PROJECT REFERENCE NO.	SHEET NO.
U-3615B	1C-3
Location and Surveys	

U-3615B SURVEY CONTROL SHEET

NOTES

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL-TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE SYSTEM) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS OR BIASES.

2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/PAGES/DEFAULT.ASPX

THE FILES TO BE FOUND ARE AS FOLLOWS:

U3615B_LS_GPSCALIB_051213.HTML
U3615B_LS_WGS84_051213.TXT
U3615B_LS_LOCAL_051213.TXT
U3615B_LS_CONTROL_051213.TXT

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM. NETWORK ESTABLISHED FROM EXISTING MONUMENTATION.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY USGS FOR MONUMENT "HAWTHORNE RESET"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 851336.3747(ft) EASTING: 1722541.0825(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .99992779
THE N.C.LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HAWTHORNE RESET" TO -L- STATION 164+75.00 IS
S 54° 16' 38" W 31338.96 FT
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

BASELINE DATA

BL

POINT	DESC.	NORTH	EAST	ELEVATION	LREV STATION	OFFSET
5	U3615-5	832942.3670	1696857.6030	878.95	162+15.57	4.21 LT
6	U3615-6	833228.1260	1697495.2630	860.14	169+14.51	5.97 RT
28	NOT SET	833506.6570	1698050.9150	861.04	175+34.99	58.33 RT
29	BL-29	833756.3950	1698489.4990	856.68	180+39.14	81.97 RT
30	BL-30	834129.0980	1699351.3120	847.23	190+20.50	27.05 RT
31	BL-31	834162.1650	1700343.4660	829.58	200+12.39	67.14 RT
32	NOT SET	834279.5660	1700934.3740	834.41	206+10.34	6.43 LT
33	BL-33	834353.4580	1701629.7300	831.56	213+10.17	2.13 RT
34	BL-34	834636.1960	1702592.7620	812.33	223+02.34	73.13 LT
35	BL-35	834532.2990	1703254.2350	816.94	229+59.60	11.91 LT
36	BL-36	834579.9010	1703867.4300	812.39	235+84.06	1.32 LT
7	U3615-7	834872.8600	1704475.5630	812.30	242+58.87	47.98 LT
8	U3615-8	835158.6810	1705405.1320	847.41	252+35.08	9.20 LT
37	NOT SET	835021.7170	1705892.2570	847.99	257+38.44	23.38 LT
180	EQ BL-BY37	834975.5375	1705958.1371	UNKNOWN	258+17.99	21.59 LT
38	BL-38	834789.3680	1706223.7280	827.83	261+42.26	20.49 LT
39	NOT SET	834459.5120	1706629.7080	817.02	266+63.08	20.60 RT
40	BL-40	834186.4590	1707222.0620	836.88	273+09.48	33.45 RT
41	BL-41	834134.6440	1707773.7430	844.28	278+59.04	12.89 RT
42	NOT SET	834107.2800	1708408.5050	864.93	284+94.32	22.36 RT
43	BL-43	834091.2960	1708916.6830	879.18	290+02.74	24.03 RT
44	BL-44	834140.3520	1709831.4170	883.97	299+15.73	50.77 LT
45	BL-45	834026.5770	1710777.5900	870.43	308+69.25	21.76 RT
46	NOT SET	833921.6950	1711170.3430	870.92	312+70.34	40.18 LT
47	BL-47	833497.5220	1711585.7990	877.32	318+57.28	33.69 LT
48	BL-48	832914.0340	1712065.6580	876.48	326+11.21	14.40 RT
49	BL-49	832506.6450	1712432.9380	860.62	331+59.14	30.43 RT
9	U3615-9	831996.7070	1712905.8920	857.78	338+55.21	35.89 RT
10	U3615-10	831317.9360	1713607.3390	891.60	348+20.98	67.82 RT

BY29

POINT	DESC.	NORTH	EAST	ELEVATION	Y29B STATION	OFFSET
68	BY29-68	833392.3690	1696891.4840	879.09	OUTSIDE PROJECT LIMITS	
69	BY29-69	833044.6320	1697065.7240	874.96	10+93.48	551.21 RT
162	U3615-5	832942.3670	1696857.6030	878.95	10+75.85	782.42 RT

