

# **SURVEY CONTROL REPORT**

For

**SCDOT**

**I-85 Aerial Mapping Ground Control**

From

**Mile Marker 80 to Mile Marker 106**

**Near Gaffney, SC**

By

**CDM Smith**

**1301 Gervais Street, Suite 1600**

**Columbia, SC 29201**

**John L. Hudson, PLS # 6957**

**Dated 9/21/2014**



### **A Synopsis of the Surveys Performed for this Project.**

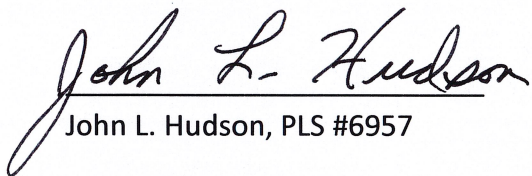
1. Aerial mapping chevrons were painted along the said mapping corridor at locations provided by the mapper.
2. Trimble R-8 receivers were used to perform 3 minute observations using the South Carolina VRS Network to obtain horizontal positions.
3. Five existing NGS, First Order, Class II vertical monuments (which are described later herein with their elevations) were recovered and used to control the vertical datum for the project. Their designations are: "42 335", "42 336", "Cowpens", "W 200" and "F 40". The Project Elevations are based on the NAVD 88 elevations of these monuments.
4. Level loops using Digital Leica DNA 03 levels were run between the monuments and used to establish elevations for the mapping chevrons. The level loops averaged 1.5 miles one way in length; being 3 miles for the level loop. The average miss-closure error of these loops was 0.01' with 0.02' being the maximum accepted. This meets or exceeds the SCDOT requirements for level loop closures which is stated in line # 6 below. Leica GEO Office software was used to compute and adjust the level runs.
5. Level runs were started on the West end of the project at monument "42 335" and continued in an eastern direction to mapping chevron T-215. Level runs were also started on monument "W 200" and continued in a western direction to mapping chevron T-215 where a tie was made between the loops from the two ends of the project. The closure was out more than anticipated so loops were run from the "42 335" and "W 200" to monuments "42 336" and "F 40" respectively. It was found that the elevation of monument "42 335" was 824.92 instead of the posted elevation 825.02. This was confirmed by making ties to the main level loops by a level loop to monument "Cowpens". The elevation of monument "W 200" checked good with a level loop run to monument "F 40".
6. The error of closure of the level loops between the East and West ends of the project which met/closed at mapping chevron T-215 was 0.26 feet. This 0.26 foot error of closure meets or exceeds the SCDOT requirements for Project Benchmarks (PBM) which is 0.05 foot multiplied by the square root of the length of the level run in miles. The total one way level run distance between the western monument "42 335" and the eastern monument "W 200" is over 29 miles.



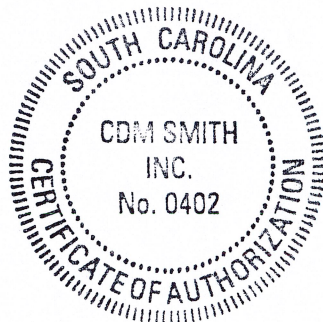
7. The 0.26 foot error of closure at T-215 was adjusted out proportionately thru the total length of the project. The distance from the western monument "42 335" to mapping chevron T-215 was factored against the total distance between monuments "42 335" and "W 200" to obtain the correction elevation for T-215.
8. Primary Survey Control (PSC) points are 30" long # 5 rebar with a 2" dia. aluminum cap set approximately flush with the ground.
  - a. Ten minute observations were performed using Trimble R7 receiver and the South Carolina VRS Network with a maximum PDOP of 1.8 and a minimum of 11 satellites for the observations. Coordinates are Grid State Plane Coordinates.
  - b. Ten minute VRS Network observations were also run on existing NGS cooperative base network control station monument "W 200" and NGS Height Modernization monuments "Unicorn", "Wilcox", and "Meadow". Their published coordinates were good for the project control.
  - c. Project elevations for PSC points and the NGS Height Modernization monuments "Unicorn", "Wilcox", and "Meadow" were set by digital level loop runs from the above items # 5 & # 6 stated vertical control using DNA 03 levels.
9. Following is the Project Coordinate and Elevation Table.



Point	North	East	Elevation	Code	Note
CP10	1168204.497	1753628.761	848.94	PSC	2" Aluminum Cap flush with Ground
CP11	1169166.462	1755219.253	876.48	PSC	2" Aluminum Cap flush with Ground
CP12	1180585.906	1771720.306	885.70	PSC	2" Aluminum Cap flush with Ground
CP13	1179495.507	1772241.323	884.47	PSC	2" Aluminum Cap flush with Ground
CP14	1182204.300	1786435.493	808.12	PSC	2" Aluminum Cap flush with Ground
CP15	1182788.711	1787760.623	823.92	PSC	2" Aluminum Cap flush with Ground
CP16	1188929.619	1803485.239	766.56	PSC	2" Aluminum Cap flush with Ground
CP17	1191104.881	1820904.044	693.93	PSC	2" Aluminum Cap flush with Ground
CP18	1199950.641	1836033.918	583.33	PSC	2" Aluminum Cap flush with Ground
CP19	1199864.813	1834936.444	608.82	PSC	2" Aluminum Cap flush with Ground
CP20	1204472.930	1847987.907	833.02	PSC	2" Aluminum Cap flush with Ground
CP21	1203517.296	1847954.877	858.50	PSC	2" Aluminum Cap flush with Ground
CP22	1214544.473	1866449.245	874.07	PSC	2" Aluminum Cap flush with Ground
CP23	1160697.610	1732863.368	839.44	PSC	2" Aluminum Cap flush with Ground
MEADOW	1191760.730	1820037.920	704.78	PSC	NGS Monument
W 200	1213725.740	1865309.310	880.22	PSC	NGS Monument
WILCOX	1188245.000	1804002.790	778.63	PSC	NGS Monument
UNICORN	1181031.750	1781766.260	737.53	PSC	NGS Monument
42 336			854.60	PBM	NGS Monument
42 335	1160227.960	1731651.060	824.92	PSC	NGS Monument
F 40			877.11	PBM	NGS Monument

  
John L. Hudson, PLS #6957

Date: 9/21/2014





# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-10**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

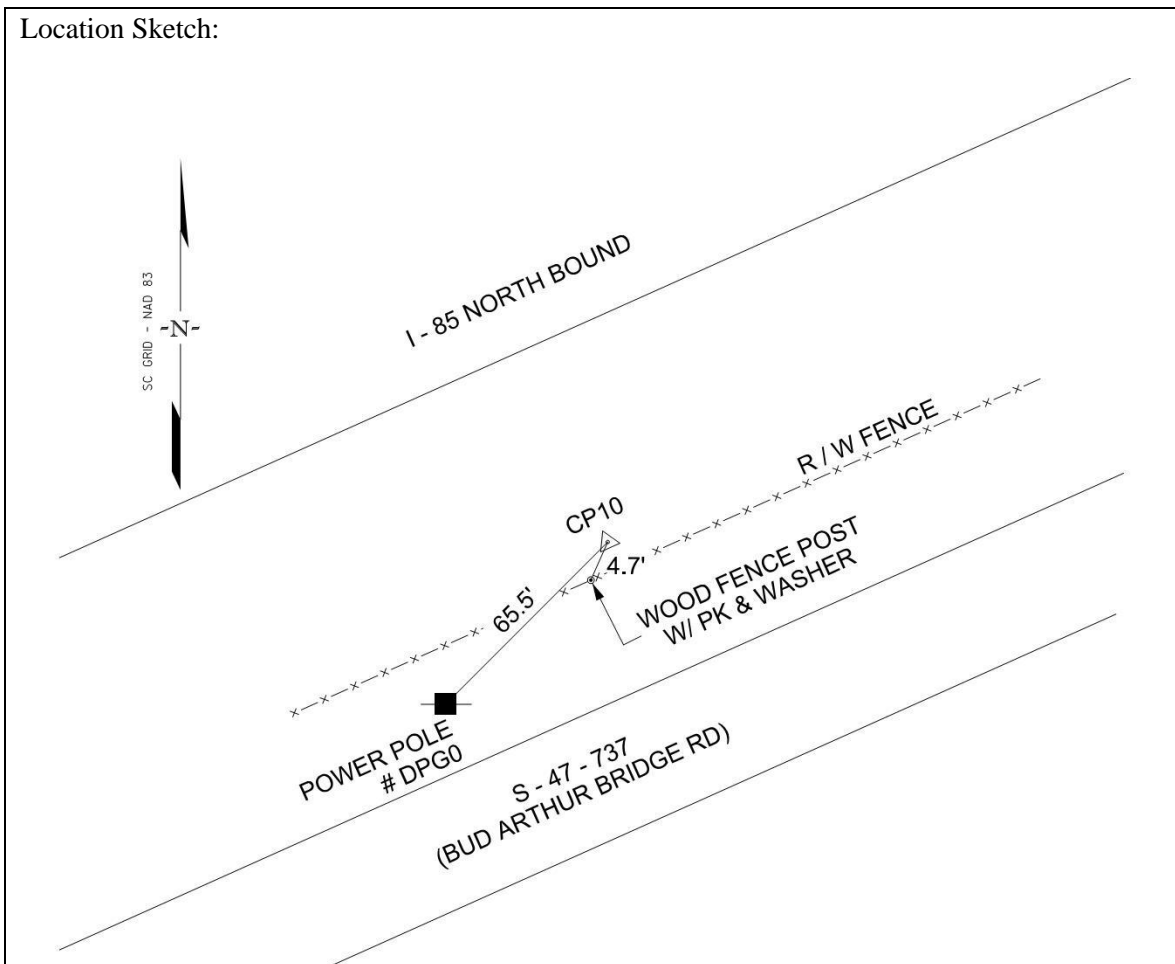
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1168204.497	Grid Easting (iFT) 1753628.761	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 848.94	Combined S.F.: 1.00001049

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-10 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 4.7 miles to exit 83. Then turn right onto State Rd S-42-737 (Bud Arthur Bridge Rd) go 0.21 miles and the control point will be on the right between the I-85 Northbound lane and the R/W fence.

Location Sketch:





# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-11**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

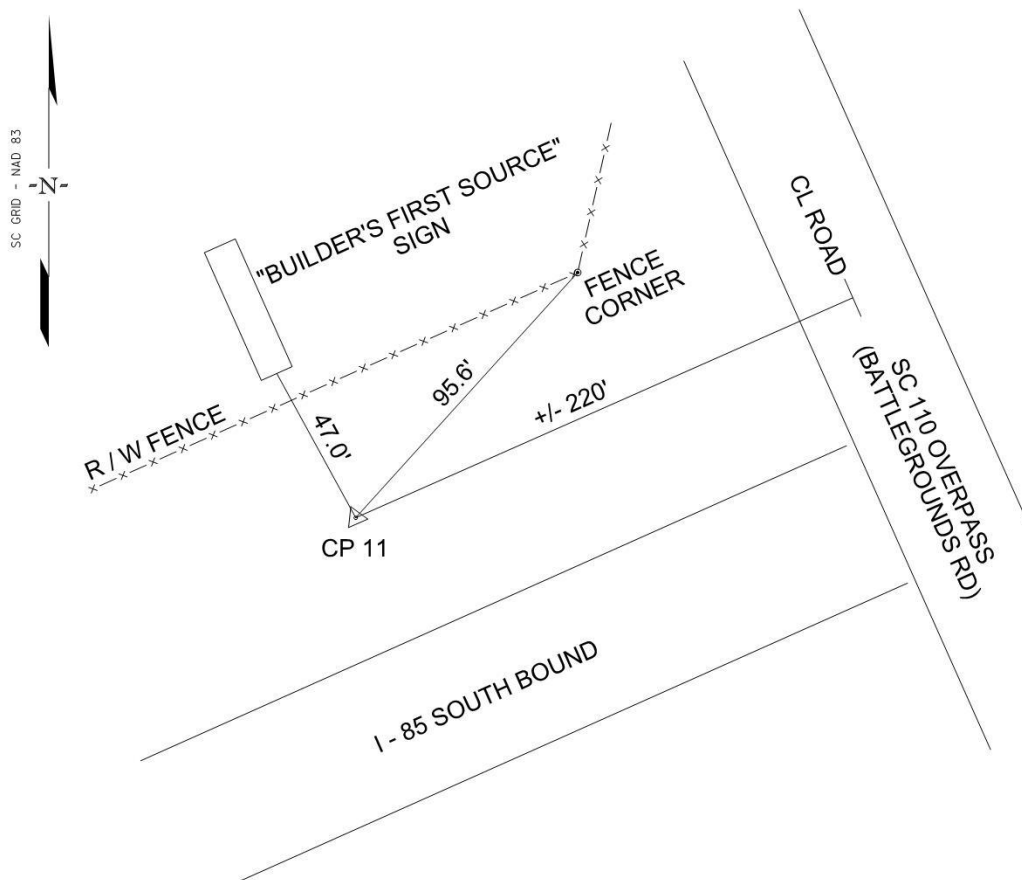
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1169166.462	Grid Easting (iFT) 1755219.253	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 876.48	Combined S.F.: 1.00004479

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-11 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 4.7 miles to exit 83. Then turn left onto State Rd S-42-737 (Bud Arthur Bridge Rd) go 0.25 miles to Hwy 110 (Battleground Rd) turn left. Then go 0.32 miles to Phillips Dr. and then turn right. Take the next right to Hory Rd for 0.2 mile to I-85 on ramp. Then enter I-85 and go 0.14 miles and the Control point is on the right side between the R/W fence and I-85.

