Appendix A

Ambient Noise Level Monitoring

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2013-171362

Instrument Model 820, Serial Number 1655, was calibrated on 18MAR2013. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 18MAR2013
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn / 2209	0097 / 0118	12 Months	11JUL2013	2012-161465

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 20 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

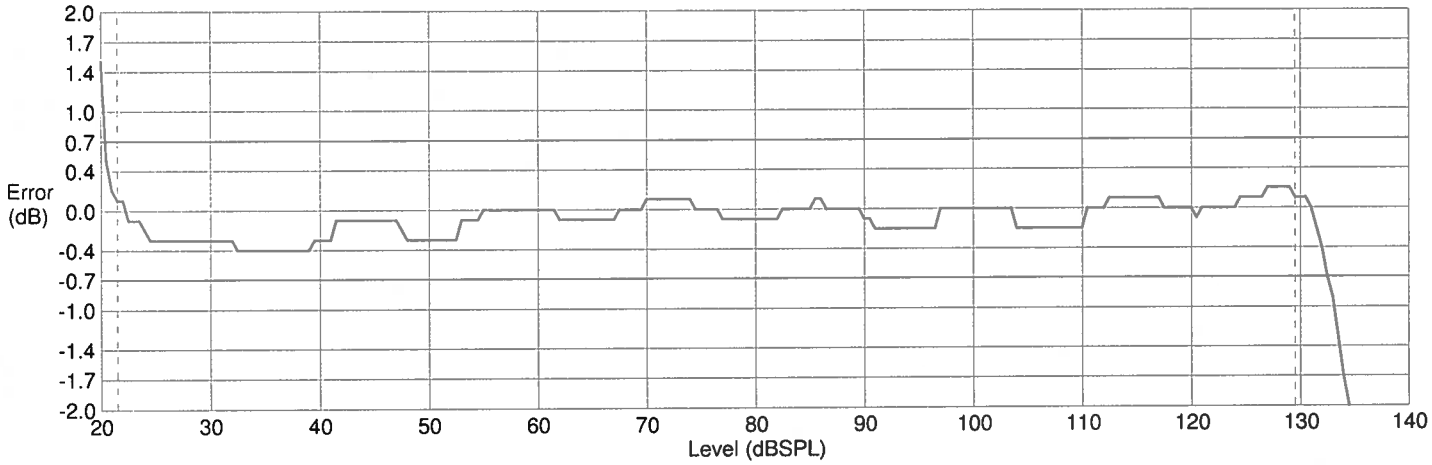
"As Received" data is the same as shipped data.

Signed: David Jensen
Technician: David Jensen

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

Sound Level Meter Model: 820A Serial Number: A1655
Log Linearity, Differential Linearity and Range Data

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's Log Linearity A-weighted slow response was then electrically tested using a 1kHz sine wave from 18.0 dBSPL to 138.0 dBSPL in 0.5 dB increments.



Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB
18.0	19.5	1.5	38.5	38.1	-0.4	59.0	59.0	0.0	79.5	79.4	-0.1	100.0	100.0	0.0	120.5	120.4	-0.1
18.5	19.7	1.2	39.0	38.6	-0.4	59.5	59.5	0.0	80.0	79.9	-0.1	100.5	100.5	0.0	121.0	121.0	0.0
19.0	20.0	1.0	39.5	39.2	-0.3	60.0	60.0	0.0	80.5	80.4	-0.1	101.0	101.0	0.0	121.5	121.5	0.0
19.5	20.4	0.9	40.0	39.7	-0.3	60.5	60.5	0.0	81.0	80.9	-0.1	101.5	101.5	0.0	122.0	122.0	0.0
20.0	20.6	0.6	40.5	40.2	-0.3	61.0	61.0	0.0	81.5	81.4	-0.1	102.0	102.0	0.0	122.5	122.5	0.0
20.5	21.0	0.5	41.0	40.7	-0.3	61.5	61.5	0.0	82.0	81.9	-0.1	102.5	102.5	0.0	123.0	123.0	0.0
21.0	21.2	0.2	41.5	41.4	-0.1	62.0	61.9	-0.1	82.5	82.5	0.0	103.0	103.0	0.0	123.5	123.5	0.0
21.5	21.6	0.1	42.0	41.9	-0.1	62.5	62.4	-0.1	83.0	83.0	0.0	103.5	103.5	0.0	124.0	124.0	0.0
22.0	22.1	0.1	42.5	42.4	-0.1	63.0	62.9	-0.1	83.5	83.5	0.0	104.0	103.8	-0.2	124.5	124.6	0.1
22.5	22.4	-0.1	43.0	42.9	-0.1	63.5	63.4	-0.1	84.0	84.0	0.0	104.5	104.3	-0.2	125.0	125.1	0.1
23.0	22.9	-0.1	43.5	43.4	-0.1	64.0	63.9	-0.1	84.5	84.5	0.0	105.0	104.8	-0.2	125.5	125.6	0.1
23.5	23.4	-0.1	44.0	43.9	-0.1	64.5	64.4	-0.1	85.0	85.0	0.0	105.5	105.3	-0.2	126.0	126.1	0.1
24.0	23.8	-0.2	44.5	44.4	-0.1	65.0	64.9	-0.1	85.5	85.6	0.1	106.0	105.8	-0.2	126.5	126.6	0.1
24.5	24.2	-0.3	45.0	44.9	-0.1	65.5	65.4	-0.1	86.0	86.1	0.1	106.5	106.3	-0.2	127.0	127.2	0.2
25.0	24.7	-0.3	45.5	45.4	-0.1	66.0	65.9	-0.1	86.5	86.5	0.0	107.0	106.8	-0.2	127.5	127.7	0.2
25.5	25.2	-0.3	46.0	45.9	-0.1	66.5	66.4	-0.1	87.0	87.0	0.0	107.5	107.3	-0.2	128.0	128.2	0.2
26.0	25.7	-0.3	46.5	46.4	-0.1	67.0	66.9	-0.1	87.5	87.5	0.0	108.0	107.8	-0.2	128.5	128.7	0.2
26.5	26.2	-0.3	47.0	46.9	-0.1	67.5	67.5	0.0	88.0	88.0	0.0	108.5	108.3	-0.2	129.0	129.2	0.2
27.0	26.7	-0.3	47.5	47.3	-0.2	68.0	68.0	0.0	88.5	88.5	0.0	109.0	108.8	-0.2	129.5	129.6	0.1
27.5	27.2	-0.3	48.0	47.7	-0.3	68.5	68.5	0.0	89.0	89.0	0.0	109.5	109.3	-0.2	130.0	130.1	0.1
28.0	27.7	-0.3	48.5	48.2	-0.3	69.0	69.0	0.0	89.5	89.5	0.0	110.0	109.8	-0.2	130.5	130.6	0.1
28.5	28.2	-0.3	49.0	48.7	-0.3	69.5	69.5	0.0	90.0	89.9	-0.1	110.5	110.5	0.0	131.0	131.0	0.0
29.0	28.7	-0.3	49.5	49.2	-0.3	70.0	70.1	0.1	90.5	90.4	-0.1	111.0	111.0	0.0	131.5	131.3	-0.2
29.5	29.2	-0.3	50.0	49.7	-0.3	70.5	70.6	0.1	91.0	90.8	-0.2	111.5	111.5	0.0	132.0	131.6	-0.4
30.0	29.7	-0.3	50.5	50.2	-0.3	71.0	71.1	0.1	91.5	91.3	-0.2	112.0	112.0	0.0	132.5	131.8	-0.7
30.5	30.2	-0.3	51.0	50.7	-0.3	71.5	71.6	0.1	92.0	91.8	-0.2	112.5	112.6	0.1	133.0	132.1	-0.9
31.0	30.7	-0.3	51.5	51.2	-0.3	72.0	72.1	0.1	92.5	92.3	-0.2	113.0	113.1	0.1	133.5	132.2	-1.3
31.5	31.2	-0.3	52.0	51.7	-0.3	72.5	72.6	0.1	93.0	92.8	-0.2	113.5	113.6	0.1	134.0	132.3	-1.7
32.0	31.7	-0.3	52.5	52.2	-0.3	73.0	73.1	0.1	93.5	93.3	-0.2	114.0	114.1	0.1	134.5	132.3	-2.2
32.5	32.1	-0.4	53.0	52.9	-0.1	73.5	73.6	0.1	94.0	93.8	-0.2	114.5	114.6	0.1	135.0	132.3	-2.7
33.0	32.6	-0.4	53.5	53.4	-0.1	74.0	74.1	0.1	94.5	94.3	-0.2	115.0	115.1	0.1	135.5	132.3	-3.2
33.5	33.1	-0.4	54.0	53.9	-0.1	74.5	74.5	0.0	95.0	94.8	-0.2	115.5	115.6	0.1	136.0	132.2	-3.8
34.0	33.6	-0.4	54.5	54.4	-0.1	75.0	75.0	0.0	95.5	95.3	-0.2	116.0	116.1	0.1	136.5	132.2	-4.3
34.5	34.1	-0.4	55.0	55.0	0.0	75.5	75.5	0.0	96.0	95.8	-0.2	116.5	116.6	0.1	137.0	132.3	-4.7
35.0	34.6	-0.4	55.5	55.5	0.0	76.0	76.0	0.0	96.5	96.3	-0.2	117.0	117.1	0.1	137.5	132.3	-5.2
35.5	35.1	-0.4	56.0	56.0	0.0	76.5	76.5	0.0	97.0	97.0	0.0	117.5	117.5	0.0	138.0	132.3	-5.7
36.0	35.6	-0.4	56.5	56.5	0.0	77.0	76.9	-0.1	97.5	97.5	0.0	118.0	118.0	0.0			
36.5	36.1	-0.4	57.0	57.0	0.0	77.5	77.4	-0.1	98.0	98.0	0.0	118.5	118.5	0.0			
37.0	36.6	-0.4	57.5	57.5	0.0	78.0	77.9	-0.1	98.5	98.5	0.0	119.0	119.0	0.0			
37.5	37.1	-0.4	58.0	58.0	0.0	78.5	78.4	-0.1	99.0	99.0	0.0	119.5	119.5	0.0			
38.0	37.6	-0.4	58.5	58.5	0.0	79.0	78.9	-0.1	99.5	99.5	0.0	120.0	120.0	0.0			

Plotted per typical sensitivity of a 2541 microphone; 44.5 mV/Pa & 17.1 pF.

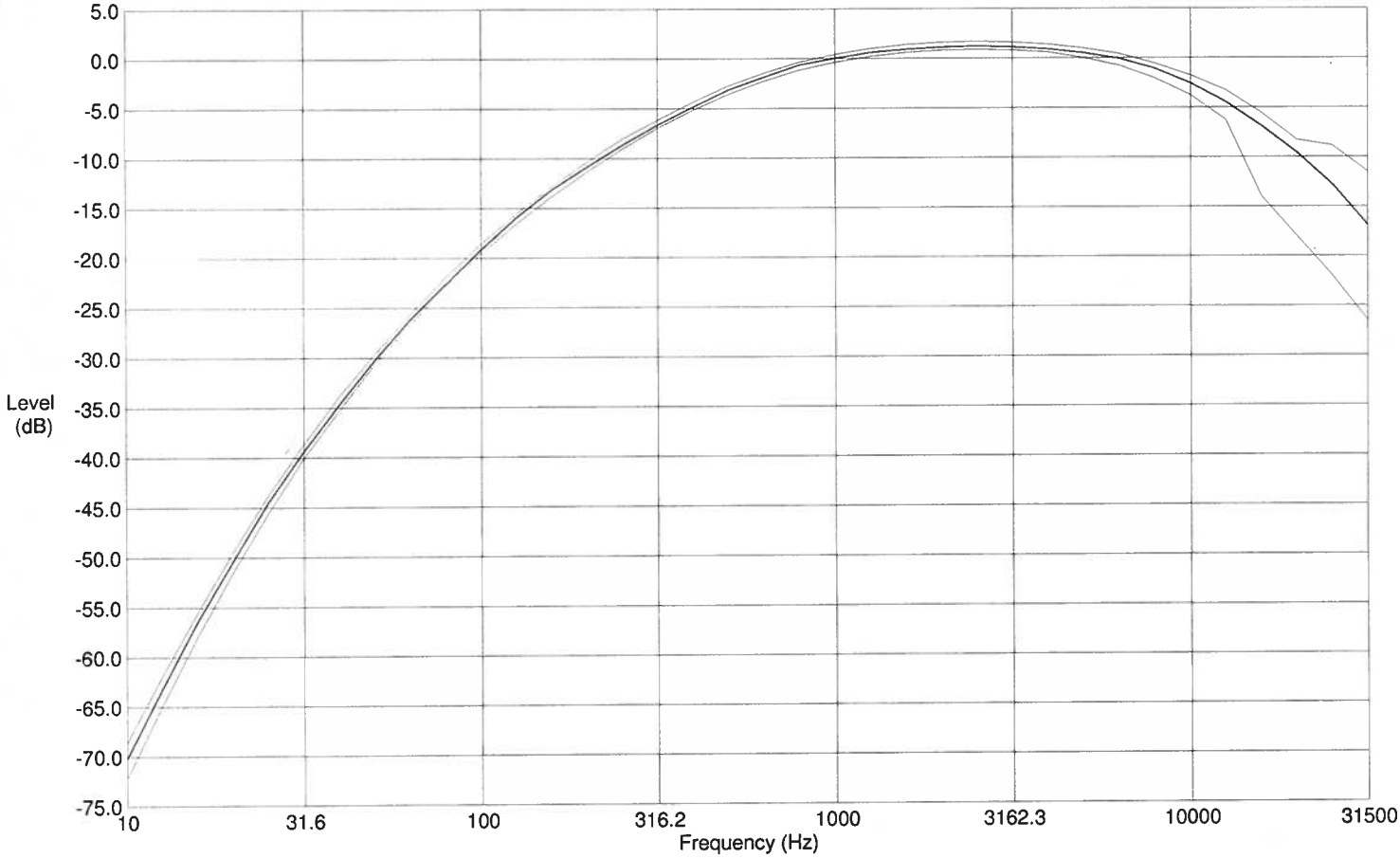
Overload occurs at 129.6 dBSPL.
Primary indicator range: 108.0 dB (lower limit: 21.5 dBSPL to upper limit: 129.5 dBSPL).
Dynamic range: 113.1 dB (noise floor: 16.4 dBSPL to upper limit: 129.5 dBSPL).

This instrument is in compliance with IEC 60651 (2001-10) 7.9 and 7.10, ANSI S1.4-1983 3.2 and IEC 60804 (2001-10) 9.2.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: David Jensen Test Date: 18MAR2013

Sound Level Meter Model: 820A Serial Number: A1655
Certificate of A-Weight Electrical Conformance

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's A-weighted response was then electrically tested using a 1.9 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



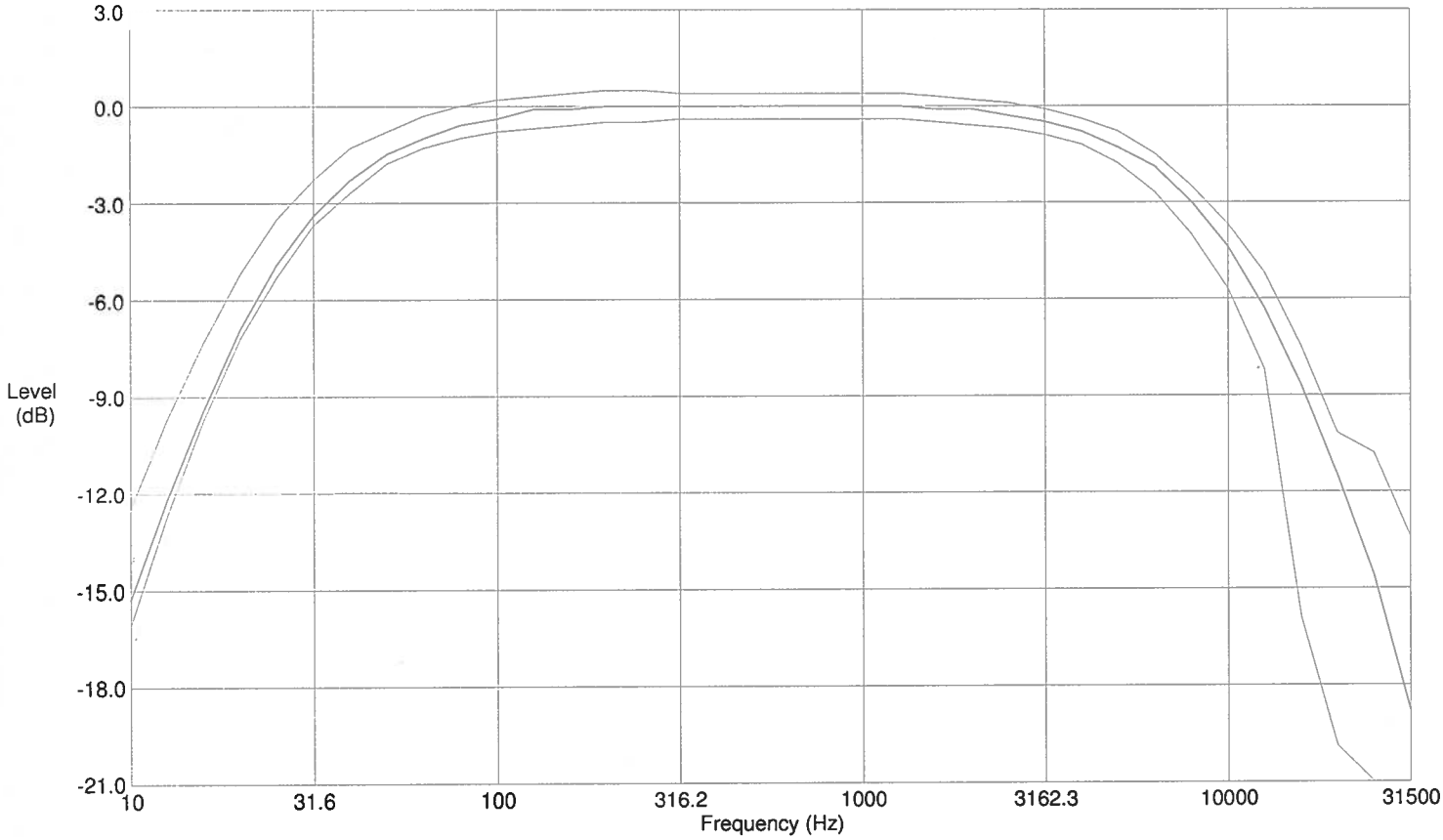
Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-70.4	-70.20	0.20	+1.8, -1.8
12.59	-63.4	-63.20	0.20	+1.5, -1.5
15.85	-56.7	-56.40	0.30	+1.2, -1.2
19.95	-50.5	-50.40	0.10	+1.0, -1.0
25.12	-44.7	-44.50	0.20	+0.9, -0.9
31.62	-39.4	-39.40	0.00	+0.7, -0.7
39.81	-34.6	-34.70	-0.10	+0.7, -0.7
50.12	-30.2	-30.30	-0.10	+0.5, -0.5
63.10	-26.2	-26.20	0.00	+0.5, -0.5
79.43	-22.5	-22.70	-0.20	+0.5, -0.5
100.00	-19.1	-19.20	-0.10	+0.5, -0.5
125.89	-16.1	-16.00	0.10	+0.5, -0.5
158.49	-13.4	-13.20	0.20	+0.5, -0.5
199.53	-10.9	-10.90	0.00	+0.5, -0.5
251.19	-8.6	-8.70	-0.10	+0.5, -0.5
316.23	-6.6	-6.70	-0.10	+0.4, -0.4
398.11	-4.8	-4.90	-0.10	+0.4, -0.4
501.19	-3.2	-3.20	0.00	+0.4, -0.4
630.96	-1.9	-1.90	0.00	+0.4, -0.4
794.33	-0.8	-0.70	0.10	+0.4, -0.4
1000.00	0.0	0.00	0.00	+0.4, -0.4
1258.90	0.6	0.60	0.00	+0.4, -0.4
1584.90	1.0	0.90	-0.10	+0.4, -0.4
1995.30	1.2	1.10	-0.10	+0.4, -0.4
2511.90	1.3	1.20	-0.10	+0.4, -0.4
3162.30	1.2	1.10	-0.10	+0.4, -0.4
3981.10	1.0	0.90	-0.10	+0.4, -0.4
5011.90	0.5	0.50	0.00	+0.5, -0.5
6309.60	-0.1	-0.10	0.00	+0.5, -0.7
7943.30	-1.1	-1.10	0.00	+0.5, -1.0
10000.00	-2.5	-2.60	-0.10	+0.7, -1.3
12589.00	-4.3	-4.50	-0.20	+1.0, -2.0
15849.00	-6.6	-6.90	-0.30	+1.0, -7.4
19953.00	-9.3	-9.60	-0.30	+1.0, -8.7
25119.00	-12.4	-12.80	-0.40	+3.5, -9.6
31623.00	-15.8	-16.90	-1.10	+4.3, -10.7

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: David Jensen Test Date: 18MAR2013

Sound Level Meter Model: 820A Serial Number: A1655
Certificate of C-Weight Electrical Conformance

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's C-weighted response was then electrically tested using a 1.9 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-14.3	-15.30	-1.00	+1.8, -1.8
12.59	-11.2	-12.20	-1.00	+1.5, -1.5
15.85	-8.5	-9.40	-0.90	+1.2, -1.2
19.95	-6.2	-6.90	-0.70	+1.0, -1.0
25.12	-4.4	-4.90	-0.50	+0.9, -0.9
31.62	-3.0	-3.40	-0.40	+0.7, -0.7
39.81	-2.0	-2.30	-0.30	+0.7, -0.7
50.12	-1.3	-1.50	-0.20	+0.5, -0.5
63.10	-0.8	-1.00	-0.20	+0.5, -0.5
79.43	-0.5	-0.60	-0.10	+0.5, -0.5
100.00	-0.3	-0.40	-0.10	+0.5, -0.5
125.89	-0.2	-0.10	0.10	+0.5, -0.5
158.49	-0.1	-0.10	0.00	+0.5, -0.5
199.53	0.0	0.00	0.00	+0.5, -0.5
251.19	0.0	0.00	0.00	+0.5, -0.5
316.23	0.0	0.00	0.00	+0.4, -0.4
398.11	0.0	0.00	0.00	+0.4, -0.4
501.19	0.0	0.00	0.00	+0.4, -0.4

Freq (Hz)	Theor	Measured	Error	Tolerance
630.96	0.0	0.00	0.00	+0.4, -0.4
794.33	0.0	0.00	0.00	+0.4, -0.4
1000.00	0.0	0.00	0.00	+0.4, -0.4
1258.90	0.0	0.00	0.00	+0.4, -0.4
1584.90	-0.1	-0.10	0.00	+0.4, -0.4
1995.30	-0.2	-0.10	0.10	+0.4, -0.4
2511.90	-0.3	-0.30	0.00	+0.4, -0.4
3162.30	-0.5	-0.50	0.00	+0.4, -0.4
3981.10	-0.8	-0.80	0.00	+0.4, -0.4
5011.90	-1.3	-1.30	0.00	+0.5, -0.5
6309.60	-2.0	-1.90	0.10	+0.5, -0.7
7943.30	-3.0	-3.00	0.00	+0.5, -1.0
10000.00	-4.4	-4.40	0.00	+0.7, -1.3
12589.00	-6.2	-6.30	-0.10	+1.0, -2.0
15849.00	-8.5	-8.70	-0.20	+1.0, -7.4
19953.00	-11.2	-11.50	-0.30	+1.0, -8.7
25119.00	-14.3	-14.60	-0.30	+3.5, -9.6
31623.00	-17.7	-18.80	-1.10	+4.3, -10.7

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: David Jensen Test Date: 18MAR2013

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2013-180220

Instrument Model 820, Serial Number 1652, was calibrated on 02OCT2013. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 02OCT2013
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	08MAR2014	2013-171090

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 32 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

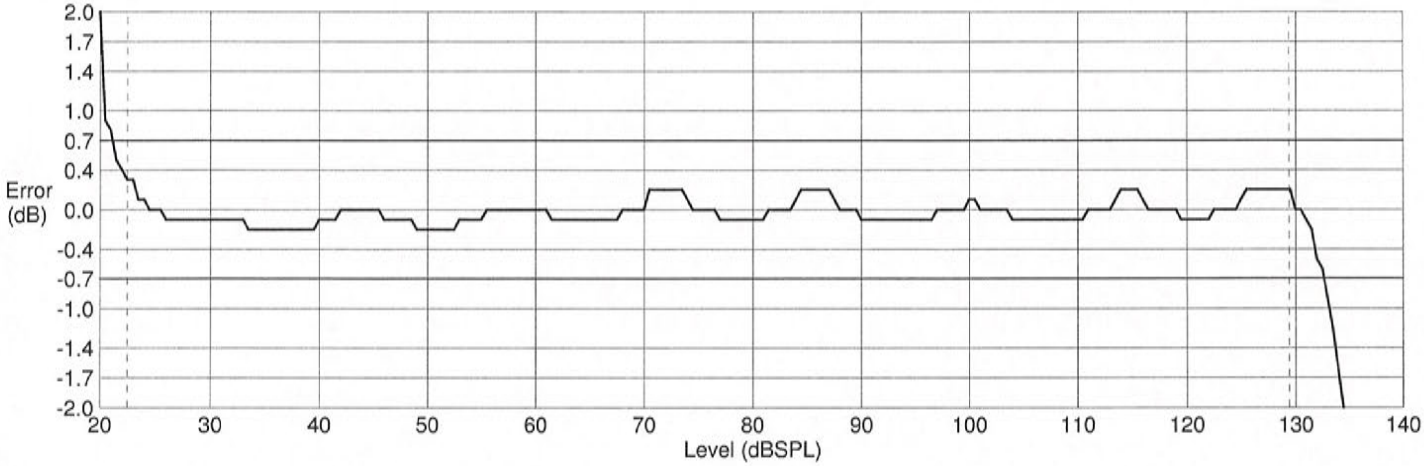
"AS RECEIVED" data same as shipped data.
Tested with PRM828-2582

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

Sound Level Meter Model: 820A Serial Number: A1652
Log Linearity, Differential Linearity and Range Data

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's Log Linerarity A-weighted slow response was then electrically tested using a 1kHz sine wave from 18.0 dBSPL to 138.0 dBSPL in 0.5 dB increments.



Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB
18.0	**20.0**	**2.0**	38.5	38.3	-0.2	59.0	59.0	0.0	79.5	79.4	-0.1	100.0	100.1	0.1	120.5	120.4	-0.1
18.5	**20.3**	**1.8**	39.0	38.8	-0.2	59.5	59.5	0.0	80.0	79.9	-0.1	100.5	100.6	0.1	121.0	120.9	-0.1
19.0	**20.5**	**1.5**	39.5	39.3	-0.2	60.0	60.0	0.0	80.5	80.4	-0.1	101.0	101.0	0.0	121.5	121.4	-0.1
19.5	**20.8**	**1.3**	40.0	39.9	-0.1	60.5	60.5	0.0	81.0	80.9	-0.1	101.5	101.5	0.0	122.0	121.9	-0.1
20.0	**21.0**	**1.0**	40.5	40.4	-0.1	61.0	61.0	0.0	81.5	81.5	0.0	102.0	102.0	0.0	122.5	122.5	0.0
20.5	**21.4**	**0.9**	41.0	40.9	-0.1	61.5	61.4	-0.1	82.0	82.0	0.0	102.5	102.5	0.0	123.0	123.0	0.0
21.0	**21.8**	**0.8**	41.5	41.4	-0.1	62.0	61.9	-0.1	82.5	82.5	0.0	103.0	103.0	0.0	123.5	123.5	0.0
21.5	**22.0**	**0.5**	42.0	42.0	0.0	62.5	62.4	-0.1	83.0	83.0	0.0	103.5	103.5	0.0	124.0	124.0	0.0
22.0	**22.4**	**0.4**	42.5	42.5	0.0	63.0	62.9	-0.1	83.5	83.5	0.0	104.0	103.9	-0.1	124.5	124.5	0.0
22.5	22.8	0.3	43.0	43.0	0.0	63.5	63.4	-0.1	84.0	84.1	0.1	104.5	104.4	-0.1	125.0	125.1	0.1
23.0	23.3	0.3	43.5	43.5	0.0	64.0	63.9	-0.1	84.5	84.7	0.2	105.0	104.9	-0.1	125.5	125.7	0.2
23.5	23.6	0.1	44.0	44.0	0.0	64.5	64.4	-0.1	85.0	85.2	0.2	105.5	105.4	-0.1	126.0	126.2	0.2
24.0	24.1	0.1	44.5	44.5	0.0	65.0	64.9	-0.1	85.5	85.7	0.2	106.0	105.9	-0.1	126.5	126.7	0.2
24.5	24.5	0.0	45.0	45.0	0.0	65.5	65.4	-0.1	86.0	86.2	0.2	106.5	106.4	-0.1	127.0	127.2	0.2
25.0	25.0	0.0	45.5	45.5	0.0	66.0	65.9	-0.1	86.5	86.7	0.2	107.0	106.9	-0.1	127.5	127.7	0.2
25.5	25.5	0.0	46.0	45.9	-0.1	66.5	66.4	-0.1	87.0	87.2	0.2	107.5	107.4	-0.1	128.0	128.2	0.2
26.0	25.9	-0.1	46.5	46.4	-0.1	67.0	66.9	-0.1	87.5	87.6	0.1	108.0	107.9	-0.1	128.5	128.7	0.2
26.5	26.4	-0.1	47.0	46.9	-0.1	67.5	67.4	-0.1	88.0	88.0	0.0	108.5	108.4	-0.1	129.0	129.2	0.2
27.0	26.9	-0.1	47.5	47.4	-0.1	68.0	68.0	0.0	88.5	88.5	0.0	109.0	108.9	-0.1	**129.5**	**129.7**	**0.2**
27.5	27.4	-0.1	48.0	47.9	-0.1	68.5	68.5	0.0	89.0	89.0	0.0	109.5	109.4	-0.1	**130.0**	**130.0**	**0.0**
28.0	27.9	-0.1	48.5	48.4	-0.1	69.0	69.0	0.0	89.5	89.5	0.0	110.0	109.9	-0.1	**130.5**	**130.5**	**0.0**
28.5	28.4	-0.1	49.0	48.8	-0.2	69.5	69.5	0.0	90.0	89.9	-0.1	110.5	110.4	-0.1	**131.0**	**130.9**	**-0.1**
29.0	28.9	-0.1	49.5	49.3	-0.2	70.0	70.0	0.0	90.5	90.4	-0.1	111.0	111.0	0.0	**131.5**	**131.3**	**-0.2**
29.5	29.4	-0.1	50.0	49.8	-0.2	70.5	70.7	0.2	91.0	90.9	-0.1	111.5	111.5	0.0	**132.0**	**131.5**	**-0.5**
30.0	29.9	-0.1	50.5	50.3	-0.2	71.0	71.2	0.2	91.5	91.4	-0.1	112.0	112.0	0.0	**132.5**	**131.9**	**-0.6**
30.5	30.4	-0.1	51.0	50.8	-0.2	71.5	71.7	0.2	92.0	91.9	-0.1	112.5	112.5	0.0	**133.0**	**132.1**	**-0.9**
31.0	30.9	-0.1	51.5	51.3	-0.2	72.0	72.2	0.2	92.5	92.4	-0.1	113.0	113.0	0.0	**133.5**	**132.3**	**-1.2**
31.5	31.4	-0.1	52.0	51.8	-0.2	72.5	72.7	0.2	93.0	92.9	-0.1	113.5	113.6	0.1	**134.0**	**132.4**	**-1.6**
32.0	31.9	-0.1	52.5	52.3	-0.2	73.0	73.2	0.2	93.5	93.4	-0.1	114.0	114.2	0.2	**134.5**	**132.4**	**-2.1**
32.5	32.4	-0.1	53.0	52.9	-0.1	73.5	73.7	0.2	94.0	93.9	-0.1	114.5	114.7	0.2	**135.0**	**132.4**	**-2.6**
33.0	32.9	-0.1	53.5	53.4	-0.1	74.0	74.1	0.1	94.5	94.4	-0.1	115.0	115.2	0.2	**135.5**	**132.4**	**-3.1**
33.5	33.3	-0.2	54.0	53.9	-0.1	74.5	74.5	0.0	95.0	94.9	-0.1	115.5	115.7	0.2	**136.0**	**132.4**	**-3.6**
34.0	33.8	-0.2	54.5	54.4	-0.1	75.0	75.0	0.0	95.5	95.4	-0.1	116.0	116.1	0.1	**136.5**	**132.3**	**-4.2**
34.5	34.3	-0.2	55.0	54.9	-0.1	75.5	75.5	0.0	96.0	95.9	-0.1	116.5	116.5	0.0	**137.0**	**132.4**	**-4.6**
35.0	34.8	-0.2	55.5	55.5	0.0	76.0	76.0	0.0	96.5	96.4	-0.1	117.0	117.0	0.0	**137.5**	**132.4**	**-5.1**
35.5	35.3	-0.2	56.0	56.0	0.0	76.5	76.5	0.0	97.0	97.0	0.0	117.5	117.5	0.0	**138.0**	**132.5**	**-5.5**
36.0	35.8	-0.2	56.5	56.5	0.0	77.0	76.9	-0.1	97.5	97.5	0.0	118.0	118.0	0.0			
36.5	36.3	-0.2	57.0	57.0	0.0	77.5	77.4	-0.1	98.0	98.0	0.0	118.5	118.5	0.0			
37.0	36.8	-0.2	57.5	57.5	0.0	78.0	77.9	-0.1	98.5	98.5	0.0	119.0	119.0	0.0			
37.5	37.3	-0.2	58.0	58.0	0.0	78.5	78.4	-0.1	99.0	99.0	0.0	119.5	119.4	-0.1			
38.0	37.8	-0.2	58.5	58.5	0.0	79.0	78.9	-0.1	99.5	99.5	0.0	120.0	119.9	-0.1			

Plotted per typical sensitivity of a 2541 microphone; 44.5 mV/Pa & 17.1 pF.

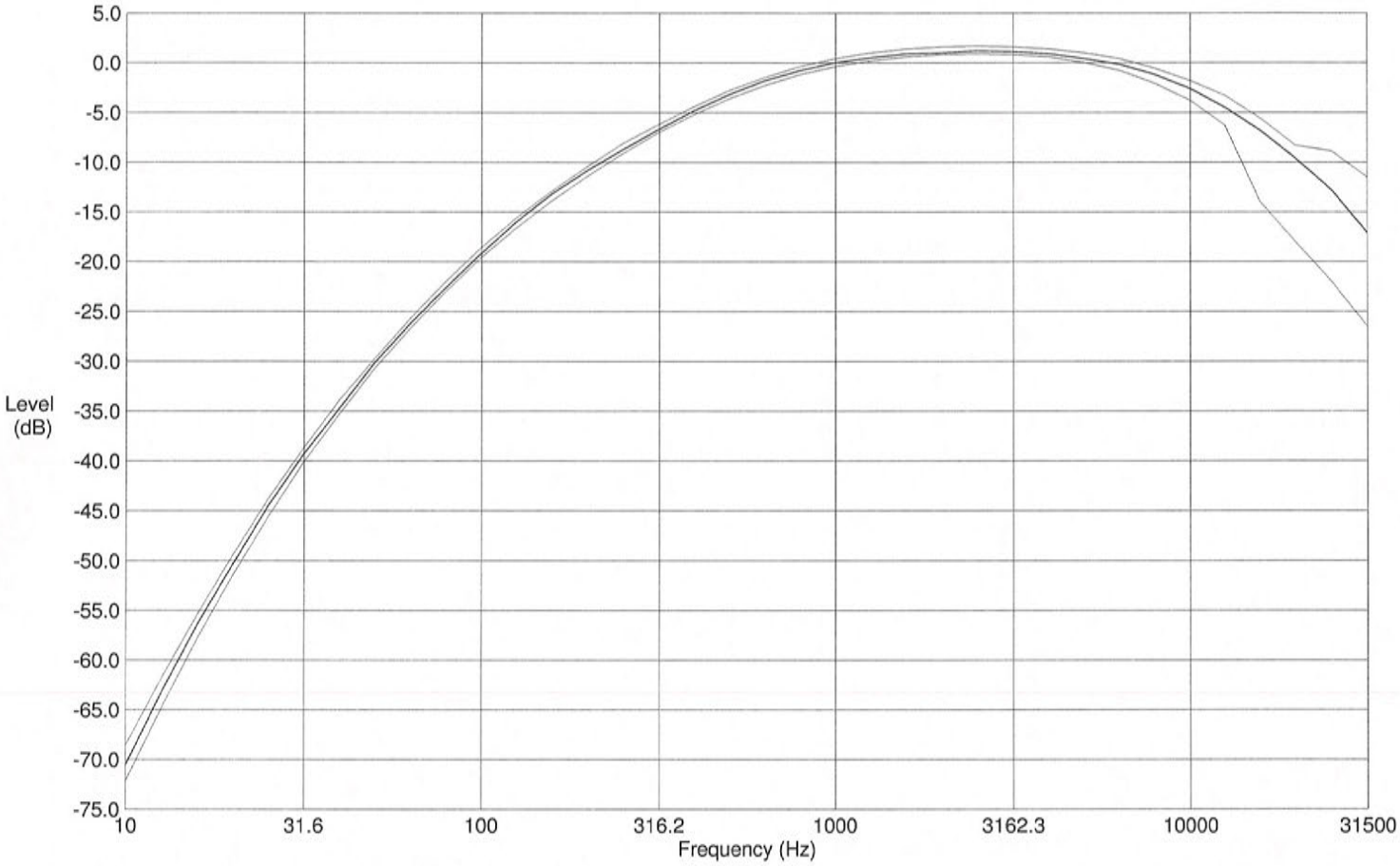
Overload occurs at 129.5 dBSPL.
Primary indicator range: 106.9 dB (lower limit: 22.5 dBSPL to upper limit: 129.4 dBSPL).
Dynamic range: 112.3 dB (noise floor: 17.1 dBSPL to upper limit: 129.4 dBSPL).

This instrument is in compliance with IEC 60651 (2001-10) 7.9 and 7.10, ANSI S1.4-1983 3.2 and IEC 60804 (2001-10) 9.2.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 02OCT2013

Sound Level Meter Model: 820A Serial Number: A1652
Certificate of A-Weight Electrical Conformance

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's A-weighted response was then electrically tested using a 1.9 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



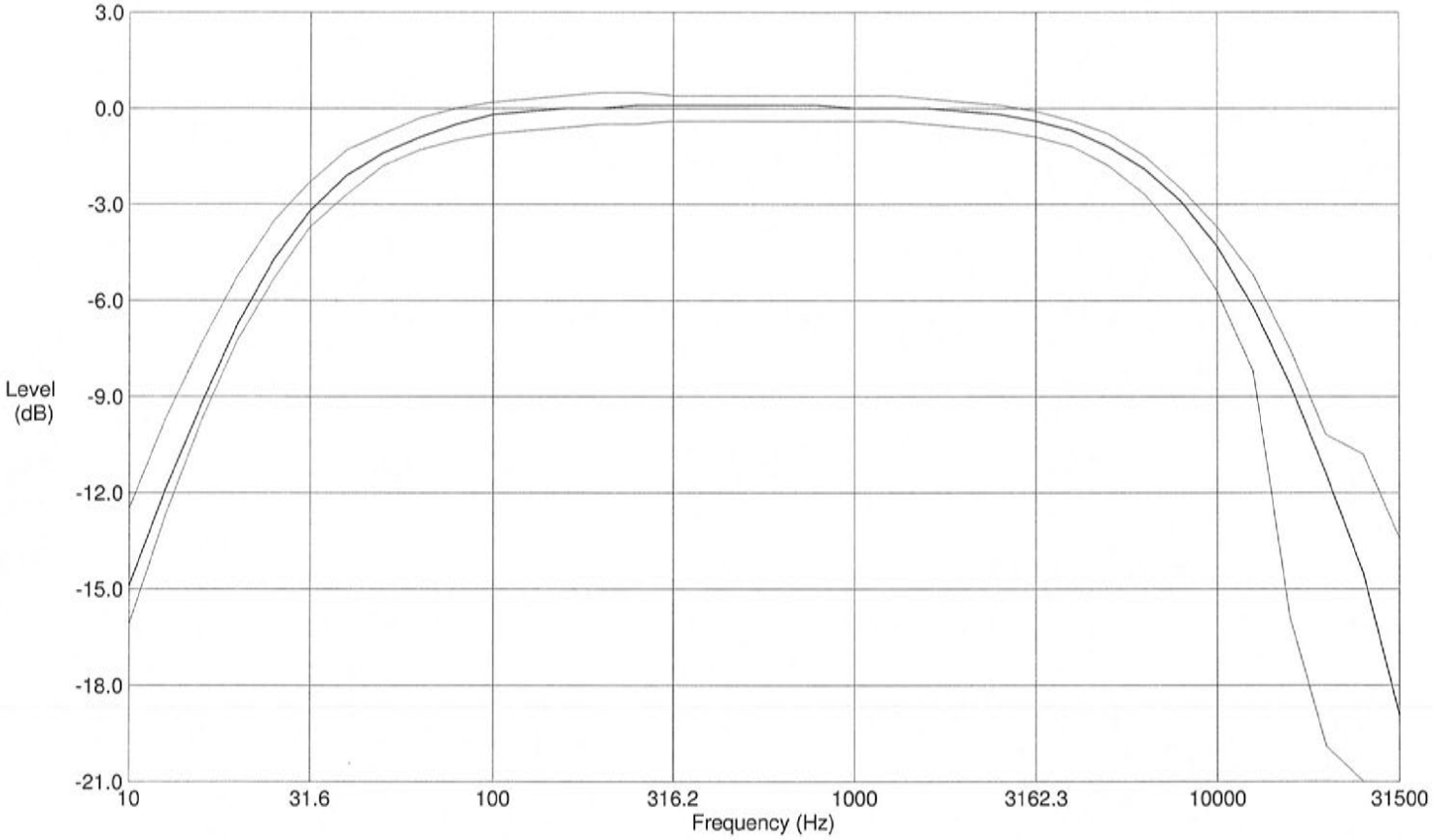
Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-70.4	-70.60	-0.20	+1.8, -1.8
12.59	-63.4	-63.30	0.10	+1.5, -1.5
15.85	-56.7	-56.50	0.20	+1.2, -1.2
19.95	-50.5	-50.40	0.10	+1.0, -1.0
25.12	-44.7	-44.50	0.20	+0.9, -0.9
31.62	-39.4	-39.30	0.10	+0.7, -0.7
39.81	-34.6	-34.70	-0.10	+0.7, -0.7
50.12	-30.2	-30.10	0.10	+0.5, -0.5
63.10	-26.2	-26.20	0.00	+0.5, -0.5
79.43	-22.5	-22.60	-0.10	+0.5, -0.5
100.00	-19.1	-19.20	-0.10	+0.5, -0.5
125.89	-16.1	-16.00	0.10	+0.5, -0.5
158.49	-13.4	-13.20	0.20	+0.5, -0.5
199.53	-10.9	-10.80	0.10	+0.5, -0.5
251.19	-8.6	-8.70	-0.10	+0.5, -0.5
316.23	-6.6	-6.70	-0.10	+0.4, -0.4
398.11	-4.8	-4.80	0.00	+0.4, -0.4
501.19	-3.2	-3.20	0.00	+0.4, -0.4
630.96	-1.9	-1.80	0.10	+0.4, -0.4
794.33	-0.8	-0.80	0.00	+0.4, -0.4
1000.00	0.0	0.00	0.00	+0.4, -0.4
1258.90	0.6	0.50	-0.10	+0.4, -0.4
1584.90	1.0	0.90	-0.10	+0.4, -0.4
1995.30	1.2	1.00	-0.20	+0.4, -0.4
2511.90	1.3	1.20	-0.10	+0.4, -0.4
3162.30	1.2	1.10	-0.10	+0.4, -0.4
3981.10	1.0	0.90	-0.10	+0.4, -0.4
5011.90	0.5	0.40	-0.10	+0.5, -0.5
6309.60	-0.1	-0.20	-0.10	+0.5, -0.7
7943.30	-1.1	-1.20	-0.10	+0.5, -1.0
10000.00	-2.5	-2.60	-0.10	+0.7, -1.3
12589.00	-4.3	-4.50	-0.20	+1.0, -2.0
15849.00	-6.6	-6.80	-0.20	+1.0, -7.4
19953.00	-9.3	-9.60	-0.30	+1.0, -8.7
25119.00	-12.4	-12.80	-0.40	+3.5, -9.6
31623.00	-15.8	-17.10	-1.30	+4.3, -10.7

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 02OCT2013

Sound Level Meter Model: 820A Serial Number: A1652
Certificate of C-Weight Electrical Conformance

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's C-weighted response was then electrically tested using a 1.9 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-14.3	-14.90	-0.60	+1.8, -1.8
12.59	-11.2	-11.90	-0.70	+1.5, -1.5
15.85	-8.5	-9.20	-0.70	+1.2, -1.2
19.95	-6.2	-6.70	-0.50	+1.0, -1.0
25.12	-4.4	-4.70	-0.30	+0.9, -0.9
31.62	-3.0	-3.20	-0.20	+0.7, -0.7
39.81	-2.0	-2.10	-0.10	+0.7, -0.7
50.12	-1.3	-1.40	-0.10	+0.5, -0.5
63.10	-0.8	-0.90	-0.10	+0.5, -0.5
79.43	-0.5	-0.50	0.00	+0.5, -0.5
100.00	-0.3	-0.20	0.10	+0.5, -0.5
125.89	-0.2	-0.10	0.10	+0.5, -0.5
158.49	-0.1	0.00	0.10	+0.5, -0.5
199.53	0.0	0.00	0.00	+0.5, -0.5
251.19	0.0	0.10	0.10	+0.5, -0.5
316.23	0.0	0.10	0.10	+0.4, -0.4
398.11	0.0	0.10	0.10	+0.4, -0.4
501.19	0.0	0.10	0.10	+0.4, -0.4

Freq (Hz)	Theor	Measured	Error	Tolerance
630.96	0.0	0.10	0.10	+0.4, -0.4
794.33	0.0	0.10	0.10	+0.4, -0.4
1000.00	0.0	0.00	0.00	+0.4, -0.4
1258.90	0.0	0.00	0.00	+0.4, -0.4
1584.90	-0.1	0.00	0.10	+0.4, -0.4
1995.30	-0.2	-0.10	0.10	+0.4, -0.4
2511.90	-0.3	-0.20	0.10	+0.4, -0.4
3162.30	-0.5	-0.40	0.10	+0.4, -0.4
3981.10	-0.8	-0.70	0.10	+0.4, -0.4
5011.90	-1.3	-1.20	0.10	+0.5, -0.5
6309.60	-2.0	-1.90	0.10	+0.5, -0.7
7943.30	-3.0	-2.90	0.10	+0.5, -1.0
10000.00	-4.4	-4.30	0.10	+0.7, -1.3
12589.00	-6.2	-6.20	0.00	+1.0, -2.0
15849.00	-8.5	-8.60	-0.10	+1.0, -7.4
19953.00	-11.2	-11.40	-0.20	+1.0, -8.7
25119.00	-14.3	-14.50	-0.20	+3.5, -9.6
31623.00	-17.7	-18.90	-1.20	+4.3, -10.7

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 02OCT2013

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2013-180218

Instrument Model 820, Serial Number 1651, was calibrated on 02OCT2013. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 02OCT2013
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	08MAR2014	2013-171090

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 32 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

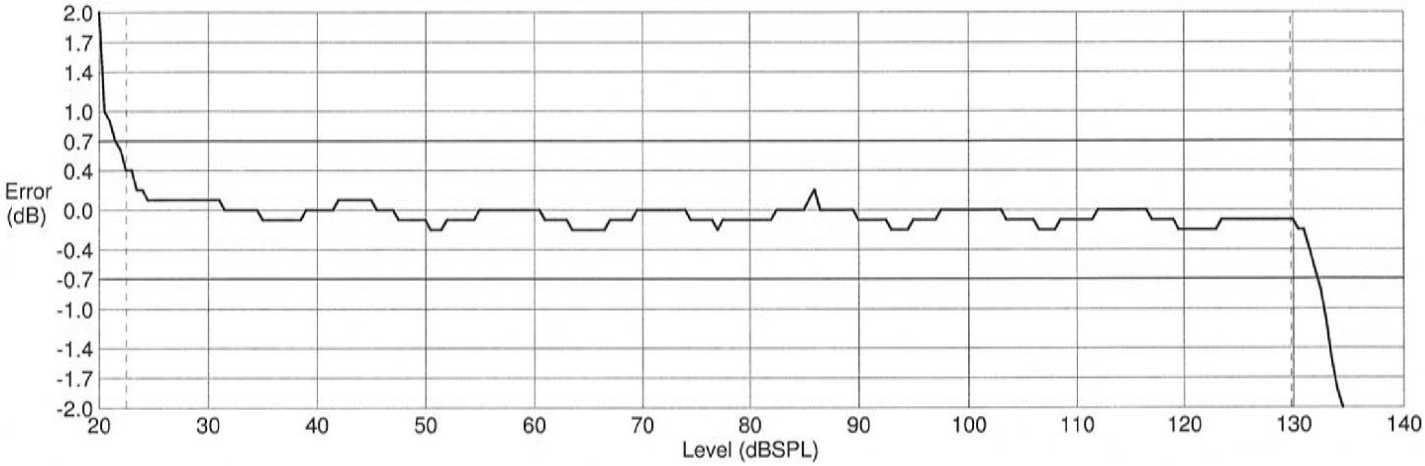
"AS RECEIVED" data same as shipped data.
Tested with PRM828-2581

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

Sound Level Meter Model: 820A Serial Number: A1651
Log Linearity, Differential Linearity and Range Data

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's Log Linearity A-weighted slow response was then electrically tested using a 1kHz sine wave from 18.0 dBSPL to 138.0 dBSPL in 0.5 dB increments.



Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB
18.0	**20.0**	**2.0**	38.5	38.4	-0.1	59.0	59.0	0.0	79.5	79.4	-0.1	100.0	100.0	0.0	120.5	120.3	-0.2
18.5	**20.4**	**1.9**	39.0	39.0	0.0	59.5	59.5	0.0	80.0	79.9	-0.1	100.5	100.5	0.0	121.0	120.8	-0.2
19.0	**20.5**	**1.5**	39.5	39.5	0.0	60.0	60.0	0.0	80.5	80.4	-0.1	101.0	101.0	0.0	121.5	121.3	-0.2
19.5	**20.9**	**1.4**	40.0	40.0	0.0	60.5	60.5	0.0	81.0	80.9	-0.1	101.5	101.5	0.0	122.0	121.8	-0.2
20.0	**21.1**	**1.1**	40.5	40.5	0.0	61.0	60.9	-0.1	81.5	81.4	-0.1	102.0	102.0	0.0	122.5	122.3	-0.2
20.5	**21.5**	**1.0**	41.0	41.0	0.0	61.5	61.4	-0.1	82.0	81.9	-0.1	102.5	102.5	0.0	123.0	122.8	-0.2
21.0	**21.9**	**0.9**	41.5	41.5	0.0	62.0	61.9	-0.1	82.5	82.5	0.0	103.0	103.0	0.0	123.5	123.4	-0.1
21.5	**22.2**	**0.7**	42.0	42.1	0.1	62.5	62.4	-0.1	83.0	83.0	0.0	103.5	103.4	-0.1	124.0	123.9	-0.1
22.0	**22.6**	**0.6**	42.5	42.6	0.1	63.0	62.9	-0.1	83.5	83.5	0.0	104.0	103.9	-0.1	124.5	124.4	-0.1
22.5	22.9	0.4	43.0	43.1	0.1	63.5	63.3	-0.2	84.0	84.0	0.0	104.5	104.4	-0.1	125.0	124.9	-0.1
23.0	23.4	0.4	43.5	43.6	0.1	64.0	63.8	-0.2	84.5	84.5	0.0	105.0	104.9	-0.1	125.5	125.4	-0.1
23.5	23.7	0.2	44.0	44.1	0.1	64.5	64.3	-0.2	85.0	85.0	0.0	105.5	105.4	-0.1	126.0	125.9	-0.1
24.0	24.2	0.2	44.5	44.6	0.1	65.0	64.8	-0.2	85.5	85.6	0.1	106.0	105.9	-0.1	126.5	126.4	-0.1
24.5	24.6	0.1	45.0	45.1	0.1	65.5	65.3	-0.2	86.0	86.2	0.2	106.5	106.3	-0.2	127.0	126.9	-0.1
25.0	25.1	0.1	45.5	45.5	0.0	66.0	65.8	-0.2	86.5	86.5	0.0	107.0	106.8	-0.2	127.5	127.4	-0.1
25.5	25.6	0.1	46.0	46.0	0.0	66.5	66.3	-0.2	87.0	87.0	0.0	107.5	107.3	-0.2	128.0	127.9	-0.1
26.0	26.1	0.1	46.5	46.5	0.0	67.0	66.9	-0.1	87.5	87.5	0.0	108.0	107.8	-0.2	128.5	128.4	-0.1
26.5	26.6	0.1	47.0	47.0	0.0	67.5	67.4	-0.1	88.0	88.0	0.0	108.5	108.4	-0.1	129.0	128.9	-0.1
27.0	27.1	0.1	47.5	47.4	-0.1	68.0	67.9	-0.1	88.5	88.5	0.0	109.0	108.9	-0.1	129.5	129.4	-0.1
27.5	27.6	0.1	48.0	47.9	-0.1	68.5	68.4	-0.1	89.0	89.0	0.0	109.5	109.4	-0.1	**130.0**	**129.9**	**-0.1**
28.0	28.1	0.1	48.5	48.4	-0.1	69.0	68.9	-0.1	89.5	89.5	0.0	110.0	109.9	-0.1	**130.5**	**130.3**	**-0.2**
28.5	28.6	0.1	49.0	48.9	-0.1	69.5	69.5	0.0	90.0	89.9	-0.1	110.5	110.4	-0.1	**131.0**	**130.8**	**-0.2**
29.0	29.1	0.1	49.5	49.4	-0.1	70.0	70.0	0.0	90.5	90.4	-0.1	111.0	110.9	-0.1	**131.5**	**131.1**	**-0.4**
29.5	29.6	0.1	50.0	49.9	-0.1	70.5	70.5	0.0	91.0	90.9	-0.1	111.5	111.4	-0.1	**132.0**	**131.4**	**-0.6**
30.0	30.1	0.1	50.5	50.3	-0.2	71.0	71.0	0.0	91.5	91.4	-0.1	112.0	112.0	0.0	**132.5**	**131.7**	**-0.8**
30.5	30.6	0.1	51.0	50.8	-0.2	71.5	71.5	0.0	92.0	91.9	-0.1	112.5	112.5	0.0	**133.0**	**131.9**	**-1.1**
31.0	31.1	0.1	51.5	51.3	-0.2	72.0	72.0	0.0	92.5	92.4	-0.1	113.0	113.0	0.0	**133.5**	**132.0**	**-1.5**
31.5	31.5	0.0	52.0	51.9	-0.1	72.5	72.5	0.0	93.0	92.8	-0.2	113.5	113.5	0.0	**134.0**	**132.2**	**-1.8**
32.0	32.0	0.0	52.5	52.4	-0.1	73.0	73.0	0.0	93.5	93.3	-0.2	114.0	114.0	0.0	**134.5**	**132.2**	**-2.3**
32.5	32.5	0.0	53.0	52.9	-0.1	73.5	73.5	0.0	94.0	93.8	-0.2	114.5	114.5	0.0	**135.0**	**132.2**	**-2.8**
33.0	33.0	0.0	53.5	53.4	-0.1	74.0	74.0	0.0	94.5	94.3	-0.2	115.0	115.0	0.0	**135.5**	**132.0**	**-3.5**
33.5	33.5	0.0	54.0	53.9	-0.1	74.5	74.4	-0.1	95.0	94.9	-0.1	115.5	115.5	0.0	**136.0**	**132.0**	**-4.0**
34.0	34.0	0.0	54.5	54.4	-0.1	75.0	74.9	-0.1	95.5	95.4	-0.1	116.0	116.0	0.0	**136.5**	**132.0**	**-4.5**
34.5	34.5	0.0	55.0	55.0	0.0	75.5	75.4	-0.1	96.0	95.9	-0.1	116.5	116.5	0.0	**137.0**	**132.0**	**-5.0**
35.0	34.9	-0.1	55.5	55.5	0.0	76.0	75.9	-0.1	96.5	96.4	-0.1	117.0	116.9	-0.1	**137.5**	**132.2**	**-5.3**
35.5	35.4	-0.1	56.0	56.0	0.0	76.5	76.4	-0.1	97.0	96.9	-0.1	117.5	117.4	-0.1	**138.0**	**132.2**	**-5.8**
36.0	35.9	-0.1	56.5	56.5	0.0	77.0	76.8	-0.2	97.5	97.5	0.0	118.0	117.9	-0.1			
36.5	36.4	-0.1	57.0	57.0	0.0	77.5	77.4	-0.1	98.0	98.0	0.0	118.5	118.4	-0.1			
37.0	36.9	-0.1	57.5	57.5	0.0	78.0	77.9	-0.1	98.5	98.5	0.0	119.0	118.9	-0.1			
37.5	37.4	-0.1	58.0	58.0	0.0	78.5	78.4	-0.1	99.0	99.0	0.0	119.5	119.3	-0.2			
38.0	37.9	-0.1	58.5	58.5	0.0	79.0	78.9	-0.1	99.5	99.5	0.0	120.0	119.8	-0.2			

Plotted per typical sensitivity of a 2541 microphone; 44.5 mV/Pa & 17.1 pF.