BY30

POINT	DESC.	NORTH	EAST	ELEVATION	Y30 STATION	OFFSET
70	BY30-70	834773.1700	1698168.7320	883.31	10+04.48	17.82 RT
71	BY30-71	834186.6280	1698358.9950	854.79	16+17.51	18.70 RT
163	BL-29	833756.3950	1698489.4990	856.68	20+61.38	87.19 RT
72	BY30-72	833345.5170	1698692.5730	868.97	25+32.39	56.69 RT

BY31

POINT	DESC.	NORTH	EAST	ELEVATION	Y31 STATION	OFFSET
164	BL-31	834162.1650	1700343.4660	829.59	10+71.04	49.51 RT
73	BY31-73	834006.5590	1700449.7330	834.80	OUTSIDE PROJECT LIMITS	

BY32

POINT	DESC.	NORTH	EAST	ELEVATION	Y32 STATION	OFFSET
74	BY32-74	834508.2250	1700896.9660	824.80	10+52.11	16.30 LT
165	BL-32	834279.5660	1700934.3740	834.42	12+83.08	34.58 LT

BY33

POINT	DESC.	NORTH	EAST	ELEVATION	Y33 STATION	OFFSET
75	BY33-75	834758.6070	1701574.5990	819.07	10+00.57	12.67 LT
166	BL-33	834353.4580	1701629.7300	831.57	OUTSIDE PROJECT LIMITS	

BY34

POINT	DESC.	NORTH	EAST	ELEVATION	Y34 STATION	OFFSET
167	BL-36	834579.9010	1703867.4300	812.37	10+11.69	73.10 RT
76	BY34-76	834302.6310	1703947.7820	810.96	13+00.55	21.41 LT
77	BY34-77	833969.8030	1703789.9940	813.05	OUTSIDE PROJECT LIMITS	

BY36

POINT	DESC.	NORTH	EAST	ELEVATION	Y36 STATION	OFFSET
78	BY36-78	835575.5560	1705737.7400	865.07	14+16.31	17.10 RT
79	BY36-79	835217.9820	1705599.9380	853.50	18+00.16	22.08 LT
168	U3615-8	835158.6810	1705405.1320	847.41	18+94.49	152.28 RT

BY37

POINT	DESC.	NORTH	EAST	ELEVATION	Y37S STATION	OFFSET
82	BY37-82	834849.4140	1705893.4550	843.28	11+18.99	19.33 LT
83	BY37-83	834705.9850	1705697.3680	844.93	13+54.98	17.63 LT

BY38

POINT	DESC.	NORTH	EAST	ELEVATION	Y38 STATION	OFFSET
170	BL-38	834789.3680	1706223.7280	827.88	OUTSIDE PROJECT LIMITS	
84	BY38-84	834820.4830	1706096.0410	832.62	10+26.32	25.21 RT
85	BY38-85	834413.7260	1705974.9270	833.93	OUTSIDE PROJECT LIMITS	

BY39

POINT	DESC.	NORTH	EAST	ELEVATION	Y39 STATION	OFFSET
86	BY39-86	835019.7350	1706578.6960	836.76	10+44.02	18.04 LT
171	BL-38	834789.3680	1706223.7280	827.88	14+61.90	45.15 RT

BY40

POINT	DESC.	NORTH	EAST	ELEVATION	Y40 STATION	OFFSET
172	BL-38	834789.3680	1706223.7280	827.88	OUTSIDE PROJECT LIMITS	
87	BY40-87	834640.7370	1706342.4230	820.96	10+31.04	23.03 RT
88	BY40-88	834209.2130	1706285.3620	824.29	OUTSIDE PROJECT LIMITS	

BY41

POINT	DESC.	NORTH	EAST	ELEVATION	Y41 STATION	OFFSET
173	BL-41	834134.6440	1707773.7430	844.32	10+11.00	25.99 LT
89	BY41-89	833714.1880	1707686.3770	856.43	14+38.20	17.85 RT

BY43

POINT	DESC.	NORTH	EAST	ELEVATION	Y42 STATION	OFFSET
174	BL-43	834091.2960	1708916.6830	879.20	OUTSIDE PROJECT LIMITS	
90	BY43-90	833750.1880	1708811.2800	874.73	11+30.77	458.11 LT

BY43

POINT	DESC.	NORTH	EAST	ELEVATION	Y43N STATION	OFFSET
174	BL-43	834091.2960	1708916.6830	879.20	OUTSIDE PROJECT LIMITS	
90	BY43-90	833750.1880	1708811.2800	874.73	OUTSIDE PROJECT LIMITS	