Location Sketch:





# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-12**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

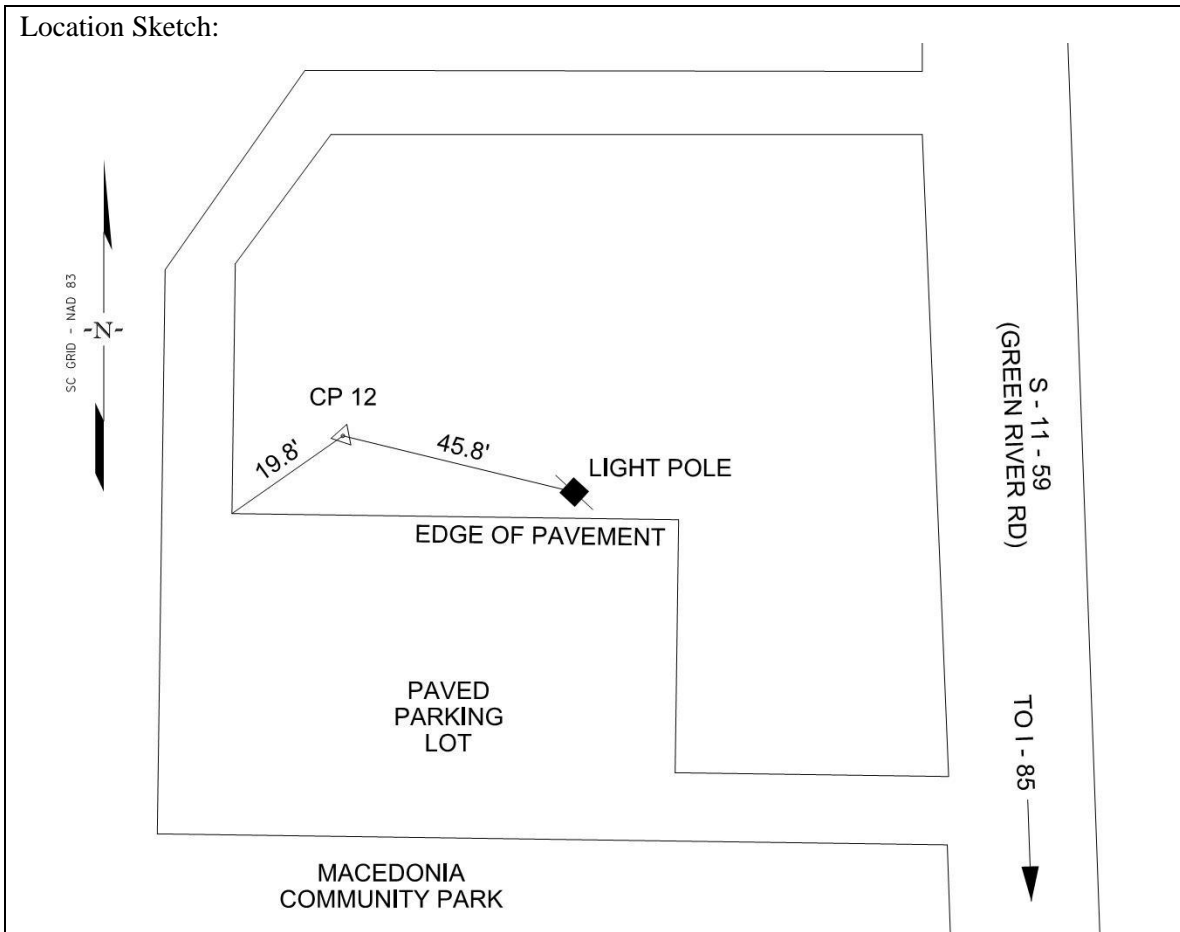
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1180585.906	Grid Easting (iFT) 1771720.306	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 885.70	Combined S.F.: 1.00005784

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-12 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 8.5 miles to exit 87. Then turn left onto Cannons Campground Rd go 0.1 miles to State Rd S-11-39 (Macedonia Rd/Green River Rd) go 0.3 miles to an entrance on the left to Macedonia Community Park. Go into Parking lot and the control point is on the right.

Location Sketch:





# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-13**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

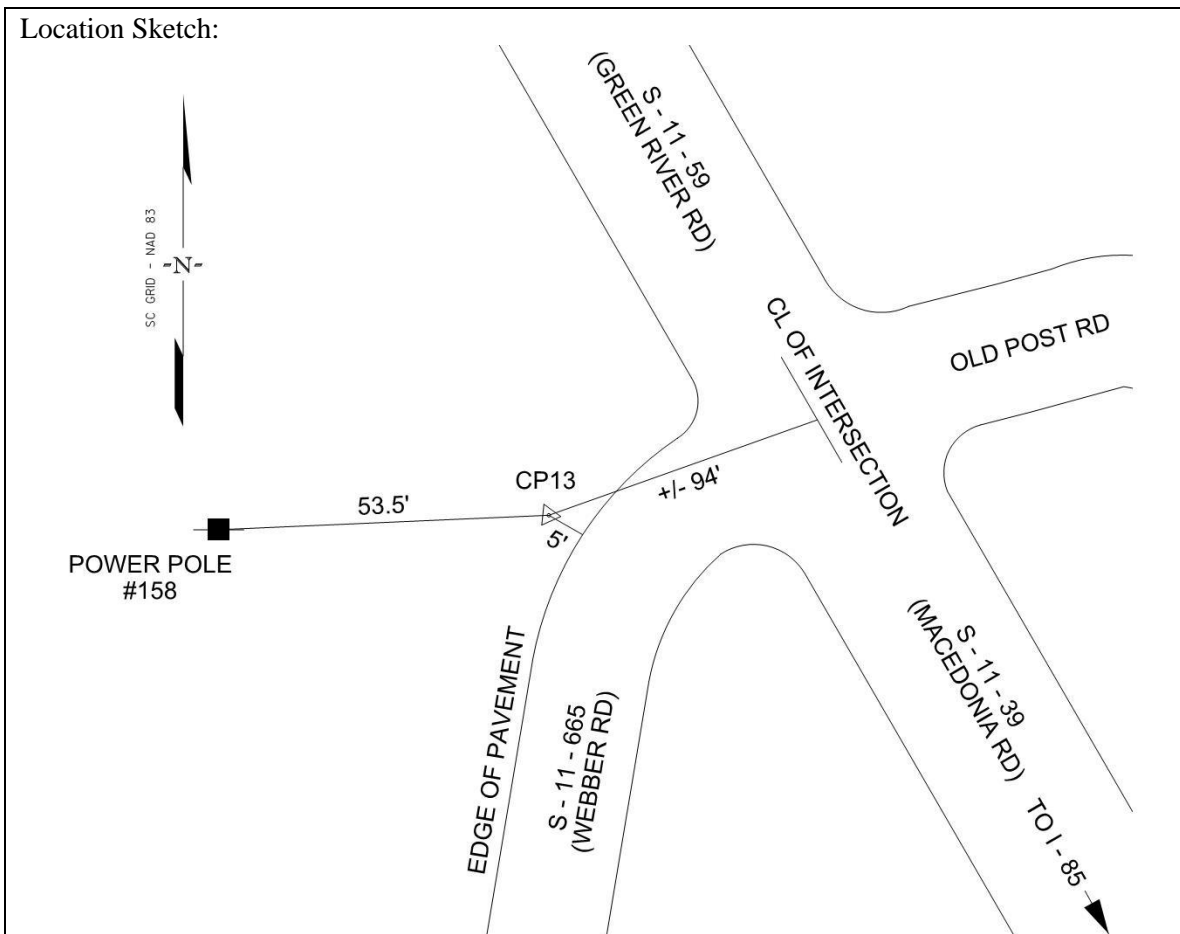
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1179495.507	Grid Easting (iFT) 1772241.323	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 884.47	Combined S.F.: 1.00005670

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-13 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 8.5 miles to exit 87. Then turn left onto Cannons Campground Rd go 0.1 miles to State Rd S-11-39 (Macedonia Rd) go 0.1 miles to State Rd S-11-665 (Webber Rd) turn left. The control point will be on the right.

Location Sketch:



# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-14**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

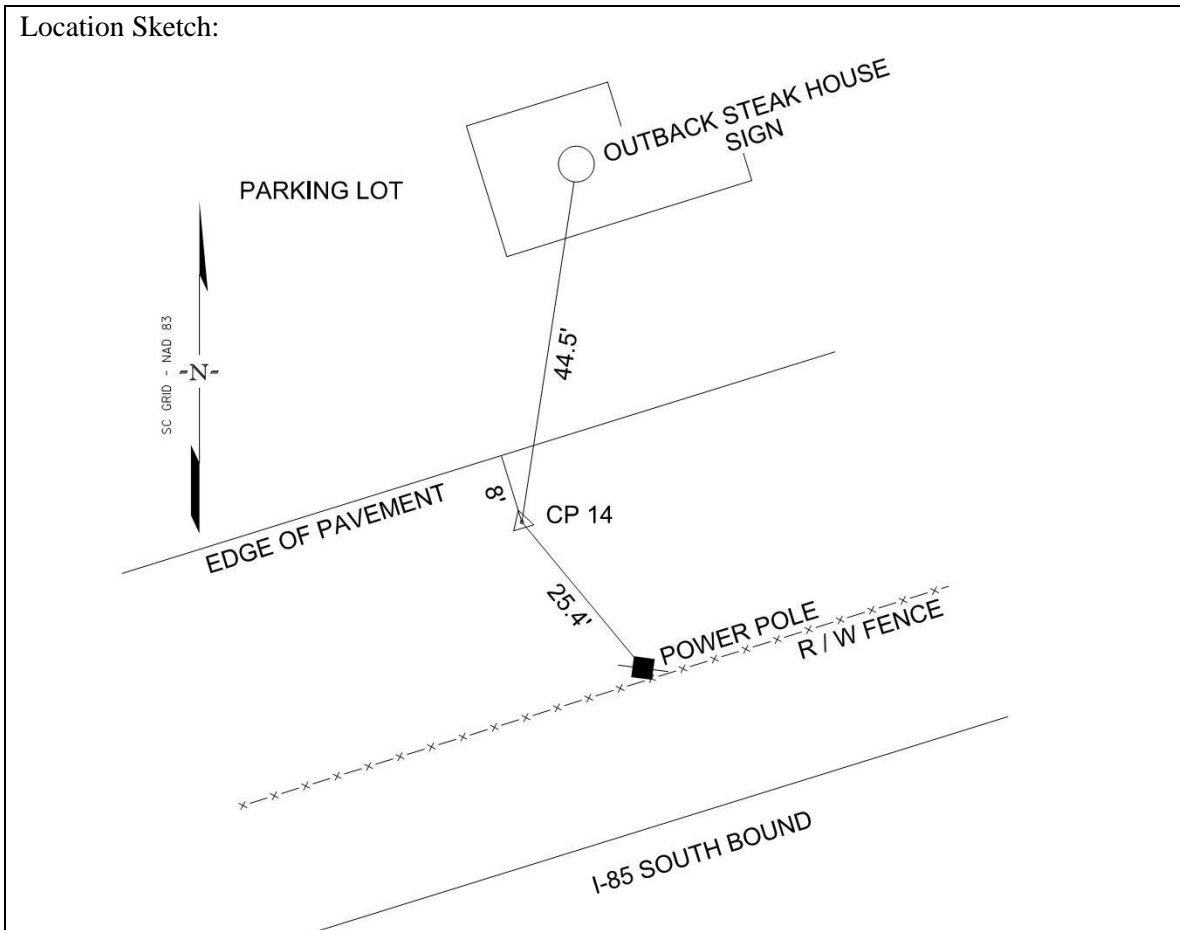
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1182204.300	Grid Easting (iFT) 1786435.493	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 808.12	Combined S.F.: 1.00006358

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-14 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 11.7 miles to exit 90. Then turn left onto State Rd S-11-81 (Hwy 105) and go 0.2 miles to State Rd S-11-440. Turn left and go 0.4 miles to Factory Shops Blvd. Turn left and go 0.2 miles to the end of the parking lot and turn left and the control point is on the right between edge of pavement and R/W fence of I-85.

