF THE NORTHWEST CORNER OF THE
CK3760' FORT AND 58.6 FEET NORTHWEST OF THE STAIRWAY LEADING TO THE TOP.
CK3760'

CK3760' REFERENCE MARK 1, IS A PUNCH HOLE IN THE TOP OF A PINTLE BOLT AND
CK3760' IS DESCRIBED THE SAME AS THE STATION AND WITH NO STAMPING. THE MARK
CK3760' IS 21 FEET EAST OF THE NORTHWEST CORNER OF THE FORT, 46 FEET
CK3760' SOUTH-SOUTHEAST OF THE STAIRWAY AND 2.4 FEET SOUTH OF THE NORTH
CK3760' WALL.
CK3760'

CK3760' REFERENCE MARK 2, IS A PUNCH HOLE IN THE TOP OF A PINTLE BOLT AND
CK3760' IS DESCRIBED THE SAME AS THE STATION AND WITH NO STAMPING. THE MARK
CK3760' IS 33.4 FEET SOUTH OF THE NORTHWEST CORNER OF THE FORT AND 43.5
CK3760' FEET WEST OF THE STAIRWAY.
CK3760'

CK3760' FORT PULASKI WAS PREVIOUSLY DESCRIBED BY C.O. BOUTELLE IN 1851.
CK3760'

CK3760' HEIGHT OF LIGHT ABOVE STATION MARK 1 METERS.
CK3760'

CK3760' STATION RECOVERY (1963)
CK3760'

CK3760' RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1963
CK3760' RECOVERED IN GOOD CONDITION.
CK3760'

CK3760' STATION RECOVERY (1964)
CK3760'

CK3760' RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1964 (JKW)
CK3760' STATION MARK, R.M. 1, AND R.M. 2 RECOVERED IN GOOD CONDITION. THE
CK3760' DISTANCES TO THE REFERENCE MARKS WERE VERIFIED. THE DESCRIPTION BY
CK3760' R.W.T. 1964 IS ADEQUATE.
CK3760'

CK3760' STATION RECOVERY (1968)
CK3760'

CK3760' RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1968 (LMC)
CK3760' STATION MARK, R.M. 1 AND R.M. 2 RECOVERED IN GOOD CONDITION. THE
CK3760' DISTANCES AND DIRECTIONS TO THE MARKS CHECKED. THE DESCRIPTION BY
CK3760' R.W.T. 1964 IS ADEQUATE.
CK3760'

CK3760' STATION RECOVERY (1983)
CK3760'

CK3760' RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 1983 (WRN)
CK3760' THE STATION AND BOTH REFERENCE MARKS WERE RECOVERED IN GOOD
CK3760' CONDITION ESSENTIALLY AS DESCRIBED IN THE PREVIOUS DESCRIPTION
CK3760' WITH THE FOLLOWING EXCEPTIONS. THE DIRECTION FROM THE STAIRWAY
CK3760' TO REFERENCE MARK 1 WAS FOUND TO BE NORTH-NORTHWEST, THE DISTANCE
CK3760' FROM THE STATION TO REFERENCE MARK 2 WAS FOUND TO BE 4 MM GREATER,
CK3760' AND THE ANGLE BETWEEN THE REFERENCE MARKS WAS FOUND TO BE ABOUT 2
CK3760' MINUTES GREATER.
CK3760'

CK3760' DESCRIBED BY T.B. KNIGHT.
CK3760'

CK3760' STATION RECOVERY (1988)
CK3760'

CK3760' RECOVERY NOTE BY US POWER SQUADRON 1988 (TT)
CK3760' RECOVERED IN GOOD CONDITION.
CK3760'

CK3760' STATION RECOVERY (1988)
CK3760'

CK3760' RECOVERY NOTE BY US POWER SQUADRON 1988 (TTW)
CK3760' RECOVERED IN GOOD CONDITION.
CK3760'

CK3760' STATION RECOVERY (1991)
CK3760'

CK3760' RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1991
CK3760' 21.1 KM (13.1 MI) EASTERLY ALONG U.S. HIGHWAY 80 FROM THE INTERSECTION
CK3760' OF STATE HIGHWAY 204 IN SAVANNAH, THENCE 1.6 KM (1.0 MI) NORTHERLY
CK3760' ALONG THE FORT PULASKI NATIONAL MONUMENT ENTRANCE ROAD, A CROSS CUT
CK3760' IN A PINTLE BOLT NEAR THE CENTER OF A METAL PLATE THAT IS NEAR THE

CK3760' CENTER OF A GUN EMPLACEMENT (GUN REMOVED) AT THE NORTHWEST CORNER OF
CK3760' FORT PULASKI, 8.5 M (27.9 FT) NORTH OF REFERENCE MARK 2, 6.1 M
CK3760' (20.0 FT) WEST OF REFERENCE MARK 1, 0.7 M (2.3 FT) EAST OF THE EAST
CK3760' FACE OF THE WEST WALL, AND 0.7 M (2.3 FT) SOUTH OF THE SOUTH FACE OF
CK3760' THE NORTH WALL. NOTE--THE METAL PLATE HAS THE LETTERS USCS SCRATCHED
CK3760' NEAR THE CROSS.

CK3760
CK3760
CK3760

STATION RECOVERY (1996)

CK3760' RECOVERY NOTE BY SOUTH CAROLINA GEODETIC SURVEY 1996 (DDW)
CK3760' STATION IS LOCATED 12.55 MILES (20.20 KM) EAST SOUTHEAST OF SAVANNAH,
CK3760' 3.1 MILES (5.0 KM) WEST NORTHWEST OF TYBEE ISLAND. OWNERSHIP--FORT
CK3760' PULASKI NATIONAL MONUMENT, KENT CAVE, P.O. BOX 30757, SAVANNAH, GA
CK3760' 31410-0757, PHONE 912-786-5787, CALL IN ADVANCE, HOURS ARE FROM EIGHT
CK3760' A.M. TO FIVE FIFTEEN P.M. TO REACH THE STATION FROM THE JUNCTION OF
CK3760' STATE HIGHWAYS 26 (VICTORY DRIVE), 204 (ABERCORN STREET) AND U.S.
CK3760' HIGHWAY 80, ON THE EAST SIDE OF SAVANNAH, GO EAST SOUTHEAST ON
CK3760' HIGHWAYS 80 AND 26 FOR 12.95 MILES (20.84 KM) TO THE ENTRANCE OF FORT
CK3760' PULASKI NATIONAL MONUMENT ON THE LEFT, TURN LEFT FOR 1.0 MILE (1.6 KM)
CK3760' ON THE ENTRANCE ROAD TO A PARKING AREA AND THE STATION ON THE RIGHT ON
CK3760' THE TOP LEVEL ON THE NORTHWEST SIDE OF THE FORT. STATION IS A CHISELED
CK3760' X INTO A PINTLE BOLT IN THE CENTER OF A ROUND METAL PLATE WITH (USCS
CK3760' INSCRIBED) PROJECTING 0.5 FOOT (15.2 CM) AND 0.5 FOOT (15.2 CM) ABOVE
CK3760' THE BRICK WALKWAY, 3.4 FEET (1.0 M) SOUTHEAST OF THE NORTHWEST CORNER
CK3760' OF THE FORT TOP, 58.6 FEET (17.9 M) NORTHWEST OF THE TOP OF THE
CK3760' STAIRWAY. RECOVERED BY R.W. ROBERTS.