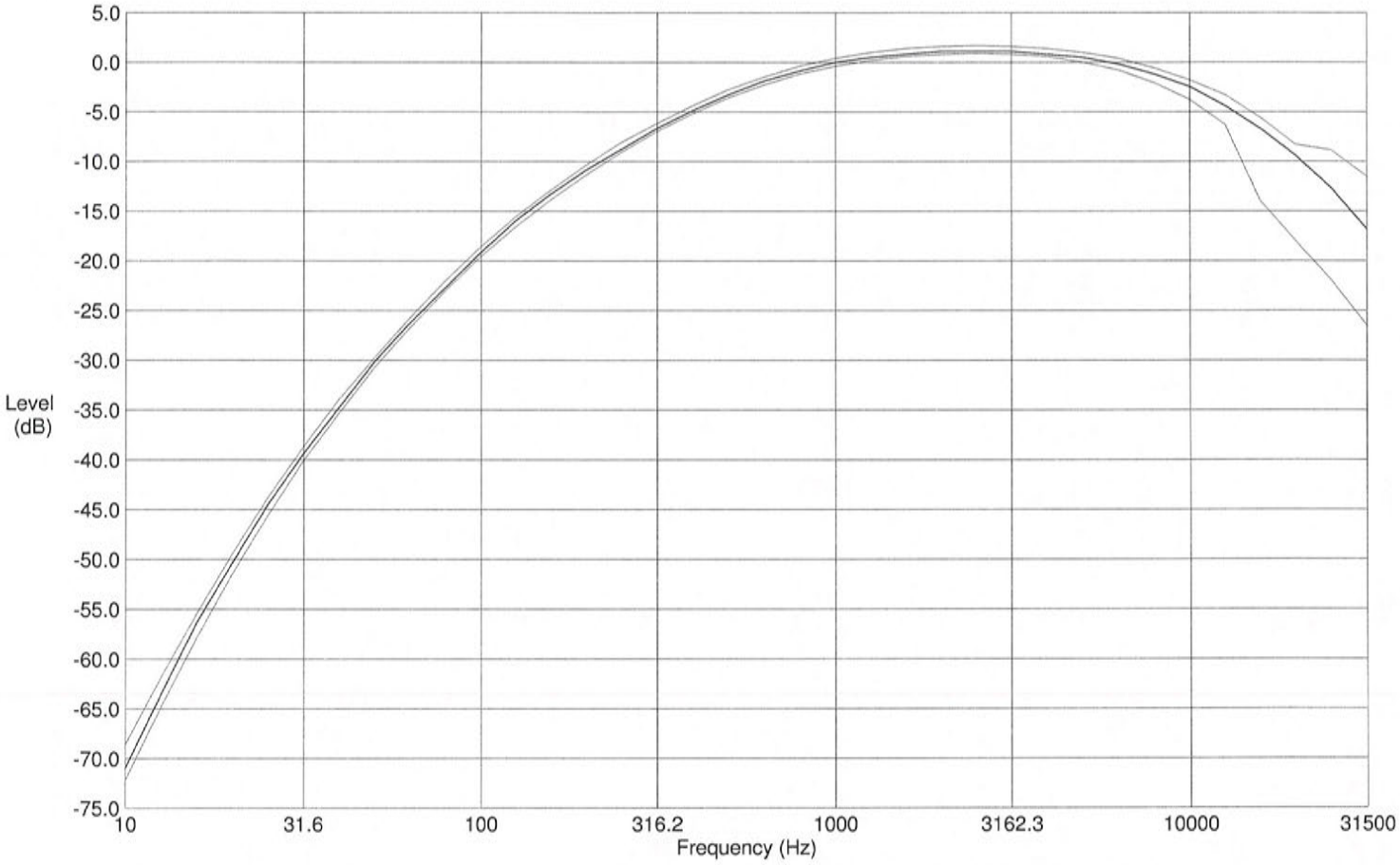
Overload occurs at 129.9 dBSPL.
Primary indicator range: 107.3 dB (lower limit: 22.5 dBSPL to upper limit: 129.8 dBSPL).
Dynamic range: 112.7 dB (noise floor: 17.1 dBSPL to upper limit: 129.8 dBSPL).

This instrument is in compliance with IEC 60651 (2001-10) 7.9 and 7.10, ANSI S1.4-1983 3.2 and IEC 60804 (2001-10) 9.2.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 02OCT2013

Sound Level Meter Model: 820A Serial Number: A1651
Certificate of A-Weight Electrical Conformance

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's A-weighted response was then electrically tested using a 2.0 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



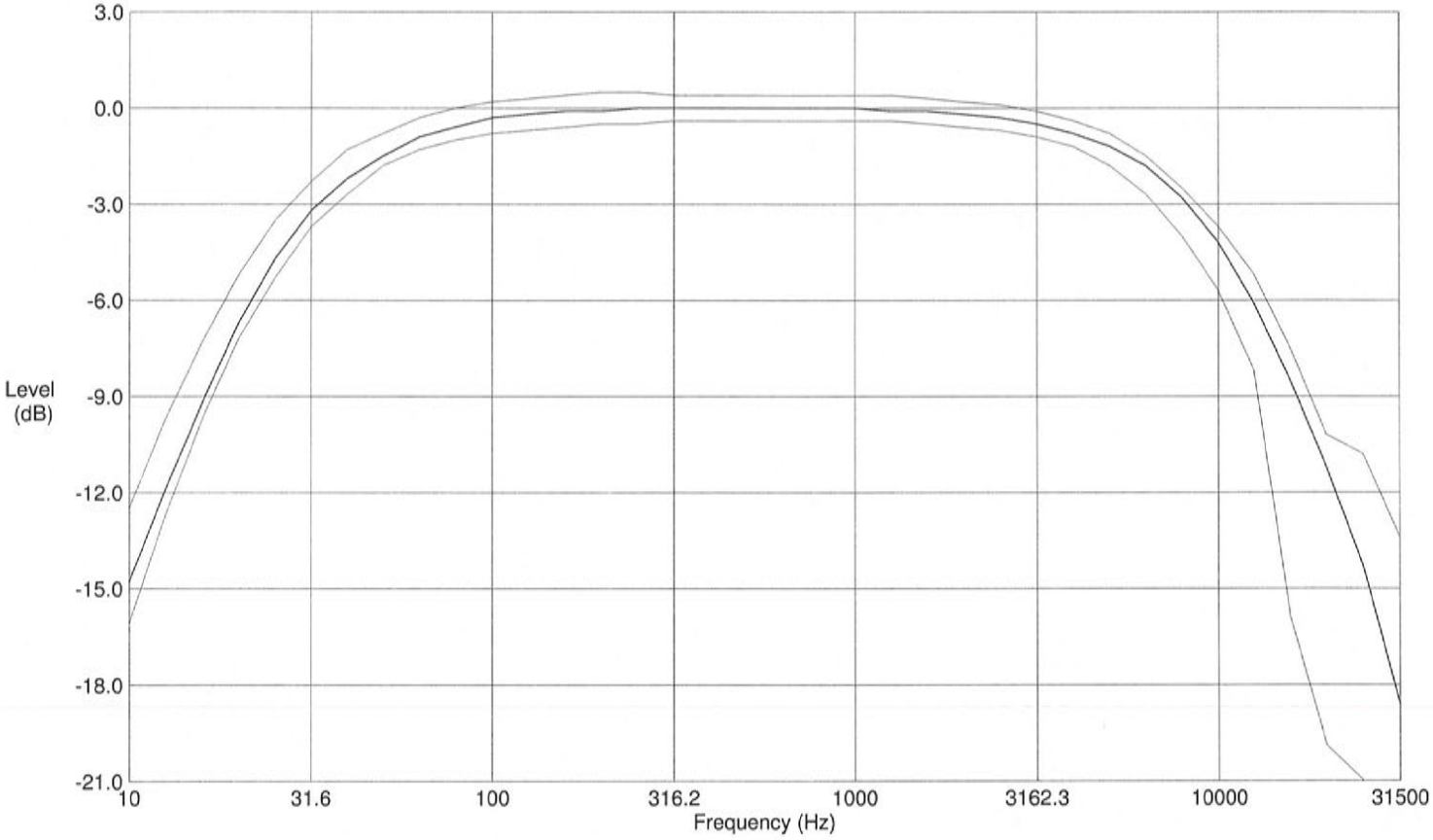
Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-70.4	-71.00	-0.60	+1.8, -1.8
12.59	-63.4	-63.60	-0.20	+1.5, -1.5
15.85	-56.7	-56.40	0.30	+1.2, -1.2
19.95	-50.5	-50.40	0.10	+1.0, -1.0
25.12	-44.7	-44.50	0.20	+0.9, -0.9
31.62	-39.4	-39.40	0.00	+0.7, -0.7
39.81	-34.6	-34.70	-0.10	+0.7, -0.7
50.12	-30.2	-30.10	0.10	+0.5, -0.5
63.10	-26.2	-26.20	0.00	+0.5, -0.5
79.43	-22.5	-22.70	-0.20	+0.5, -0.5
100.00	-19.1	-19.20	-0.10	+0.5, -0.5
125.89	-16.1	-16.00	0.10	+0.5, -0.5
158.49	-13.4	-13.30	0.10	+0.5, -0.5
199.53	-10.9	-10.90	0.00	+0.5, -0.5
251.19	-8.6	-8.80	-0.20	+0.5, -0.5
316.23	-6.6	-6.70	-0.10	+0.4, -0.4
398.11	-4.8	-4.90	-0.10	+0.4, -0.4
501.19	-3.2	-3.30	-0.10	+0.4, -0.4
630.96	-1.9	-1.90	0.00	+0.4, -0.4
794.33	-0.8	-0.90	-0.10	+0.4, -0.4
1000.00	0.0	0.00	0.00	+0.4, -0.4
1258.90	0.6	0.50	-0.10	+0.4, -0.4
1584.90	1.0	0.80	-0.20	+0.4, -0.4
1995.30	1.2	1.10	-0.10	+0.4, -0.4
2511.90	1.3	1.10	-0.20	+0.4, -0.4
3162.30	1.2	1.10	-0.10	+0.4, -0.4
3981.10	1.0	0.80	-0.20	+0.4, -0.4
5011.90	0.5	0.50	0.00	+0.5, -0.5
6309.60	-0.1	-0.20	-0.10	+0.5, -0.7
7943.30	-1.1	-1.20	-0.10	+0.5, -1.0
10000.00	-2.5	-2.50	0.00	+0.7, -1.3
12589.00	-4.3	-4.40	-0.10	+1.0, -2.0
15849.00	-6.6	-6.70	-0.10	+1.0, -7.4
19953.00	-9.3	-9.40	-0.10	+1.0, -8.7
25119.00	-12.4	-12.70	-0.30	+3.5, -9.6
31623.00	-15.8	-16.80	-1.00	+4.3, -10.7

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 02OCT2013

Sound Level Meter Model: 820A Serial Number: A1651
Certificate of C-Weight Electrical Conformance

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's C-weighted response was then electrically tested using a 2.0 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-14.3	-14.80	-0.50	+1.8, -1.8
12.59	-11.2	-11.90	-0.70	+1.5, -1.5
15.85	-8.5	-9.20	-0.70	+1.2, -1.2
19.95	-6.2	-6.70	-0.50	+1.0, -1.0
25.12	-4.4	-4.70	-0.30	+0.9, -0.9
31.62	-3.0	-3.20	-0.20	+0.7, -0.7
39.81	-2.0	-2.20	-0.20	+0.7, -0.7
50.12	-1.3	-1.50	-0.20	+0.5, -0.5
63.10	-0.8	-0.90	-0.10	+0.5, -0.5
79.43	-0.5	-0.60	-0.10	+0.5, -0.5
100.00	-0.3	-0.30	0.00	+0.5, -0.5
125.89	-0.2	-0.20	0.00	+0.5, -0.5
158.49	-0.1	-0.10	0.00	+0.5, -0.5
199.53	0.0	-0.10	-0.10	+0.5, -0.5
251.19	0.0	0.00	0.00	+0.5, -0.5
316.23	0.0	0.00	0.00	+0.4, -0.4
398.11	0.0	0.00	0.00	+0.4, -0.4
501.19	0.0	0.00	0.00	+0.4, -0.4

Freq (Hz)	Theor	Measured	Error	Tolerance
630.96	0.0	0.00	0.00	+0.4, -0.4
794.33	0.0	0.00	0.00	+0.4, -0.4
1000.00	0.0	0.00	0.00	+0.4, -0.4
1258.90	0.0	-0.10	-0.10	+0.4, -0.4
1584.90	-0.1	-0.10	0.00	+0.4, -0.4
1995.30	-0.2	-0.20	0.00	+0.4, -0.4
2511.90	-0.3	-0.30	0.00	+0.4, -0.4
3162.30	-0.5	-0.50	0.00	+0.4, -0.4
3981.10	-0.8	-0.80	0.00	+0.4, -0.4
5011.90	-1.3	-1.20	0.10	+0.5, -0.5
6309.60	-2.0	-1.80	0.20	+0.5, -0.7
7943.30	-3.0	-2.80	0.20	+0.5, -1.0
10000.00	-4.4	-4.20	0.20	+0.7, -1.3
12589.00	-6.2	-6.10	0.10	+1.0, -2.0
15849.00	-8.5	-8.50	0.00	+1.0, -7.4
19953.00	-11.2	-11.20	0.00	+1.0, -8.7
25119.00	-14.3	-14.30	0.00	+3.5, -9.6
31623.00	-17.7	-18.60	-0.90	+4.3, -10.7

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 02OCT2013

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2013-176042

Instrument Model 820, Serial Number 1324, was calibrated on 27JUN2013. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 27JUN2013
Calibration due: 27JUN2014

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	08MAR2014	2013-171090

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 24 ° Centigrade

Relative Humidity: 33 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

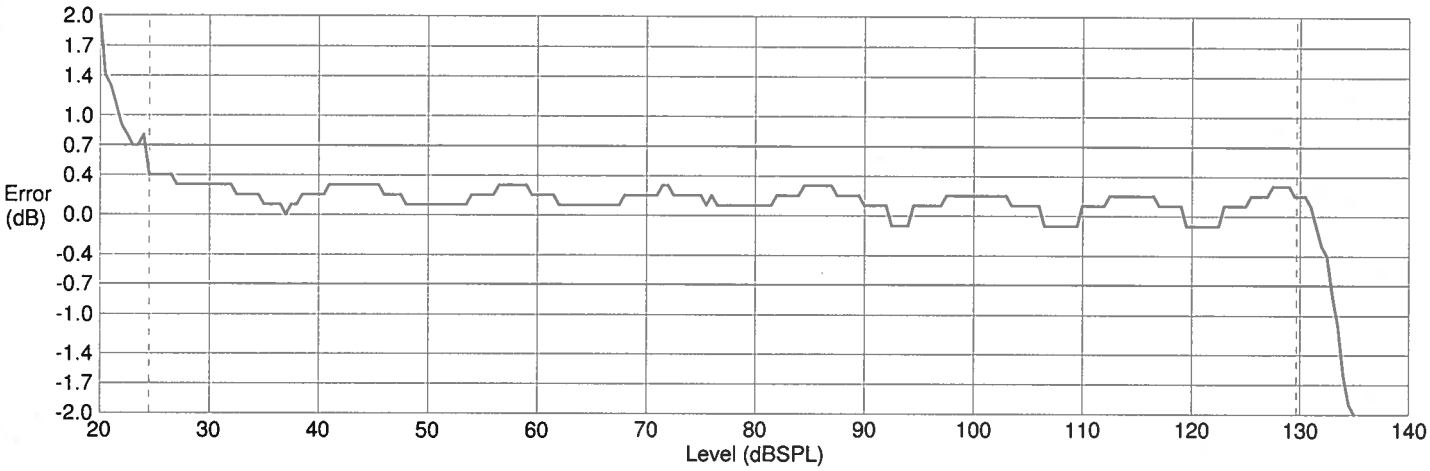
"AS RECEIVED" data same as shipped data.

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

Sound Level Meter Model: 820A Serial Number: A1324
Log Linearity, Differential Linearity and Range Data

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's Log Linearity A-weighted slow response was then electrically tested using a 1kHz sine wave from 18.0 dBSPL to 138.0 dBSPL in 0.5 dB increments.



Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB
18.0	**20.6**	**2.6**	38.5	38.7	0.2	59.0	59.3	0.3	79.5	79.6	0.1	100.0	100.2	0.2	120.5	120.4	-0.1
18.5	**20.8**	**2.3**	39.0	39.2	0.2	59.5	59.7	0.2	80.0	80.1	0.1	100.5	100.7	0.2	121.0	120.9	-0.1
19.0	**21.0**	**2.0**	39.5	39.7	0.2	60.0	60.2	0.2	80.5	80.6	0.1	101.0	101.2	0.2	121.5	121.4	-0.1
19.5	**21.3**	**1.8**	40.0	40.2	0.2	60.5	60.7	0.2	81.0	81.1	0.1	101.5	101.7	0.2	122.0	121.9	-0.1
20.0	**21.6**	**1.6**	40.5	40.7	0.2	61.0	61.2	0.2	81.5	81.6	0.1	102.0	102.2	0.2	122.5	122.4	-0.1
20.5	**21.9**	**1.4**	41.0	41.3	0.3	61.5	61.7	0.2	82.0	82.2	0.2	102.5	102.7	0.2	123.0	123.1	0.1
21.0	**22.3**	**1.3**	41.5	41.8	0.3	62.0	62.1	0.1	82.5	82.7	0.2	103.0	103.2	0.2	123.5	123.6	0.1
21.5	**22.6**	**1.1**	42.0	42.3	0.3	62.5	62.6	0.1	83.0	83.2	0.2	103.5	103.6	0.1	124.0	124.1	0.1
22.0	**22.9**	**0.9**	42.5	42.8	0.3	63.0	63.1	0.1	83.5	83.7	0.2	104.0	104.1	0.1	124.5	124.6	0.1
22.5	**23.3**	**0.8**	43.0	43.3	0.3	63.5	63.6	0.1	84.0	84.2	0.2	104.5	104.6	0.1	125.0	125.1	0.1
23.0	**23.7**	**0.7**	43.5	43.8	0.3	64.0	64.1	0.1	84.5	84.8	0.3	105.0	105.1	0.1	125.5	125.7	0.2
23.5	**24.2**	**0.7**	44.0	44.3	0.3	64.5	64.6	0.1	85.0	85.3	0.3	105.5	105.6	0.1	126.0	126.2	0.2
24.0	**24.8**	**0.8**	44.5	44.8	0.3	65.0	65.1	0.1	85.5	85.8	0.3	106.0	106.1	0.1	126.5	126.7	0.2
24.5	24.9	0.4	45.0	45.3	0.3	65.5	65.6	0.1	86.0	86.3	0.3	106.5	106.4	-0.1	127.0	127.2	0.2
25.0	25.4	0.4	45.5	45.8	0.3	66.0	66.1	0.1	86.5	86.8	0.3	107.0	106.9	-0.1	127.5	127.8	0.3
25.5	25.9	0.4	46.0	46.2	0.2	66.5	66.6	0.1	87.0	87.3	0.3	107.5	107.4	-0.1	128.0	128.3	0.3
26.0	26.4	0.4	46.5	46.7	0.2	67.0	67.1	0.1	87.5	87.7	0.2	108.0	107.9	-0.1	128.5	128.8	0.3
26.5	26.9	0.4	47.0	47.2	0.2	67.5	67.6	0.1	88.0	88.2	0.2	108.5	108.4	-0.1	129.0	129.3	0.3
27.0	27.3	0.3	47.5	47.7	0.2	68.0	68.2	0.2	88.5	88.7	0.2	109.0	108.9	-0.1	129.5	129.7	0.2
27.5	27.8	0.3	48.0	48.1	0.1	68.5	68.7	0.2	89.0	89.2	0.2	109.5	109.4	-0.1	**130.0**	**130.2**	**0.2**
28.0	28.3	0.3	48.5	48.6	0.1	69.0	69.2	0.2	89.5	89.7	0.2	110.0	110.1	0.1	**130.5**	**130.7**	**0.2**
28.5	28.8	0.3	49.0	49.1	0.1	69.5	69.7	0.2	90.0	90.1	0.1	110.5	110.6	0.1	**131.0**	**131.1**	**0.1**
29.0	29.3	0.3	49.5	49.6	0.1	70.0	70.2	0.2	90.5	90.6	0.1	111.0	111.1	0.1	**131.5**	**131.4**	**-0.1**
29.5	29.8	0.3	50.0	50.1	0.1	70.5	70.7	0.2	91.0	91.1	0.1	111.5	111.6	0.1	**132.0**	**131.7**	**-0.3**
30.0	30.3	0.3	50.5	50.6	0.1	71.0	71.2	0.2	91.5	91.6	0.1	112.0	112.1	0.1	**132.5**	**132.1**	**-0.4**
30.5	30.8	0.3	51.0	51.1	0.1	71.5	71.8	0.3	92.0	92.1	0.1	112.5	112.7	0.2	**133.0**	**132.2**	**-0.8**
31.0	31.3	0.3	51.5	51.6	0.1	72.0	72.3	0.3	92.5	92.4	-0.1	113.0	113.2	0.2	**133.5**	**132.4**	**-1.1**
31.5	31.8	0.3	52.0	52.1	0.1	72.5	72.7	0.2	93.0	92.9	-0.1	113.5	113.7	0.2	**134.0**	**132.4**	**-1.6**
32.0	32.3	0.3	52.5	52.6	0.1	73.0	73.2	0.2	93.5	93.4	-0.1	114.0	114.2	0.2	**134.5**	**132.6**	**-1.9**
32.5	32.7	0.2	53.0	53.1	0.1	73.5	73.7	0.2	94.0	93.9	-0.1	114.5	114.7	0.2	**135.0**	**132.4**	**-2.6**
33.0	33.2	0.2	53.5	53.6	0.1	74.0	74.2	0.2	94.5	94.6	0.1	115.0	115.2	0.2	**135.5**	**132.4**	**-3.1**
33.5	33.7	0.2	54.0	54.2	0.2	74.5	74.7	0.2	95.0	95.1	0.1	115.5	115.7	0.2	**136.0**	**132.4**	**-3.6**
34.0	34.2	0.2	54.5	54.7	0.2	75.0	75.2	0.2	95.5	95.6	0.1	116.0	116.2	0.2	**136.5**	**132.3**	**-4.2**
34.5	34.7	0.2	55.0	55.2	0.2	75.5	75.6	0.1	96.0	96.1	0.1	116.5	116.7	0.2	**137.0**	**132.3**	**-4.7**
35.0	35.1	0.1	55.5	55.7	0.2	76.0	76.2	0.2	96.5	96.6	0.1	117.0	117.1	0.1	**137.5**	**132.4**	**-5.1**
35.5	35.6	0.1	56.0	56.2	0.2	76.5	76.6	0.1	97.0	97.1	0.1	117.5	117.6	0.1	**138.0**	**132.4**	**-5.6**
36.0	36.1	0.1	56.5	56.8	0.3	77.0	77.1	0.1	97.5	97.7	0.2	118.0	118.1	0.1			
36.5	36.6	0.1	57.0	57.3	0.3	77.5	77.6	0.1	98.0	98.2	0.2	118.5	118.6	0.1			
37.0	37.0	0.0	57.5	57.8	0.3	78.0	78.1	0.1	98.5	98.7	0.2	119.0	119.1	0.1			
37.5	37.6	0.1	58.0	58.3	0.3	78.5	78.6	0.1	99.0	99.2	0.2	119.5	119.4	-0.1			
38.0	38.1	0.1	58.5	58.8	0.3	79.0	79.1	0.1	99.5	99.7	0.2	120.0	119.9	-0.1			

Plotted per typical sensitivity of a 2541 microphone; 44.5 mV/Pa & 17.1 pF.

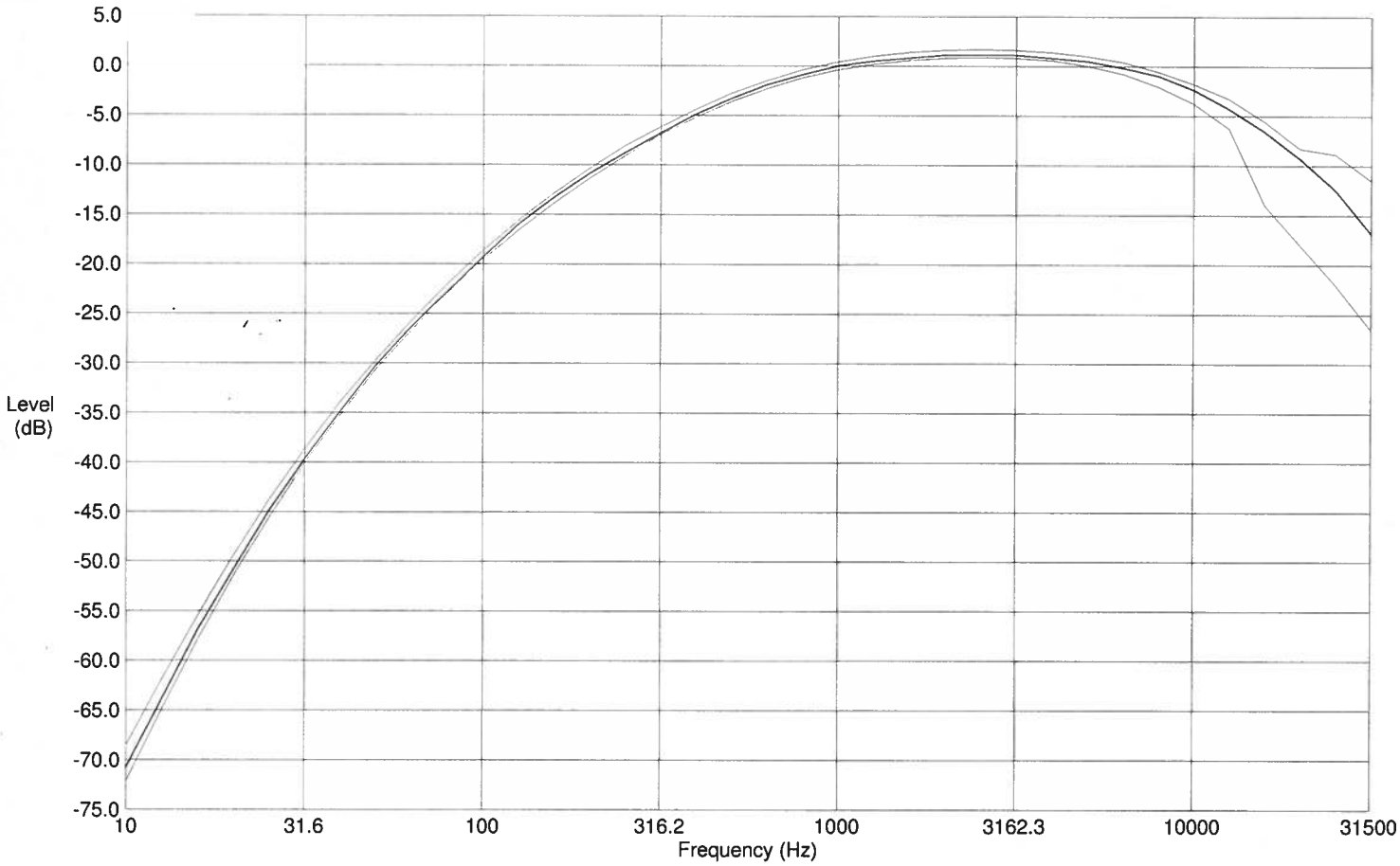
Overload occurs at 129.8 dBSPL.
Primary indicator range: 105.2 dB (lower limit: 24.5 dBSPL to upper limit: 129.7 dBSPL).
Dynamic range: 111.7 dB (noise floor: 18.0 dBSPL to upper limit: 129.7 dBSPL).