Location Sketch:





# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-15**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

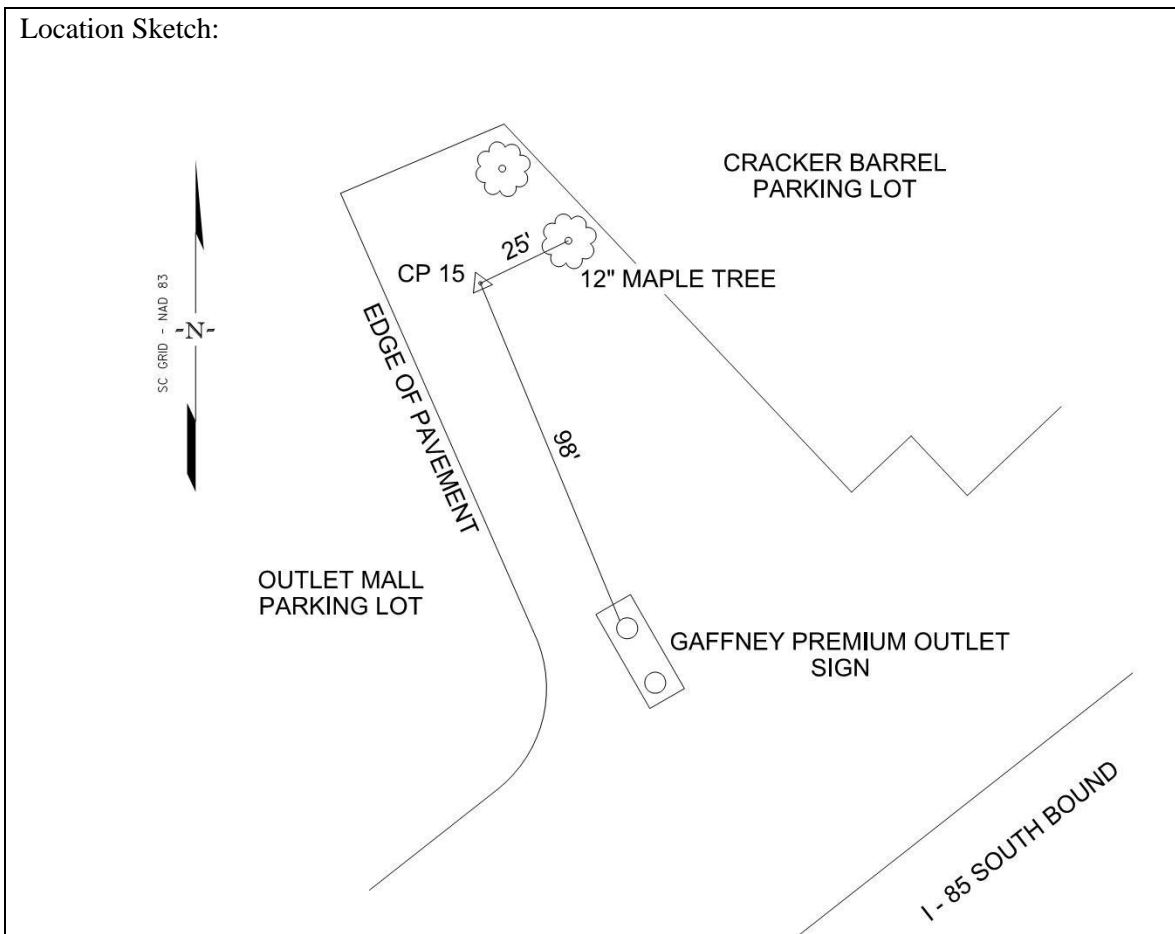
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1182788.711	Grid Easting (iFT) 1787760.623	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 823.92	Combined S.F.: 1.00006353

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-15 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 11.7 miles to exit 90. Then turn left onto State Rd S-11-81 (Hwy 105) and go 0.2 miles to State Rd S-11-440. Turn left and go 0.2 miles to Factory Shops Blvd. Turn left and go 0.2 miles and the control point is on the left.

Location Sketch:



# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-16**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

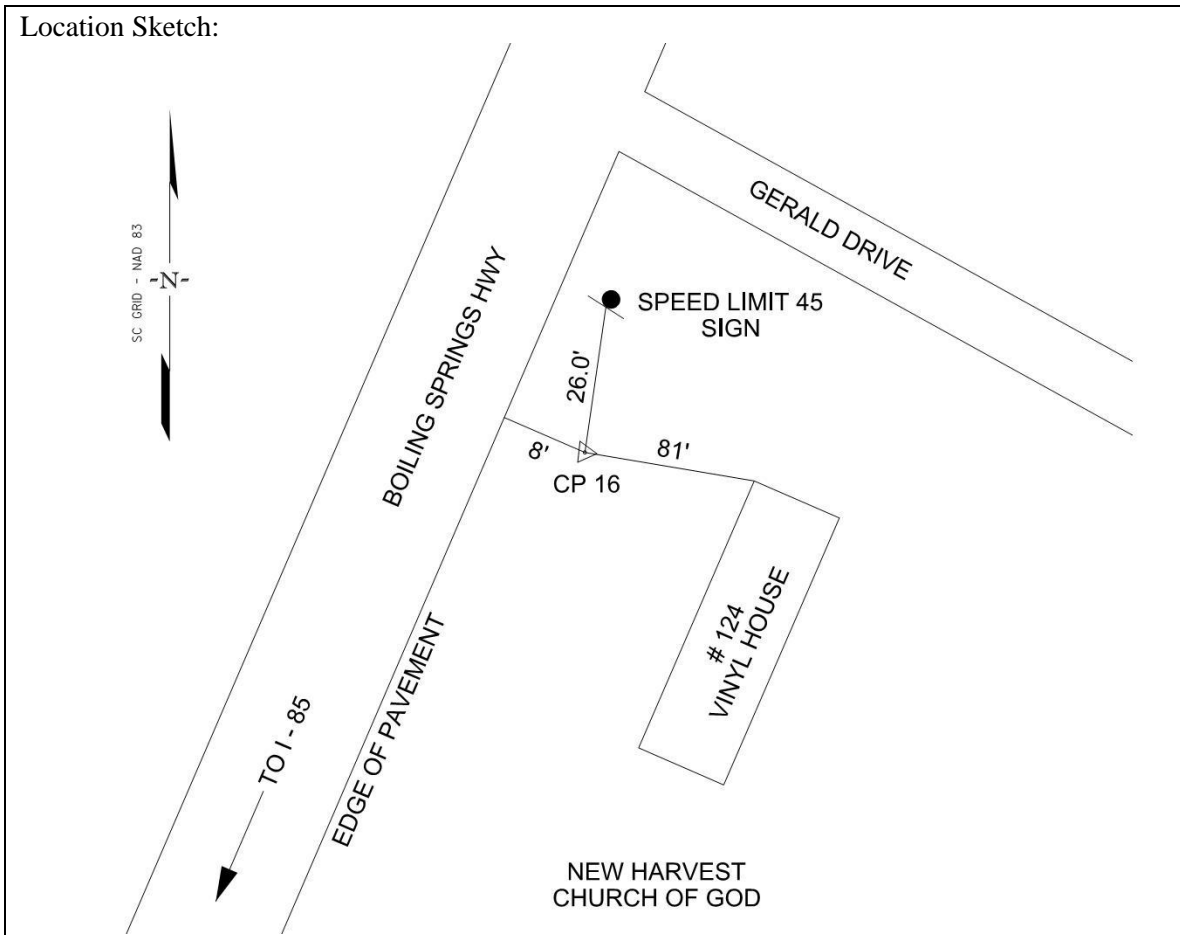
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1188929.619	Grid Easting (iFT) 1803485.239	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 766.56	Combined S.F.: 1.00007372

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-16 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 14 miles to exit 92. Then turn right onto Hwy 11 (W Floyd Baker Blvd) and go 0.6 miles to Ellis Ferry Ave. Turn left and go 0.3 miles to Mimosa Drive. Turn Right and go 0.2 miles to Hwy 150 (Providence Rd). Turn left and go 0.3 miles and the control point is on the right.

Location Sketch:





# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-17**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

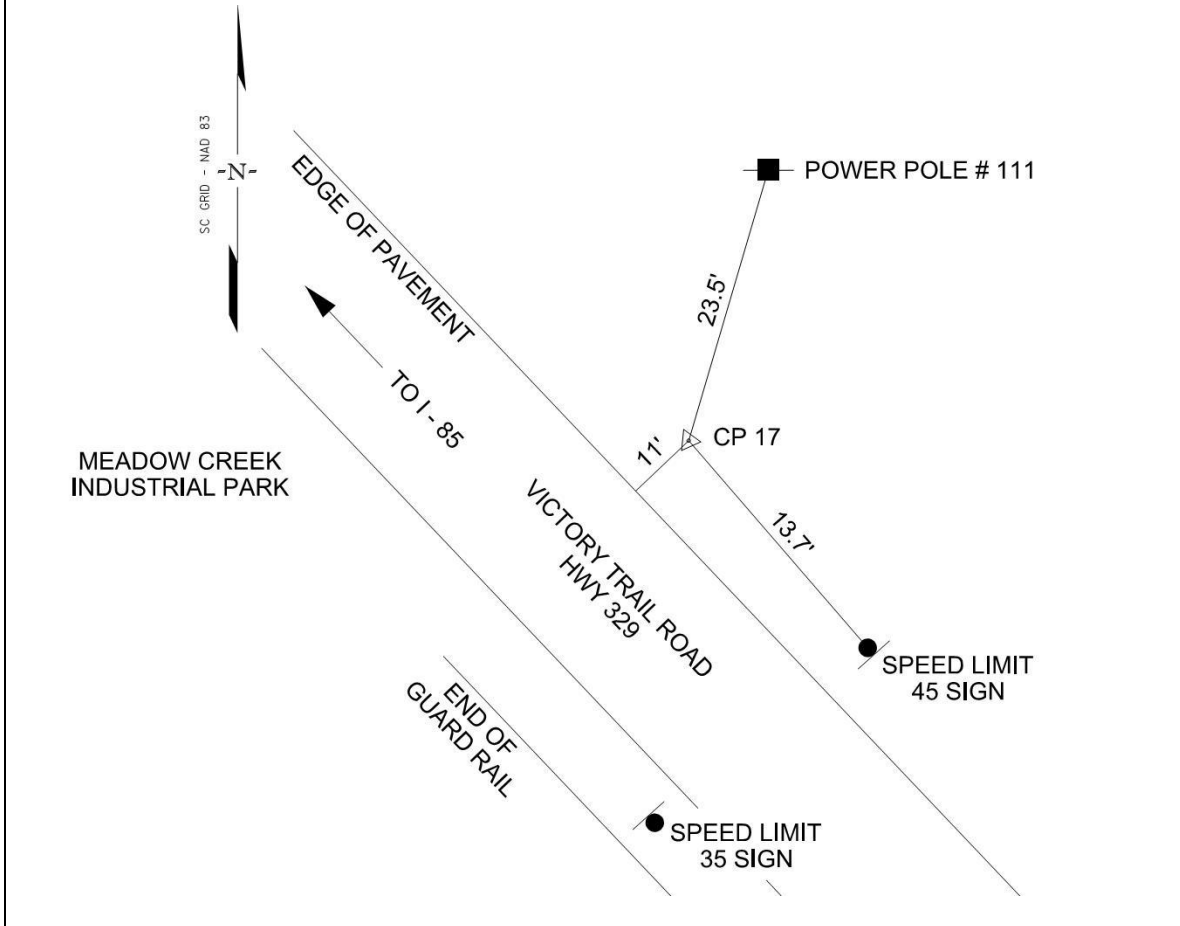
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1191104.881	Grid Easting (iFT) 1820904.044	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 693.93	Combined S.F.: 1.00007993

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-17 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 17.9 miles to exit 96. Then turn right onto Hwy 18 (Shelby Hwy) and go 0.1 miles. Then turn left onto Hwy 329 (Victory Trail Rd) and go 0.3 miles and the control point will be on the left.