CK3760
CK3760
CK3760

STATION RECOVERY (1998)

CK3760' RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1998 (AJL)
CK3760' THE STATION IS LOCATED ABOUT 20 KM (12.40 MI) EAST OF SAVANNAH ALONG
CK3760' THE OCEAN COAST, AT THE FORT PULASKI NATIONAL MONUMENT, IN THE TOP OF
CK3760' AND NEAR THE NORTHWEST CORNER OF FORT PULASKI. OWNERSHIP--FORT
CK3760' PULASKI NATIONAL MONUMENT, P.O. BOX 03757, SAVANNAH, GA 31410-0757.
CK3760' SUPERINTENDANT IS JOHN BRIEN. CHIEF RANGER IS LANCE HATTEN.
CK3760' NOTE--PARK HOURS ARE 830 A.M. TO 530 P.M., WITH EXTENDED HOURS DURING
CK3760' THE SUMMER. CALL AHEAD IF OCCUPYING THIS STATION DURING OTHER HOURS
CK3760' AS THERE ARE LOCKED DOORS AND THE STATION CANNOT BE OCCUPIED. THERE
CK3760' IS ALSO A LOCKED PIPE GATE DURING NIGHT HOURS AT THE END OF A BRIDGE
CK3760' ON THE ACCESS ROAD, BUT THERE IS A CALL BOX TO THE COAST GUARD AND
CK3760' THEY CAN OPEN THE GATE 24 HOURS A DAY. TO REACH FROM THE JUNCTION OF
CK3760' U.S. HIGHWAY 80 AND STATE HIGHWAY 204 IN SAVANNAH, GO EAST ON HIGHWAY
CK3760' 80 FOR 21.1 KM (13.10 MI) TO A PAVED ROAD LEFT. TURN LEFT, NORTHERLY,
CK3760' ON THE FORT PULASKI NATIONAL MONUMENT ENTRANCE ROAD FOR 1.22 KM (0.75
CK3760' MI) TO A PAVED ROAD LEFT LEADING TO THE COAST GUARD SITE. BEAR RIGHT,
CK3760' NORTHEAST, ON THE MAIN ROAD FOR 0.24 KM (0.15 MI) TO THE VISITOR
CK3760' CENTER AND THE PARKING LOT. FROM THIS POINT WALK ON THE MAIN SIDEWALK
CK3760' PASSING THROUGH THE MAIN FORT ENTRANCE DOOR, THEN UP ONE OF THE
CK3760' STAIRWAYS TO THE NORTHWEST CORNER OF THE FORT. THE STATION IS A
CK3760' CHISELED X AT THE TOP OF A PINTLE BOLT FOR THE GUN MOUNT AT THE
CK3760' NORTHWEST CORNER OF THE FORT. IT IS 1.5 INCHES IN DIAMETER PROJECTING
CK3760' 10 CM WITH A STEEL BASE PLATE 50 CM IN DIAMETER WITH THE LETTERS USCS
CK3760' CHISELED ON IT. IT IS 8.5 M (27.9 FT) NORTH OF RM 2, 6.1 M (20.0 FT)
CK3760' WEST OF RM 1, 0.7 M (2.3 FT) EAST OF THE EAST FACE OF THE WALL, AND
CK3760' 0.7 M (2.3 FT) SOUTH OF THE NORTH FACE OF THE WALL.

CK3760
CK3760
CK3760

STATION RECOVERY (2000)

CK3760' RECOVERY NOTE BY SOUTH CAROLINA GEODETIC SURVEY 2000 (DDW)
CK3760' STATION IS LOCATED 3.1 MILES (5.0 KM) WEST NORTHWEST OF TYBEE ISLAND,
CK3760' 12.55 MILES (20.20 KM) EAST SOUTHEAST OF SAVANNAH. OWNERSHIP--FORT
CK3760' PULASKI NATIONAL MONUMENT, P.O. BOX 03757, SAVANNAH, GA 31410-0757,
CK3760' CONTACT-CHIEF RANGER-LANCE HATTEN, PHONE 912-786-5787. TO REACH THE
CK3760' STATION FROM THE JUNCTION OF U.S. HIGHWAY 80, STATE HIGHWAY 26
CK3760' (VICTORY DRIVE) AND STATE HIGHWAY 204 (ABERCORN STREET) IN SAVANNAH,
CK3760' GO EAST SOUTHEAST ON HIGHWAYS 80 AND 26 FOR 13.0 MILES (20.9 KM) TO
CK3760' THE ENTRANCE OF FORT PULASKI NATIONAL MONUMENT ON THE LEFT, TURN LEFT
CK3760' ON THE ENTRANCE DRIVE FOR 1.0 MILE (1.6 KM) TO A PARKING AREA AND THE
CK3760' STATION ON THE RIGHT ON THE TOP LEVEL OF THE NORTHWEST CORNER OF THE
CK3760' FORT. NOTE-PARK HOURS ARE FROM 830 A.M. TO 515 P.M.. STATION IS A
CK3760' CHISELED CROSS INTO A PINTLE BOLT IN THE CENTER OF A ROUND METAL PLATE
CK3760' (INSCRIBED USCS) PROJECTING 0.5 FOOT (15.2 CM) AND 0.5 FOOT (15.2 CM)

CK3760'ABOVE THE BRICK WALKWAY, 3.4 FEET (1.0 M) SOUTHEAST OF THE NORTHWEST
CK3760'CORNER OF THE FORT TOP, 58.6 FEET (17.9 M) NORTHWEST OF THE STAIRWAY.
CK3760'RECOVERED BY J.B. SMOAK.

CK3760

STATION RECOVERY (2001)

CK3760

CK3760'RECOVERY NOTE BY NATIONAL OCEAN SERVICE 2001 (JRS)

CK3760'RECOVERED AS DESCRIBED.

CK3760

STATION RECOVERY (2002)

CK3760

CK3760'RECOVERY NOTE BY US POWER SQUADRON 2002 (OK)

CK3760'RECOVERED IN GOOD CONDITION.