This instrument is in compliance with IEC 60651 (2001-10) 7.9 and 7.10, ANSI S1.4-1983 3.2 and IEC 60804 (2001-10) 9.2.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 27JUN2013

Sound Level Meter Model: 820A Serial Number: A1324
Certificate of A-Weight Electrical Conformance

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's A-weighted response was then electrically tested using a 1.9 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



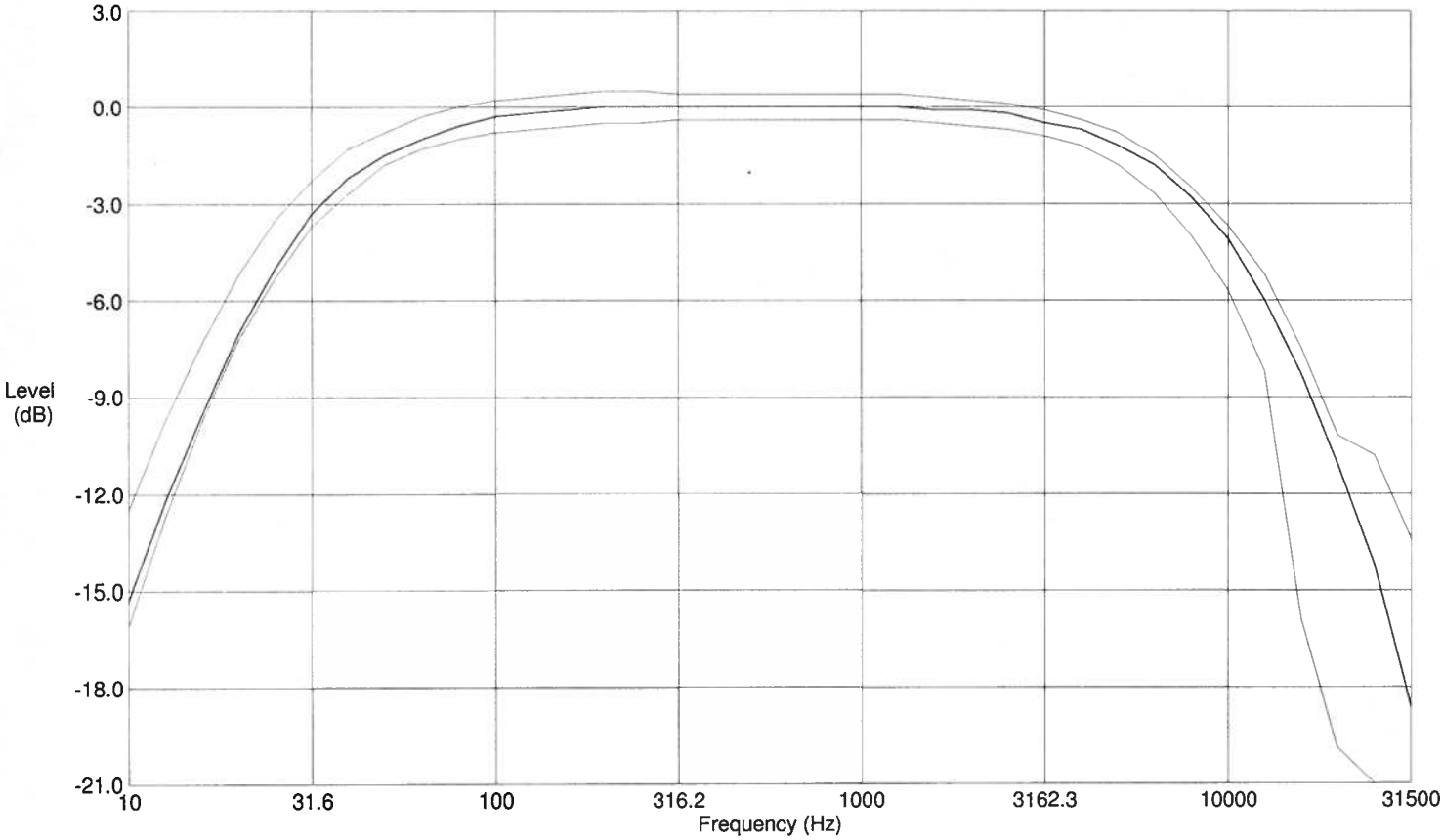
Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-70.4	-70.80	-0.40	+1.8, -1.8
12.59	-63.4	-63.90	-0.50	+1.5, -1.5
15.85	-56.7	-56.90	-0.20	+1.2, -1.2
19.95	-50.5	-50.90	-0.40	+1.0, -1.0
25.12	-44.7	-44.90	-0.20	+0.9, -0.9
31.62	-39.4	-39.70	-0.30	+0.7, -0.7
39.81	-34.6	-34.90	-0.30	+0.7, -0.7
50.12	-30.2	-30.30	-0.10	+0.5, -0.5
63.10	-26.2	-26.30	-0.10	+0.5, -0.5
79.43	-22.5	-22.80	-0.30	+0.5, -0.5
100.00	-19.1	-19.30	-0.20	+0.5, -0.5
125.89	-16.1	-16.00	0.10	+0.5, -0.5
158.49	-13.4	-13.30	0.10	+0.5, -0.5
199.53	-10.9	-10.90	0.00	+0.5, -0.5
251.19	-8.6	-8.80	-0.20	+0.5, -0.5
316.23	-6.6	-6.80	-0.20	+0.4, -0.4
398.11	-4.8	-4.90	-0.10	+0.4, -0.4
501.19	-3.2	-3.30	-0.10	+0.4, -0.4
630.96	-1.9	-1.90	0.00	+0.4, -0.4
794.33	-0.8	-0.90	-0.10	+0.4, -0.4
1000.00	0.0	0.00	0.00	+0.4, -0.4
1258.90	0.6	0.50	-0.10	+0.4, -0.4
1584.90	1.0	0.80	-0.20	+0.4, -0.4
1995.30	1.2	1.10	-0.10	+0.4, -0.4
2511.90	1.3	1.10	-0.20	+0.4, -0.4
3162.30	1.2	1.10	-0.10	+0.4, -0.4
3981.10	1.0	0.80	-0.20	+0.4, -0.4
5011.90	0.5	0.50	0.00	+0.5, -0.5
6309.60	-0.1	-0.20	-0.10	+0.5, -0.7
7943.30	-1.1	-1.00	0.10	+0.5, -1.0
10000.00	-2.5	-2.40	0.10	+0.7, -1.3
12589.00	-4.3	-4.30	0.00	+1.0, -2.0
15849.00	-6.6	-6.60	0.00	+1.0, -7.4
19953.00	-9.3	-9.30	0.00	+1.0, -8.7
25119.00	-12.4	-12.50	-0.10	+3.5, -9.6
31623.00	-15.8	-16.80	-1.00	+4.3, -10.7

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 27JUN2013

Sound Level Meter Model: 820A Serial Number: A1324
Certificate of C-Weight Electrical Conformance

This Type 1 Sound Level Meter (including attached PRM828 preamplifier and ADP005 18 pF input adapter) was calibrated with a reference 1kHz sine wave at a level of 114.0 dBSPL. The instrument's C-weighted response was then electrically tested using a 1.9 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-14.3	-15.30	-1.00	+1.8, -1.8
12.59	-11.2	-12.20	-1.00	+1.5, -1.5
15.85	-8.5	-9.50	-1.00	+1.2, -1.2
19.95	-6.2	-7.00	-0.80	+1.0, -1.0
25.12	-4.4	-5.00	-0.60	+0.9, -0.9
31.62	-3.0	-3.30	-0.30	+0.7, -0.7
39.81	-2.0	-2.20	-0.20	+0.7, -0.7
50.12	-1.3	-1.50	-0.20	+0.5, -0.5
63.10	-0.8	-1.00	-0.20	+0.5, -0.5
79.43	-0.5	-0.60	-0.10	+0.5, -0.5
100.00	-0.3	-0.30	0.00	+0.5, -0.5
125.89	-0.2	-0.20	0.00	+0.5, -0.5
158.49	-0.1	-0.10	0.00	+0.5, -0.5
199.53	0.0	0.00	0.00	+0.5, -0.5
251.19	0.0	0.00	0.00	+0.5, -0.5
316.23	0.0	0.00	0.00	+0.4, -0.4
398.11	0.0	0.00	0.00	+0.4, -0.4
501.19	0.0	0.00	0.00	+0.4, -0.4

Freq (Hz)	Theor	Measured	Error	Tolerance
630.96	0.0	0.00	0.00	+0.4, -0.4
794.33	0.0	0.00	0.00	+0.4, -0.4
1000.00	0.0	0.00	0.00	+0.4, -0.4
1258.90	0.0	0.00	0.00	+0.4, -0.4
1584.90	-0.1	-0.10	0.00	+0.4, -0.4
1995.30	-0.2	-0.10	0.10	+0.4, -0.4
2511.90	-0.3	-0.20	0.10	+0.4, -0.4
3162.30	-0.5	-0.50	0.00	+0.4, -0.4
3981.10	-0.8	-0.70	0.10	+0.4, -0.4
5011.90	-1.3	-1.20	0.10	+0.5, -0.5
6309.60	-2.0	-1.80	0.20	+0.5, -0.7
7943.30	-3.0	-2.80	0.20	+0.5, -1.0
10000.00	-4.4	-4.10	0.30	+0.7, -1.3
12589.00	-6.2	-6.00	0.20	+1.0, -2.0
15849.00	-8.5	-8.30	0.20	+1.0, -7.4
19953.00	-11.2	-11.10	0.10	+1.0, -8.7
25119.00	-14.3	-14.20	0.10	+3.5, -9.6
31623.00	-17.7	-18.60	-0.90	+4.3, -10.7

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 1 sound level meters when used with a Larson Davis Type 1 microphone.

Technician: Ron Harris Test Date: 27JUN2013

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2013-171360

Instrument Model 720 (MPR005), Serial Number 0436, was calibrated on 18MAR2013. The instrument meets factory specifications per Procedure D0001.8208, ANSI S1.4 1983, IEC 651-Type 2 1979, and IEC 804-Type 2 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 18MAR2013
Calibration due:

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0445 / 0111	12 Months	15NOV2013	2012-166636

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 20 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

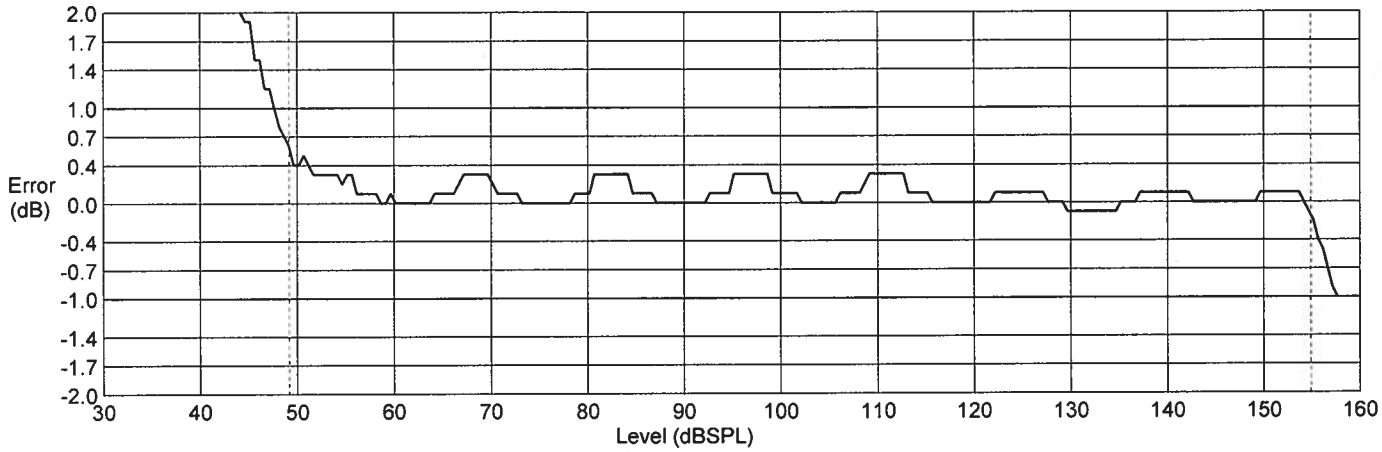
"As Received" data is the same as shipped data.

Signed: David Jensen
Technician: David Jensen

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

Sound Level Meter Model: 720(MPR005) Serial Number: A0436
Log Linearity, Differential Linearity and Range Data

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's Log Linearity A-weighted fast response was then electrically tested using a 1kHz sine wave from 32.7 dBSPL to 157.7 dBSPL in 0.5 dB increments.



Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB
32.7	43.7	11.0	53.7	54.0	0.3	74.7	74.7	0.0	95.7	96.0	0.3	116.7	116.7	0.0	137.7	137.8	0.1
33.2	44.1	10.9	54.2	54.5	0.3	75.2	75.2	0.0	96.2	96.5	0.3	117.2	117.2	0.0	138.2	138.3	0.1
33.7	43.9	10.2	54.7	54.9	0.2	75.7	75.7	0.0	96.7	97.0	0.3	117.7	117.7	0.0	138.7	138.8	0.1
34.2	44.3	10.1	55.2	55.5	0.3	76.2	76.2	0.0	97.2	97.5	0.3	118.2	118.2	0.0	139.2	139.3	0.1
34.7	43.7	9.0	55.7	56.0	0.3	76.7	76.7	0.0	97.7	98.0	0.3	118.7	118.7	0.0	139.7	139.8	0.1
35.2	44.3	9.1	56.2	56.3	0.1	77.2	77.2	0.0	98.2	98.5	0.3	119.2	119.2	0.0	140.2	140.3	0.1
35.7	43.9	8.2	56.7	56.8	0.1	77.7	77.7	0.0	98.7	99.0	0.3	119.7	119.7	0.0	140.7	140.8	0.1
36.2	43.7	7.5	57.2	57.3	0.1	78.2	78.2	0.0	99.2	99.3	0.1	120.2	120.2	0.0	141.2	141.3	0.1
36.7	43.9	7.2	57.7	57.8	0.1	78.7	78.8	0.1	99.7	99.8	0.1	120.7	120.7	0.0	141.7	141.8	0.1
37.2	44.1	6.9	58.2	58.3	0.1	79.2	79.3	0.1	100.2	100.3	0.1	121.2	121.2	0.0	142.2	142.3	0.1
37.7	44.2	6.5	58.7	58.7	0.0	79.7	79.8	0.1	100.7	100.8	0.1	121.7	121.7	0.0	142.7	142.7	0.0
38.2	44.3	6.1	59.2	59.2	0.0	80.2	80.3	0.1	101.2	101.3	0.1	122.2	122.3	0.1	143.2	143.2	0.0
38.7	44.2	5.5	59.7	59.8	0.1	80.7	81.0	0.3	101.7	101.8	0.1	122.7	122.8	0.1	143.7	143.7	0.0
39.2	44.5	5.3	60.2	60.2	0.0	81.2	81.5	0.3	102.2	102.2	0.0	123.2	123.3	0.1	144.2	144.2	0.0
39.7	44.7	5.0	60.7	60.7	0.0	81.7	82.0	0.3	102.7	102.7	0.0	123.7	123.8	0.1	144.7	144.7	0.0
40.2	44.9	4.7	61.2	61.2	0.0	82.2	82.5	0.3	103.2	103.2	0.0	124.2	124.3	0.1	145.2	145.2	0.0
40.7	44.7	4.0	61.7	61.7	0.0	82.7	83.0	0.3	103.7	103.7	0.0	124.7	124.8	0.1	145.7	145.7	0.0
41.2	45.0	3.8	62.2	62.2	0.0	83.2	83.5	0.3	104.2	104.2	0.0	125.2	125.3	0.1	146.2	146.2	0.0
41.7	45.1	3.4	62.7	62.7	0.0	83.7	84.0	0.3	104.7	104.7	0.0	125.7	125.8	0.1	146.7	146.7	0.0
42.2	45.6	3.4	63.2	63.2	0.0	84.2	84.5	0.3	105.2	105.2	0.0	126.2	126.3	0.1	147.2	147.2	0.0
42.7	45.6	2.9	63.7	63.7	0.0	84.7	84.8	0.1	105.7	105.7	0.0	126.7	126.8	0.1	147.7	147.7	0.0
43.2	45.7	2.5	64.2	64.3	0.1	85.2	85.3	0.1	106.2	106.3	0.1	127.2	127.3	0.1	148.2	148.2	0.0
43.7	46.4	2.7	64.7	64.8	0.1	85.7	85.8	0.1	106.7	106.8	0.1	127.7	127.7	0.0	148.7	148.7	0.0
44.2	46.4	2.2	65.2	65.3	0.1	86.2	86.3	0.1	107.2	107.3	0.1	128.2	128.2	0.0	149.2	149.2	0.0
44.7	46.6	1.9	65.7	65.8	0.1	86.7	86.8	0.1	107.7	107.8	0.1	128.7	128.7	0.0	149.7	149.8	0.1
45.2	47.1	1.9	66.2	66.3	0.1	87.2	87.2	0.0	108.2	108.3	0.1	129.2	129.2	0.0	150.2	150.3	0.1
45.7	47.2	1.5	66.7	66.9	0.2	87.7	87.7	0.0	108.7	108.9	0.2	129.7	129.6	-0.1	150.7	150.8	0.1
46.2	47.7	1.5	67.2	67.5	0.3	88.2	88.2	0.0	109.2	109.5	0.3	130.2	130.1	-0.1	151.2	151.3	0.1
46.7	47.9	1.2	67.7	68.0	0.3	88.7	88.7	0.0	109.7	110.0	0.3	130.7	130.6	-0.1	151.7	151.8	0.1
47.2	48.4	1.2	68.2	68.5	0.3	89.2	89.2	0.0	110.2	110.5	0.3	131.2	131.1	-0.1	152.2	152.3	0.1
47.7	48.7	1.0	68.7	69.0	0.3	89.7	89.7	0.0	110.7	111.0	0.3	131.7	131.6	-0.1	152.7	152.8	0.1
48.2	49.0	0.8	69.2	69.5	0.3	90.2	90.2	0.0	111.2	111.5	0.3	132.2	132.1	-0.1	153.2	153.3	0.1
48.7	49.4	0.7	69.7	70.0	0.3	90.7	90.7	0.0	111.7	112.0	0.3	132.7	132.6	-0.1	153.7	153.8	0.1
49.2	49.8	0.6	70.2	70.4	0.2	91.2	91.2	0.0	112.2	112.5	0.3	133.2	133.1	-0.1	154.2	154.2	0.0
49.7	50.1	0.4	70.7	70.8	0.1	91.7	91.7	0.0	112.7	113.0	0.3	133.7	133.6	-0.1	154.7	154.6	-0.1
50.2	50.6	0.4	71.2	71.3	0.1	92.2	92.2	0.0	113.2	113.3	0.1	134.2	134.1	-0.1	155.2	155.0	-0.2
50.7	51.2	0.5	71.7	71.8	0.1	92.7	92.8	0.1	113.7	113.8	0.1	134.7	134.6	-0.1	155.7	155.3	-0.4
51.2	51.6	0.4	72.2	72.3	0.1	93.2	93.3	0.1	114.2	114.3	0.1	135.2	135.2	0.0	156.2	155.7	-0.5
51.7	52.0	0.3	72.7	72.8	0.1	93.7	93.8	0.1	114.7	114.8	0.1	135.7	135.7	0.0	156.7	156.0	-0.7
52.2	52.5	0.3	73.2	73.2	0.0	94.2	94.3	0.1	115.2	115.3	0.1	136.2	136.2	0.0	157.2	156.3	-0.9
52.7	53.0	0.3	73.7	73.7	0.0	94.7	94.8	0.1	115.7	115.7	0.0	136.7	136.7	0.0	157.7	156.7	-1.0
53.2	53.5	0.3	74.2	74.2	0.0	95.2	95.5	0.3	116.2	116.2	0.0	137.2	137.3	0.1			

Plotted per typical sensitivity of an MPR005 electret microphone; 5 mV/Pa.

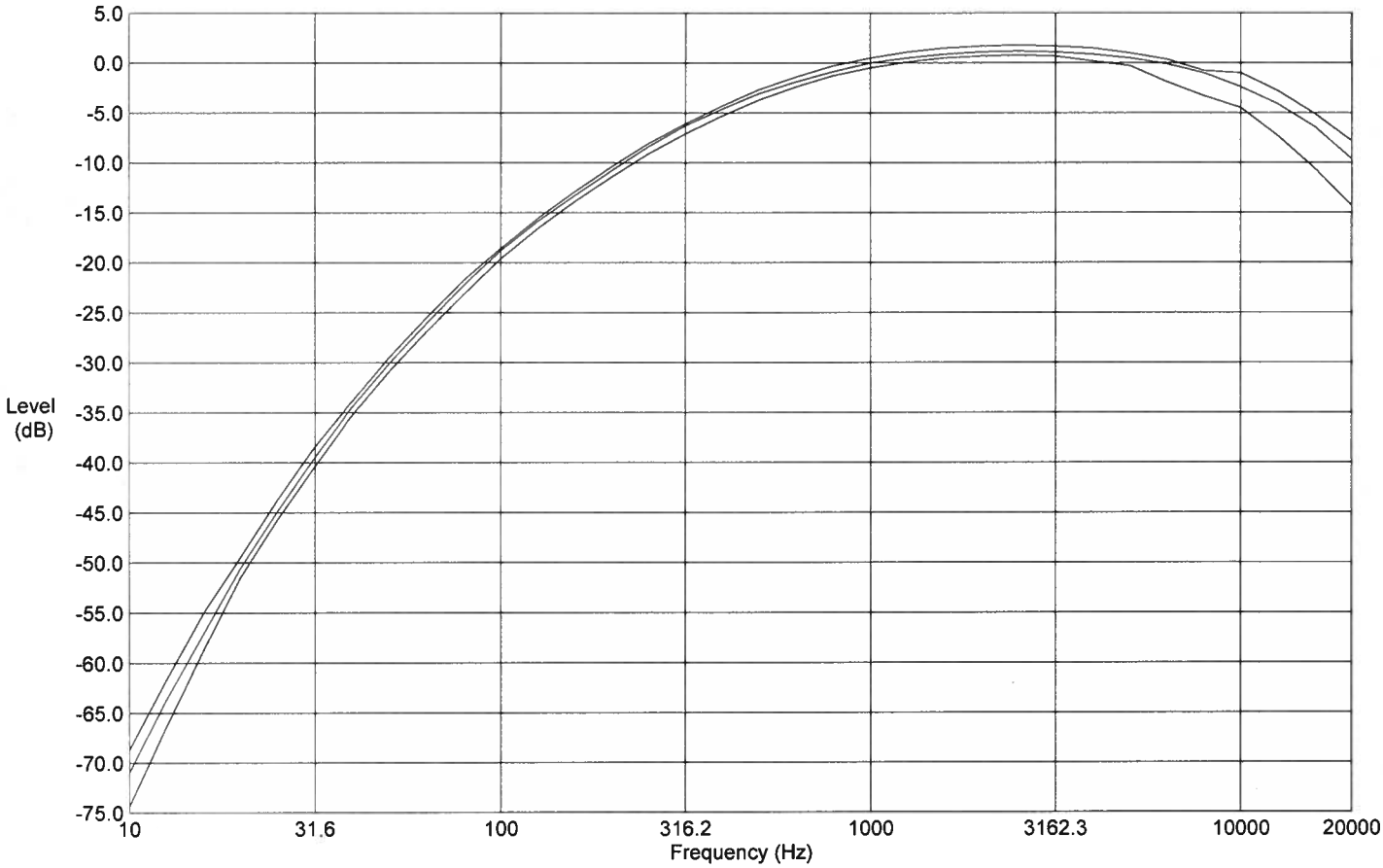
Overload occurs at 155.0 dBSPL.
Primary indicator range: 105.7 dB (lower limit: 49.2 dBSPL to upper limit: 154.9 dBSPL).
Dynamic range: 111.3 dB (noise floor: 43.6 dBSPL to upper limit: 154.9 dBSPL).

This instrument is in compliance with IEC 60651 (2001-10) 7.9 and 7.10, ANSI S1.4-1983 3.2 and IEC 60804 (2001-10) 9.2.1 for Type 2 sound level meters.

Technician: David Jensen Test Date: 18MAR2013

Sound Level Meter Model: 720(MPR005) Serial Number: A0436
Certificate of A-Weight Electrical Conformance

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's A-weighted response was then electrically tested using a 5.2 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



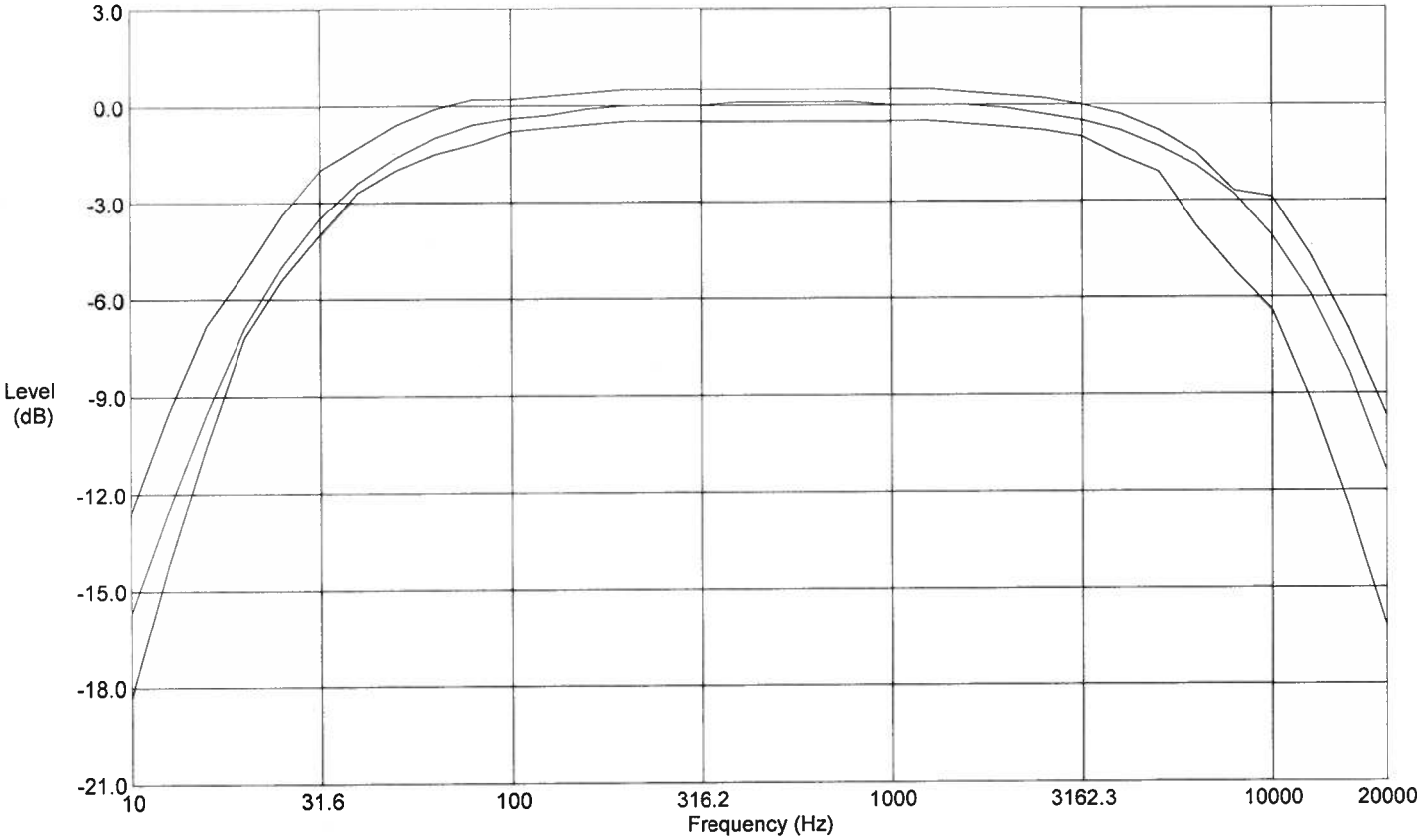
Freq (Hz)	Theor	Measured	Error	Tolerance	Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-70.4	-71.00	-0.60	+1.7, -4.0	630.96	-1.9	-1.90	0.00	+0.5, -0.5
12.59	-63.4	-63.70	-0.30	+1.7, -3.0	794.33	-0.8	-0.90	-0.10	+0.5, -0.5
15.85	-56.7	-57.10	-0.40	+1.7, -2.0	1000.00	0.0	0.00	0.00	+0.5, -0.5
19.95	-50.5	-50.60	-0.10	+1.0, -1.0	1258.90	0.6	0.50	-0.10	+0.5, -0.5
25.12	-44.7	-44.90	-0.20	+1.0, -1.0	1584.90	1.0	0.90	-0.10	+0.5, -0.5
31.62	-39.4	-39.50	-0.10	+1.0, -1.0	1995.30	1.2	1.10	-0.10	+0.5, -0.5
39.81	-34.6	-34.50	0.10	+0.7, -0.7	2511.90	1.3	1.20	-0.10	+0.5, -0.5
50.12	-30.2	-30.10	0.10	+0.7, -0.7	3162.30	1.2	1.10	-0.10	+0.5, -0.5
63.10	-26.2	-26.10	0.10	+0.7, -0.7	3981.10	1.0	0.90	-0.10	+0.5, -0.8
79.43	-22.5	-22.30	0.20	+0.7, -0.7	5011.90	0.5	0.50	0.00	+0.5, -0.8
100.00	-19.1	-18.80	0.30	+0.5, -0.5	6309.60	-0.1	-0.10	0.00	+0.5, -1.8
125.89	-16.1	-15.90	0.20	+0.5, -0.5	7943.30	-1.1	-1.00	0.10	+0.3, -2.2
158.49	-13.4	-13.30	0.10	+0.5, -0.5	10000.00	-2.5	-2.40	0.10	+1.5, -2.0
199.53	-10.9	-10.80	0.10	+0.5, -0.5	12589.00	-4.3	-4.10	0.20	+1.5, -3.0
251.19	-8.6	-8.40	0.20	+0.5, -0.5	15849.00	-6.6	-6.40	0.20	+1.5, -4.0
316.23	-6.6	-6.30	0.30	+0.5, -0.5	19953.00	-9.3	-9.60	-0.30	+1.5, -5.0
398.11	-4.8	-4.60	0.20	+0.5, -0.5	25119.00	-12.4	-13.30	0.00	n/a n/a
501.19	-3.2	-3.10	0.10	+0.5, -0.5	31623.00	-15.8	-17.50	0.00	n/a n/a

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 2 sound level meters.