Location Sketch:



# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-18**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

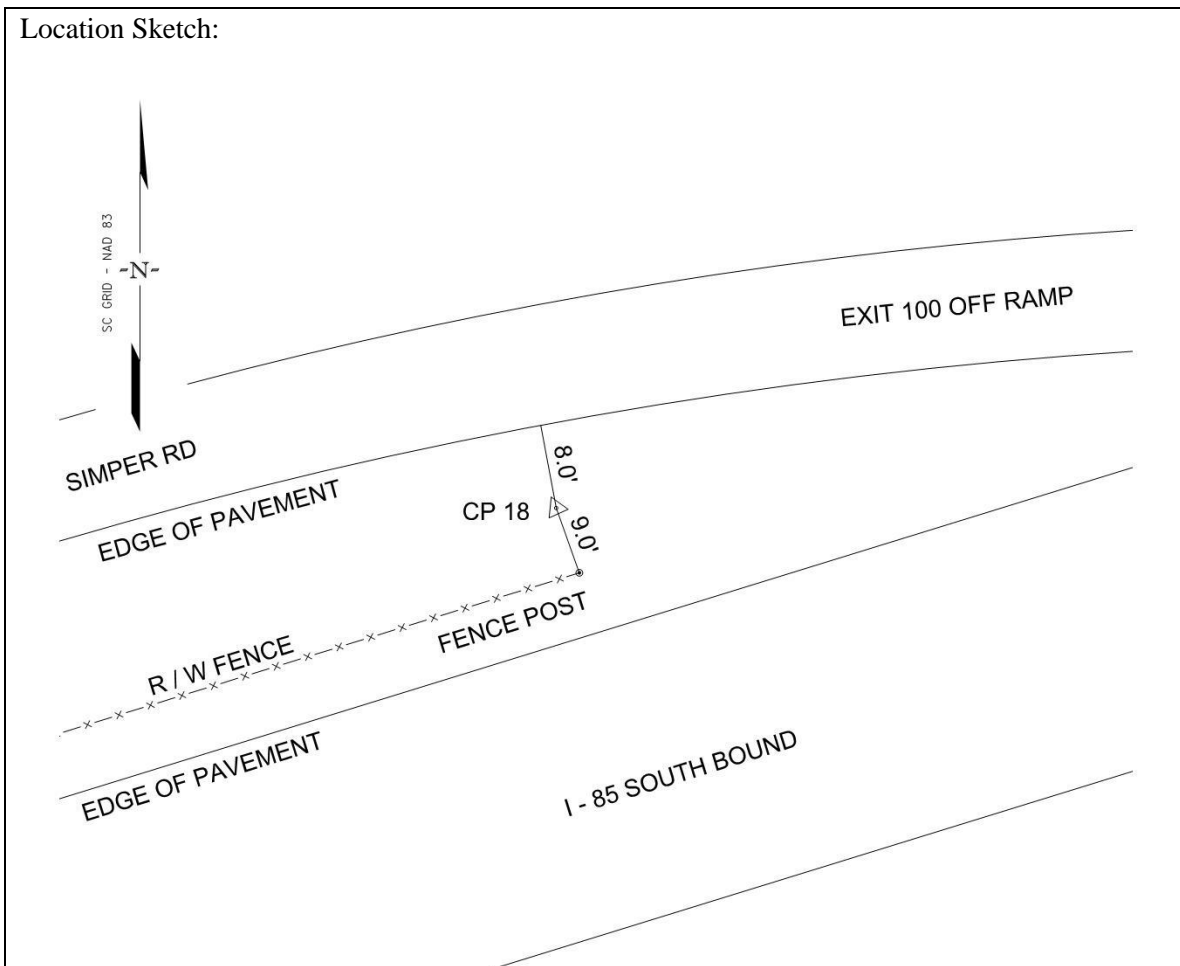
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1199950.641	Grid Easting (iFT) 1836033.918	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 583.33	Combined S.F.: 1.00009608

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-18 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 21.3 miles to exit 100. Then turn left onto Frontage Rd for 0.1 miles. Then turn left onto Blacksburg Hwy and go 0.1 miles to Simper Rd. Then turn right and go 0.2 mile and the control point is on the right in the gore.

Location Sketch:





# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-19**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

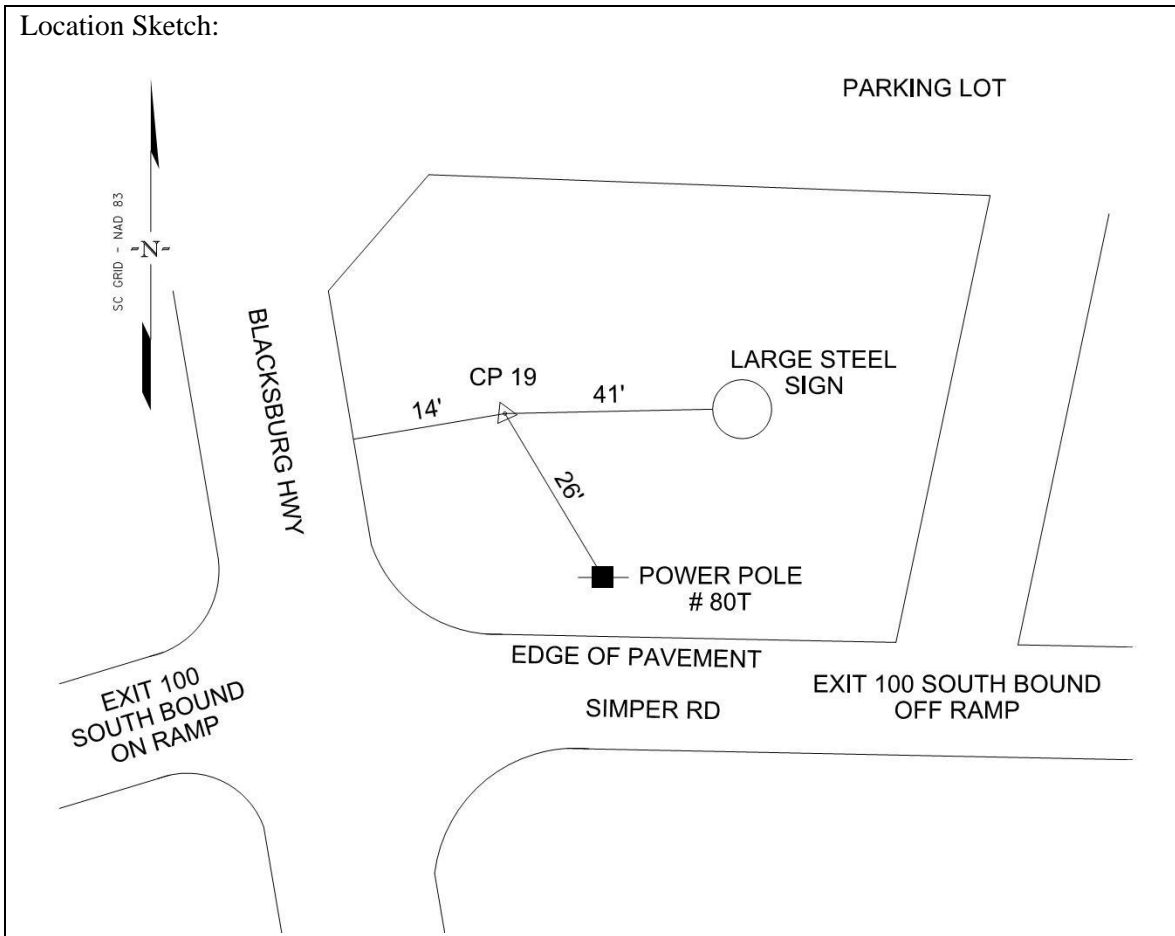
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1199864.813	Grid Easting (iFT) 1834936.444	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 608.82	Combined S.F.: 1.00009475

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-19 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 21.3 miles to exit 100. Then turn left onto Frontage Rd for 0.1 miles. Then turn left onto Blacksburg Hwy and go 0.1 miles and the control point is on the right.

Location Sketch:



# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-20**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

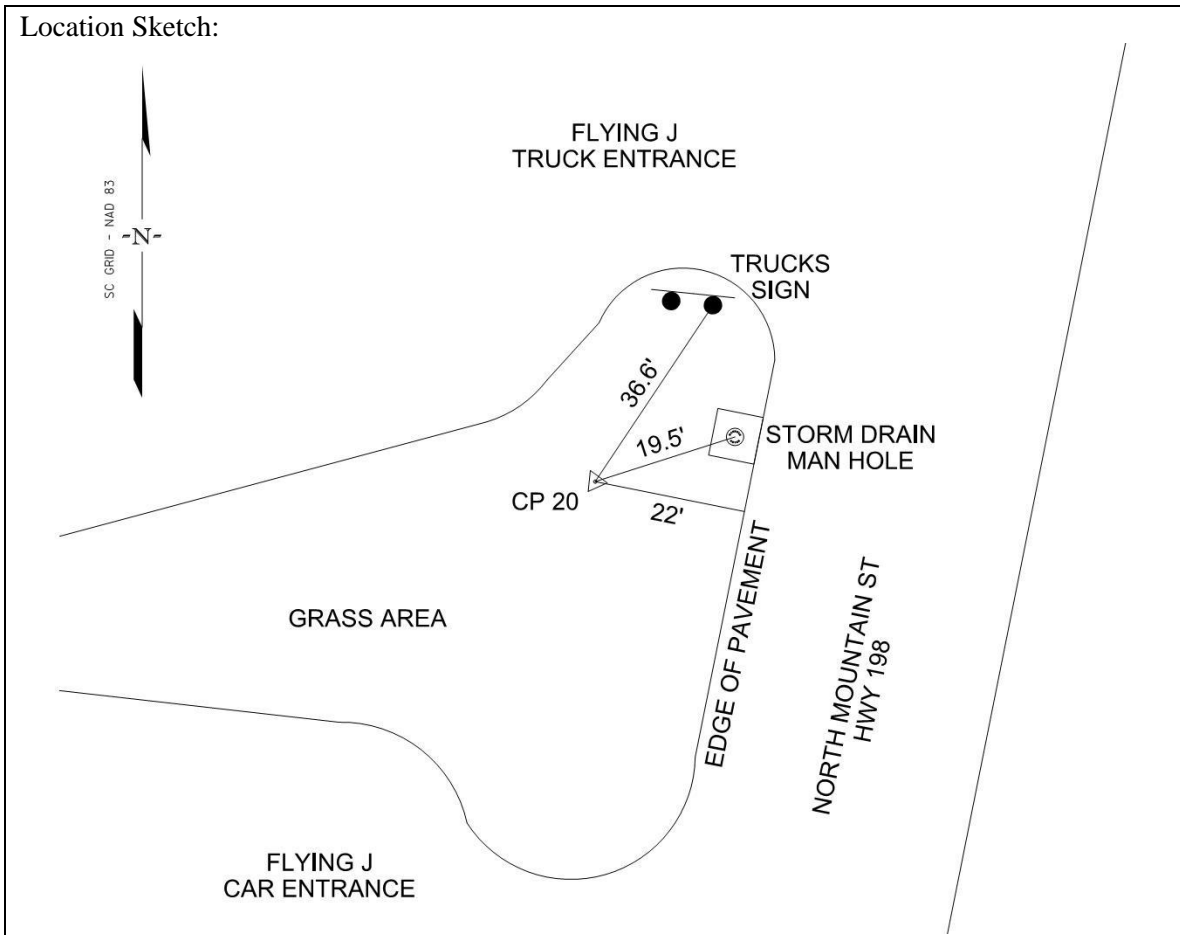
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1204472.930	Grid Easting (iFT) 1847987.907	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 833.02	Combined S.F.: 1.00008981

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-20 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 23.6 miles to exit 102. Then the exit will turn into State Rd S-11-352 go 0.3 miles to Hwy 5 (N Mountain St). Then turn left and go 0.2 mile and the control point is on the left in front of the Flying J Truck Stop.

Location Sketch:





# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-21**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

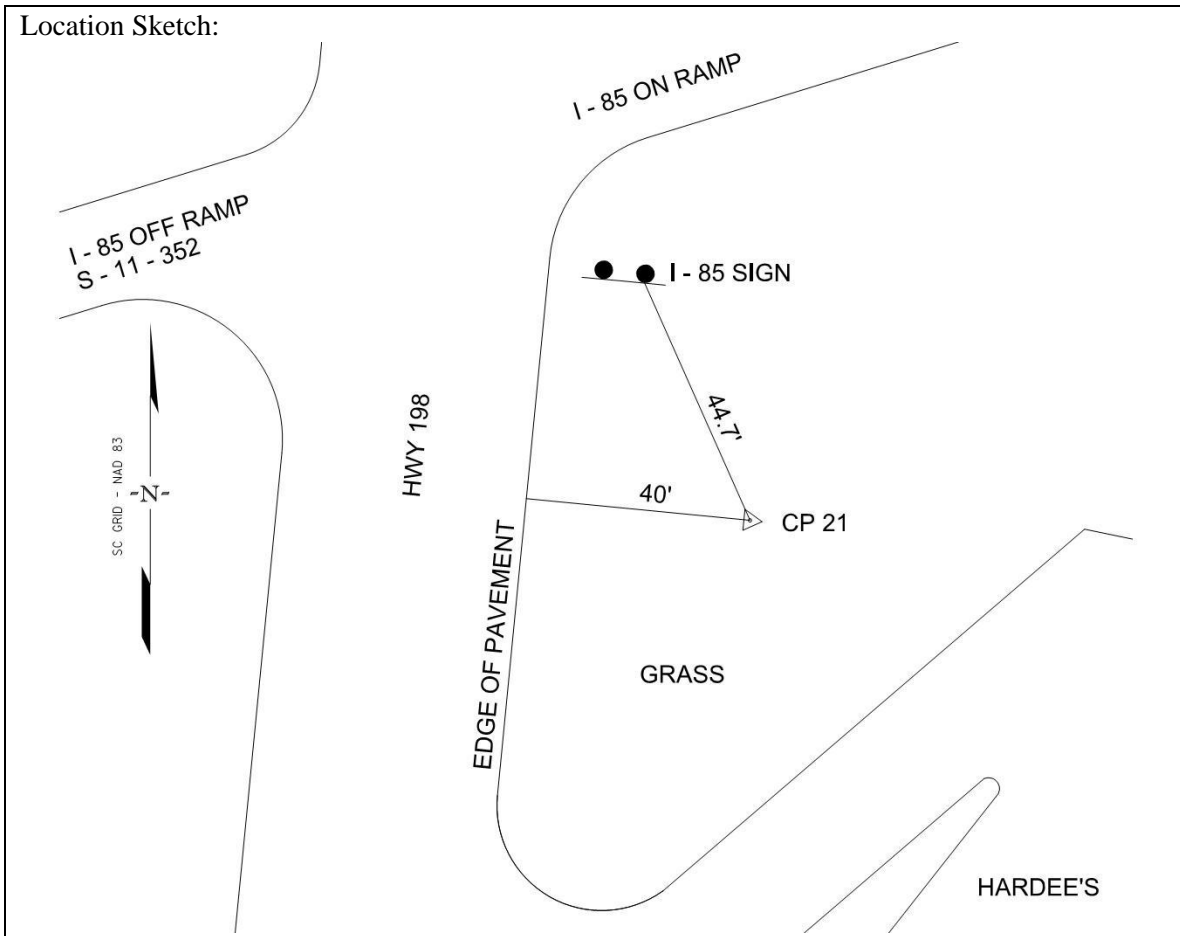
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1203517.296	Grid Easting (iFT) 1847954.877	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 858.50	Combined S.F.: 1.00008741

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-21 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 23.6 miles to exit 102. Then the exit will turn into State Rd S-11-352 go 0.3 miles to Hwy 5 (N Mountain St). The control point is across the street near Hardee's.