CK3760

STATION RECOVERY (2005)

CK3760

CK3760'RECOVERY NOTE BY US POWER SQUADRON 2005 (JPW)

CK3760'RECOVERED IN GOOD CONDITION.

CK3760

STATION RECOVERY (2006)

CK3760

CK3760'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 2006

CK3760'RECOVERED IN GOOD CONDITION.

CK3760

STATION RECOVERY (2008)

CK3760

CK3760'RECOVERY NOTE BY GEOCACHING 2008 (MFM)

CK3760'STATION AND RM1 FOUND IN GOOD CONDITION.

CK3760'RM2 FOUND IN POOR CONDITION, PINTLE BOLT IS HEAVILY PITTED.

*** retrieval complete.

Elapsed Time = 00:00:00

The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE =
PROGRAM = datasheet, VERSION = 7.73

1 National Geodetic Survey, Retrieval Date = OCTOBER 27, 2009

CK0470 *****

CK0470 CBN - This is a Cooperative Base Network Control Station.

CK0470 DESIGNATION - MELDRIM=I 49

CK0470 PID - CK0470

CK0470 STATE/COUNTY- GA/EFFINGHAM

CK0470 USGS QUAD - EDEN (1976)

CK0470

CK0470 *CURRENT SURVEY CONTROL

CK0470* NAD 83(2007)- 32 08 35.32498(N) 081 22 39.18922(W) ADJUSTED

CK0470* NAVD 88 - 9.856 (meters) 32.34 (feet) ADJUSTED

CK0470

CK0470 EPOCH DATE - 2002.00

CK0470 X - 810,424.032 (meters) COMP

CK0470 Y - -5,344,516.516 (meters) COMP

CK0470 Z - 3,373,871.023 (meters) COMP

CK0470 LAPLACE CORR- -2.57 (seconds) USDV2009

CK0470 ELLIP HEIGHT- -20.855 (meters) (02/10/07) ADJUSTED

CK0470 GEOID HEIGHT- -30.72 (meters) GEOID09

CK0470 DYNAMIC HT - 9.845 (meters) 32.30 (feet) COMP

CK0470

CK0470 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----

CK0470 Type PID Designation North East Ellip

CK0470 NETWORK CK0470 MELDRIM=I 49 0.39 0.41 1.14

CK0470

CK0470 MODELED GRAV- 979,487.6 (mgal) NAVD 88

CK0470

CK0470 VERT ORDER - FIRST CLASS II

CK0470

CK0470.The horizontal coordinates were established by GPS observations

CK0470.and adjusted by the National Geodetic Survey in February 2007.

CK0470

CK0470.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).

CK0470.See National Readjustment for more information.

CK0470.The horizontal coordinates are valid at the epoch date displayed above.

CK0470.The epoch date for horizontal control is a decimal equivalence

CK0470.of Year/Month/Day.

CK0470

CK0470.The orthometric height was determined by differential leveling

CK0470.and adjusted in June 1991.

CK0470.WARNING-Repeat measurements at this control monument indicate possible

CK0470.vertical movement.

CK0470

CK0470.Photographs are available for this station.

CK0470

CK0470.The X, Y, and Z were computed from the position and the ellipsoidal ht.

CK0470

CK0470.The Laplace correction was computed from DEFLEC99 derived deflections.

CK0470

CK0470.The ellipsoidal height was determined by GPS observations

CK0470.and is referenced to NAD 83.

CK0470

CK0470.The geoid height was determined by GEOID09.

CK0470

CK0470.The dynamic height is computed by dividing the NAVD 88

CK0470.geopotential number by the normal gravity value computed on the

CK0470.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

CK0470.degrees latitude (g = 980.6199 gals.).

CK0470

CK0470.The modeled gravity was interpolated from observed gravity values.

CK0470

CK0470; North East Units Scale Factor Converg.

CK0470;SPC GA E - 237,861.193 274,443.375 MT 0.99996832 +0 25 11.5

CK0470;SPC GA E - 780,382.93 900,402.97 SFT 0.99996832 +0 25 11.5

CK0470;UTM 17 - 3,556,364.924 464,393.546 MT 0.99961563 -0 12 03.1

CK0470

CK0470! - Elev Factor x Scale Factor = Combined Factor

CK0470!SPC GA E - 1.00000327 x 0.99996832 = 0.99997159

CK0470!UTM 17 - 1.00000327 x 0.99961563 = 0.99961890

CK0470

PID	Reference Object	Distance	Geod. Az ddmmss.s
CK0471 H 49=MELDRIM RM		21.010 METERS	02213
CK0467 KEEP=G 49		APPROX. 1.9 KM	2763540.4

CK0470

CK0470

CK0470

SUPERSEDED SURVEY CONTROL

CK0470	NAD 83(2001)-	32 08 35.32526(N)	081 22 39.19036(W)	AD()	B
CK0470	ELLIP H (01/30/03)	-20.871 (m)		GP()	4 2
CK0470	NAD 83(1994)-	32 08 35.32510(N)	081 22 39.19019(W)	AD()	B
CK0470	ELLIP H (09/11/96)	-20.835 (m)		GP()	4 1
CK0470	NAD 83(1994)-	32 08 35.32431(N)	081 22 39.18879(W)	AD()	B
CK0470	ELLIP H (03/09/95)	-20.887 (m)		GP()	1 1
CK0470	NAD 83(1986)-	32 08 35.33939(N)	081 22 39.20356(W)	AD()	1
CK0470	NAD 83(1986)-	32 08 35.39232(N)	081 22 39.17507(W)	AD()	1
CK0470	NAD 27	- 32 08 34.63100(N)	081 22 39.81500(W)	AD()	1
CK0470	NAVD 88 (09/11/96)	9.86 (m)	32.3 (f)	LEVELING		3
CK0470	NAVD 88 (03/09/95)	9.86 (m)	32.3 (f)	LEVELING		3
CK0470	NGVD 29 (03/21/89)	10.137 (m)	33.26 (f)	ADJUSTED		1 2

CK0470

CK0470.Superseded values are not recommended for survey control.

CK0470.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

CK0470.See file dsdata.txt to determine how the superseded data were derived.