Technician: David Jensen Test Date: 18MAR2013

Sound Level Meter Model: 720(MPR005) Serial Number: A0436
Certificate of C-Weight Electrical Conformance

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's C-weighted response was then electrically tested using a 5.2 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-14.3	-15.70	-1.40	+1.7, -4.0
12.59	-11.2	-12.50	-1.30	+1.7, -3.0
15.85	-8.5	-9.50	-1.00	+1.7, -2.0
19.95	-6.2	-6.90	-0.70	+1.0, -1.0
25.12	-4.4	-5.00	-0.60	+1.0, -1.0
31.62	-3.0	-3.50	-0.50	+1.0, -1.0
39.81	-2.0	-2.40	-0.40	+0.7, -0.7
50.12	-1.3	-1.60	-0.30	+0.7, -0.7
63.10	-0.8	-1.00	-0.20	+0.7, -0.7
79.43	-0.5	-0.60	-0.10	+0.7, -0.7
100.00	-0.3	-0.40	-0.10	+0.5, -0.5
125.89	-0.2	-0.30	-0.10	+0.5, -0.5
158.49	-0.1	-0.10	0.00	+0.5, -0.5
199.53	0.0	0.00	0.00	+0.5, -0.5
251.19	0.0	0.00	0.00	+0.5, -0.5
316.23	0.0	0.00	0.00	+0.5, -0.5
398.11	0.0	0.10	0.10	+0.5, -0.5
501.19	0.0	0.10	0.10	+0.5, -0.5
630.96	0.0	0.10	0.10	+0.5, -0.5
794.33	0.0	0.10	0.10	+0.5, -0.5
1000.00	0.0	0.00	0.00	+0.5, -0.5
1258.90	0.0	0.00	0.00	+0.5, -0.5
1584.90	-0.1	0.00	0.10	+0.5, -0.5
1995.30	-0.2	-0.10	0.10	+0.5, -0.5
2511.90	-0.3	-0.30	0.00	+0.5, -0.5
3162.30	-0.5	-0.50	0.00	+0.5, -0.5
3981.10	-0.8	-0.80	0.00	+0.5, -0.8
5011.90	-1.3	-1.30	0.00	+0.5, -0.8
6309.60	-2.0	-1.90	0.10	+0.5, -1.8
7943.30	-3.0	-2.80	0.20	+0.3, -2.2
10000.00	-4.4	-4.10	0.30	+1.5, -2.0
12589.00	-6.2	-5.90	0.30	+1.5, -3.0
15849.00	-8.5	-8.30	0.20	+1.5, -4.0
19953.00	-11.2	-11.40	-0.20	+1.5, -5.0
25119.00	-14.3	-15.10	0.00	n/a n/a
31623.00	-17.7	-19.40	0.00	n/a n/a

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 2 sound level meters.

Technician: David Jensen Test Date: 18MAR2013

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2013-176205

Instrument Model 720 (MPR005), Serial Number 0395, was calibrated on 03JUL2013. The instrument meets factory specifications per Procedure D0001.8208, ANSI S1.4 1983, IEC 651-Type 2 1979, and IEC 804-Type 2 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 03JUL2013
Calibration due: 03JUL2014

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	08MAR2014	2013-171090

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 24 ° Centigrade

Relative Humidity: 33 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

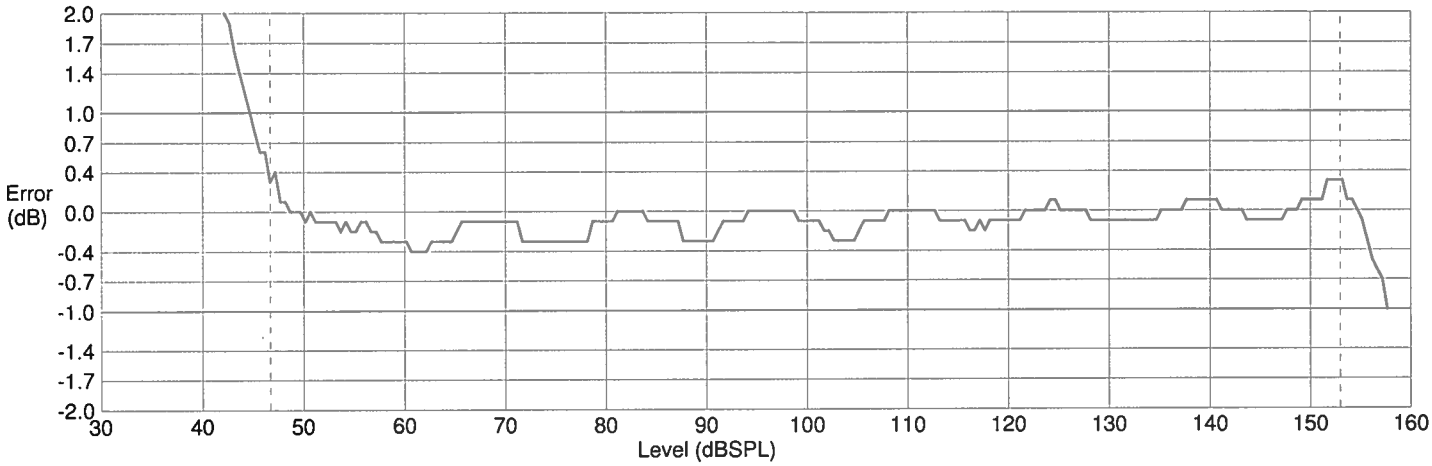
"AS RECEIVED" data same as shipped data.

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

Sound Level Meter Model: 720(MPR005) Serial Number: A0395
Log Linearity, Differential Linearity and Range Data

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's Log Linearity A-weighted fast response was then electrically tested using a 1kHz sine wave from 32.7 dBSPL to 157.7 dBSPL in 0.5 dB increments.



Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB
32.7	42.3	9.6	53.7	53.5	-0.2	74.7	74.4	-0.3	95.7	95.7	0.0	116.7	116.5	-0.2	137.7	137.8	0.1
33.2	42.3	9.1	54.2	54.1	-0.1	75.2	74.9	-0.3	96.2	96.2	0.0	117.2	117.1	-0.1	138.2	138.3	0.1
33.7	42.3	8.6	54.7	54.5	-0.2	75.7	75.4	-0.3	96.7	96.7	0.0	117.7	117.5	-0.2	138.7	138.8	0.1
34.2	42.3	8.1	55.2	55.0	-0.2	76.2	75.9	-0.3	97.2	97.2	0.0	118.2	118.1	-0.1	139.2	139.3	0.1
34.7	42.3	7.6	55.7	55.6	-0.1	76.7	76.4	-0.3	97.7	97.7	0.0	118.7	118.6	-0.1	139.7	139.8	0.1
35.2	42.6	7.4	56.2	56.1	-0.1	77.2	76.9	-0.3	98.2	98.2	0.0	119.2	119.1	-0.1	140.2	140.3	0.1
35.7	42.6	6.9	56.7	56.5	-0.2	77.7	77.4	-0.3	98.7	98.7	0.0	119.7	119.6	-0.1	140.7	140.8	0.1
36.2	42.5	6.3	57.2	57.0	-0.2	78.2	77.9	-0.3	99.2	99.1	-0.1	120.2	120.1	-0.1	141.2	141.2	0.0
36.7	42.8	6.1	57.7	57.4	-0.3	78.7	78.6	-0.1	99.7	99.6	-0.1	120.7	120.6	-0.1	141.7	141.7	0.0
37.2	42.9	5.7	58.2	57.9	-0.3	79.2	79.1	-0.1	100.2	100.1	-0.1	121.2	121.1	-0.1	142.2	142.2	0.0
37.7	42.9	5.2	58.7	58.4	-0.3	79.7	79.6	-0.1	100.7	100.6	-0.1	121.7	121.7	0.0	142.7	142.7	0.0
38.2	43.0	4.8	59.2	58.9	-0.3	80.2	80.1	-0.1	101.2	101.1	-0.1	122.2	122.2	0.0	143.2	143.2	0.0
38.7	43.1	4.4	59.7	59.4	-0.3	80.7	80.6	-0.1	101.7	101.5	-0.2	122.7	122.7	0.0	143.7	143.6	-0.1
39.2	43.3	4.1	60.2	59.9	-0.3	81.2	81.2	0.0	102.2	102.0	-0.2	123.2	123.2	0.0	144.2	144.1	-0.1
39.7	43.3	3.6	60.7	60.3	-0.4	81.7	81.7	0.0	102.7	102.4	-0.3	123.7	123.7	0.0	144.7	144.6	-0.1
40.2	43.5	3.3	61.2	60.8	-0.4	82.2	82.2	0.0	103.2	102.9	-0.3	124.2	124.3	0.1	145.2	145.1	-0.1
40.7	43.8	3.1	61.7	61.3	-0.4	82.7	82.7	0.0	103.7	103.4	-0.3	124.7	124.8	0.1	145.7	145.6	-0.1
41.2	44.0	2.8	62.2	61.8	-0.4	83.2	83.2	0.0	104.2	103.9	-0.3	125.2	125.2	0.0	146.2	146.1	-0.1
41.7	44.2	2.5	62.7	62.4	-0.3	83.7	83.7	0.0	104.7	104.4	-0.3	125.7	125.7	0.0	146.7	146.6	-0.1
42.2	44.4	2.2	63.2	62.9	-0.3	84.2	84.1	-0.1	105.2	105.0	-0.2	126.2	126.2	0.0	147.2	147.1	-0.1
42.7	44.6	1.9	63.7	63.4	-0.3	84.7	84.6	-0.1	105.7	105.6	-0.1	126.7	126.7	0.0	147.7	147.7	0.0
43.2	44.8	1.6	64.2	63.9	-0.3	85.2	85.1	-0.1	106.2	106.1	-0.1	127.2	127.2	0.0	148.2	148.2	0.0
43.7	45.1	1.4	64.7	64.4	-0.3	85.7	85.6	-0.1	106.7	106.6	-0.1	127.7	127.7	0.0	148.7	148.7	0.0
44.2	45.4	1.2	65.2	65.0	-0.2	86.2	86.1	-0.1	107.2	107.1	-0.1	128.2	128.1	-0.1	149.2	149.3	0.1
44.7	45.7	1.0	65.7	65.6	-0.1	86.7	86.6	-0.1	107.7	107.6	-0.1	128.7	128.6	-0.1	149.7	149.8	0.1
45.2	46.0	0.8	66.2	66.1	-0.1	87.2	87.1	-0.1	108.2	108.2	0.0	129.2	129.1	-0.1	150.2	150.3	0.1
45.7	46.3	0.6	66.7	66.6	-0.1	87.7	87.4	-0.3	108.7	108.7	0.0	129.7	129.6	-0.1	150.7	150.8	0.1
46.2	46.8	0.6	67.2	67.1	-0.1	88.2	87.9	-0.3	109.2	109.2	0.0	130.2	130.1	-0.1	151.2	151.3	0.1
46.7	47.0	0.3	67.7	67.6	-0.1	88.7	88.4	-0.3	109.7	109.7	0.0	130.7	130.6	-0.1	151.7	152.0	0.3
47.2	47.6	0.4	68.2	68.1	-0.1	89.2	88.9	-0.3	110.2	110.2	0.0	131.2	131.1	-0.1	152.2	152.5	0.3
47.7	47.8	0.1	68.7	68.6	-0.1	89.7	89.4	-0.3	110.7	110.7	0.0	131.7	131.6	-0.1	152.7	153.0	0.3
48.2	48.3	0.1	69.2	69.1	-0.1	90.2	89.9	-0.3	111.2	111.2	0.0	132.2	132.1	-0.1	153.2	153.5	0.3
48.7	48.7	0.0	69.7	69.6	-0.1	90.7	90.4	-0.3	111.7	111.7	0.0	132.7	132.6	-0.1	153.7	153.8	0.1
49.2	49.2	0.0	70.2	70.1	-0.1	91.2	91.0	-0.2	112.2	112.2	0.0	133.2	133.1	-0.1	154.2	154.3	0.1
49.7	49.7	0.0	70.7	70.6	-0.1	91.7	91.6	-0.1	112.7	112.7	0.0	133.7	133.6	-0.1	154.7	154.7	0.0
50.2	50.1	-0.1	71.2	71.1	-0.1	92.2	92.1	-0.1	113.2	113.1	-0.1	134.2	134.1	-0.1	155.2	155.1	-0.1
50.7	50.7	0.0	71.7	71.4	-0.3	92.7	92.6	-0.1	113.7	113.6	-0.1	134.7	134.6	-0.1	155.7	155.4	-0.3
51.2	51.1	-0.1	72.2	71.9	-0.3	93.2	93.1	-0.1	114.2	114.1	-0.1	135.2	135.2	0.0	156.2	155.7	-0.5
51.7	51.6	-0.1	72.7	72.4	-0.3	93.7	93.6	-0.1	114.7	114.6	-0.1	135.7	135.7	0.0	156.7	156.1	-0.6
52.2	52.1	-0.1	73.2	72.9	-0.3	94.2	94.2	0.0	115.2	115.1	-0.1	136.2	136.2	0.0	157.2	156.5	-0.7
52.7	52.6	-0.1	73.7	73.4	-0.3	94.7	94.7	0.0	115.7	115.6	-0.1	136.7	136.7	0.0	157.7	156.7	-1.0
53.2	53.1	-0.1	74.2	73.9	-0.3	95.2	95.2	0.0	116.2	116.0	-0.2	137.2	137.2	0.0			

Plotted per typical sensitivity of an MPR005 electret microphone; 5 mV/Pa.

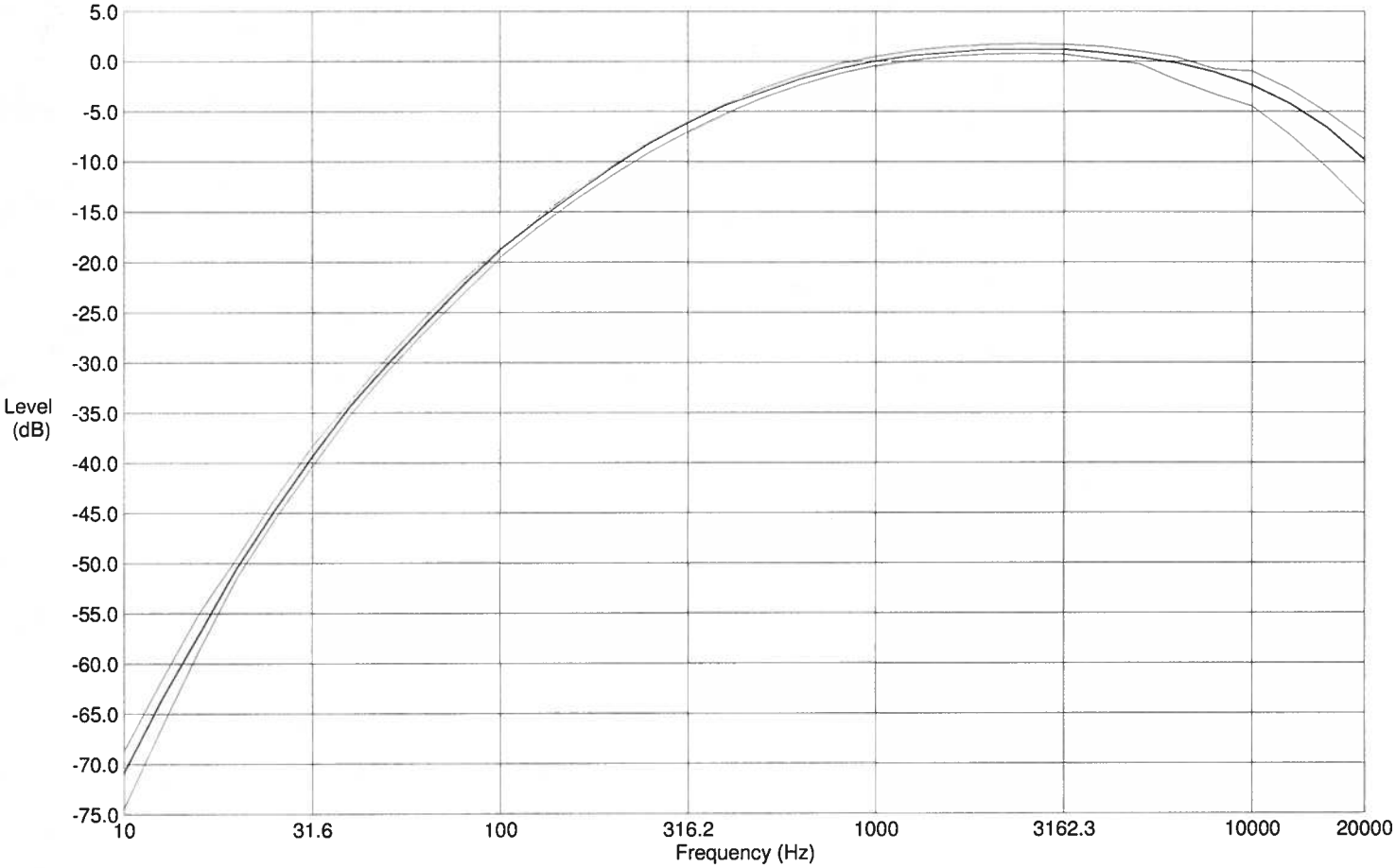
Overload occurs at 153.1 dBSPL.
Primary indicator range: 106.3 dB (lower limit: 46.7 dBSPL to upper limit: 153.0 dBSPL).
Dynamic range: 111.2 dB (noise floor: 41.8 dBSPL to upper limit: 153.0 dBSPL).

This instrument is in compliance with IEC 60651 (2001-10) 7.9 and 7.10, ANSI S1.4-1983 3.2 and IEC 60804 (2001-10) 9.2.1 for Type 2 sound level meters.

Technician: Ron Harris Test Date: 03JUL2013

Sound Level Meter Model: 720(MPR005) Serial Number: A0395
Certificate of A-Weight Electrical Conformance

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's A-weighted response was then electrically tested using a 4.2 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-70.4	-70.90	-0.50	+1.7, -4.0
12.59	-63.4	-63.60	-0.20	+1.7, -3.0
15.85	-56.7	-57.10	-0.40	+1.7, -2.0
19.95	-50.5	-50.50	0.00	+1.0, -1.0
25.12	-44.7	-44.80	-0.10	+1.0, -1.0
31.62	-39.4	-39.40	0.00	+1.0, -1.0
39.81	-34.6	-34.40	0.20	+0.7, -0.7
50.12	-30.2	-30.20	0.00	+0.7, -0.7
63.10	-26.2	-26.20	0.00	+0.7, -0.7
79.43	-22.5	-22.30	0.20	+0.7, -0.7
100.00	-19.1	-18.80	0.30	+0.5, -0.5
125.89	-16.1	-15.90	0.20	+0.5, -0.5
158.49	-13.4	-13.20	0.20	+0.5, -0.5
199.53	-10.9	-10.60	0.30	+0.5, -0.5
251.19	-8.6	-8.20	0.40	+0.5, -0.5
316.23	-6.6	-6.20	0.40	+0.5, -0.5
398.11	-4.8	-4.40	0.40	+0.5, -0.5
501.19	-3.2	-3.10	0.10	+0.5, -0.5

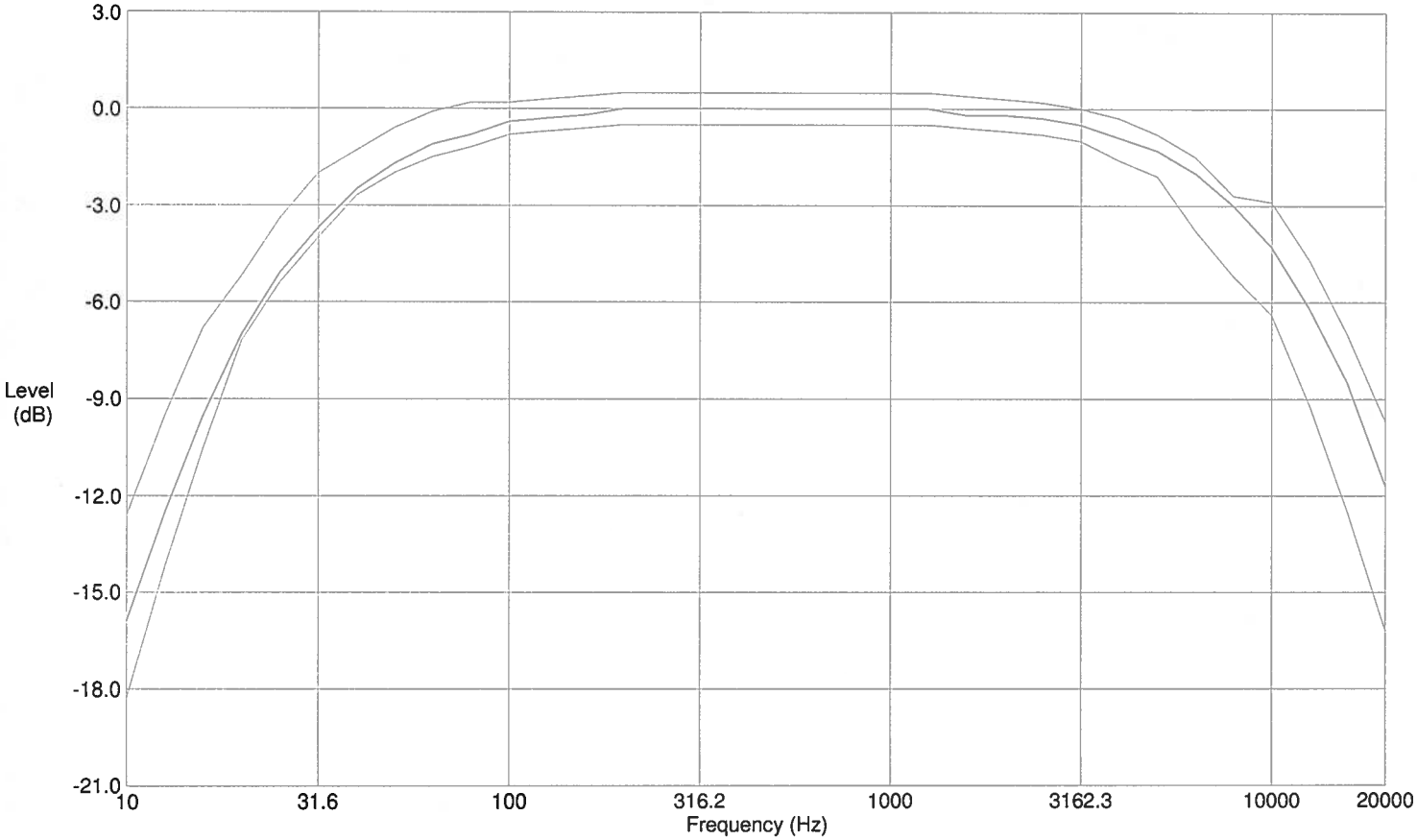
Freq (Hz)	Theor	Measured	Error	Tolerance
630.96	-1.9	-1.80	0.10	+0.5, -0.5
794.33	-0.8	-0.80	0.00	+0.5, -0.5
1000.00	0.0	0.00	0.00	+0.5, -0.5
1258.90	0.6	0.60	0.00	+0.5, -0.5
1584.90	1.0	0.90	-0.10	+0.5, -0.5
1995.30	1.2	1.20	0.00	+0.5, -0.5
2511.90	1.3	1.20	-0.10	+0.5, -0.5
3162.30	1.2	1.20	0.00	+0.5, -0.5
3981.10	1.0	0.90	-0.10	+0.5, -0.8
5011.90	0.5	0.40	-0.10	+0.5, -0.8
6309.60	-0.1	-0.20	-0.10	+0.5, -1.8
7943.30	-1.1	-1.10	0.00	+0.3, -2.2
10000.00	-2.5	-2.40	0.10	+1.5, -2.0
12589.00	-4.3	-4.20	0.10	+1.5, -3.0
15849.00	-6.6	-6.60	0.00	+1.5, -4.0
19953.00	-9.3	-9.80	-0.50	+1.5, -5.0
25119.00	-12.4	-13.40	0.00	n/a n/a
31623.00	-15.8	-17.80	0.00	n/a n/a

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 2 sound level meters.

Technician: Ron Harris Test Date: 03JUL2013

Sound Level Meter Model: 720(MPR005) Serial Number: A0395
Certificate of C-Weight Electrical Conformance

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's C-weighted response was then electrically tested using a 4.2 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-14.3	-15.90	-1.60	+1.7, -4.0
12.59	-11.2	-12.50	-1.30	+1.7, -3.0
15.85	-8.5	-9.50	-1.00	+1.7, -2.0
19.95	-6.2	-7.00	-0.80	+1.0, -1.0
25.12	-4.4	-5.10	-0.70	+1.0, -1.0
31.62	-3.0	-3.70	-0.70	+1.0, -1.0
39.81	-2.0	-2.50	-0.50	+0.7, -0.7
50.12	-1.3	-1.70	-0.40	+0.7, -0.7
63.10	-0.8	-1.10	-0.30	+0.7, -0.7
79.43	-0.5	-0.80	-0.30	+0.7, -0.7
100.00	-0.3	-0.40	-0.10	+0.5, -0.5
125.89	-0.2	-0.30	-0.10	+0.5, -0.5
158.49	-0.1	-0.20	-0.10	+0.5, -0.5
199.53	0.0	0.00	0.00	+0.5, -0.5
251.19	0.0	0.00	0.00	+0.5, -0.5
316.23	0.0	0.00	0.00	+0.5, -0.5
398.11	0.0	0.00	0.00	+0.5, -0.5
501.19	0.0	0.00	0.00	+0.5, -0.5
630.96	0.0	0.00	0.00	+0.5, -0.5
794.33	0.0	0.00	0.00	+0.5, -0.5
1000.00	0.0	0.00	0.00	+0.5, -0.5
1258.90	0.0	0.00	0.00	+0.5, -0.5
1584.90	-0.1	-0.20	-0.10	+0.5, -0.5
1995.30	-0.2	-0.20	0.00	+0.5, -0.5
2511.90	-0.3	-0.30	0.00	+0.5, -0.5
3162.30	-0.5	-0.50	0.00	+0.5, -0.5
3981.10	-0.8	-0.90	-0.10	+0.5, -0.8
5011.90	-1.3	-1.30	0.00	+0.5, -0.8
6309.60	-2.0	-2.00	0.00	+0.5, -1.8
7943.30	-3.0	-3.00	0.00	+0.3, -2.2
10000.00	-4.4	-4.30	0.10	+1.5, -2.0
12589.00	-6.2	-6.20	0.00	+1.5, -3.0
15849.00	-8.5	-8.50	0.00	+1.5, -4.0
19953.00	-11.2	-11.70	-0.50	+1.5, -5.0
25119.00	-14.3	-15.40	0.00	n/a n/a
31623.00	-17.7	-19.70	0.00	n/a n/a

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 2 sound level meters.