Location Sketch:



# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-22**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

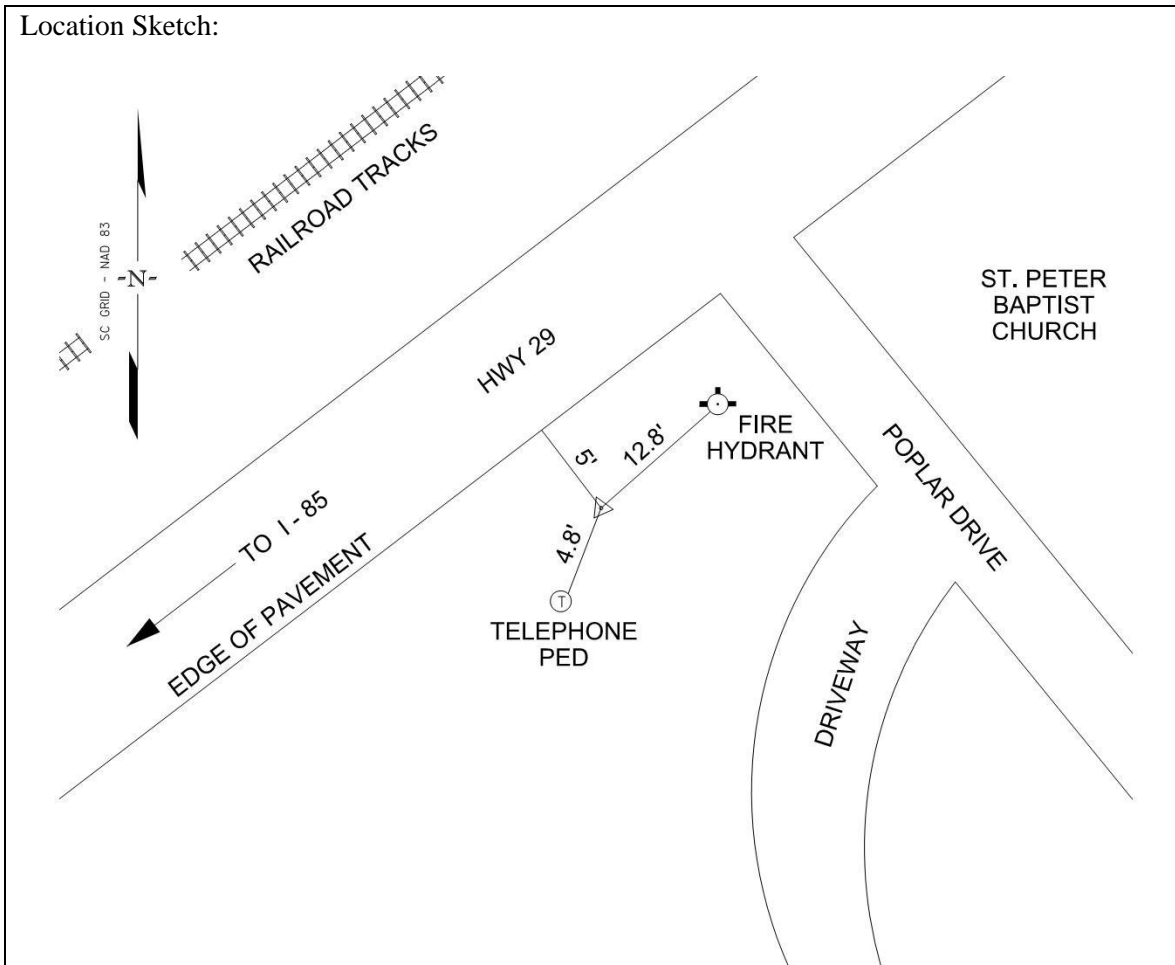
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1214544.473	Grid Easting (iFT) 1866449.245	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 874.07	Combined S.F.: 1.00010054

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-22 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 27.8 miles to exit 106. Then turn right on Hwy 29 (E Cherokee St) and go 0.6 miles and the control point is on the right in North Carolina.

Location Sketch:



# SCDOT Primary Survey Control Project: I-85

Station Designation: **CP-23**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via 10 min RTN (VRS) GNSS observation

Vertical value obtained via Digital leveling

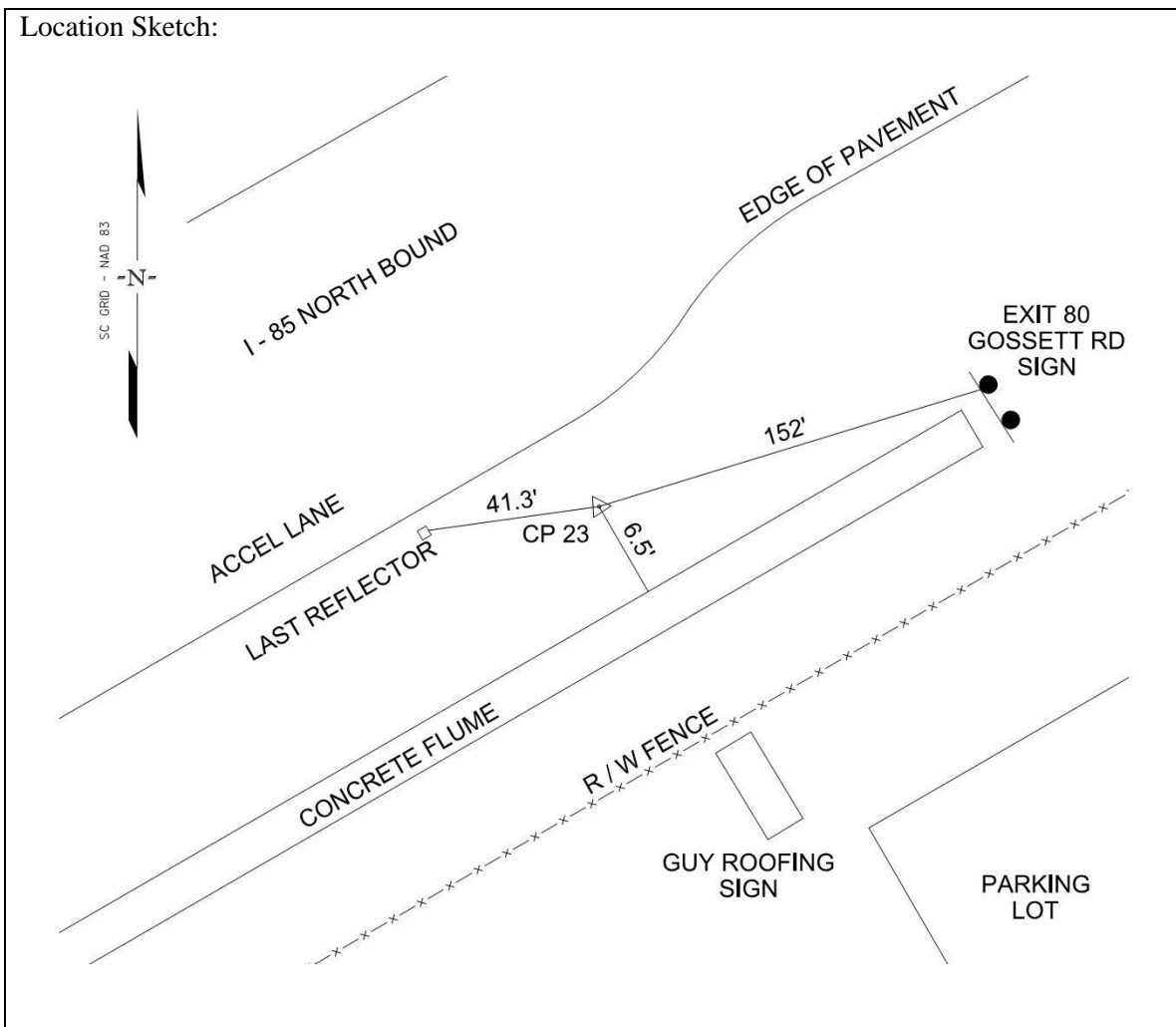
Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1160697.610	Grid Easting (iFT) 1732863.368	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 839.44	Combined S.F.: 1.00003665

Description of Station: 2" Aluminum Cap set flush with ground on 30" long #5 Rebar stamped SCDOT CP-23 with a cross in the middle.

To reach station from the intersection of HWY 221 (Chesnee Hwy) and I-85 Go Northeast on I-85 for 0.31 miles and the control point is on the right between I-85 and the R/W fence.

Location Sketch:



**SCDOT Primary Survey Control**  
**Project: I-85**

Station Designation: **Meadow**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via NGS Datasheet

Vertical value obtained via Digital leveling

Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1191760.73	Grid Easting (iFT) 1820037.92	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 704.78	Combined S.F.: 1.00008014

Description of Station:

See Attached NGS Datasheet

Location Sketch:

See Attached NGS Datasheet



**SCDOT Primary Survey Control**  
**Project: I-85**

Station Designation: **W 200** \_\_\_\_\_

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via NGS Datasheet

Vertical value obtained via Digital leveling

Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1213725.74	Grid Easting (iFT) 1865309.31	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 880.22	Combined S.F.: 1.00009912

Description of Station:

\_\_\_\_\_  
See Attached NGS Datasheet

Location Sketch:

See Attached NGS Datasheet

**SCDOT Primary Survey Control**  
**Project: I-85**

Station Designation: **Wilcox**

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via NGS Datasheet

Vertical value obtained via Digital leveling

Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1188245.00	Grid Easting (iFT) 1804002.79	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 778.63	Combined S.F.: 1.00007226

Description of Station:

See Attached NGS Datasheet

Location Sketch:

See Attached NGS Datasheet

**SCDOT Primary Survey Control**  
**Project: I-85**

Station Designation: **42 335** \_\_\_\_\_

By: CDM Smith

Date Monumented: Sept. 2014

CDM Smith Project # 104322/104329

Horizontal value obtained via NGS Datasheet

Vertical value obtained via Digital leveling

Horizontal and Vertical Accuracy: (Per specifications stated in SCDOT Pre-Construction Survey Manual, Section 3.05.01 dated October, 2012.)

Grid Northing (iFT) 1160227.96	Grid Easting (iFT) 1731651.06	Lat. (WGS 84) N/A	Long. (WGS 84) N/A
H. Datum; NAD 83 (2011)	V. Datum NAVD 88	Project Elevation (Ft) 824.9173	Combined S.F.: 1.00003672

Description of Station:

\_\_\_\_\_  
See Attached NGS Datasheet

Location Sketch:

See Attached NGS Datasheet

# The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.5
1      National Geodetic Survey, Retrieval Date = SEPTEMBER 22, 2014
FA1546 *****
FA1546 DESIGNATION - 42 336
FA1546 PID - FA1546
FA1546 STATE/COUNTY- SC/SPARTANBURG
FA1546 COUNTRY - US
FA1546 USGS QUAD - VALLEY FALLS (1983)
FA1546
FA1546 *CURRENT SURVEY CONTROL
FA1546
FA1546* NAD 83(2011) POSITION- 35 02 00.14911(N) 081 53 44.62345(W) ADJUSTED
FA1546* NAD 83(2011) ELLIP HT- 228.812 (meters) (06/27/12) ADJUSTED
FA1546* NAD 83(2011) EPOCH - 2010.00
FA1546* NAVD 88 ORTHO HEIGHT - 260.482 (meters) 854.60 (feet) ADJUSTED
FA1546
FA1546 NAD 83(2011) X - 737,086.503 (meters) COMP
FA1546 NAD 83(2011) Y - -5,176,273.439 (meters) COMP
FA1546 NAD 83(2011) Z - 3,641,030.653 (meters) COMP
FA1546 LAPLACE CORR - -0.34 (seconds) DEFLEC12A
FA1546 GEOID HEIGHT - -31.67 (meters) GEOID12A
FA1546 DYNAMIC HEIGHT - 260.223 (meters) 853.75 (feet) COMP
FA1546 MODELED GRAVITY - 979,633.7 (mgal) NAVD 88
FA1546
FA1546 VERT ORDER - FIRST CLASS II
FA1546
FA1546 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FA1546 Type Horiz Ellip Dist(km)
FA1546 -----
FA1546 NETWORK 1.11 1.53
FA1546 -----
FA1546 MEDIAN LOCAL ACCURACY AND DIST (008 points) 1.15 2.75 3.20
FA1546 -----
FA1546 NOTE: Click here for information on individual local accuracy
FA1546 values and other accuracy information.
FA1546
FA1546
FA1546.The horizontal coordinates were established by GPS observations
FA1546.and adjusted by the National Geodetic Survey in June 2012.
FA1546
FA1546.NAD 83(2011) refers to NAD 83 coordinates where the reference
FA1546.frame has been affixed to the stable North American tectonic plate. See
FA1546.NA2011 for more information.
FA1546
FA1546.The horizontal coordinates are valid at the epoch date displayed above
FA1546.which is a decimal equivalence of Year/Month/Day.
FA1546
FA1546.The orthometric height was determined by differential leveling and
FA1546.adjusted by the NATIONAL GEODETIC SURVEY
FA1546.in June 1991.
FA1546
FA1546.Photographs are available for this station.

```



# The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.5
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 22, 2014
FA1544 *****
FA1544 DESIGNATION - 42 335
FA1544 PID - FA1544
FA1544 STATE/COUNTY- SC/SPARTANBURG
FA1544 COUNTRY - US
FA1544 USGS QUAD - VALLEY FALLS (1983)
FA1544
FA1544 *CURRENT SURVEY CONTROL
FA1544
FA1544* NAD 83(2011) POSITION- 35 01 07.69266(N) 081 53 46.09197(W) ADJUSTED
FA1544* NAD 83(2011) ELLIP HT- 219.800 (meters) (06/27/12) ADJUSTED
FA1544* NAD 83(2011) EPOCH - 2010.00
FA1544* NAVD 88 ORTHO HEIGHT - 251.467 (meters) 825.02 (feet) ADJUSTED
FA1544 Project Elev 824.92
FA1544 NAD 83(2011) X - 737,179.407 (meters) COMP
FA1544 NAD 83(2011) Y - -5,177,189.965 (meters) COMP
FA1544 NAD 83(2011) Z - 3,639,701.658 (meters) COMP
FA1544 LAPLACE CORR - -0.39 (seconds) DEFLEC12A
FA1544 GEOID HEIGHT - -31.64 (meters) GEOID12A
FA1544 DYNAMIC HEIGHT - 251.217 (meters) 824.20 (feet) COMP
FA1544 MODELED GRAVITY - 979,634.5 (mgal) NAVD 88
FA1544
FA1544 VERT ORDER - FIRST CLASS II
FA1544
FA1544 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FA1544 Type Horiz Ellip Dist(km)
FA1544 -----
FA1544 NETWORK 1.09 1.49
FA1544 -----
FA1544 MEDIAN LOCAL ACCURACY AND DIST (005 points) 0.85 1.18 2.17
FA1544 -----
FA1544 NOTE: Click here for information on individual local accuracy
FA1544 values and other accuracy information.
FA1544
FA1544
FA1544.The horizontal coordinates were established by GPS observations
FA1544.and adjusted by the National Geodetic Survey in June 2012.
FA1544
FA1544.NAD 83(2011) refers to NAD 83 coordinates where the reference
FA1544.frame has been affixed to the stable North American tectonic plate. See
FA1544.NA2011 for more information.
FA1544
FA1544.The horizontal coordinates are valid at the epoch date displayed above
FA1544.which is a decimal equivalence of Year/Month/Day.
FA1544
FA1544.The orthometric height was determined by differential leveling and
FA1544.adjusted by the NATIONAL GEODETIC SURVEY
FA1544.in June 1991.
FA1544
FA1544.Photographs are available for this station.

```

# The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.5
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 22, 2014
FA1434 *****
FA1434 DESIGNATION - COWPENS
FA1434 PID - FA1434
FA1434 STATE/COUNTY- SC/SPARTANBURG
FA1434 COUNTRY - US
FA1434 USGS QUAD - COWPENS (1983)
FA1434
FA1434 *CURRENT SURVEY CONTROL
FA1434
FA1434* NAD 83(2011) POSITION- 35 01 55.21320(N) 081 48 41.50873(W) ADJUSTED
FA1434* NAD 83(2011) ELLIP HT- 242.350 (meters) (06/27/12) ADJUSTED
FA1434* NAD 83(2011) EPOCH - 2010.00
FA1434* NAVD 88 ORTHO HEIGHT - 274.048 (meters) 899.11 (feet) ADJUSTED
FA1434
FA1434 NAD 83(2011) X - 744,706.470 (meters) COMP
FA1434 NAD 83(2011) Y - -5,175,282.074 (meters) COMP
FA1434 NAD 83(2011) Z - 3,640,913.869 (meters) COMP
FA1434 LAPLACE CORR - 0.31 (seconds) DEFLEC12A
FA1434 GEOID HEIGHT - -31.67 (meters) GEOID12A
FA1434 DYNAMIC HEIGHT - 273.777 (meters) 898.22 (feet) COMP
FA1434 MODELED GRAVITY - 979,637.0 (mgal) NAVD 88
FA1434
FA1434 VERT ORDER - FIRST CLASS II
FA1434
FA1434 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FA1434 Type Horiz Ellip Dist(km)
FA1434 -----
FA1434 NETWORK 1.25 1.59
FA1434 -----
FA1434 MEDIAN LOCAL ACCURACY AND DIST (002 points) 0.86 1.15 2.55
FA1434 -----
FA1434 NOTE: Click here for information on individual local accuracy
FA1434 values and other accuracy information.
FA1434
FA1434
FA1434.The horizontal coordinates were established by GPS observations
FA1434.and adjusted by the National Geodetic Survey in June 2012.
FA1434
FA1434.NAD 83(2011) refers to NAD 83 coordinates where the reference
FA1434.frame has been affixed to the stable North American tectonic plate. See
FA1434.NA2011 for more information.
FA1434
FA1434.The horizontal coordinates are valid at the epoch date displayed above
FA1434.which is a decimal equivalence of Year/Month/Day.
FA1434
FA1434.The orthometric height was determined by differential leveling and
FA1434.adjusted by the NATIONAL GEODETIC SURVEY
FA1434.in June 1991.
FA1434
FA1434.Photographs are available for this station.

```

# The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.5
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 22, 2014
FA4408 *****
FA4408 HT_MOD      -   This is a Height Modernization Survey Station.
FA4408 DESIGNATION -   MEADOW
FA4408 PID         -   FA4408
FA4408 STATE/COUNTY-   SC/CHEROKEE
FA4408 COUNTRY     -   US
FA4408 USGS QUAD   -   BLACKSBURG SOUTH (1971)
FA4408
FA4408                                *CURRENT SURVEY CONTROL
FA4408
FA4408* NAD 83(2011) POSITION- 35 06 25.86870(N) 081 36 05.74136(W) ADJUSTED
FA4408* NAD 83(2011) ELLIP HT- 183.137 (meters) (06/27/12) ADJUSTED
FA4408* NAD 83(2011) EPOCH   - 2010.00
FA4408* NAVD 88 ORTHO HEIGHT - 214.83 (meters) 704.8 (feet) GPS OBS
FA4408                                Project Elev 704.78
FA4408 NAVD 88 orthometric height was determined with geoid model GEOID09
FA4408 GEOID HEIGHT      -      -31.64 (meters) GEOID09
FA4408 GEOID HEIGHT      -      -31.65 (meters) GEOID12A
FA4408 NAD 83(2011) X    -      762,956.932 (meters) COMP
FA4408 NAD 83(2011) Y    -     -5,167,729.574 (meters) COMP
FA4408 NAD 83(2011) Z    -      3,647,706.674 (meters) COMP
FA4408 LAPLACE CORR      -           0.84 (seconds) DEFLEC12A
FA4408
FA4408 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FA4408 Type                                     Horiz Ellip Dist(km)
FA4408 -----
FA4408 NETWORK                                     1.03 1.22
FA4408 -----
FA4408 MEDIAN LOCAL ACCURACY AND DIST (007 points) 1.14 1.76 6.07
FA4408 -----
FA4408 NOTE: Click here for information on individual local accuracy
FA4408 values and other accuracy information.
FA4408
FA4408
FA4408.The horizontal coordinates were established by GPS observations
FA4408.and adjusted by the National Geodetic Survey in June 2012.
FA4408
FA4408.NAD 83(2011) refers to NAD 83 coordinates where the reference
FA4408.frame has been affixed to the stable North American tectonic plate. See
FA4408.NA2011 for more information.
FA4408
FA4408.The horizontal coordinates are valid at the epoch date displayed above
FA4408.which is a decimal equivalence of Year/Month/Day.
FA4408
FA4408.The orthometric height was determined by GPS observations and a
FA4408.high-resolution geoid model using precise GPS observation and
FA4408.processing techniques.
FA4408
FA4408.Photographs are available for this station.
FA4408

```

# The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.5
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 22, 2014
DN5530 *****
DN5530 HT_MOD      -   This is a Height Modernization Survey Station.
DN5530 DESIGNATION -   UNICORN
DN5530 PID         -   DN5530
DN5530 STATE/COUNTY-   SC/CHEROKEE
DN5530 COUNTRY     -   US
DN5530 USGS QUAD   -   GAFFNEY (1971)
DN5530
DN5530                      *CURRENT SURVEY CONTROL
DN5530
DN5530* NAD 83(2011) POSITION- 35 04 37.32919(N) 081 43 45.39393(W) ADJUSTED
DN5530* NAD 83(2011) ELLIP HT- 193.085 (meters) (06/27/12) ADJUSTED
DN5530* NAD 83(2011) EPOCH   - 2010.00
DN5530* NAVD 88 ORTHO HEIGHT - 224.81 (meters) 737.6 (feet) GPS OBS
DN5530                      Project Elev 737.53
DN5530 NAVD 88 orthometric height was determined with geoid model GEOID09
DN5530 GEOID HEIGHT      -      -31.68 (meters) GEOID09
DN5530 GEOID HEIGHT      -      -31.69 (meters) GEOID12A
DN5530 NAD 83(2011) X    -      751,716.774 (meters) COMP
DN5530 NAD 83(2011) Y    -     -5,171,328.025 (meters) COMP
DN5530 NAD 83(2011) Z    -      3,644,975.423 (meters) COMP
DN5530 LAPLACE CORR      -           1.37 (seconds) DEFLEC12A
DN5530
DN5530 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
DN5530 Type                      Horiz Ellip Dist(km)
DN5530 -----
DN5530 NETWORK                      1.02 1.08
DN5530 -----
DN5530 MEDIAN LOCAL ACCURACY AND DIST (003 points) 0.71 0.73 2.37
DN5530 -----
DN5530 NOTE: Click here for information on individual local accuracy
DN5530 values and other accuracy information.
DN5530
DN5530
DN5530.The horizontal coordinates were established by GPS observations
DN5530.and adjusted by the National Geodetic Survey in June 2012.
DN5530
DN5530.NAD 83(2011) refers to NAD 83 coordinates where the reference
DN5530.frame has been affixed to the stable North American tectonic plate. See
DN5530.NA2011 for more information.
DN5530
DN5530.The horizontal coordinates are valid at the epoch date displayed above
DN5530.which is a decimal equivalence of Year/Month/Day.
DN5530
DN5530.The orthometric height was determined by GPS observations and a
DN5530.high-resolution geoid model using precise GPS observation and
DN5530.processing techniques.
DN5530
DN5530.Photographs are available for this station.
DN5530

```

# The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.5
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 22, 2014
DN5534 *****
DN5534 HT_MOD      -   This is a Height Modernization Survey Station.
DN5534 DESIGNATION -   WILCOX
DN5534 PID         -   DN5534
DN5534 STATE/COUNTY-   SC/CHEROKEE
DN5534 COUNTRY     -   US
DN5534 USGS QUAD   -   GAFFNEY (1971)
DN5534
DN5534                                *CURRENT SURVEY CONTROL
DN5534
DN5534* NAD 83(2011) POSITION- 35 05 50.13643(N) 081 39 18.44193(W) ADJUSTED
DN5534* NAD 83(2011) ELLIP HT- 205.632 (meters) (06/27/12) ADJUSTED
DN5534* NAD 83(2011) EPOCH   - 2010.00
DN5534* NAVD 88 ORTHO HEIGHT - 237.33 (meters) 778.6 (feet) GPS OBS
DN5534                                Project Elev 778.63
DN5534 NAVD 88 orthometric height was determined with geoid model GEOID09
DN5534 GEOID HEIGHT      -      -31.66 (meters) GEOID09
DN5534 GEOID HEIGHT      -      -31.66 (meters) GEOID12A
DN5534 NAD 83(2011) X    -      758,223.280 (meters) COMP
DN5534 NAD 83(2011) Y    -    -5,169,084.842 (meters) COMP
DN5534 NAD 83(2011) Z    -      3,646,818.682 (meters) COMP
DN5534 LAPLACE CORR      -           0.77 (seconds) DEFLEC12A
DN5534
DN5534 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
DN5534 Type                                     Horiz Ellip Dist(km)
DN5534 -----
DN5534 NETWORK                                     0.89 1.04
DN5534 -----
DN5534 MEDIAN LOCAL ACCURACY AND DIST (003 points) 0.63 0.82 2.73
DN5534 -----
DN5534 NOTE: Click here for information on individual local accuracy
DN5534 values and other accuracy information.
DN5534
DN5534
DN5534.The horizontal coordinates were established by GPS observations
DN5534.and adjusted by the National Geodetic Survey in June 2012.
DN5534
DN5534.NAD 83(2011) refers to NAD 83 coordinates where the reference
DN5534.frame has been affixed to the stable North American tectonic plate. See
DN5534.NA2011 for more information.
DN5534
DN5534.The horizontal coordinates are valid at the epoch date displayed above
DN5534.which is a decimal equivalence of Year/Month/Day.
DN5534
DN5534.The orthometric height was determined by GPS observations and a
DN5534.high-resolution geoid model using precise GPS observation and
DN5534.processing techniques.
DN5534
DN5534.Photographs are available for this station.
DN5534