CK0470

CK0470_U.S. NATIONAL GRID SPATIAL ADDRESS: 17SMR6439356364(NAD 83)

CK0470_MARKER: DS = TRIANGULATION STATION DISK

CK0470_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

CK0470_SP_SET: CONCRETE POST

CK0470_STAMPING: MELDRIM I 49 1918 ELEV. 33.307

CK0470_MARK LOGO: CGS

CK0470_MAGNETIC: 0 = OTHER; SEE DESCRIPTION

CK0470_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

CK0470+STABILITY: SURFACE MOTION

CK0470_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

CK0470+SATELLITE: SATELLITE OBSERVATIONS - June 10, 2008

CK0470

HISTORY	- Date	Condition	Report By
CK0470	HISTORY - 1918	MONUMENTED	CGS
CK0470	HISTORY - 1935	GOOD	CGS
CK0470	HISTORY - 1951	SEE DESCRIPTION	CGS
CK0470	HISTORY - 1955	GOOD	NGS
CK0470	HISTORY - 1958	GOOD	NGS
CK0470	HISTORY - 1963	GOOD	CGS
CK0470	HISTORY - 1979	GOOD	NGS
CK0470	HISTORY - 19900301	GOOD	GEONEX
CK0470	HISTORY - 19940216	GOOD	NGS
CK0470	HISTORY - 19950330	GOOD	NGS
CK0470	HISTORY - 20020904	GOOD	GADT
CK0470	HISTORY - 20060515	GOOD	GADT
CK0470	HISTORY - 20060612	GOOD	JCLS
CK0470	HISTORY - 20080610	GOOD	GADT

CK0470

CK0470

STATION DESCRIPTION

CK0470

CK0470'DESCRIBED BY COAST AND GEODETIC SURVEY 1935

CK0470'AT MELDRIM, ON SEABOARD AIR LINE RAILWAY, 44 FEET EAST OF

CK0470'SOUTHEAST CORNER OF THE DEPOT, 10 FEET NORTH OF NORTH RAIL.

CK0470'REFERENCE MARK=H-49 IS ACROSS TRACK AND 20

CK0470'FEET NORTH OF NORTH RAIL OF THE CENTRAL OF GEORGIA RAILWAY,

CK0470'29.988 METERS (98.39 FEET) FROM STATION IN GRID AZIMUTH 201 DEG

CK0470'48 MIN. IN 1935, UNABLE TO LOCATE REFERENCE MARK.

CK0470

CK0470

CK0470

STATION RECOVERY (1951)

CK0470'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1951 (CMT)

CK0470'STATION MARK WAS RECOVERED IN GOOD CONDITION AND AS DESCRIBED.

CK0470'PROBING AT THE GIVEN DISTANCE (29.988 METERS OR 98.39 FEET)

CK0470'AND GRID AZIMUTH (201 DEG 48 MIN) FAILED TO FIND ANY EVIDENCE

CK0470' OF THE REFERENCE MARK.

CK0470'

CK0470' STATION IS AT MELDRIM, 137 FEET W OF THE CENTER LINE OF THE
CK0470' CROSSING OF THE MAIN N-S ROAD AND THE SEABOARD AIR LINE
CK0470' RAILROAD, 44 FEET E OF THE SE CORNER OF THE RAILROAD DEPOT,
CK0470' 35.7 FEET S OF THE S RAIL OF THE CENTRAL OF GEORGIA RAILROAD,
CK0470' 10.5 FEET N OF THE N RAIL OF THE S.A.L., AND 0.7 FOOT LOWER
CK0470' THAN THE TOP OF THE LATTER RAIL. IT IS A STANDARD STATION
CK0470' DISK SET IN CONCRETE AND IS 4 INCHES UNDERGROUND. THIS DISK
CK0470' IS STAMPED MELDRIM I 49 1918 ELEV 33.307. UNDERGROUND MARK
CK0470' IS A STANDARD STATION DISK SET IN CONCRETE.

CK0470

CK0470

STATION RECOVERY (1955)

CK0470

CK0470' RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1955

CK0470' AT MELDRIM.

CK0470' AT MELDRIM, AT THE UNION STATION, BETWEEN THE SEABOARD AIR LINE
CK0470' RAILROAD AND THE CENTRAL OF GEORGIA RAILWAY, 44 FEET EAST OF THE
CK0470' SOUTHEAST CORNER OF THE UNION STATION, 10.8 FEET NORTH OF NORTH
CK0470' RAIL OF S.A.L. RR, 35 1/2 FEET SOUTH OF SOUTH RAIL OF THE C. OF
CK0470' G. RY., 95 FEET NORTH-NORTHWEST AND ACROSS S.A.L. RR TRACK FROM
CK0470' THE NORTHEAST CORNER OF CONCRETE BLOCK STORE BUILDING (MACKS
CK0470' GROCERY), ABOUT 3/4 FEET BELOW LEVEL OF TRACK AND SET IN THE TOP
CK0470' OF A CONCRETE POST ABOUT 4 INCHES UNDERGROUND.

CK0470

CK0470

STATION RECOVERY (1958)

CK0470

CK0470' RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1958

CK0470' RECOVERED IN GOOD CONDITION.

CK0470

CK0470

STATION RECOVERY (1963)

CK0470

CK0470' RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1963 (ETO)

CK0470' STATION WAS RECOVERED IN GOOD CONDITION. PUBLISHED DESCRIPTION

CK0470' IS OBSOLETE. NEW DESCRIPTION FOLLOWS.

CK0470'

CK0470' STATION IS LOCATED IN THE TOWN OF MELDRIM (ABOUT 15 MILES
CK0470' WNW OF SAVANNAH). 138 FEET EAST OF THE CENTER LINE OF INTERSECTION
CK0470' OF THE MAIN NORTH-SOUTH STREET AND THE SEABOARD AIR LINE
CK0470' RAILROAD, 10.5 FEET NORTH OF THE NORTH RAIL. A STANDARD DISK
CK0470' STAMPED MELDRIM I 49 1918 ELEV 33.307 AND SET IN A CONCRETE
CK0470' MONUMENT ABOUT 0.1 FOOT BELOW THE SURFACE OF THE GROUND.

CK0470'

CK0470' REFERENCE MARK H 49 COULD NOT BE FOUND. THE REFERENCE

CK0470' MEASUREMENTS PLACE THE LOCATION OF THE MARK IN A DITCH ALONG

CK0470' A ROAD AND IT IS BELIEVED THE MARK HAS BEEN DESTROYED.

CK0470

CK0470

STATION RECOVERY (1979)

CK0470

CK0470' RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1979

CK0470' DELETE-44.0 FT. EAST OF THE SOUTHEAST CORNER OF THE UNION STATION.

CK0470' ADD-138.0 FT. EAST OF THE CENTERLINE OF THE PAVED ROAD CROSSING.

CK0470' THE MARK IS 3 FT W FROM A WITNESS POST.

CK0470

CK0470

STATION RECOVERY (1990)

CK0470

CK0470' RECOVERY NOTE BY GEONEX 1990

CK0470' THE STATION WAS RECOVERED IN GOOD CONDITION AS DESCRIBED IN THE 1963

CK0470' RECOVERY NOTE. AN UPDATED DESCRIPTION FOLLOWS.