Technician: Ron Harris Test Date: 03JUL2013

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2013-176029

Instrument Model 712 (MPR005), Serial Number 0418, was calibrated on 27JUN2013. The instrument meets factory specifications per Procedure D0001.8207, ANSI S1.4 1983, IEC 651-Type 2 1979, and IEC 804-Type 2 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 27JUN2013
Calibration due: 27JUN2014

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	08MAR2014	2013-171090

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 24 ° Centigrade

Relative Humidity: 33 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.

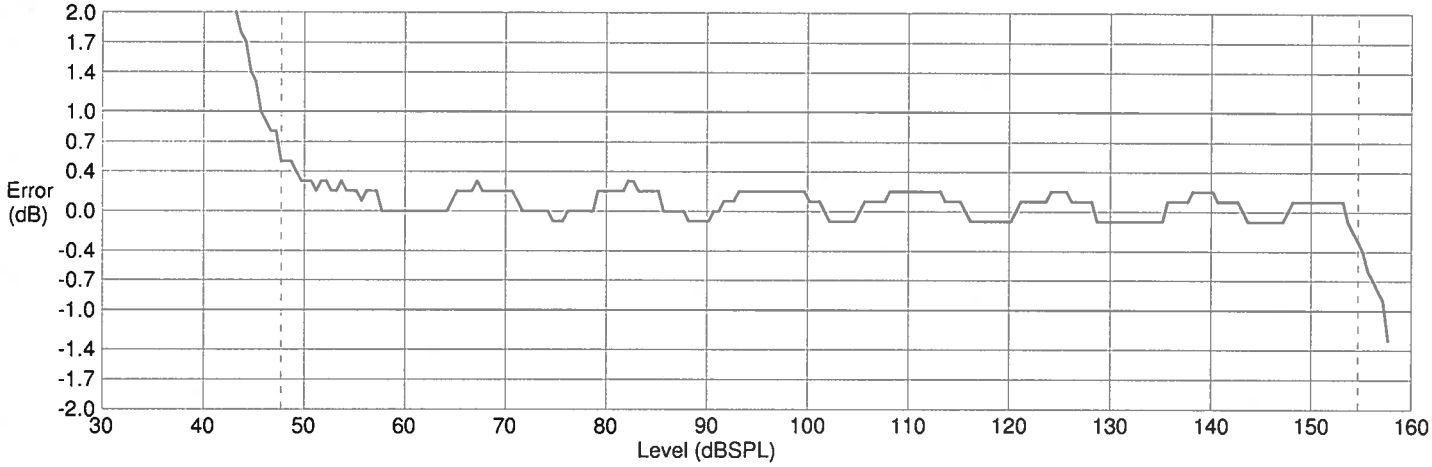
Signed: Ron Harris

Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

Sound Level Meter Model: 712(MPR005) Serial Number: A0418
Log Linearity, Differential Linearity and Range Data

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's Log Linearity A-weighted fast response was then electrically tested using a 1kHz sine wave from 32.7 dBSPL to 157.7 dBSPL in 0.5 dB increments.



Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB	Levl dBSPL	Meas dBSPL	Err dB
32.7	**42.6**	**9.9**	53.7	54.0	0.3	74.7	74.6	-0.1	95.7	95.9	0.2	116.7	116.6	-0.1	137.7	137.8	0.1
33.2	**42.7**	**9.5**	54.2	54.4	0.2	75.2	75.1	-0.1	96.2	96.4	0.2	117.2	117.1	-0.1	138.2	138.4	0.2
33.7	**42.6**	**8.9**	54.7	54.9	0.2	75.7	75.6	-0.1	96.7	96.9	0.2	117.7	117.6	-0.1	138.7	138.9	0.2
34.2	**42.7**	**8.5**	55.2	55.4	0.2	76.2	76.2	0.0	97.2	97.4	0.2	118.2	118.1	-0.1	139.2	139.4	0.2
34.7	**42.9**	**8.2**	55.7	55.8	0.1	76.7	76.7	0.0	97.7	97.9	0.2	118.7	118.6	-0.1	139.7	139.9	0.2
35.2	**42.9**	**7.7**	56.2	56.4	0.2	77.2	77.2	0.0	98.2	98.4	0.2	119.2	119.1	-0.1	140.2	140.4	0.2
35.7	**43.0**	**7.3**	56.7	56.9	0.2	77.7	77.7	0.0	98.7	98.9	0.2	119.7	119.6	-0.1	140.7	140.8	0.1
36.2	**43.0**	**6.8**	57.2	57.4	0.2	78.2	78.2	0.0	99.2	99.4	0.2	120.2	120.1	-0.1	141.2	141.3	0.1
36.7	**43.1**	**6.4**	57.7	57.7	0.0	78.7	78.7	0.0	99.7	99.9	0.2	120.7	120.7	0.0	141.7	141.8	0.1
37.2	**43.2**	**6.0**	58.2	58.2	0.0	79.2	79.4	0.2	100.2	100.3	0.1	121.2	121.3	0.1	142.2	142.3	0.1
37.7	**43.4**	**5.7**	58.7	58.7	0.0	79.7	79.9	0.2	100.7	100.8	0.1	121.7	121.8	0.1	142.7	142.8	0.1
38.2	**43.4**	**5.2**	59.2	59.2	0.0	80.2	80.4	0.2	101.2	101.3	0.1	122.2	122.3	0.1	143.2	143.2	0.0
38.7	**43.6**	**4.9**	59.7	59.7	0.0	80.7	80.9	0.2	101.7	101.7	0.0	122.7	122.8	0.1	143.7	143.6	-0.1
39.2	**43.7**	**4.5**	60.2	60.2	0.0	81.2	81.4	0.2	102.2	102.1	-0.1	123.2	123.3	0.1	144.2	144.1	-0.1
39.7	**43.7**	**4.0**	60.7	60.7	0.0	81.7	81.9	0.2	102.7	102.6	-0.1	123.7	123.8	0.1	144.7	144.6	-0.1
40.2	**44.1**	**3.9**	61.2	61.2	0.0	82.2	82.5	0.3	103.2	103.1	-0.1	124.2	124.4	0.2	145.2	145.1	-0.1
40.7	**44.1**	**3.4**	61.7	61.7	0.0	82.7	83.0	0.3	103.7	103.6	-0.1	124.7	124.9	0.2	145.7	145.6	-0.1
41.2	**44.4**	**3.2**	62.2	62.2	0.0	83.2	83.4	0.2	104.2	104.1	-0.1	125.2	125.4	0.2	146.2	146.1	-0.1
41.7	**44.5**	**2.8**	62.7	62.7	0.0	83.7	83.9	0.2	104.7	104.6	-0.1	125.7	125.9	0.2	146.7	146.6	-0.1
42.2	**44.7**	**2.5**	63.2	63.2	0.0	84.2	84.4	0.2	105.2	105.2	0.0	126.2	126.3	0.1	147.2	147.1	-0.1
42.7	**45.1**	**2.4**	63.7	63.7	0.0	84.7	84.9	0.2	105.7	105.8	0.1	126.7	126.8	0.1	147.7	147.7	0.0
43.2	**45.4**	**2.2**	64.2	64.2	0.0	85.2	85.4	0.2	106.2	106.3	0.1	127.2	127.3	0.1	148.2	148.3	0.1
43.7	**45.5**	**1.8**	64.7	64.8	0.1	85.7	85.7	0.0	106.7	106.8	0.1	127.7	127.8	0.1	148.7	148.8	0.1
44.2	**45.9**	**1.7**	65.2	65.4	0.2	86.2	86.2	0.0	107.2	107.3	0.1	128.2	128.3	0.1	149.2	149.3	0.1
44.7	**46.1**	**1.4**	65.7	65.9	0.2	86.7	86.7	0.0	107.7	107.8	0.1	128.7	128.6	-0.1	149.7	149.8	0.1
45.2	**46.5**	**1.3**	66.2	66.4	0.2	87.2	87.2	0.0	108.2	108.4	0.2	129.2	129.1	-0.1	150.2	150.3	0.1
45.7	**46.7**	**1.0**	66.7	66.9	0.2	87.7	87.7	0.0	108.7	108.9	0.2	129.7	129.6	-0.1	150.7	150.8	0.1
46.2	**47.1**	**0.9**	67.2	67.5	0.3	88.2	88.1	-0.1	109.2	109.4	0.2	130.2	130.1	-0.1	151.2	151.3	0.1
46.7	**47.5**	**0.8**	67.7	67.9	0.2	88.7	88.6	-0.1	109.7	109.9	0.2	130.7	130.6	-0.1	151.7	151.8	0.1
47.2	**48.0**	**0.8**	68.2	68.4	0.2	89.2	89.1	-0.1	110.2	110.4	0.2	131.2	131.1	-0.1	152.2	152.3	0.1
47.7	48.2	0.5	68.7	68.9	0.2	89.7	89.6	-0.1	110.7	110.9	0.2	131.7	131.6	-0.1	152.7	152.8	0.1
48.2	48.7	0.5	69.2	69.4	0.2	90.2	90.1	-0.1	111.2	111.4	0.2	132.2	132.1	-0.1	153.2	153.3	0.1
48.7	49.2	0.5	69.7	69.9	0.2	90.7	90.7	0.0	111.7	111.9	0.2	132.7	132.6	-0.1	153.7	153.6	-0.1
49.2	49.6	0.4	70.2	70.4	0.2	91.2	91.2	0.0	112.2	112.4	0.2	133.2	133.1	-0.1	154.2	154.0	-0.2
49.7	50.0	0.3	70.7	70.9	0.2	91.7	91.8	0.1	112.7	112.9	0.2	133.7	133.6	-0.1	154.7	154.4	-0.3
50.2	50.5	0.3	71.2	71.3	0.1	92.2	92.3	0.1	113.2	113.4	0.2	134.2	134.1	-0.1	**155.2**	**154.8**	**-0.4**
50.7	51.0	0.3	71.7	71.7	0.0	92.7	92.8	0.1	113.7	113.8	0.1	134.7	134.6	-0.1	**155.7**	**155.1**	**-0.6**
51.2	51.4	0.2	72.2	72.2	0.0	93.2	93.4	0.2	114.2	114.3	0.1	135.2	135.1	-0.1	**156.2**	**155.5**	**-0.7**
51.7	52.0	0.3	72.7	72.7	0.0	93.7	93.9	0.2	114.7	114.8	0.1	135.7	135.8	0.1	**156.7**	**155.9**	**-0.8**
52.2	52.5	0.3	73.2	73.2	0.0	94.2	94.4	0.2	115.2	115.3	0.1	136.2	136.3	0.1	**157.2**	**156.3**	**-0.9**
52.7	52.9	0.2	73.7	73.7	0.0	94.7	94.9	0.2	115.7	115.7	0.0	136.7	136.8	0.1	**157.7**	**156.4**	**-1.3**
53.2	53.4	0.2	74.2	74.2	0.0	95.2	95.4	0.2	116.2	116.1	-0.1	137.2	137.3	0.1			

Plotted per typical sensitivity of an MPR005 electret microphone; 5 mV/Pa.

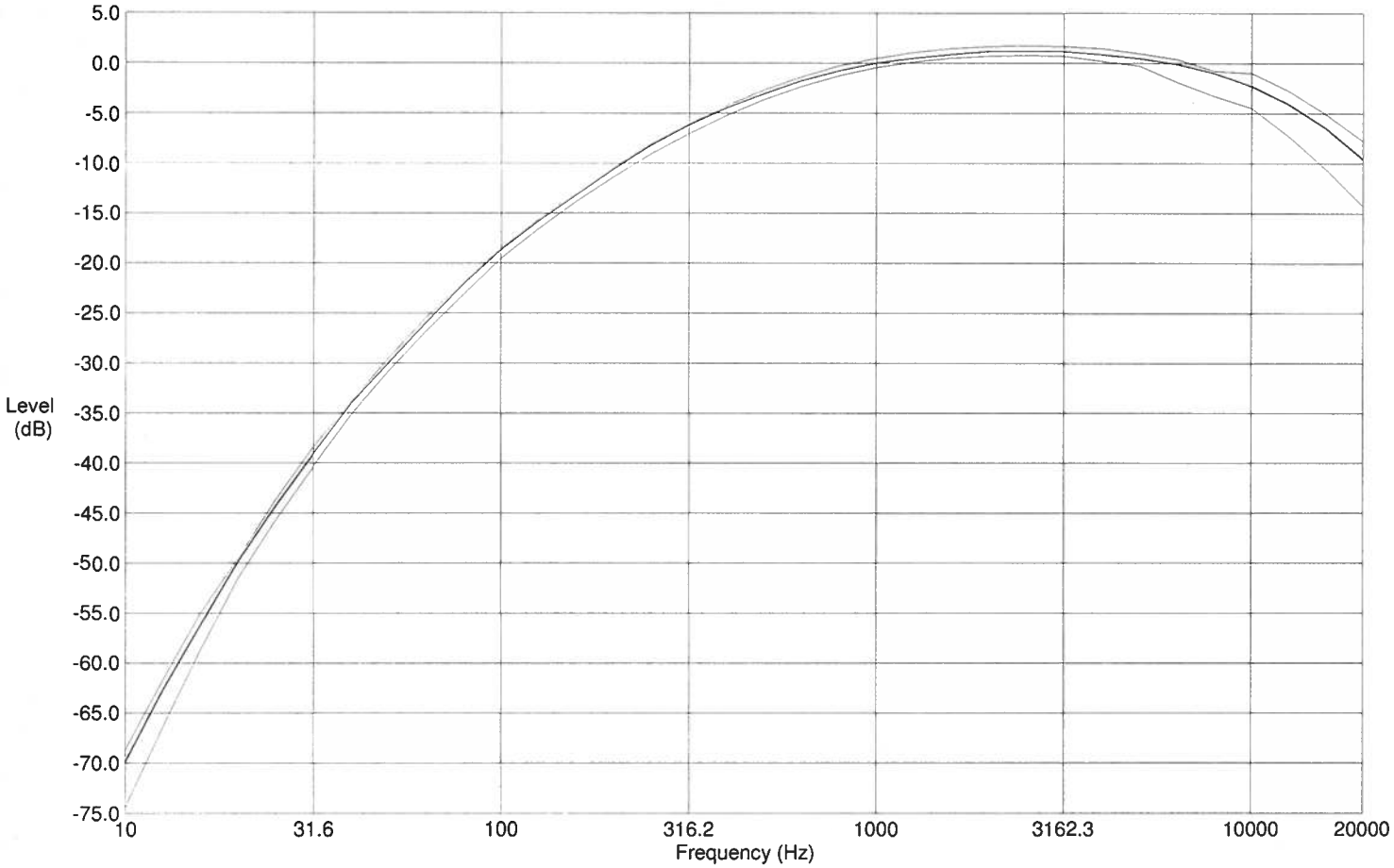
Overload occurs at 154.8 dBSPL.
Primary indicator range: 107.0 dB (lower limit: 47.7 dBSPL to upper limit: 154.7 dBSPL).
Dynamic range: 112.4 dB (noise floor: 42.3 dBSPL to upper limit: 154.7 dBSPL).

This instrument is in compliance with IEC 60651 (2001-10) 7.9 and 7.10, ANSI S1.4-1983 3.2 and IEC 60804 (2001-10) 9.2.1 for Type 2 sound level meters.

Technician: Ron Harris Test Date: 27JUN2013

Sound Level Meter Model: 712(MPR005) Serial Number: A0418
Certificate of A-Weight Electrical Conformance

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's A-weighted response was then electrically tested using a 5.1 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



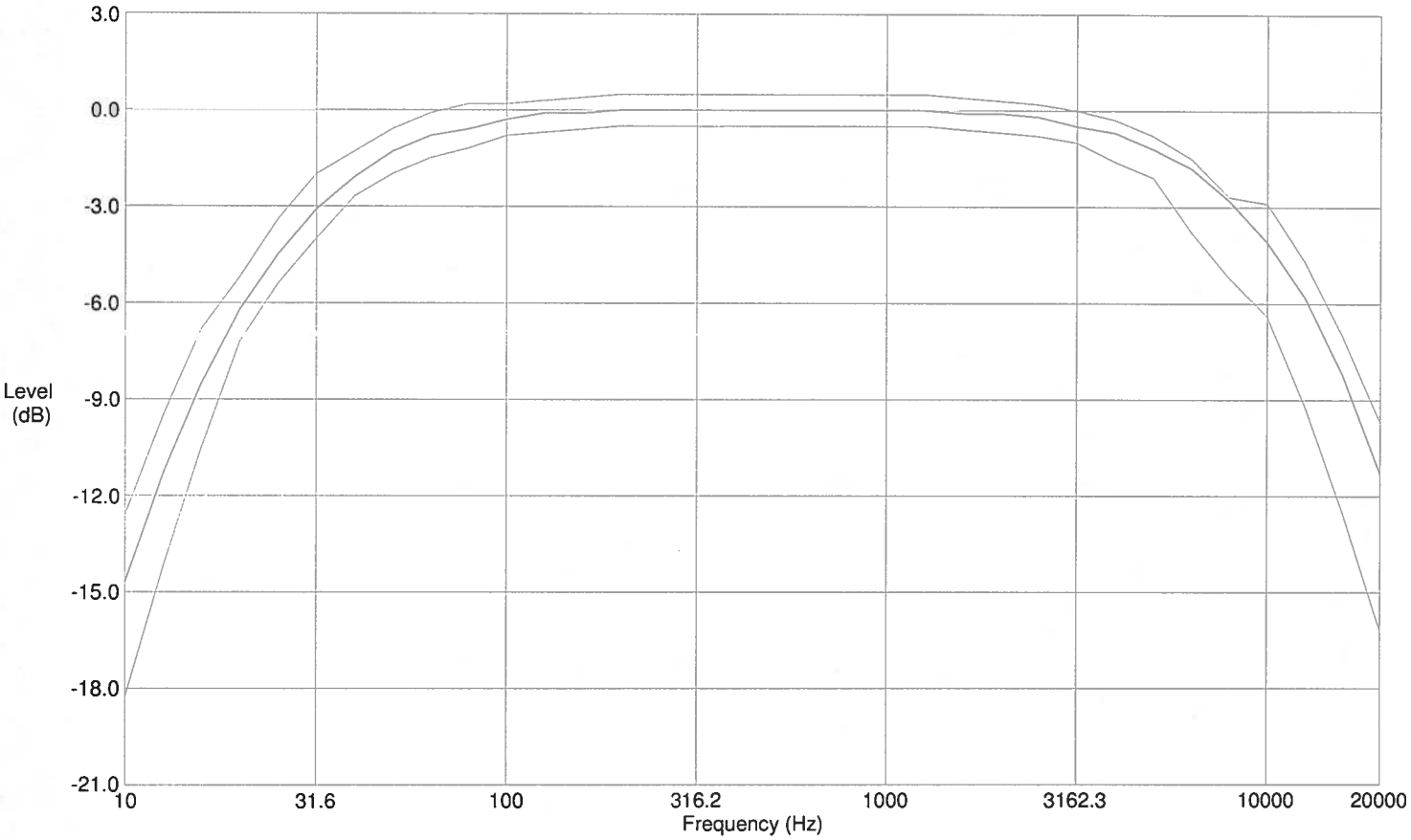
Freq (Hz)	Theor	Measured	Error	Tolerance	Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-70.4	-69.90	0.50	+1.7, -4.0	630.96	-1.9	-1.80	0.10	+0.5, -0.5
12.59	-63.4	-62.70	0.70	+1.7, -3.0	794.33	-0.8	-0.80	0.00	+0.5, -0.5
15.85	-56.7	-56.20	0.50	+1.7, -2.0	1000.00	0.0	0.00	0.00	+0.5, -0.5
19.95	-50.5	-49.80	0.70	+1.0, -1.0	1258.90	0.6	0.50	-0.10	+0.5, -0.5
25.12	-44.7	-44.30	0.40	+1.0, -1.0	1584.90	1.0	0.90	-0.10	+0.5, -0.5
31.62	-39.4	-39.10	0.30	+1.0, -1.0	1995.30	1.2	1.20	0.00	+0.5, -0.5
39.81	-34.6	-34.10	0.50	+0.7, -0.7	2511.90	1.3	1.20	-0.10	+0.5, -0.5
50.12	-30.2	-30.00	0.20	+0.7, -0.7	3162.30	1.2	1.20	0.00	+0.5, -0.5
63.10	-26.2	-26.00	0.20	+0.7, -0.7	3981.10	1.0	0.90	-0.10	+0.5, -0.8
79.43	-22.5	-22.10	0.40	+0.7, -0.7	5011.90	0.5	0.50	0.00	+0.5, -0.8
100.00	-19.1	-18.70	0.40	+0.5, -0.5	6309.60	-0.1	-0.10	0.00	+0.5, -1.8
125.89	-16.1	-15.80	0.30	+0.5, -0.5	7943.30	-1.1	-1.00	0.10	+0.3, -2.2
158.49	-13.4	-13.20	0.20	+0.5, -0.5	10000.00	-2.5	-2.30	0.20	+1.5, -2.0
199.53	-10.9	-10.60	0.30	+0.5, -0.5	12589.00	-4.3	-4.10	0.20	+1.5, -3.0
251.19	-8.6	-8.20	0.40	+0.5, -0.5	15849.00	-6.6	-6.50	0.10	+1.5, -4.0
316.23	-6.6	-6.20	0.40	+0.5, -0.5	19953.00	-9.3	-9.60	-0.30	+1.5, -5.0
398.11	-4.8	-4.50	0.30	+0.5, -0.5	25119.00	-12.4	-13.30	0.00	n/a n/a
501.19	-3.2	-3.10	0.10	+0.5, -0.5	31623.00	-15.8	-17.70	0.00	n/a n/a

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 2 sound level meters.

Technician: Ron Harris Test Date: 27JUN2013

Sound Level Meter Model: 712(MPR005) Serial Number: A0418
Certificate of C-Weight Electrical Conformance

This Type 2 Sound Level Meter (with ADP046 input adapter) was calibrated with a reference 1kHz sine wave at a level of 136.0 dBSPL. The instrument's C-weighted response was then electrically tested using a 5.1 Vrms sinewave at exact frequencies as specified in IEC 60651 (2001-10) and ANSI S1.4-1983.



Freq (Hz)	Theor	Measured	Error	Tolerance
10.00	-14.3	-14.70	-0.40	+1.7, -4.0
12.59	-11.2	-11.30	-0.10	+1.7, -3.0
15.85	-8.5	-8.50	0.00	+1.7, -2.0
19.95	-6.2	-6.20	0.00	+1.0, -1.0
25.12	-4.4	-4.50	-0.10	+1.0, -1.0
31.62	-3.0	-3.10	-0.10	+1.0, -1.0
39.81	-2.0	-2.10	-0.10	+0.7, -0.7
50.12	-1.3	-1.30	0.00	+0.7, -0.7
63.10	-0.8	-0.80	0.00	+0.7, -0.7
79.43	-0.5	-0.60	-0.10	+0.7, -0.7
100.00	-0.3	-0.30	0.00	+0.5, -0.5
125.89	-0.2	-0.10	0.10	+0.5, -0.5
158.49	-0.1	-0.10	0.00	+0.5, -0.5
199.53	0.0	0.00	0.00	+0.5, -0.5
251.19	0.0	0.00	0.00	+0.5, -0.5
316.23	0.0	0.00	0.00	+0.5, -0.5
398.11	0.0	0.00	0.00	+0.5, -0.5
501.19	0.0	0.00	0.00	+0.5, -0.5

Freq (Hz)	Theor	Measured	Error	Tolerance
630.96	0.0	0.00	0.00	+0.5, -0.5
794.33	0.0	0.00	0.00	+0.5, -0.5
1000.00	0.0	0.00	0.00	+0.5, -0.5
1258.90	0.0	0.00	0.00	+0.5, -0.5
1584.90	-0.1	-0.10	0.00	+0.5, -0.5
1995.30	-0.2	-0.10	0.10	+0.5, -0.5
2511.90	-0.3	-0.20	0.10	+0.5, -0.5
3162.30	-0.5	-0.50	0.00	+0.5, -0.5
3981.10	-0.8	-0.70	0.10	+0.5, -0.8
5011.90	-1.3	-1.20	0.10	+0.5, -0.8
6309.60	-2.0	-1.80	0.20	+0.5, -1.8
7943.30	-3.0	-2.80	0.20	+0.3, -2.2
10000.00	-4.4	-4.10	0.30	+1.5, -2.0
12589.00	-6.2	-5.80	0.40	+1.5, -3.0
15849.00	-8.5	-8.20	0.30	+1.5, -4.0
19953.00	-11.2	-11.30	-0.10	+1.5, -5.0
25119.00	-14.3	-15.10	0.00	n/a n/a
31623.00	-17.7	-19.50	0.00	n/a n/a

This instrument is in compliance with IEC 60651 (2001-10) 6.1 and 9.2.2, ANSI S1.4-1983 5.1 and 8.2.1, and IEC 60804 (2001-10) 5.1 for Type 2 sound level meters.