```



# The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.5
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 22, 2014
FA1473 *****
FA1473 CBN          -   This is a Cooperative Base Network Control Station.
FA1473 DESIGNATION -   W 200
FA1473 PID          -   FA1473
FA1473 STATE/COUNTY-   SC/CHEROKEE
FA1473 COUNTRY      -   US
FA1473 USGS QUAD     -   GROVER (1993)
FA1473
FA1473                      *CURRENT SURVEY CONTROL
FA1473
FA1473* NAD 83(2011) POSITION- 35 10 05.36268(N) 081 27 02.08636(W) ADJUSTED
FA1473* NAD 83(2011) ELLIP HT- 236.689 (meters) (06/27/12) ADJUSTED
FA1473* NAD 83(2011) EPOCH   - 2010.00
FA1473* NAVD 88 ORTHO HEIGHT - 268.292 (meters) 880.22 (feet) ADJUSTED
FA1473
FA1473 NAD 83(2011) X  - 776,002.653 (meters) COMP
FA1473 NAD 83(2011) Y  - -5,161,894.006 (meters) COMP
FA1473 NAD 83(2011) Z  - 3,653,269.298 (meters) COMP
FA1473 LAPLACE CORR    - 2.35 (seconds) DEFLEC12A
FA1473 GEOID HEIGHT    - -31.58 (meters) GEOID12A
FA1473 DYNAMIC HEIGHT  - 268.029 (meters) 879.36 (feet) COMP
FA1473 MODELED GRAVITY  - 979,644.7 (mgal) NAVD 88
FA1473
FA1473 VERT ORDER      - FIRST CLASS II
FA1473
FA1473 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
FA1473 Type              Horiz Ellip Dist(km)
FA1473 -----
FA1473 NETWORK              0.39 0.69
FA1473 -----
FA1473 MEDIAN LOCAL ACCURACY AND DIST (039 points) 0.55 0.90 17.41
FA1473 -----
FA1473 NOTE: Click here for information on individual local accuracy
FA1473 values and other accuracy information.
FA1473
FA1473
FA1473.The horizontal coordinates were established by GPS observations
FA1473.and adjusted by the National Geodetic Survey in June 2012.
FA1473
FA1473.NAD 83(2011) refers to NAD 83 coordinates where the reference
FA1473.frame has been affixed to the stable North American tectonic plate. See
FA1473.NA2011 for more information.
FA1473
FA1473.The horizontal coordinates are valid at the epoch date displayed above
FA1473.which is a decimal equivalence of Year/Month/Day.
FA1473
FA1473.The orthometric height was determined by differential leveling and
FA1473.adjusted by the NATIONAL GEODETIC SURVEY
FA1473.in June 1991.
FA1473

```

# The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.5
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 22, 2014
FA0760 *****
FA0760 DESIGNATION -   F 40
FA0760 PID          -   FA0760
FA0760 STATE/COUNTY-  NC/CLEVELAND
FA0760 COUNTRY      -   US
FA0760 USGS QUAD    -   GROVER (1993)
FA0760
FA0760                                *CURRENT SURVEY CONTROL
FA0760
FA0760* NAD 83(1986) POSITION- 35 10 11.      (N) 081 26 54.      (W)   SCALED
FA0760* NAVD 88 ORTHO HEIGHT -   267.345 (meters)      877.11   (feet) ADJUSTED
FA0760
FA0760 GEOID HEIGHT   -           -31.58 (meters)                        GEOID12A
FA0760 DYNAMIC HEIGHT -           267.082 (meters)      876.25   (feet) COMP
FA0760 MODELED GRAVITY -   979,644.6 (mgal)                        NAVD 88
FA0760
FA0760 VERT ORDER      -   FIRST      CLASS II
FA0760
FA0760.The horizontal coordinates were scaled from a topographic map and have
FA0760.an estimated accuracy of +/- 6 seconds.
FA0760.
FA0760.The orthometric height was determined by differential leveling and
FA0760.adjusted by the NATIONAL GEODETIC SURVEY
FA0760.in June 1991.
FA0760
FA0760.The dynamic height is computed by dividing the NAVD 88
FA0760.geopotential number by the normal gravity value computed on the
FA0760.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
FA0760.degrees latitude (g = 980.6199 gals.).
FA0760
FA0760.The modeled gravity was interpolated from observed gravity values.
FA0760
FA0760;              North      East      Units  Estimated Accuracy
FA0760;SPC NC      -   160,240.    386,610.    MT   (+/- 180 meters Scaled)
FA0760
FA0760                                SUPERSEDED SURVEY CONTROL
FA0760
FA0760 NGVD 29 (??/??/92)  267.559 (m)      877.82   (f) ADJ UNCH      1 2
FA0760
FA0760.Superseded values are not recommended for survey control.
FA0760
FA0760.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
FA0760.See file dsdata.txt to determine how the superseded data were derived.
FA0760
FA0760_U.S. NATIONAL GRID SPATIAL ADDRESS: 17SMU591919(NAD 83)
FA0760
FA0760_MARKER: DB = BENCH MARK DISK
FA0760_SETTING: 36 = SET IN A MASSIVE STRUCTURE
FA0760_SP_SET: BUILDING
FA0760_STAMPING: 877.859 F 40 1932

```

**SCDOT I-85****Aerial Mapping Survey Control by CDM Smith**

<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Code</u>	<u>Note</u>
T001	1213819.318	1868382.253	833.46	TARGET	
T002	1213909.399	1868351.76	833.51	TARGET	
T003	1213563.349	1867465.856	825.74	TARGET	
T004	1213660.511	1867434.614	826.49	TARGET	
T005	1213273.939	1866609.705	818.31	TARGET	
T006	1213342.08	1866515.063	821.64	TARGET	
T007	1212816.902	1865910.549	843.43	TARGET	
T008	1212979.851	1865815.165	834.97	TARGET	
T009	1212452.219	1865524.822	843.02	TARGET	
T010	1212759.276	1865424.011	842.13	TARGET	
T011	1212061.093	1865275.32	857.3	TARGET	
T012	1213654.028	1865320.534	880.16	TARGET	
T013	1212310.415	1865095.609	848.14	TARGET	
T014	1210935.47	1865078.752	855.46	TARGET	
T015	1213177.357	1864937.633	877.78	TARGET	
T016	1211570.216	1864892.249	871.91	TARGET	
T017	1212029.335	1864842.332	869.31	TARGET	
T018	1212482.268	1864720.201	870.63	TARGET	
T019	1212614.844	1864503.244	869.43	TARGET	
T020	1211780.541	1864340.066	840.57	TARGET	
T021	1211873.719	1864294.129	840.9	TARGET	
T022	1212034.974	1864087.599	849.9	TARGET	
T023	1211121.356	1863454.353	818.46	TARGET	
T024	1211216.192	1863393.503	819.35	TARGET	
T025	1210523.975	1862333.709	839.11	TARGET	
T026	1210622.94	1862289.895	834.48	TARGET	
T027	1210582.188	1860903.061	878.23	TARGET	
T028	1210480.783	1860892.384	879.72	TARGET	
T029	1210938.758	1860908.166	852.2	TARGET	
T030	1211010.698	1860694.403	847.92	TARGET	
T031 BS	1210841.182	1860297.301	856.46	TARGET	
T032	1210597.391	1860378.932	888.41	TARGET	
T033 BS	1210292.966	1859733.226	852.81	TARGET	
T033A BS	1210319.689	1859879.412	?	TARGET	Did not Level
T034	1210889.005	1859531.445	861.51	TARGET	
T035	1210788.6	1859525.719	858.81	TARGET	
T036	1210775.989	1858299.829	825.1	TARGET	
T037	1210876.697	1858280.807	831.38	TARGET	
T038	1210282.474	1857262.673	831.56	TARGET	



<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Code</u>	<u>Note</u>
T039	1210406.966	1857215.272	833.99	TARGET	
T040	1210214.532	1856855.039	834.42	TARGET	
T041	1208609.067	1856881.975	851.99	TARGET	
T042	1209862.499	1856800.676	837.75	TARGET	
T043	1209318.173	1856652.567	851.32	TARGET	
T044	1209932.128	1856482.823	854.46	TARGET	
T045	1210275.579	1856388.358	841.55	TARGET	
T046	1209529.725	1856207.157	834.82	TARGET	
T047	1210940.245	1856037.234	821.06	TARGET	
T048	1209721.61	1855948.793	829.44	TARGET	
T049	1208968.505	1855556.163	829.81	TARGET	
T050	1209155.719	1855429.12	829.87	TARGET	
T051	1208114.924	1854384.809	798.67	TARGET	
T052	1208301.971	1854259.222	794.58	TARGET	
T053	1207265.14	1853216.102	836.88	TARGET	
T054	1207459.751	1853102.234	826.84	TARGET	
T055	1206423.9	1852059.205	834.15	TARGET	
T056	1206576.211	1851975.135	825.17	TARGET	
T057	1205637.31	1850856.232	784.83	TARGET	
T058	1205735.999	1850802.62	785.11	TARGET	
T059	1204919.106	1849847.812	815.95	TARGET	
T060	1205011.239	1849790.477	814.43	TARGET	
T061	1204668.941	1849215.081	841.92	TARGET	
T062	1204408.952	1849065.414	848.84	TARGET	
T063	1204403.055	1848547.96	854.67	TARGET	
T064	1204040.172	1848549.236	869.94	TARGET	
T065	1203795.983	1848213.878	865.43	TARGET	
T066	1205136.692	1848057.622	802.35	TARGET	
T067	1204386.631	1848025.582	834.6	TARGET	
T068	1204075.639	1847954.107	841.02	TARGET	
T069	1203551.279	1847799.756	847.42	TARGET	
T070	1203065.443	1847771.054	863.19	TARGET	
T071	1202346.746	1847686.99	877.77	TARGET	
T072	1203715.175	1847292.934	801.91	TARGET	
T073	1203125.984	1847240.873	809.44	TARGET	
T074	1203404.746	1846724.946	763.08	TARGET	
T075	1202996.406	1846583.714	775.38	TARGET	
T076	1202644.063	1845593.224	748.07	TARGET	
T077A	1202878.647	1845719.325	730.54	TARGET	
T077B	1202738.332	1845287.43	724.7	TARGET	
T078	1202221.977	1844215.797	705.79	TARGET	
T079	1202409.838	1844152.395	704.62	TARGET	
T080	1201729.8	1842868.751	682.83	TARGET	
T080A	1201813.612	1842828.714	665.31	TARGET	
T081	1201997.012	1842758.204	664.29	TARGET	

<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Code</u>	<u>Note</u>
T082	1200975.048	1841646.454	651.39	TARGET	
T083	1201423.61	1841441.235	612.45	TARGET	
T084	1201475.402	1841314.428	608.84	TARGET	
T085	1201995.398	1841123.765	629.36	TARGET	
T086	1201002.663	1840063.244	582.65	TARGET	
T087	1201098.603	1840030.03	583.36	TARGET	
T088	1200597.116	1838682.209	582.31	TARGET	
T089	1200694.542	1838656.132	583.05	TARGET	
T090	1200192.149	1837301.593	583.91	TARGET	
T091	1200288.79	1837267.021	583.61	TARGET	
T092	1199717.872	1835790.308	583.57	TARGET	
T093	1199875.468	1835728.505	589.88	TARGET	
T094	1198749.237	1835420.238	584.42	TARGET	
T095	1199801.765	1835278.058	595.4	TARGET	
T096	1199631.526	1835018.804	610.82	TARGET	
T097	1199319.617	1835095.503	602.37	TARGET	
T098	1199873.257	1834913.528	609.74	TARGET	
T099	1200450.501	1834637.513	623.84	TARGET	
T100	1199259.449	1834638.078	592.76	TARGET	
T101	1199493.439	1834592.685	592.19	TARGET	
T102	1198892.998	1833792.183	593.66	TARGET	
T103	1199059.043	1833733.346	607.36	TARGET	
T104	1198366.108	1832458.694	589.07	TARGET	
T105	1198518.242	1832404.401	597.25	TARGET	
T106	1197831.106	1831114.823	579.73	TARGET	
T107	1197983.216	1831056.036	599.23	TARGET	
T108	1197357.123	1829974.019	608.82	TARGET	
T109	1197524.011	1829928.728	616.96	TARGET	
T110	1196723.056	1828957.785	582.08	TARGET	
T111	1196861.864	1828857.931	587.05	TARGET	
T112	1195849.715	1828027.198	563.8	TARGET	
T113	1195995.611	1827928.709	585.21	TARGET	
T114	1195306.84	1827375.825	586.72	TARGET	
T115	1194830.702	1826900.913	582.31	TARGET	
T116	1194901.737	1826830.493	582.82	TARGET	
T117	1193856.871	1825925.955	580.9	TARGET	
T118	1193928.299	1825856.272	580.93	TARGET	
T119	1193165.042	1825261.851	600.56	TARGET	
T120	1193294.717	1825036.47	606.32	TARGET	
T121	1192768.051	1823457.07	643.75	TARGET	
T122	1192967.702	1823446.436	656.02	TARGET	
T123	1192740.228	1822034.432	687.56	TARGET	
T124	1192994.121	1822042.718	?	TARGET	Did not Level
T124A	1192919.387	1822036.863	695.44	TARGET	
T125	1192755.95	1820440.021	724.18	TARGET	