CK0470' THE STATION IS LOCATED IN THE TOWN OF MELDRIM WEST-NORTHWEST OF

CK0470' SAVANNAH) ALONG THE NORTH SIDE OF THE SEABOARD COAST LINE RAILROAD

CK0470' AND EAST OF THE MAIN NORTH-SOUTH STREET.

CK0470' TO REACH THE STATION FROM THE INTERSECTION OF U.S. HIGHWAY 80 AND

CK0470' STATE HIGHWAY 17 (APPROXIMATELY 0.6 MI (0.97 KM) NORTHWEST FROM THE

CK0470' EFFINGHAM COUNTY-CHATHAM COUNTY LINE), GO NORTHWEST ALONG U.S.

CK0470' HIGHWAY 80 FOR 1.9 MI (3.06 KM) TO THE INTERSECTION WITH THE ROAD TO

CK0470' MELDRIM ON THE LEFT. TURN LEFT AND GO SOUTHWEST ALONG THE ROAD TO

CK0470' MELDRIM FOR 1.0 MI (1.61 KM) TO A CURVE TO THE LEFT AT THE NORTH EDGE

CK0470' OF MELDRIM AND THE INTERSECTION WITH 5TH STREET. CONTINUE SOUTHERLY

CK0470' ALONG 5TH STREET FOR 0.2 MI (0.32 KM) TO THE INTERSECTION WITH THE

CK0470' SEABOARD COAST LINE RAILROAD. CONTINUE SOUTHERLY ALONG 5TH STREET

CK0470' FOR APPROXIMATELY 50 FT (15.24 M) TO THE INTERSECTION WITH CENTRAL

CK0470'STREET. TURN LEFT AND GO EASTERLY ALONG CENTRAL STREET FOR
CK0470'APPROXIMATELY 150 FT (45.72 M) TO THE STATION ON THE LEFT.
CK0470'STATION IS A STANDARD USCGS TRIANGULATION DISK (BRASS) STAMPED
CK0470'---MELDRIM I 49 1918 ELEV. 33.307--- SET IN A ROUND CONCRETE
CK0470'MONUMENT 0.2 FEET BELOW GROUND. MAGNETIC PROPERTY IS NOT KNOWN. IT
CK0470'IS LOCATED 10.7 FT (3.26 M) NORTH FROM THE NORTH RAIL OF THE SEABOARD
CK0470'COAST LINE RAILROAD, 137.7 FT (41.97 M) EAST FROM THE CENTERLINE OF
CK0470'5TH STREET, 82.7 FT (25.21 M) SOUTH FROM THE STREET TO THE NORTH, 183
CK0470'DEGREES AZIMUTH, 105.5 FT (32.16 M) FROM A PK NAIL W/ SHINER IN THE
CK0470'FACING SIDE OF A 38 INCH OAK TREE LOCATED ON THE NORTH SIDE OF THE
CK0470'STREET TO THE NORTH, 65 DEGREES AZIMUTH, 130.8 FT (39.87 M) FROM A PK
CK0470'NAIL W/ SHINER IN THE FACING SIDE OF A 40 INCH OAK TREE LOCATED AT
CK0470'THE SOUTHEAST CORNER OF THE INTERSECTION OF 5TH STREET AND CENTRAL
CK0470'STREET, AND 3 DEGREES AZIMUTH, 89.0 FT (27.13 M) FROM THE NORTHWEST
CK0470'CORNER OF MELDRIM GROCERY.

CK0470
CK0470
CK0470

STATION RECOVERY (1994)

CK0470'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (SK)
CK0470'STATION IS LOCATED ABOUT 15 MI (24.1 KM) WEST-NORTHWEST OF SAVANNAH
CK0470'AND IN THE TOWN OF MELDRIM ON THE SEABOARD COASTLINE RAILROAD
CK0470'RIGHT-OF-WAY. TO REACH THE STATION FROM THE INTERSECTION OF U.S.
CK0470'HIGHWAY 80 AND STATE HIGHWAY 17 (ABOUT 3 MI (4.8 KM) WEST OF
CK0470'BLOOMINGTON, GO WEST ON U.S. HIGHWAY 80 FOR 1.9 MI (3.1 KM) TO MELDRIM
CK0470'ROAD ON THE LEFT, TURN LEFT AND GO SOUTHWEST ON MELDRIM ROAD FOR 1.2
CK0470'MI (1.9 KM) TO THE RAILROAD CROSSING, CONTINUE AHEAD FOR 50 FT (15.2
CK0470'M) TO CENTRAL STREET ON THE LEFT, TURN LEFT AND GO EAST FOR 150 FT
CK0470'(45.7 M) TO THE STATION ON THE LEFT AND ACROSS THE TRACK. THE STATION
CK0470'IS RECESSED 3 CM BELOW THE LEVEL OF THE GROUND. LOCATED 138 FEET
CK0470'(42.1 M) EAST OF THE CENTER OF INTERSECTION OF THE MAIN NORTH-SOUTH
CK0470'STREET AND THE SEABOARD COASTLINE RAILROAD, 10.5 FEET (3.2 M) NORTH OF
CK0470'THE NORTH RAIL. A STANDARD DISK STAMPED MELDRIM 1918 I 49 ELEV 33.307
CK0470'AND SET IN A CONCRETE MONUMENT.

CK0470
CK0470
CK0470

STATION RECOVERY (1995)

CK0470'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1995 (CLS)
CK0470'RECOVERED AS DESCRIBED.

CK0470
CK0470
CK0470

STATION RECOVERY (2002)

CK0470'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 2002
CK0470'RECOVERED IN GOOD CONDITION.

CK0470
CK0470
CK0470

STATION RECOVERY (2006)

CK0470'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 2006
CK0470'RECOVERED IN GOOD CONDITION.

CK0470
CK0470
CK0470

STATION RECOVERY (2006)

CK0470'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2006
CK0470'RECOVERED IN GOOD CONDITION.

CK0470
CK0470
CK0470

STATION RECOVERY (2008)

CK0470'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 2008
CK0470'RECOVERED IN GOOD CONDITION...

*** retrieval complete.
Elapsed Time = 00:00:01

The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE =
PROGRAM =

datasheet, VERSION = 7.73

1 National Geodetic Survey, Retrieval Date = OCTOBER 27, 2009

AE2746 *****

AE2746 HT_MOD - This is a Height Modernization Survey Station.