Technician: Ron Harris Test Date: 27JUN2013

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17-18/2014 Page of

Monitoring Location: Long Term 1: 6962 Wyse Fork Rd. Analyst: Bell/Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	720	Model #:	CAL200	Model #:	WM
Serial #:	395	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: Steady/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	113.9 dBA	Avg Wind Speed/Direction:	2.5/W
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	35 RH (%): 74
Terrain: Hard/Soft/**Mixed**/Snow		N 35° 13.030' W 77° 30.596'		Bar Psr (Hg):	30.19 Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	7:49 AM								
1	7:50 AM								Start
2		7:50 AM							End
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URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	Wyse Fork Rd.
Speed (post/obs)*	55	55
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 12 Total

Additional Notes/Comments: Weather data for long-term measurements taken at meter set-up.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: LT 1 Analyst: Bell / Delp

Sound Level Meter
Model #: LD 720
Serial #: 0395
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: Weather Marker
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) No
Avg Wind Speed/Direction: 2.5 W
Temp (°F): 35°F RH (%): 74
Bar Psr (Hg): 30.19 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
N 35° 13.030' W077° 30.586'

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	7:50 AM								
1									
2									
3									
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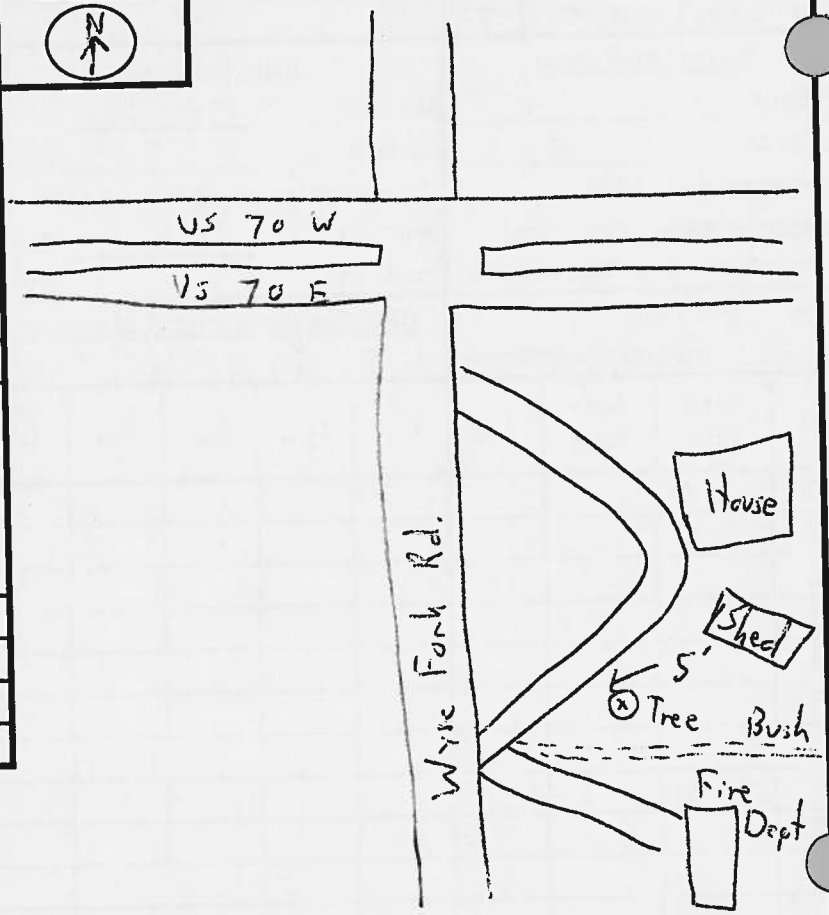
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	Wyse Fork
Speed (post/obs)*	55	55
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 1-12

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Long Term 1

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17-18/2014 Page ___ of ___

Monitoring Location: Long Term 2: 2619 Hillcrest Rd. Analyst: Bell/Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	712	Model #:	CAL200	Model #:	WM
Serial #:	418	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	113.9 dBA	Avg Wind Speed/Direction:	5/W
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	38 RH (%): 61
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 16.011' W 77° 37.984'		Bar Psr (Hg):	30.23 Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	8:19 AM								
1	8:20 AM								Start
2		8:20 AM							End
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URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70 Business	Hillcrest Rd.
Speed (post/obs)*	45	35
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 13 Total

Additional Notes/Comments: Weather data for long-term measurements taken at meter set-up.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: LT2 Analyst: Bell/Dela

Sound Level Meter
Model #: 712
Serial #: 0418
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 5 / W
Temp (°F): 38 RH (%): 61
Bar Psr (Hg): 30.23 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
N 35° 16.011' W077° 37.984'

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	8:20AM								
1									
2									
3									
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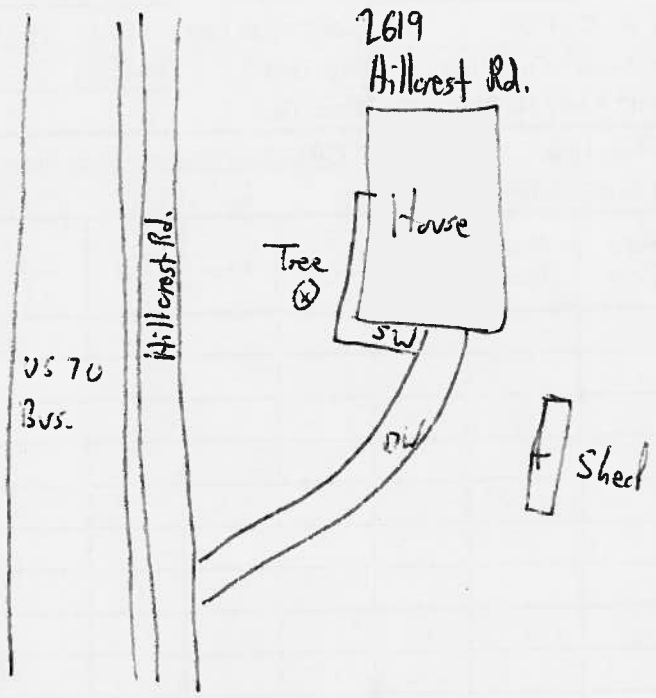
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 13-25

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

Long Term 2

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17-18/2014 Page ___ of ___

Monitoring Location: Long Term 3: 2571 US 70 East Analyst: Bell/Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	720	Model #:	CAL200	Model #:	WM
Serial #:	435	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: Steady/**Gusty**/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	113.9 dBA	Avg Wind Speed/Direction:	6/N
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 41	RH (%): 62
Terrain: Hard/Soft/**Mixed**/Snow		N 35° 16.712' W 77° 44.973'		Bar Psr (Hg): 30.18	Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	8:39 AM								
1	8:40 AM								Start
2		8:40 AM							End
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URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 12 Total

Additional Notes/Comments: Weather data for long-term measurements taken at meter set-up.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: LT3 Analyst: Bell/Delp

Sound Level Meter	Field Calibration	Weather Data
Model #: 720	Model #: CAL 200	Model #: WM
Serial #: 0435	Serial #: 5789	Serial #: 03386
Weighting: **A** / C / Flat	Calibration Level (dBA): 94 / **114**	Wind: Steady/Gusty/Calm
Response: **Slow** / Fast / Impl	Pre-Test 114.0 dBA	Precipitation: Yes (explain) / No
Windscreen : **Yes** / No (explain)	Post-Test dBA	Avg Wind Speed/Direction: 6 / N
Topo: Flat/Hilly	GPS Coordinates (at SLM location)#	Temp (°F): 41 RH (%): 62
Terrain: Hard/Soft/Mixed/Snow	N 35° 16.712' W 077° 44.473'	Bar Psr (Hg): 30.18 Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	8:40 AM								
1									
2									
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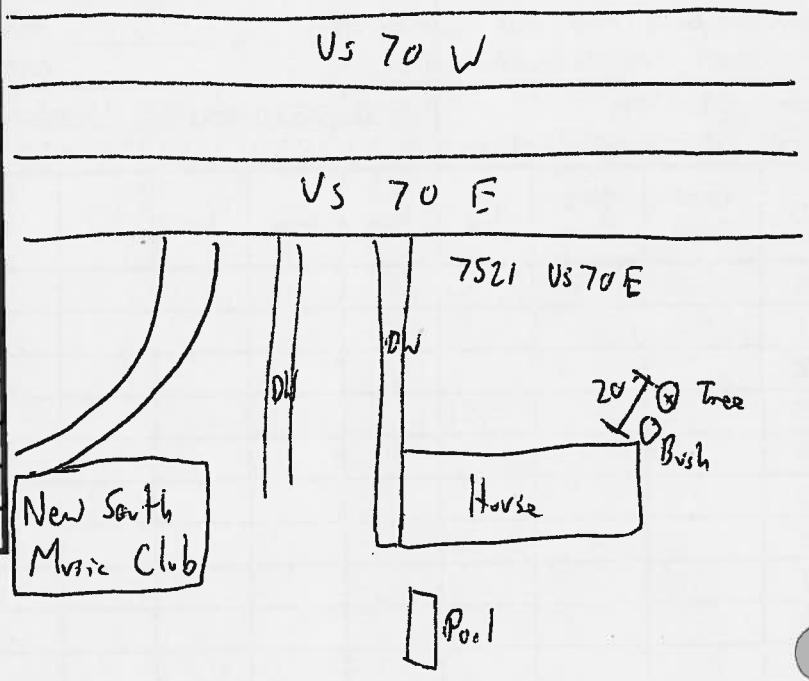
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

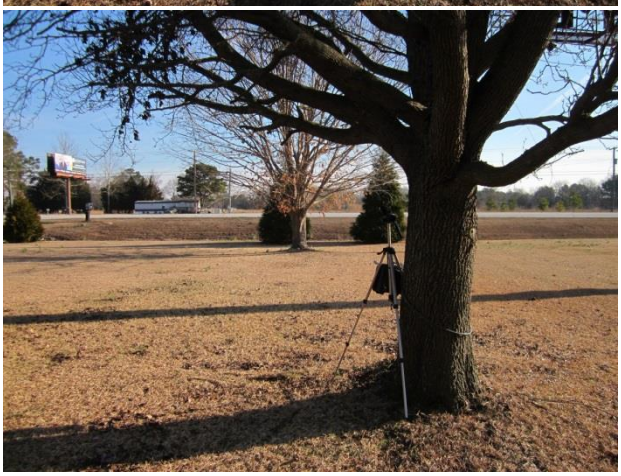
Photos Taken? Yes/No 26-37

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Long Term 3



URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17-18/2014 Page ___ of ___

Monitoring Location: Long Term 4: 884 Jordon Rd. Analyst: Bell/Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	WM
Serial #:	1652	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.0 dBA	Avg Wind Speed/Direction:	4/SE
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	43 RH (%): 54
Terrain: Hard/Soft/**Mixed**/Snow		N 35° 12.696' W 77° 39.232'		Bar Psr (Hg):	30.21 Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	9:04 AM								
1	9:05 AM								End
2		9:05 AM							Start
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URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 11	Jordon Rd.
Speed (post/obs)*	55	25
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 11 Total

Additional Notes/Comments: Weather data for long-term measurements taken at meter set-up.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: LT4 Analyst: Bell / Delp

Sound Level Meter	Field Calibration	Weather Data
Model #: 820	Model #: CAL 200	Model #: WM
Serial #: 1651	Serial #: 5789	Serial #: 03386
Weighting: **A** / C / Flat	Calibration Level (dBA): 94 / **114**	Wind: Steady/Gusty/Calm
Response: **Slow** / Fast / Impl	Pre-Test 114.0 dBA	Precipitation: Yes (explain) / No
Windscreen : **Yes** / No (explain)	Post-Test dBA	Avg Wind Speed/Direction: 4 / SE
Topo: Flat / Hilly	GPS Coordinates (at SLM location)#	Temp (°F): 43 RH (%): 54
Terrain: Hard/Soft/Mixed/Snow	N 35° 12.696' W 077° 39.232'	Bar Psr (Hg): 30.21 Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	9:05AM								
1									
2									
3									
4									
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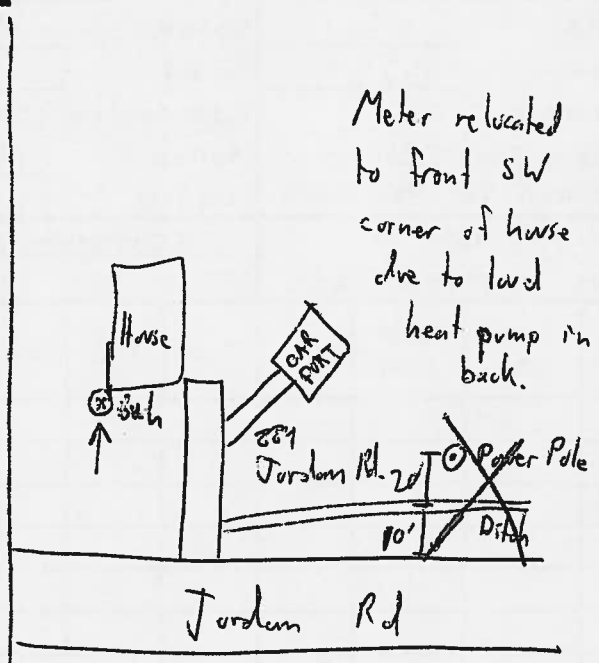
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 11	Jordan Rd
Speed (post/obs)*	55	25
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 38 – 48

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

Long Term 4

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page ___ of ___

Monitoring Location: Short Term 1: LaGrange Church of God Analyst: Bell/Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	WM
Serial #:	See Sketch	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: Steady/**Gusty**/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	All: 114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	See Sketch dBA	Avg Wind Speed/Direction:	5/gusts to 8/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	55 RH (%): 67
Terrain: Hard/**Soft**/Mixed/Snow		See Sketch		Bar Psr (Hg):	30.02 Cloud Cover (%): 0

ID	Start Time	Stop Time	1: L_{eq}, 1651	1: L_{max}, 1651	2: L_{eq}, 1655	2: L_{max}, 1655	3: L_{eq}, 1324	3: L_{max}, 1324	Notes/Events
0	11:02 AM	11:03 AM							
1	11:03 AM	11:04 AM	59.0	66.1	53.2	58.5	50	54.4	Begin
2	11:04 AM	11:05 AM	63.2	69.1	58.1	64.8	56	62.3	
3	11:05 AM	11:06 AM	64.0	71.7	59.3	64.2	55.4	59.8	
4	11:06 AM	11:07 AM	64.9	70.2	60	63.7	56.4	60.3	
5	11:07 AM	11:08 AM	58.2	64.6	55.7	59.1	52.4	56.3	
6	11:08 AM	11:09 AM	64.5	74.2	61.3	70.5	56.5	65.5	
7	11:09 AM	11:10 AM	63.6	71.6	60	65.7	56.3	62.8	
8	11:10 AM	11:11 AM	56.7	63.1	52.7	56.3	50.1	57.6	
9	11:11 AM	11:12 AM	63.0	72.2	56.6	61.7	52.4	57.3	
10	11:12 AM	11:13 AM	61.5	68.9	55.2	58.5	51.5	54.8	
11	11:13 AM	11:14 AM	61.9	68.4	56.2	63.1	52.7	58.7	Car on US 70 Service Rd.
12	11:14 AM	11:15 AM	58.4	64.5	55	59.7	51.6	57.7	
13	11:15 AM	11:16 AM	60.0	65.4	55.9	62.1	54.7	60.3	
14	11:16 AM	11:17 AM	66.3	72.2	62.2	70.6	58.4	66.2	Car on US 70 Service Rd.
15	11:17 AM	11:18 AM	63.5	76.4	55.4	68	53.7	67.2	
16	11:18 AM	11:19 AM	64.8	76.2	62.7	71.7	58.8	67.3	
17	11:19 AM	11:20 AM	59.4	68.9	52	56.5	48.6	52	2 cars on US 70 Service Rd.
18	11:20 AM	11:21 AM	59.2	66.4	52.4	57.1	49.1	52.8	
19	11:21 AM	11:22 AM	62.5	71.5	57.1	64.0	53.4	58.7	
20	11:22 AM	11:23 AM	58.1	64.9	52.1	54.4	48.8	51.2	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	US 70 Service Rd.
Speed (post/obs)*	55	15
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	1	
Automobiles	223	4
Medium Trucks	10	
Heavy Trucks	48	
Buses	1	
Count duration	20 min.	20 min.

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 17.314' W 77° 45.704'	113.9
1651	N 35° 17.343' W 77° 45.681'	114.3
1655	N 35° 17.328' W 77° 45.693'	113.9

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 30 Total

Additional Notes/Comments: Birds chirping

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/14 Page ___ of ___

Monitoring Location: ST 1 La Grange Church of God Analyst: Bell / Delp

Sound Level Meter	Field Calibration	Weather Data
Model #: 820	Model #: CAL 200	Model #: WM
Serial #: See Map	Serial #: 5789	Serial #: 03386
Weighting: **A** / C / Flat	Calibration Level (dBA): 94 / **114**	Wind: Steady/Gusty/Calm
Response: **Slow** / Fast / Impl	Pre-Test 114.0 dBA	Precipitation: Yes (explain) / No
Windscreen : **Yes** / No (explain)	Post-Test 1651/1655: 114.0 1324/1325 dBA	Avg Wind Speed/Direction: 5 / gusts 8 / E
Topo: Flat / Hilly	GPS Coordinates (at SLM location)# See Map	Temp (°F): 55 RH (%): 67
Terrain: Hard/Soft/Mixed/Snow		Bar Psr (Hg): 30.02 Cloud Cover (%): 0

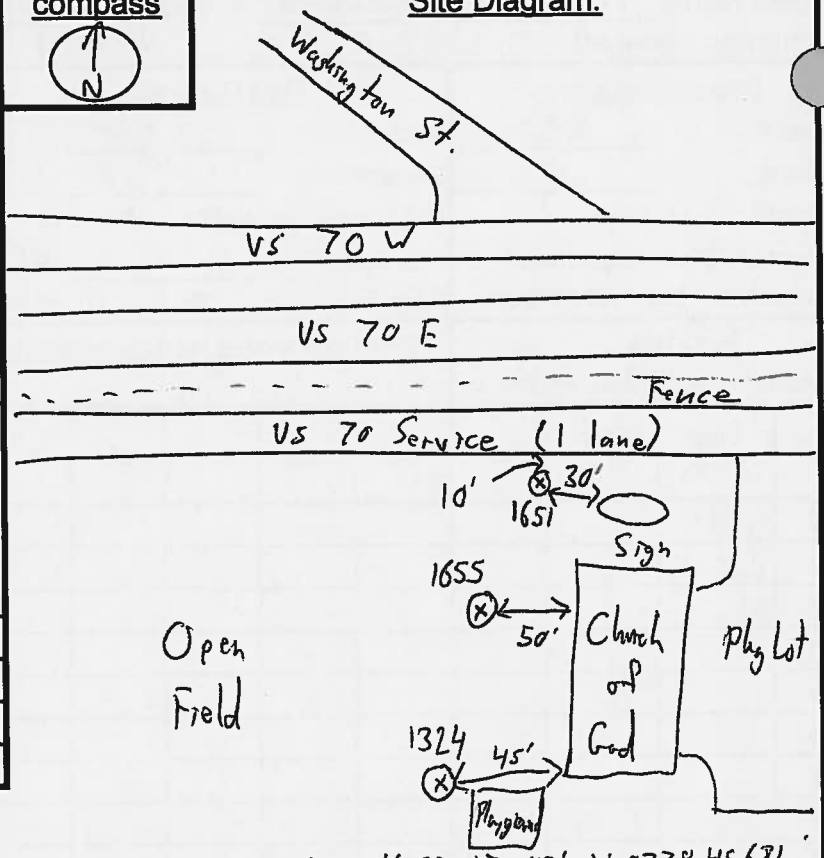
ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	11:04AM								
1	11:03AM								
2									
3									
4									
5									
6									
7									
8									
10									
11	11:13	11:14							Car on US 70 Service Rd.
12									
13									
14	11:16	11:17							"
15									
16									
17	11:19	11:20							2 Cars on US 70 Service Rd
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	US 70 Service
Speed (post/obs)*	55	15
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	1	
Automobiles	223	4
Medium Trucks	10	
Heavy Trucks	48	
Buses	1	
Count duration	20 min	20 min

compass

Site Diagram:



1651: N 35° 17.343' W 077° 45.681'
1655: N 35° 17.328' W 077° 45.693'
1324: N 35° 17.314 W 077° 45.704'

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 30 total

Additional Notes/Comments:

Birds Chirping

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 1

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass | Project #: 31829015 | Date: 2/18/2014 | Page of

Monitoring Location: Short Term 2: 3527 Foss Farm Village | Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: Steady/**Gusty**/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 5/gusts to 9/E
Temp (°F): 53 RH (%): 62
Bar Psr (Hg): 30.08 Cloud Cover (%): 0

Topo: **Flat** / Hilly
Terrain: Hard/**Soft**/Mixed/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1324	1: L_{max}, 1324	2: L_{eq}, 1655	2: L_{max}, 1655	3: L_{eq}, 1651	3: L_{max}, 1651	Notes/Events
0	10:19 AM	10:20 AM							
1	10:20 AM	10:21 AM	63.8	71.7	57.7	62.6	53.4	58.0	Begin
2	10:21 AM	10:22 AM	61.5	70.9	56.8	62.5	51.2	56.5	
3	10:22 AM	10:23 AM	65.3	70.8	59.2	62.6	53.7	57.6	
4	10:23 AM	10:24 AM	68.8	79.4	62.3	71	56.1	65.5	
5	10:24 AM	10:25 AM	69.9	78	65.9	75.7	61.3	72.6	
6	10:25 AM	10:26 AM	69.7	78.9	62.7	70	56.4	65.2	
7	10:26 AM	10:27 AM	67	77.3	60.8	69.5	54.2	63.0	
8	10:27 AM	10:28 AM	68.5	77.7	62.2	69.3	56.4	62.8	
9	10:28 AM	10:29 AM	66.8	74	61.3	66.1	54.9	59.2	
10	10:29 AM	10:30 AM	69.7	79.3	63.2	71.7	57.8	67.1	
11	10:30 AM	10:31 AM	66.8	74.9	61.4	67.2	56.8	61.5	
12	10:31 AM	10:32 AM	68.6	77.6	62.2	69.6	56.5	63.2	
13	10:32 AM	10:33 AM	64	73.7	58.7	65.7	55.1	60.4	
14	10:33 AM	10:34 AM	66.2	71.7	61.4	65.2	56.4	62.6	
15	10:34 AM	10:35 AM	67.6	78.9	62.2	71.1	56.7	67.5	
16	10:35 AM	10:36 AM	70.8	78.2	64.3	71.6	59.3	66.3	
17	10:36 AM	10:37 AM	69.8	79.1	62.8	70.6	56.9	65.0	
18	10:37 AM	10:38 AM	69.1	75.9	63.6	68.4	58.0	64.3	
19	10:38 AM	10:39 AM	67.1	74.3	61.4	67.4	55.8	63.4	
20	10:39 AM	10:40 AM	66.3	76.3	59.9	68.2	55.1	62.7	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	Foss Farm
Speed (post/obs)*	55	10
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	272	2
Medium Trucks	15	
Heavy Trucks	42	
Buses		
Count duration	20 min.	20 min.

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 15.923' W 77° 43.677'	113.9
1651	N 35° 15.898' W 77° 43.691'	114.3
1655	N 35° 15.909' W 77° 43.685'	113.9

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 31 Total

Additional Notes/Comments: Occasional jet noise in far distance; no effect on noise levels.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/14 Page ___ of ___

Monitoring Location: ST 2 Analyst: Bell / Delp

Sound Level Meter	Field Calibration	Weather Data
Model #: 820	Model #: CAL 200	Model #: WM
Serial #: See Map	Serial #: 5789	Serial #: 03386
Weighting: **A** / C / Flat	Calibration Level (dBA): 94 / **114**	Wind: Steady/Gusty/Calm
Response: **Slow** / Fast / Impl	Pre-Test 114.0 dBA	Precipitation: Yes (explain) No
Windscreen : **Yes** / No (explain)	Post-Test 1651/1655 114.0 1324 113.9 dBA	Avg Wind Speed/Direction: 5 / gusts 9 / E
Topo: Flat / Hilly	GPS Coordinates (at SLM location)# See Map	Temp (°F): 53 RH (%): 62
Terrain: Hard/Soft/Mixed/Snow		Bar Psr (Hg): 30.08 Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	10:19AM								
1	10:20AM								Occasional Jet Noise
2									in far distance
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									

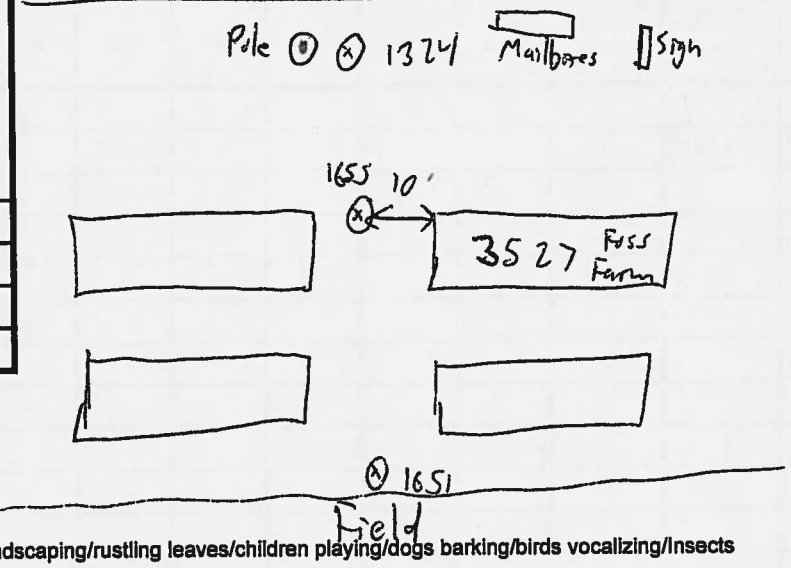
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	Foss Farm
Speed (post/obs)*	55	10
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	272	2
Medium Trucks	15	
Heavy Trucks	42	
Buses		
Count duration	20 min	20 min

compass

Site Diagram:

1651: N 35° 15.898' W 077° 43.691'
1655: N 35° 15.909' W 077° 43.685'
1324: N 35° 15.923' W 077° 43.677'



- note coordinate system * = Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 31 total

Additional Notes/Comments:

10:23-10:25 Vehicles starting on Foss Farm

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

Short Term 2

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page ___ of ___

Monitoring Location: Short Term 3: 5279 Hwy 70 West Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: **Steady**/Gusty/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 4/E
Temp (°F): 46 RH (%): 69
Bar Psr (Hg): 30.08 Cloud Cover (%): 0

Topo: **Flat** / Hilly
Terrain: Hard/**Soft**/Mixed/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1324	1: L_{max}, 1324	2: L_{eq}, 1655	2: L_{max}, 1655	3: L_{eq}, 1651	3: L_{max}, 1651	Notes/Events
0	8:54 AM	8:55 AM							
1	8:55 AM	8:56 AM	51.1	53.5	49.8	54.5	48.5	56.2	Start
2	8:56 AM	8:57 AM	48.4	52.2	47.6	50.9	46.1	49.6	
3	8:57 AM	8:58 AM	53.5	58.4	52.5	59.5	50.6	57.1	
4	8:58 AM	8:59 AM	62	73.3	59.4	63.5	58.2	61.2	
5	8:59 AM	9:00 AM	51.3	56.4	52	57.5	51.7	57.7	
6	9:00 AM	9:01 AM	56.5	69.1	47.9	52.5	45.8	48.9	
7	9:01 AM	9:02 AM	53.5	57.2	52.4	56.1	50.1	53.5	
8	9:02 AM	9:03 AM	50.6	52.5	49	52.1	47.0	49.0	
9	9:03 AM	9:04 AM	49.1	52.3	47.3	50	45.9	48.7	
10	9:04 AM	9:05 AM	53.7	62.8	52.2	58.7	47.4	53.7	Resident talking (1655 meter may be affected)
11	9:05 AM	9:06 AM	51.3	54	50.7	54.3	47.9	52.6	Resident talking (1655 meter may be affected)
12	9:06 AM	9:07 AM	51.2	53.8	50.1	54.8	47.0	50.6	Resident talking (1655 meter may be affected)
13	9:07 AM	9:08 AM	60.2	74.6	49.1	53.2	48.0	51.6	
14	9:08 AM	9:09 AM	50.2	52.1	49.5	53.3	47.0	49.3	
15	9:09 AM	9:10 AM	49.4	52	50.7	54.7	47.8	52.5	
16	9:10 AM	9:11 AM	51.6	57.4	51.3	56	52.2	57.5	
17	9:11 AM	9:12 AM	52.8	55.7	53.4	58.7	52.2	56.8	
18	9:12 AM	9:13 AM	46.7	49.3	47.7	52.2	45.2	49.3	
19	9:13 AM	9:14 AM	46	48.5	47.7	52.7	47.9	52.8	
20	9:14 AM	9:15 AM	51.3	54.8	52.7	56.3	51.3	56.1	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Sanderson Rd.	
Speed (post/obs)*	45	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	4	
Medium Trucks		
Heavy Trucks		
Buses		
Count duration	20 min.	