Did not Level



<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Code</u>	<u>Note</u>
T126	1192944.602	1820409.638	725.33	TARGET	
T127	1192357.401	1820442.901	726.23	TARGET	
T128	1191550.247	1820317.097	691.83	TARGET	
T129	1193938.724	1820111.186	707.79	TARGET	
T130	1193310.109	1819881.172	725.29	TARGET	
T131	1191759.593	1819792.443	707.11	TARGET	
T132	1192376.556	1819731.737	725.23	TARGET	
T133	1193132.945	1819570.979	720.6	TARGET	
T134	1192632.524	1819392.822	707	TARGET	
T135	1192364.093	1819295.796	715.23	TARGET	
T136	1191908.641	1819045.755	696.95	TARGET	
T137	1192023.416	1818372.692	678.94	TARGET	
T138	1192376.746	1818280.527	696.45	TARGET	
T139	1191587.76	1817038.42	621.05	TARGET	
T140	1191825.412	1816973.964	621.77	TARGET	
T141	1190860.868	1815451.784	669.21	TARGET	
T142	1191140.604	1815309.423	670.93	TARGET	
T143	1190177.013	1814074.562	693.75	TARGET	
T144	1190547.533	1813891.471	686.75	TARGET	
T145	1190006.75	1813607.099	703.26	TARGET	
T146	1189354.803	1813163.906	697.33	TARGET	
T147	1190616.486	1813095.619	700.86	TARGET	
T148	1189765.089	1812982.601	696.18	TARGET	
T149	1191168.557	1812918.229	706.43	TARGET	
T150	1190956.386	1812599.808	716.28	TARGET	
T151	1189353.283	1812396.422	660.37	TARGET	
T152	1190093.438	1812402.501	690.69	TARGET	
T153	1190270.384	1812388.164	696.49	TARGET	
T154	1189848.986	1812348.954	686.85	TARGET	
T155	1190031.98	1810962.211	700.21	TARGET	
T156	1190218.338	1810952.129	710.63	TARGET	
T157	1189979.643	1809517.099	711.41	TARGET	
T158	1190169.21	1809515.178	719.33	TARGET	
T159	1189894.986	1808109.534	723.61	TARGET	
T160	1190071.307	1808084.766	729.75	TARGET	
T161	1189465.015	1806904.48	756.42	TARGET	
T162	1189626.56	1806826.149	751.85	TARGET	
T163	1188819.386	1805635.651	774.49	TARGET	
T164	1188984.622	1805538.312	780.11	TARGET	
T165	1188184.635	1804319.101	790.55	TARGET	
T166	1188362.007	1804246.13	779.5	TARGET	
T167	1188015.344	1802781.928	783.33	TARGET	
T168	1187900.151	1802782.383	787.62	TARGET	
T169	1188134.896	1801451.284	805.3	TARGET	
T170	1187974.814	1801437.949	803.46	TARGET	

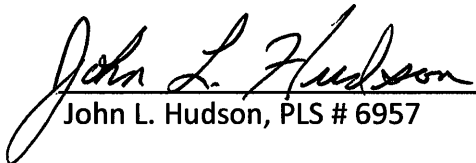


<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Code</u>	<u>Note</u>
T171	1188604.759	1800558.391	815.99	TARGET	
T172	1188218.484	1800491.825	813.22	TARGET	
T173	1187644.292	1800398.837	813.9	TARGET	
T174	1187426.312	1799928.206	790.44	TARGET	
T175	1188480.268	1799903.108	832.68	TARGET	
T176	1188167.814	1799859.693	808.91	TARGET	
T177	1188762.131	1799829.748	805.93	TARGET	
T178	1187964.031	1799437.373	798.22	TARGET	
T179	1189100.449	1799283.448	798	TARGET	
T180	1188962.24	1799170.412	799.76	TARGET	
T181	1188207.348	1798434.923	812.78	TARGET	
T182	1188392.137	1798425.383	818.96	TARGET	
T183	1188021.631	1797006.993	793.7	TARGET	
T184	1188247.712	1796935.658	811.27	TARGET	
T185	1187537.354	1795781.653	807.38	TARGET	
T186	1187751.671	1795680.837	802.55	TARGET	
T187	1186777.13	1794605.451	820.68	TARGET	
T188	1186980.451	1794483.546	826.62	TARGET	
T189	1185969.646	1793407.136	842.36	TARGET	
T190	1186182.784	1793297.099	848.25	TARGET	
T191	1185176.306	1792229.602	809.8	TARGET	
T192	1185369.943	1792092.197	818.63	TARGET	
T193	1184368.935	1791028.762	770.89	TARGET	
T194	1184609.741	1790861.818	758.55	TARGET	
T195	1183536.454	1789826.542	789.51	TARGET	
T196	1183801.756	1789652.03	764.13	TARGET	
T197	1182978.999	1789410.913	809.29	TARGET	
T198	1182460.437	1789318.536	806.4	TARGET	
T199	1183222.373	1789200.122	802.31	TARGET	
T200	1183425.193	1789092.406	800.09	TARGET	
T201	1182255.399	1788894.123	799.08	TARGET	
T202	1182884.644	1788776.61	834.87	TARGET	
T203	1183609.885	1788505.443	825.78	TARGET	
T204	1183559.539	1788313.318	832.29	TARGET	
T205	1182608.296	1788189.098	814.04	TARGET	
T206	1183150.441	1788165.168	834.44	TARGET	
T207	1182774.72	1788106.228	811.1	TARGET	
T208	1182312.62	1787544.793	813.51	TARGET	
T209	1182454.315	1787489.672		TARGET	Point Destroyed
T209A	1182577.316	1787458.722	816.18	TARGET	
T210	1181914.608	1786157.353		TARGET	Point Destroyed
T211	1182024.388	1786127.127		TARGET	Point Destroyed
T211A	1182158.418	1786197.402	806.61	TARGET	
T212	1181369.247	1784662.25	735.57	TARGET	
T213	1181622.635	1784732.488		TARGET	Point Destroyed

<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Code</u>	<u>Note</u>
T213A	1181725.005	1784863.263	763.72	TARGET	Point Destroyed
T214	1181205.789	1783678.777		TARGET	
T215	1181152.679	1783007.753	704.12	TARGET	
T216	1180846.548	1781916.869	734.36	TARGET	
T217	1180993.845	1781732.694	735.35	TARGET	
T218	1180631.289	1780520.91	752.69	TARGET	
T219	1180785.747	1780475.522	751.37	TARGET	
T220	1180358.389	1779079.008	789.39	TARGET	
T221	1180565.891	1779036.951	785.29	TARGET	
T222	1180133.859	1777670.064	817.59	TARGET	
T223	1180325.573	1777640.376	820.56	TARGET	
T224	1179884.153	1776260.892	832.21	TARGET	
T225	1180107.997	1776211.804	847.98	TARGET	
T226	1179703.185	1774822.905	864.44	TARGET	
T227	1179895.835	1774785.005	863.98	TARGET	
T228	1179466.243	1773420.375	867.39	TARGET	
T229	1179656.001	1773353.28	875.69	TARGET	
T230	1179268.351	1772926.092	869.69	TARGET	
T231	1179569.361	1772814.157	868.27	TARGET	
T232	1178359.761	1772796.14	860.25	TARGET	
T233	1179117.441	1772427.524	873.42	TARGET	
T234	1179566.23	1772334.77	883.22	TARGET	
T235	1178647.108	1772189.747	882.43	TARGET	
T236	1179104.485	1772075.884	889.75	TARGET	
T237	1180224.688	1772043.79	872.26	TARGET	
T238	1178266.579	1771211.603	935.77	TARGET	
T239	1178405.415	1771110.989	950.16	TARGET	
T240	1177431.661	1770027.833	902.04	TARGET	
T241	1177563.723	1769939.015	902.88	TARGET	
T242	1176551.852	1768890.602	893.55	TARGET	
T243	1176712.703	1768781.13	897.08	TARGET	
T244	1175717.868	1767725.722	866.18	TARGET	
T245	1175879.2	1767614.201	868.17	TARGET	
T246	1174875.833	1766565.109	888.64	TARGET	
T247	1175040.926	1766443.116	889.64	TARGET	
T248	1174016.884	1765397.463	902.77	TARGET	
T249	1174206.68	1765275.873	904.83	TARGET	
T250	1172983.574	1764614.468	906.82	TARGET	
T251	1172581.915	1764397.221	902.09	TARGET	
T252A	1173658.404	1764274.818	915.7	TARGET	
T252B	1173716.757	1764492.93	913.35	TARGET	
T253	1173158.133	1763939.788	890.62	TARGET	
T254	1173553.26	1763970.614	915.24	TARGET	
T255	1173499.929	1763477.333	891.48	TARGET	
T256	1172594.636	1762776.862	873.28	TARGET	

<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Code</u>	<u>Note</u>
T257	1172819.642	1762658.347	880.78	TARGET	
T258	1171991.421	1761464.959	875.79	TARGET	
T259	1172190.221	1761369.191	877.03	TARGET	
T260	1171420.069	1760157.789	839.38	TARGET	
T261	1171546.69	1760081.67	827.57	TARGET	
T262	1170785.86	1758852.824	825.36	TARGET	
T263	1170877.122	1758806.829	825.5	TARGET	
T264	1170171.38	1757631.664	853.84	TARGET	
T265	1170284.622	1757571.047	854.75	TARGET	
T266	1169513.97	1757190.366	872.26	TARGET	
T267	1169059.785	1757149.21	865.4	TARGET	
T268	1169523.394	1756338.286	892.14	TARGET	
T269	1168355.423	1756287.697	879.45	TARGET	
T270	1169681.568	1756261.923	888.01	TARGET	
T271	1169111.025	1756225.813	886.35	TARGET	
T271 BS	1169156.127	1756311.082	884.95	TARGET	
T272	1167742.101	1756099.84	873.04	TARGET	
T273	1170593.465	1755703.369	879.3	TARGET	
T274	1169886.496	1755766.136	890.94	TARGET	
T275BS	1168447.543	1755763.989	867.18	TARGET	
T276	1169449.055	1755318.986	896.63	TARGET	
T277	1170286.883	1755155.652	886.57	TARGET	
T278	1168857.012	1755070.69	864.59	TARGET	
T279	1169021.558	1754995.431	869.79	TARGET	
T280	1169899.064	1754542.357	881.81	TARGET	
T281	1168238.269	1753757.513	837.72	TARGET	
T282	1168387.048	1753692.433	839.17	TARGET	
T283	1167598.676	1752478.6	845.47	TARGET	
T284	1167817.188	1752370.541	853.65	TARGET	
T285	1167043.15	1751155.044	822.57	TARGET	
T286	1167197.011	1751099.73	831.87	TARGET	
T287	1166442.211	1749950.495	829.27	TARGET	
T288	1166662.439	1749910.299	822.45	TARGET	
T289	1166073.55	1748520.961	780.78	TARGET	
T290	1166246.427	1748504.476	796.93	TARGET	
T291	1165685.827	1747134.972	716.52	TARGET	
T292	1165845.292	1747074.008	714.89	TARGET	
T293	1165309.836	1745796.334	689.1	TARGET	
T294	1165362.679	1745435.323	689.5	TARGET	
T295	1164846.045	1744438.028	?	TARGET	Did not Level
T295A	1164901.597	1744380.499	728.28	TARGET	
T296	1165035.716	1744312.971	729.45	TARGET	
T297	1165278.919	1743375.61	752.73	TARGET	
T298	1165415.528	1743186.635	755.5	TARGET	
T299	1164507.552	1742979.546	725.56	TARGET	

<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Code</u>	<u>Note</u>
T300	1165084.079	1743005.386	756.18	TARGET	
T301	1164616.761	1742942.13	726.67	TARGET	
T302	1164748.82	1742847.661	758.63	TARGET	
T303	1163903.579	1742490.705	788.69	TARGET	
T304	1164907.366	1742456.158	778.36	TARGET	
T305	1163974.481	1742338.626	786.21	TARGET	
T306	1164492.723	1742261.626	760.61	TARGET	
T307	1164038.858	1741616.473	803.79	TARGET	
T308	1164294.448	1741568.448	792.8	TARGET	
T309	1163593.799	1740189.044	791.37	TARGET	
T310	1163848.72	1740113.348	798.79	TARGET	
T311	1163218.661	1738957.155	820.27	TARGET	
T312	1163481.966	1738733.345	819.2	TARGET	
T313	1162835.755	1737735.119	820.03	TARGET	
T314	1163209.95	1737615.221	828.93	TARGET	

  
 John L. Hudson, PLS # 6957

Date: 9/21/14