AE2746 DESIGNATION - PURRYSBURG

AE2746 PID - AE2746

AE2746 STATE/COUNTY- SC/JASPER

AE2746 USGS QUAD - HARDEEVILLE (1979)

AE2746

AE2746 *CURRENT SURVEY CONTROL

AE2746* NAD 83(2007)- 32 15 16.91326(N) 081 06 22.51824(W) ADJUSTED

AE2746* NAVD 88 - 14.43 (meters) 47.3 (feet) GPS OBS

AE2746

AE2746 EPOCH DATE - 2002.00

AE2746 X - 834,702.788 (meters) COMP

AE2746 Y - -5,334,110.360 (meters) COMP

AE2746 Z - 3,384,340.733 (meters) COMP

AE2746 LAPLACE CORR- -2.23 (seconds) USDV2009

AE2746 ELLIP HEIGHT- -16.817 (meters) (02/10/07) ADJUSTED

AE2746 GEOID HEIGHT- -31.24 (meters) GEOID09

AE2746

AE2746 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----

AE2746 Type PID Designation North East Ellip

AE2746

AE2746 NETWORK AE2746 PURRYSBURG 0.67 0.63 1.23

AE2746

AE2746 The horizontal coordinates were established by GPS observations

AE2746 and adjusted by the National Geodetic Survey in February 2007.

AE2746

AE2746 The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).

AE2746 See National Readjustment for more information.

AE2746 The horizontal coordinates are valid at the epoch date displayed above.

AE2746 The epoch date for horizontal control is a decimal equivalence

AE2746 of Year/Month/Day.

AE2746

AE2746 The orthometric height was determined by GPS observations and a

AE2746 high-resolution geoid model using precise GPS observation and

AE2746 processing techniques.

AE2746

AE2746 The X, Y, and Z were computed from the position and the ellipsoidal ht.

AE2746

AE2746 The Laplace correction was computed from DEFLEC99 derived deflections.

AE2746

AE2746 The ellipsoidal height was determined by GPS observations

AE2746 and is referenced to NAD 83.

AE2746

AE2746 The geoid height was determined by GEOID09.

AE2746

AE2746; North East Units Scale Factor Converg.

AE2746;SPC SC - 46,738.329 599,586.526 MT 1.00009539 -0 03 32.1

AE2746;SPC SC - 153,340.97 1,967,147.40 iFT 1.00009539 -0 03 32.1

AE2746;UTM 17 - 3,568,672.580 489,991.482 MT 0.99960124 -0 03 24.1

AE2746

AE2746! Elev Factor x Scale Factor = Combined Factor

AE2746!SPC SC - 1.00000264 x 1.00009539 = 1.00009803

AE2746!UTM 17 - 1.00000264 x 0.99960124 = 0.99960388

AE2746

AE2746 SUPERSEDED SURVEY CONTROL

AE2746

AE2746 NAD 83(1986)- 32 15 16.92425(N) 081 06 22.52584(W) AD() 1

AE2746 NAD 83(2001)- 32 15 16.91343(N) 081 06 22.51834(W) AD() 1

AE2746 ELLIP H (03/13/03) -16.847 (m) GP() 4 2

AE2746 NAD 83(1995)- 32 15 16.91375(N) 081 06 22.51834(W) AD() 1

AE2746 ELLIP H (12/20/99) -16.809 (m) GP() 4 1

AE2746 NAD 83(1986)- 32 15 16.92578(N) 081 06 22.52854(W) AD() 1

AE2746

AE2746 Superseded values are not recommended for survey control.

AE2746.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AE2746.See file dsdata.txt to determine how the superseded data were derived.

AE2746

AE2746_U.S. NATIONAL GRID SPATIAL ADDRESS: 17SMR8999168672(NAD 83)

AE2746_MARKER: DD = SURVEY DISK

AE2746_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AE2746_STAMPING: PURRYSBURG 1997

AE2746_MARK LOGO: SCGS

AE2746_PROJECTION: FLUSH

AE2746_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET

AE2746_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AE2746+STABILITY: SURFACE MOTION

AE2746_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AE2746+SATELLITE: SATELLITE OBSERVATIONS - April 08, 2003

AE2746

AE2746	HISTORY	- Date	Condition	Report By
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AE2746	HISTORY	- 1997	MONUMENTED	SCGS
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AE2746	HISTORY	- 20030408	GOOD	SCGS
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AE2746

AE2746 STATION DESCRIPTION

AE2746

AE2746'DESCRIBED BY SOUTH CAROLINA GEODETIC SURVEY 1997 (DDW)

AE2746'STATION IS LOCATED 2.7 MILES (4.3 KM) SOUTHWEST OF HARDEEVILLE, 17.25

AE2746'MILES (27.76 KM) SOUTHWEST OF RIDGELAND. OWNERSHIP--SCDOT, DIRECTOR

AE2746'OF PRECONSTRUCTION, P.O. BOX 191, COLUMBIA, SC 29202, PHONE

AE2746'803-737-1350. TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY

AE2746'17 AND STATE HIGHWAY 46 (MAIN STREET) IN HARDEEVILLE, GO NORTHWEST ON

AE2746'HIGHWAY 46 FOR 0.35 MILE (0.56 KM) TO THE JUNCTION OF U.S. HIGHWAY

AE2746'321 AND STATE ROAD 31 (CHURCH STREET) AHEAD, CONTINUE ON ROAD 31 FOR

AE2746'2.15 MILES (3.46 KM) TO THE JUNCTION OF STATE ROAD 34 (PURRYSBURG

AE2746'ROAD), TURN LEFT ON ROAD 34 FOR 0.85 MILE (1.37 KM) TO THE END OF

AE2746'PAVEMENT, CONTINUE ON ROAD 34 FOR 2.2 MILES (3.5 KM) TO THE STATION ON

AE2746'THE RIGHT NEAR THE NORTHWEST CORNER OF A BRIDGE OVER INTERSTATE 95.

AE2746'STATION IS A CONCRETE POST FLUSH WITH THE GROUND AND LEVEL WITH THE

AE2746'ROAD, 18.5 FEET (5.6 M) WEST SOUTHWEST OF THE CENTER OF ROAD 34, 21.8

AE2746'FEET (6.6 M) NORTH OF THE NORTH END OF THE BRIDGE, 3.5 FEET (1.1 M)

AE2746'NORTHWEST OF A GUARDRAIL POST WITH A SCGS REFERENCE WASHER ATTACHED,

AE2746'2.7 FEET (0.8 M) SOUTH OF A WITNESS POST. DESCRIBED BY R.W. ROBERTS.