BY43

POINT	DESC.	NORTH	EAST	ELEVATION	Y43S STATION	OFFSET
174	BL-43	834091.2960	1708916.6830	879.20	10+20.97	46.37 LT
90	BY43-90	833750.1880	1708811.2800	874.73	OUTSIDE PROJECT LIMITS	

BY44

POINT	DESC.	NORTH	EAST	ELEVATION	Y44 STATION	OFFSET
91	BY44-91	834363.4710	1710834.4060	874.74	10+61.74	22.73 LT
175	BL-45	834026.5770	1710777.5900	870.46	OUTSIDE PROJECT LIMITS	

BY45

POINT	DESC.	NORTH	EAST	ELEVATION	Y45N STATION	OFFSET
92	BY45-92	833698.8980	1711768.8640	876.83	10+25.64	19.94 RT
176	BL-47	833497.5220	1711585.7990	877.35	13+02.43	45.19 LT

BY45

POINT	DESC.	NORTH	EAST	ELEVATION	Y45S STATION	OFFSET
93	BY45-93	833352.7790	1711357.5010	863.79	12+31.21	17.63 RT

BY46

POINT	DESC.	NORTH	EAST	ELEVATION	Y46 STATION	OFFSET
94	BY46-94	831833.2610	1714000.0290	887.62	OUTSIDE PROJECT LIMITS	
177	U3615-10	831317.9360	1713607.3390	891.54	OUTSIDE PROJECT LIMITS	
95	BY46-95	830706.8090	1713168.2380	882.61	OUTSIDE PROJECT LIMITS	

BY47

POINT	DESC.	NORTH	EAST	ELEVATION	Y47 STATION	OFFSET
178	U3615-10	831317.9360	1713607.3390	891.54	16+62.27	52.85 RT
96	BY47-96	831219.8780	1714349.0710	896.29	12+98.07	600.71 LT

BENCHMARK DATA

BM9 ELEVATION - 857.37
N 833013 E 1697536
LREV STATION 168+49 215 RIGHT
NAIL IN BASE OF 8 INCH ASH

BM11 ELEVATION - 863.39
N 833021 E 1698744
Y30 STATION 25+76
S 2° 36' 35.1" W DIST 295.60
EXISTING RR SPIKE IN BASE OF POWER POLE

BM13 ELEVATION - 839.11
N 834222 E 1701685
LREV STATION 213+39 142 RIGHT
NAIL IN ROOT OF 20 INCH WHITE OAK

BM15 ELEVATION - 863.94
N 835467 E 1705567
Y36 STATION 15+92 118 RIGHT
NAIL IN ROOT OF 30 INCH WALNUT

BM17 ELEVATION - 868.12
N 833808 E 1709642
LREV STATION 297+36 287 RIGHT
NAIL IN ROOT OF 36 INCH QUAD OAK

BM19 ELEVATION - 857.61
N 832022 E 1712843
LREV STATION 337+94 65 RIGHT
NAIL IN BASE OF 15 INCH SWEET GUM

BM21 ELEVATION - 889.92
N 831211 E 1714518
Y47 STATION 12+04 742 LEFT
NAIL IN BASE OF 15 INCH OAK

BM10 ELEVATION - 885.74
N 834849 E 1698156
Y30 STATION 10+00
N 23° 19' 55.1" W DIST 75.93
NAIL IN BASE OF POWER POLE *5

BM12 ELEVATION - 832.01
N 834341 E 1699517
LREV STATION 192+01 172 LEFT
NAIL IN ROOT OF 20 INCH TRIPLE WILLOW

BM14 ELEVATION - 820.88
N 834292 E 1703463
LREV STATION 231+69 213 RIGHT
NAIL IN ROOT OF 18 INCH ELM

BM16 ELEVATION - 847.86
N 834309 E 1707680
LREV STATION 277+57 158 LEFT
NAIL IN ROOT OF 15 INCH PIN OAK

BM18 ELEVATION - 878.23
N 833703 E 1711759
Y45N STATION 10+31 29 RIGHT
NAIL IN ROOT OF 24 INCH OAK

BM20 ELEVATION - 876.10
N 830718 E 1713048
Y47 STATION 22+58
S 69° 46' 49.3" W DIST 262.34
NAIL IN ROOT OF 18 INCH RED OAK

BM22 ELEVATION - 892.22
N 831684 E 1714120
Y47 STATION 10+63 140 LEFT
NAIL IN BASE OF 20 INCH RED OAK