AE2746

AE2746

STATION RECOVERY (2003)

AE2746

AE2746'RECOVERY NOTE BY SOUTH CAROLINA GEODETIC SURVEY 2003 (DDW)

AE2746'STATION IS LOCATED 2.7 MILES SOUTHWEST OF HARDEEVILLE, 17.25 MILES

AE2746'SOUTHWEST OF RIDGELAND. OWNERSHIP--SCDOT, DIRECTOR OF

AE2746'PRECONSTRUCTION, P.O. BOX 191, COLUMBIA, SC 29202, PHONE

AE2746'803-737-1350. TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY

AE2746'17 AND STATE HIGHWAY 46 (MAIN STREET) IN HARDEEVILLE, GO NORTHWEST ON

AE2746'HIGHWAY 46 FOR 0.35 MILE TO THE JUNCTION OF U.S. HIGHWAY 321 AND

AE2746'STATE ROAD 31 (CHURCH STREET) AHEAD, CONTINUE ON ROAD 31 FOR 2.15

AE2746'MILES TO THE JUNCTION OF STATE ROAD 34 (PURRYSBURG ROAD), TURN LEFT ON

AE2746'ROAD 34 FOR 0.85 MILE TO THE END OF PAVEMENT, CONTINUE AHEAD ON THE

AE2746'GRAVEL ROAD (STATE ROAD 34) FOR 2.2 MILES TO THE STATION ON THE RIGHT

AE2746'BEHIND A GUARDRAIL NEAR THE NORTHWEST CORNER OF A BRIDGE OVER

AE2746'INTERSTATE 95. STATION IS A CONCRETE POST FLUSH WITH THE GROUND, 18.5

AE2746'FEET WEST SOUTHWEST OF THE CENTER OF ROAD 34, 21.8 FEET NORTH OF THE

AE2746'NORTH END OF THE BRIDGE, 3.5 FEET NORTHWEST OF A GUARD RAIL POST WITH

AE2746'A SCGS REFERENCE WASHER ATTACHED, 2.7 FEET SOUTH OF A WITNESS POST.

AE2746'RECOVERED BY T. HALL.

*** retrieval complete.

Elapsed Time = 00:00:01

MATCH LINE

SEE SHEET 2

SEE SHEET 1

TRAV 107
N=779397.3978
E=963133.6296
EL=22.53200

TRAV 106
N=778571.2500
E=963404.5678
EL=22.98100

TRAV 105
N=777891.9273
E=963719.5283
EL=16.86300

TRAV 104
N=777047.3061
E=963930.8835
EL=14.70600

TRAV 103
N=776238.0844
E=964240.1130
EL=12.88400

TRAV 102
N=775569.7763
E=964537.7713
EL=13.99300

TRAV 101
N=774913.0221
E=964801.4295
EL=13.82600

TRAV 100
N=773795.1202
E=965036.0684
EL=9.36100

GPS 801
N=772707.0767
E=965433.9972
EL=8.70400

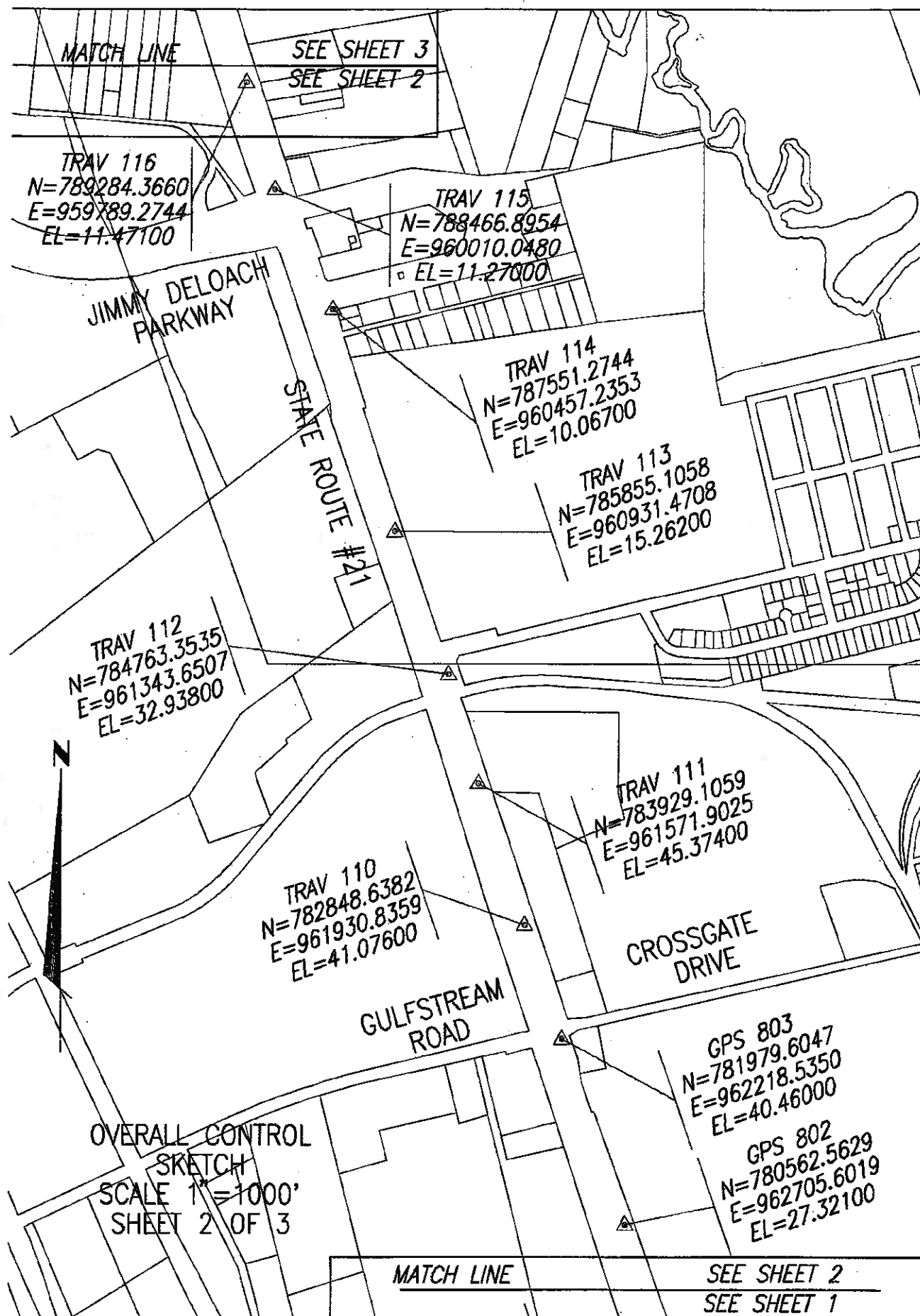
GPS 800
N=771023.2828
E=966073.2093
EL=14.04400

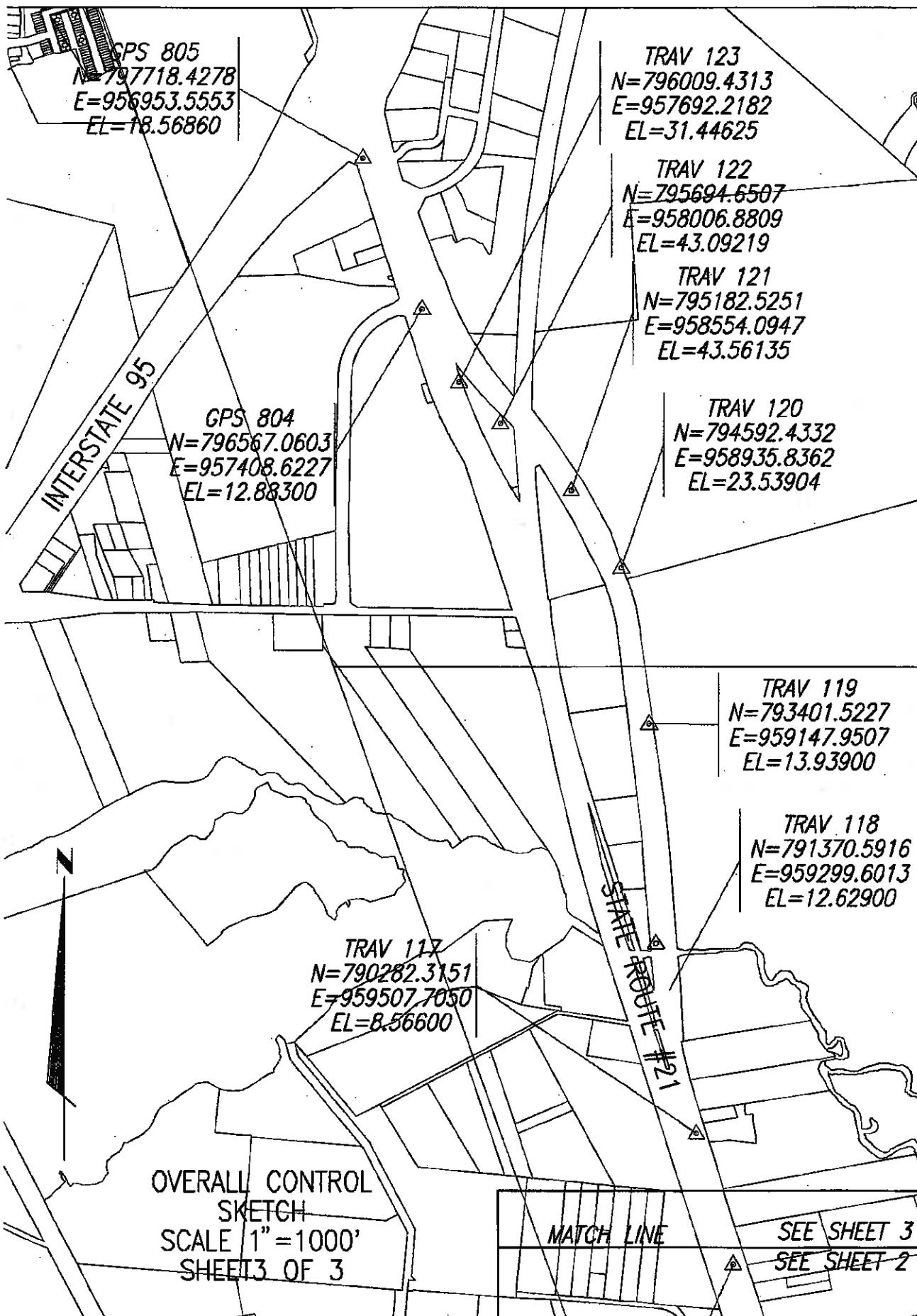
GRANGE ROAD

STATE ROUTE #21

BOURNE AVENUE

OVERALL CONTROL
SKETCH
SCALE 1"=1000'
SHEET 1 OF 3





Arcadis
 2849 Paces Ferry Road, Suite 400
 Atlanta, GA 30339
 (770) 431-8666
 Tue Oct 27 09:37:37 2009

PROJECT: G:\Tra\63802 - GA Ports\SRV\GAPORT.pro

B-GAPCT02A.TRV

FIELD TRAVERSE PRE-BALANCE CLOSURE REPORT
 PRE-BALANCED

Number of angles:	16	
Total angular error:	0 00'18.07"	
Correction per angle to balance:	0 00'01.13"	
Total vertical error:	0.409	
Closing line:	S61 10'20"E	0.486
Latitude :	0.235	
Departure :	-0.426	
Total traverse length:	15627.262	
Accuracy:	1 in 32125	

B-GAPCT02A.TRV

FIELD TRAVERSE POST-BALANCE CLOSURE REPORT
 HORIZONTAL ANGLES BALANCED

Closing line:	S19 58'03"W	0.473
Latitude :	0.444	
Departure :	0.161	
Total traverse length:	15627.262	
Accuracy:	1 in 33073	

B-GAPCT02A.TRV

Point to point traverse
 Compass Adjustment

PT#	DESCRIPTOR	BEARING	DISTANCE	NORTHING	EASTING	ELEVATION
TRAVERSE						
803				781979.6047	962218.5350	40.48
110 TRAV	110	N18 19'03"W	915.42'	782848.6382	961930.8359	41.09
111 TRAV	111	N18 22'36"W	1138.53'	783929.1059	961571.9025	45.43
112 TRAV	112	N15 18'06"W	864.91'	784763.3535	961343.6507	32.99
113 TRAV	113	N20 41'01"W	1166.97'	785855.1058	960931.4708	15.36
114 TRAV	114	N15 37'14"W	1761.22'	787551.2744	960457.2353	10.10
115 TRAV	115	N26 01'51"W	1018.99'	788466.8954	960010.0480	11.26
116 TRAV	116	N15 06'48"W	846.76'	789284.3660	959789.2744	11.45
117 TRAV	117	N15 45'23"W	1036.91'	790282.3151	959507.7050	8.54
118 TRAV	118	N10 49'32"W	1107.99'	791370.5916	959299.6013	12.89
119 TRAV	119	N4 16'13"W	2036.59'	793401.5227	959147.9507	13.94
120 TRAV	120	N10 05'57"W	1209.65'	794592.4332	958935.8362	23.54
121 TRAV	121	N32 53'59"W	702.81'	795182.5251	958554.0947	43.56
122 TRAV	122	N46 53'50"W	749.48'	795694.6507	958006.8809	43.09
123 TRAV	123	N44 59'21"W	445.08'	796009.4313	957692.2182	31.45
804 GIS	804	N26 57'24"W	625.60'	796567.0603	957408.6227	12.88