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 15.649' W 77° 40.663'	113.9
1651	N 35° 15.591' W 77° 40.665'	114.3
1655	N 35° 15.615' W 77° 40.665'	113.9

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 30 Total

Additional Notes/Comments: Constant low hum from US 70 in distance.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/14 Page ___ of ___

Monitoring Location: ST3 Analyst: Bell / Delp

Sound Level Meter
Model #: 820
Serial #: See Map
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test 1651/1655: 114.0 1324: 113.9 dBA

Weather Data
Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 4
Temp (°F): 46 RH (%): 69
Bar Psr (Hg): 30.08 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
See Map

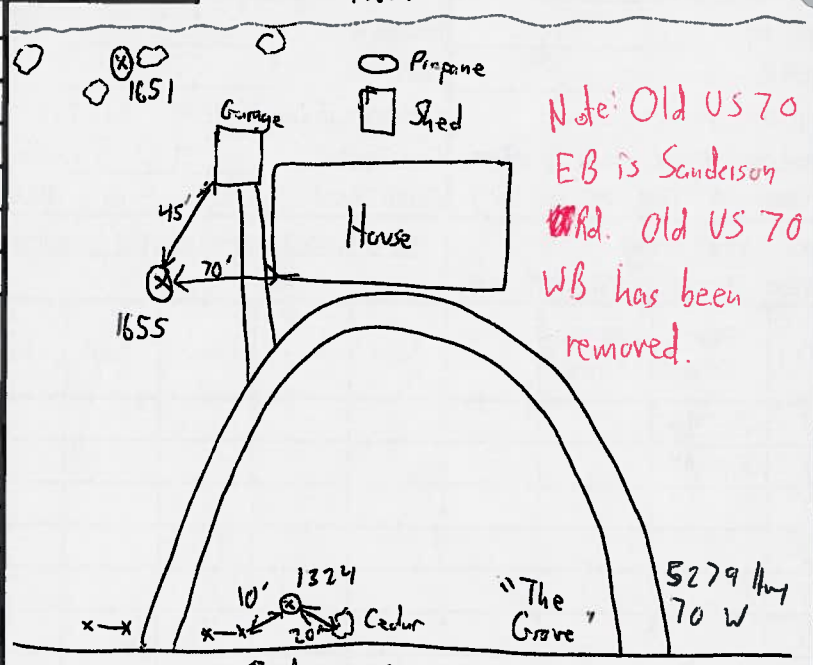
ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	8:54AM								
1	8:55AM								
2									
3									
4									
5									
6									
7									
8									
10	9:04								~~[illegible]~~ Talking (1655)
11	↓								↓
12									
13	9:07								
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Sanderson Rd.	
Speed (post/obs)*	45	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	–	
Automobiles	4	
Medium Trucks	–	
Heavy Trucks	–	
Buses	–	
Count duration	20 min.	

compass

Site Diagram:



1324: N35° 15.649' W077° 40.663'
1655: N 35° 15.615' W 077° 40.665'
1651: N 35° 15.591' W 077° 40.665'

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 30 total

Additional Notes/Comments:

Resident returned @ 9:04, occasional crow chirping

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 3

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass | Project #: 31829015 | Date: 2/17/2014 | Page of

Monitoring Location: Short Tern 5: Cemetary | Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: Steady/**Gusty**/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 2/gusts to 5/N
Temp (°F): 53 RH (%): 44
Bar Psr (Hg): 30.17 Cloud Cover (%): 20

Topo: **Flat** / Hilly
Terrain: Hard/**Soft**/Mixed/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1324	1: L_{max}, 1324	2: L_{eq}, 1655	2: L_{max}, 1655	3: L_{eq}, 1651	3: L_{max}, 1651	Notes/Events
0	4:15 PM	4:16 PM							
1	4:16 PM	4:17 PM	72.3	74.9	61.2	63.3	58.7	61.4	Start
2	4:17 PM	4:18 PM	73.1	76.7	61.9	65.1	59.9	64.7	
3	4:18 PM	4:19 PM	72	78.6	61.1	65.7	58.1	63.5	
4	4:19 PM	4:20 PM	75.1	79.4	63.5	65.8	59.9	62.3	
5	4:20 PM	4:21 PM	74.1	79.7	65.7	69.9	62.9	67	
6	4:21 PM	4:22 PM	72.7	78.1	63	65.1	58.4	61	
7	4:22 PM	4:23 PM	73.1	77.6	63.7	68.7	59.4	63.8	
8	4:23 PM	4:24 PM	73.3	76.8	64.3	66.4	59.2	60.8	
9	4:24 PM	4:25 PM	74.2	78.1	62.6	64.9	58.1	60.4	
10	4:25 PM	4:26 PM	70.1	76.3	58.9	62.2	54.8	56.6	
11	4:26 PM	4:27 PM	70.4	74.7	61.7	66.9	57.3	61.8	
12	4:27 PM	4:28 PM	73	78.5	63.1	68.9	58.6	64.4	
13	4:28 PM	4:29 PM	72.2	78.3	64.3	68	61.9	65	
14	4:29 PM	4:30 PM	71.7	76.5	60.2	63.9	57.5	61.1	
15	4:30 PM	4:31 PM	72.7	75.9	64.1	65.9	61.1	64	
16	4:31 PM	4:32 PM	74.7	82.8	64.1	69.3	58.7	61.9	
17	4:32 PM	4:33 PM	72.2	76.9	63	67.2	60.5	63.7	
18	4:33 PM	4:34 PM	72.3	76.1	61.1	63.5	57	61.6	
19	4:34 PM	4:35 PM	73.2	77.9	63.6	66.6	60.9	63.2	
20	4:35 PM	4:36 PM	75.1	79.9	63	65.9	58.9	61.1	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	45	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	1053	
Medium Trucks	12	
Heavy Trucks	61	
Buses	2	
Count duration	20 min.	

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 15.919' W 77° 38.212'	113.9
1651	N 35° 15.971' W 77° 38.219'	114.0
1655	N 35° 15.930' W 77° 38.217'	114.0

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 26 Total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: ST 5 Analyst: Bell / Delp

Sound Level Meter	Field Calibration	Weather Data
Model #: 820	Model #: CAL 200	Model #: WM
Serial #: See Map	Serial #: 5789	Serial #: 03386
Weighting: **A** / C / Flat	Calibration Level (dBA): 94 / **114**	Wind: Steady/Gusty/Calm
Response: **Slow** / Fast / Impl	Pre-Test 114.0 dBA	Precipitation: Yes (explain) / (No)
Windscreen : **Yes** / No (explain)	Post-Test dBA	Avg Wind Speed/Direction: 2 knots to S/N
Topo: (Flat) / Hilly	GPS Coordinates (at SLM location)#	Temp (°F): 53 RH (%): 44
Terrain: Hard/(Soft)/Mixed/Snow	See Map	Bar Psr (Hg): 30.17 Cloud Cover (%): 20

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	4:15 PM								
1	4:16 PM								
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									

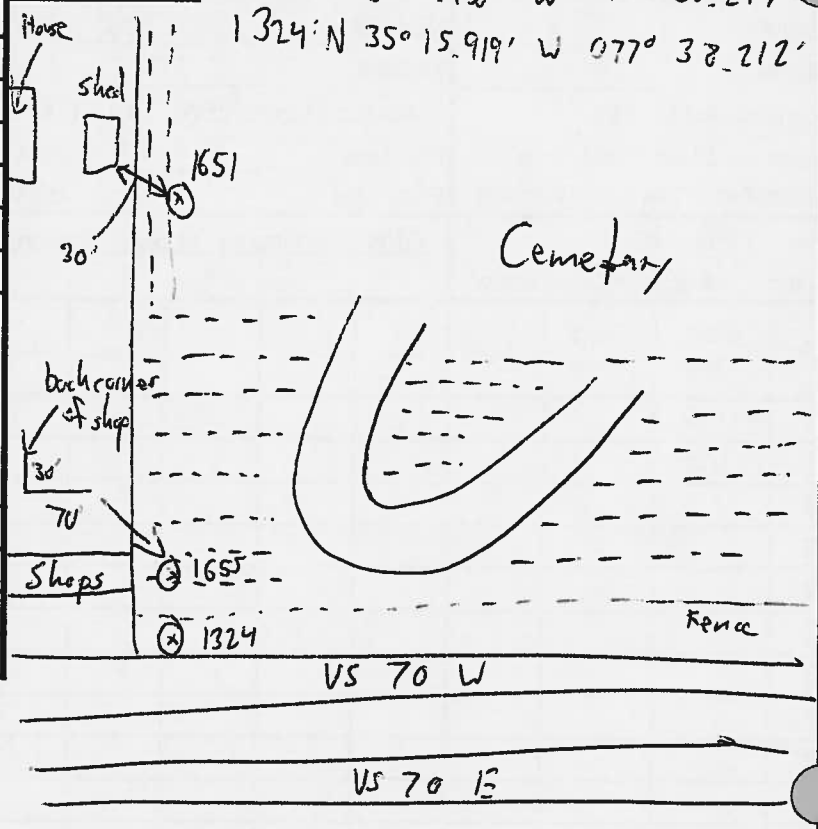
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	45	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	—	
Automobiles	1053	
Medium Trucks	12	
Heavy Trucks	61	
Buses	2	
Count duration	20 min	

compass

Site Diagram:

1651: N 35° 15.971' W 077° 38.219'
1655: N 35° 15.936' W 077° 38.217'
1324: N 35° 15.919' W 077° 38.212'



- note coordinate system * - Speed estimated by Radar / Driving / Observation

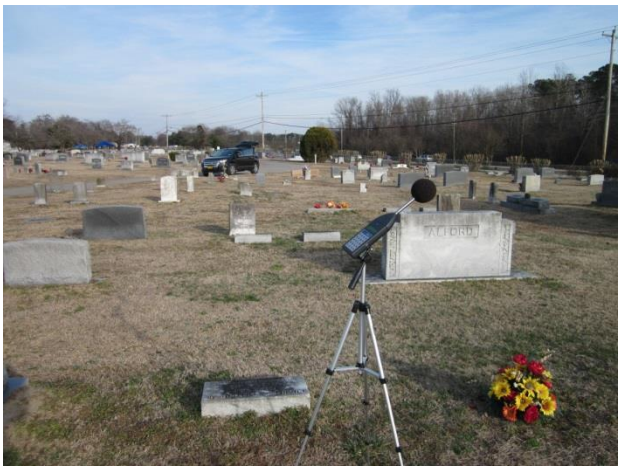
Photos Taken? Yes/No 26 total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 5



URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/2014 Page of

Monitoring Location: Short Term 6: Vernon Dialysis - 3101 W. New Bern Rd. Analyst: Bell/Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	WM
Serial #:	See Sketch	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: Steady/**Gusty**/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	All: 114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	See Sketch dBA	Avg Wind Speed/Direction:	4/gusts to 7/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	53 RH (%): 43
Terrain: Hard/Soft/**Mixed**/Snow		See Sketch		Bar Psr (Hg):	30.18 Cloud Cover (%): 10

ID	Start Time	Stop Time	1: L_{eq}, 1651	1: L_{max}, 1651	2: L_{eq}, 1324	2: L_{max}, 1324	3: L_{eq}, 1655	3: L_{max}, 1655	Notes/Events
0	3:29 PM	3:30 PM							
1	3:30 PM	3:31 PM	69.8	78.4	65.8	72.2	60.8	65.2	Start
2	3:31 PM	3:32 PM	70.6	79.1	67.2	74.3	61.8	65.7	
3	3:32 PM	3:33 PM	68.7	73.1	64.4	68.5	57.7	63.8	
4	3:33 PM	3:34 PM	71.5	77.4	67.2	71.6	62.1	66.6	
5	3:34 PM	3:35 PM	65	71.1	61.6	66	63.2	70.3	
6	3:35 PM	3:36 PM	70	82.2	65.4	74.1	58.5	64.2	
7	3:36 PM	3:37 PM	71.3	82.2	66.5	74.3	62	67.7	
8	3:37 PM	3:38 PM	66.8	73.2	62.9	68.1	58.9	63.4	
9	3:38 PM	3:39 PM	73.1	77.2	67.8	72	62	65.8	
10	3:39 PM	3:40 PM	70	76.6	65.9	70.6	62.1	66.3	
11	3:40 PM	3:41 PM	68.8	78.1	64.7	73.1	58.4	64.3	
12	3:41 PM	3:42 PM	70.4	77.7	66.4	71.8	59.5	63.2	
13	3:42 PM	3:43 PM	68	75.4	63.6	69.8	57.4	60.7	
14	3:43 PM	3:44 PM	73.2	78.3	68.8	73.3	62.9	69.5	
15	3:44 PM	3:45 PM	69.8	78.7	65.9	73.2	62.6	69.2	
16	3:45 PM	3:46 PM	71	79.7	66.7	73.8	60.7	65.9	
17	3:46 PM	3:47 PM	71.8	77.4	67.4	72.6	61.1	64.7	
18	3:47 PM	3:48 PM	69.6	73.2	65.8	69.7	60.7	66.4	
19	3:48 PM	3:49 PM	69.3	76.8	65.1	70.4	62.1	70	
20	3:49 PM	3:50 PM	71.9	77.6	67.7	72.2	63.5	68.2	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	1	
Automobiles	650	
Medium Trucks	11	
Heavy Trucks	46	
Buses	1	
Count duration	20 min.	

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 15.938 W 77° 37.684'	113.9
1651	N 35° 15.915' W 77° 37.673'	114.0
1655	N 35° 15.970' W 77° 37.695'	114.0

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 30 Total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: ST 6 Analyst: Bell / Delp

Sound Level Meter
Model #: 820
Serial #: See Map
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 4 / gusts to 7 / [illegible]F
Temp (°F): 53 RH (%): 43
Bar Psr (Hg): 30.18 Cloud Cover (%): 10

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
See Map

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	3:29 PM								
1	330PM								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
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24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

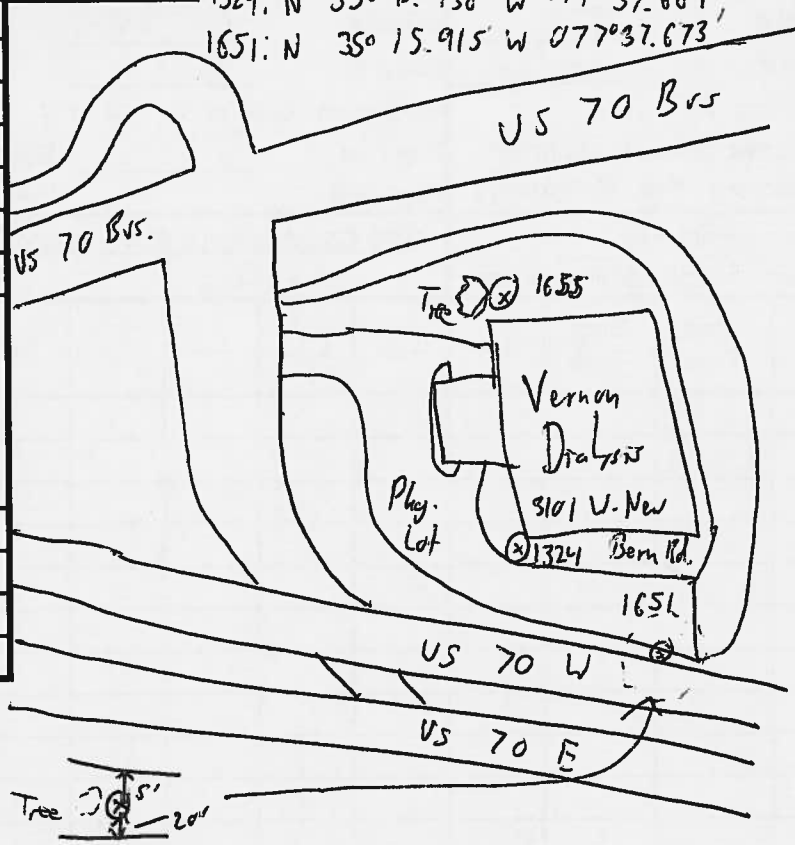
Roadway Name/Dir	US 70	US 70 Bus.
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	1	
Automobiles	650	
Medium Trucks	11	
Heavy Trucks	46	
Buses	1	
Count duration	20 min.	

compass

N

Site Diagram:

1655: N 35° 15.970' W 077° 37.695'
1324: N 35° 15.938' W 077° 37.684'
1651: N 35° 15.915' W 077° 37.673'



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 30 total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 6

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass | Project #: 31829015 | Date: 2/17/2014 | Page of

Monitoring Location: Short Term 7: Dog Park | Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: Steady/**Gusty**/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 4/gusts to 7/E
Temp (°F): 51 RH (%): 42
Bar Psr (Hg): 30.12 Cloud Cover (%): 10

Topo: **Flat** / Hilly
Terrain: Hard/**Soft**/Mixed/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1324	1: L_{max}, 1324	2: L_{eq}, 1655	2: L_{max}, 1655	3: L_{eq}, 1651	3: L_{max}, 1651	Notes/Events
0	2:34 PM	2:35 PM							
1	2:35 PM	2:36 PM	51.9	56.6	49.4	52.6	51.4	53.1	
2	2:36 PM	2:37 PM	55.5	58.3	53.1	56.1	54.7	58.5	
3	2:37 PM	2:38 PM	52.3	54.5	51.4	54	52.8	55.9	
4	2:38 PM	2:39 PM	58.1	63.3	54.9	58.6	55.3	59.7	
5	2:39 PM	2:40 PM	54.6	58.8	53.8	59.1	55.7	61.4	
6	2:40 PM	2:41 PM	54.7	57.1	52.7	55.7	54.4	59.6	
7	2:41 PM	2:42 PM	51.4	53.2	48.5	52.3	49.6	54.6	
8	2:42 PM	2:43 PM	51.9	54.8	51.6	54.5	53.7	56.9	
9	2:43 PM	2:44 PM	55.7	61.6	53.9	58.2	55.7	58.6	
10	2:44 PM	2:45 PM	54.8	57.8	53	57.6	54.4	62.2	
11	2:45 PM	2:46 PM	54	55.7	52.9	55	54.4	56.9	
12	2:46 PM	2:47 PM	60.9	67.7	60.7	68.6	61.9	70.1	
13	2:47 PM	2:48 PM	52.3	54.8	50.5	53.5	52.6	56.3	
14	2:48 PM	2:49 PM	59	68.2	54.6	62.2	54.8	59.9	
15	2:49 PM	2:50 PM	54.7	62.5	51.4	57.9	52.6	56.2	
16	2:50 PM	2:51 PM	53.2	56.4	52.1	55.2	53.8	58.3	
17	2:51 PM	2:52 PM	50.5	53.5	48.8	52	50.7	54.8	
18	2:52 PM	2:53 PM	50.7	53.2	49.5	52.9	51.5	54.7	
19	2:53 PM	2:54 PM	54.8	60.4	51.5	57.6	52.8	57.5	
20	2:54 PM	2:55 PM	58	64.9	53.5	57.6	53.8	58	
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	NC 55
Speed (post/obs)*	55	55
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	384	267
Medium Trucks	9	6
Heavy Trucks	40	10
Buses	1	
Count duration	20 min.	20 min.

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 15.238' W 77° 35.956'	113.9
1651	N 35° 15.284' W 77° 35.916'	114.0
1655	N 35° 15.264' W 77° 35.935'	114.0

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 28 Total

Additional Notes/Comments: Several trucks with loud acceleration.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: ST 7 Analyst: Bell / Delp

Sound Level Meter
Model #: 820
Serial #: See Map
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 4/gusts to 7/E
Temp (°F): 51 RH (%): 42
Bar Psr (Hg): 30.12 Cloud Cover (%): 10

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
See Map

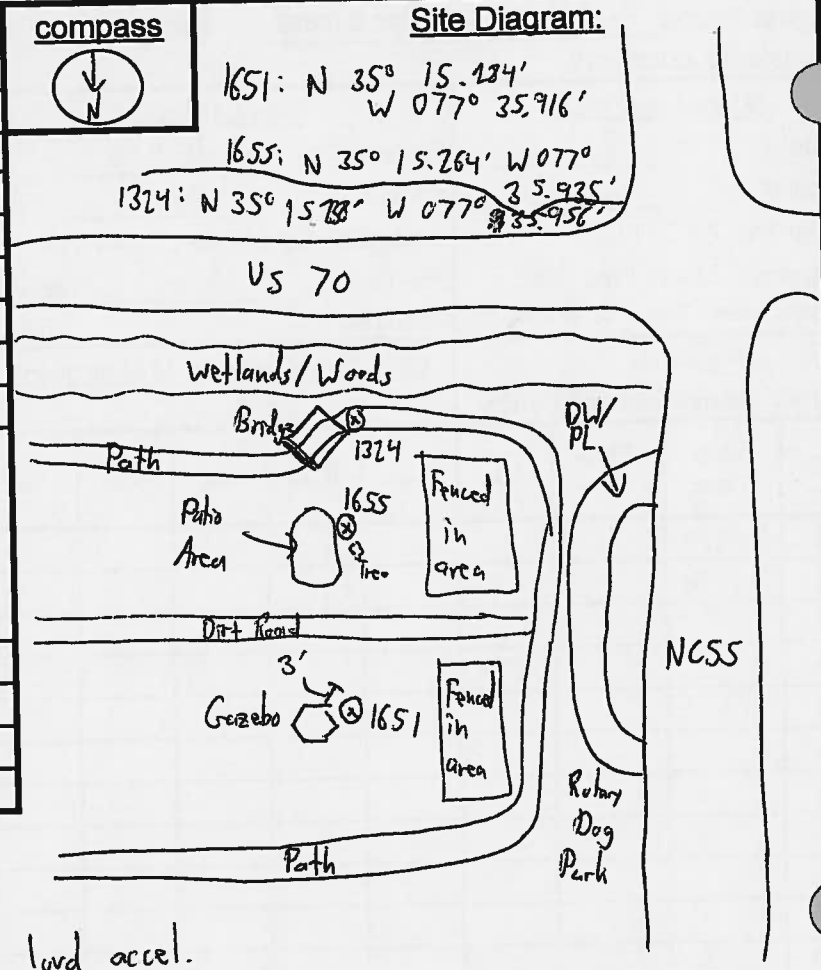
ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	2:34 PM								
1	2:35 PM								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	NC 55
Speed (post/obs)*	55	55
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	384	267
Medium Trucks	9	6
Heavy Trucks	40	10
Buses	1	
Count duration	20 min.	20 min

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 28 total

Additional Notes/Comments: Several trucks with loud accel.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 7

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass | Project #: 31829015 | Date: 2/17/2014 | Page of

Monitoring Location: Short Term 8: Hampton Inn/Quality Inn | Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: Steady/**Gusty**/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 8/gusts to 12/W
Temp (°F): 52 RH (%): 41
Bar Psr (Hg): 30.2 Cloud Cover (%): 10

Topo: **Flat** / Hilly
Terrain: Hard/Soft/**Mixed**/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1651	1: L_{max}, 1651	2: L_{eq}, 1324	2: L_{max}, 1324	3: L_{eq}, 1655	3: L_{max}, 1655	Notes/Events
0	1:43 PM	1:44 PM							
1	1:44 PM	1:45 PM	62	68.5	56.1	60.2	51.6	55.9	Begin
2	1:45 PM	1:46 PM	67.7	72.4	60.5	64.2	56.4	60.2	
3	1:46 PM	1:47 PM	69.7	74.2	63.1	66.9	59.5	64.3	
4	1:47 PM	1:48 PM	61.7	69.2	56.6	63.2	52.9	59.9	
5	1:48 PM	1:49 PM	66.3	71.4	58.8	62.9	54.2	58.6	
6	1:49 PM	1:50 PM	60.4	66.7	55.8	59.8	51	55.5	
7	1:50 PM	1:51 PM	67.9	75.6	60.5	68	55.9	63.6	
8	1:51 PM	1:52 PM	70.9	77.1	64.9	70.3	61.2	67.1	
9	1:52 PM	1:53 PM	60.2	68.4	55.8	60.8	52.4	58	
10	1:53 PM	1:54 PM	69.5	73.2	63.3	67.3	58.9	63.1	
11	1:54 PM	1:55 PM	59.1	65.2	55.2	59.9	51.7	57.1	
12	1:55 PM	1:56 PM	67.1	73.7	60.9	68	56.9	64.9	
13	1:56 PM	1:57 PM	68.2	72.9	61.9	66.8	58.2	63.5	
14	1:57 PM	1:58 PM	61.8	68.5	56.8	61.9	52.7	60.1	
15	1:58 PM	1:59 PM	69.3	73.2	62.6	65.4	57.9	61.6	
16	1:59 PM	2:00 PM	69.2	81.4	63.6	72.4	60.8	72.5	
17	2:00 PM	2:01 PM	65.9	75.6	60.1	69.1	54.7	64.5	
18	2:01 PM	2:02 PM	71.5	78.1	67.1	73.8	62.8	70.3	
19	2:02 PM	2:03 PM	63.4	70.9	57.8	63	52.6	58.2	
20	2:03 PM	2:04 PM	68.5	72.1	61.6	64.6	56.4	60.1	End
21									
22									
23									
24									
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26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	45	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	386	
Medium Trucks	13	
Heavy Trucks	36	
Buses		
Count duration	20 min.	

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 14.672' W 77° 35.251'	113.9
1651	N 35° 14.687' W 77° 35.236'	114.0
1655	N 35° 14.653' W 77° 35.268'	114.0

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 29 Total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: ST 8 - Hampton Inn / Quality Analyst: Bell / Delp

Sound Level Meter
- Model #: 820
- Serial #: See Map
- Weighting: **A** / C / Flat
- Response: **Slow** / Fast / Impl
- Windscreen : **Yes** / No (explain)

Field Calibration
- Model #: CAL 200
- Serial #: 5789
- Calibration Level (dBA): 94 / **114**
- Pre-Test 114.0 dBA
- Post-Test ___ dBA

Weather Data
- Model #: WM
- Serial #: 03386
- Wind: Steady/Gusty/Calm
- Precipitation: Yes (explain) / No
- Avg Wind Speed/Direction: 8 / gusts to 12 / W
- Temp (°F): 52 RH (%): 41
- Bar Psr (Hg): 30.20 Cloud Cover (%): 10

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
See Map

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	1:43 PM								
1	1:44 PM								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
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21									
22									
23									
24									
25									
26									
27									
28									
29									

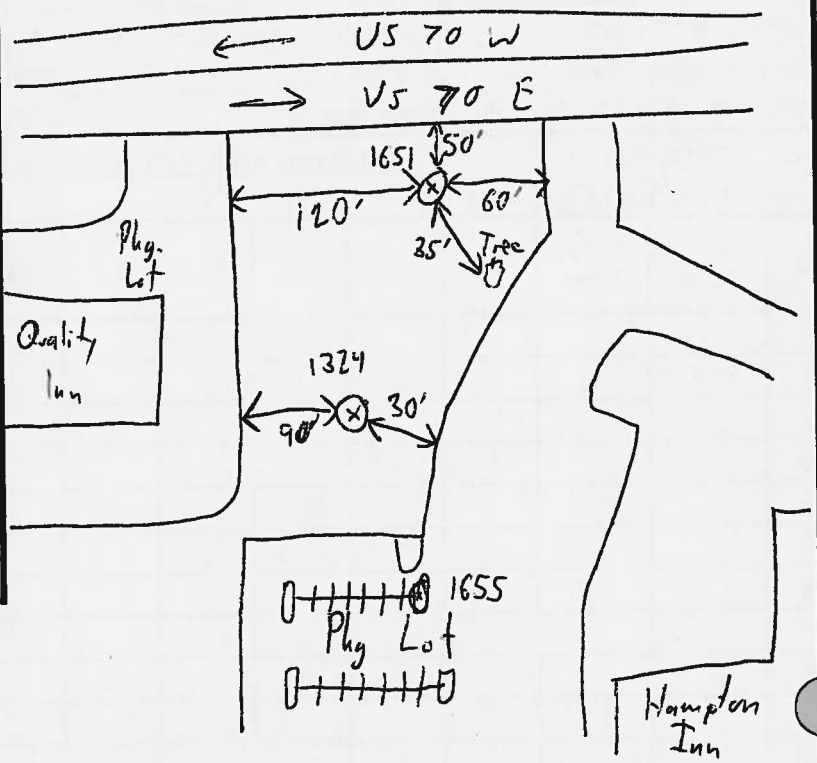
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	45	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	~~[illegible]~~ 386	
Medium Trucks	13	
Heavy Trucks	~~[illegible]~~ 36	
Buses		
Count duration	20 min.	

compass

Site Diagram:

1651: N 35° 14.687' W 077° 35.236'
1324: N 35° 14.672' W 077° 35.251'
1655: N 35° 14.653' W 077° 35.268'



- note coordinate system *- Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments: 29 total

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 8

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass | Project #: 31829015 | Date: 2/17/2014 | Page of

Monitoring Location: Short Term 9: Lenoir Community College | Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: **Steady**/Gusty/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 9/W
Temp (°F): 55 RH (%): 28
Bar Psr (Hg): 30.22 Cloud Cover (%): 0

Topo: **Flat** / Hilly
Terrain: Hard/Soft/**Mixed**/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1651	1: L_{max}, 1651	2: L_{eq}, 1655	2: L_{max}, 1655	3: L_{eq}, 1324	3: L_{max}, 1324	Notes/Events
0	12:59 PM	1:00 PM							
1	1:00 PM	1:01 PM	69.9	82	62.3	71.5	59.5	68.6	Begin
2	1:01 PM	1:02 PM	70.9	77.4	59.7	64.3	56.5	60.9	
3	1:02 PM	1:03 PM	63.4	71.8	59.7	66.9	57	62.6	
4	1:03 PM	1:04 PM	71.6	83.4	60.3	67.7	57.4	61.9	
5	1:04 PM	1:05 PM	66.3	74.9	58.5	65.8	56.2	63.5	
6	1:05 PM	1:06 PM	71.4	82.8	61.2	69.2	58	64.1	
7	1:06 PM	1:07 PM	69.9	78.3	58.6	63.9	56.3	60.1	
8	1:07 PM	1:08 PM	71.8	81.8	62.7	70.7	59.1	64.5	
9	1:08 PM	1:09 PM	66.9	79.4	59.2	65.9	58.5	66.3	
10	1:09 PM	1:10 PM	69.5	76.8	61.4	67.5	58.6	64.1	
11	1:10 PM	1:11 PM	61.2	68.4	52.9	58.7	50.7	54.1	
12	1:11 PM	1:12 PM	72.8	83.9	62.4	69.7	59.1	64.6	
13	1:12 PM	1:13 PM	70.5	82.4	61.1	69.7	57	65.6	
14	1:13 PM	1:14 PM	70.5	82.3	60.6	69.2	56.9	63.8	
15	1:14 PM	1:15 PM	77	89.4	66.1	75.2	63	70.4	
16	1:15 PM	1:16 PM	61.5	70.2	54.9	59.6	53.8	57.8	
17	1:16 PM	1:17 PM	66.9	76.1	57.5	61.6	55.1	58.8	
18	1:17 PM	1:18 PM	72.8	84.6	61.5	70.7	56.9	65.7	
19	1:18 PM	1:19 PM	67	74.8	60.5	68.3	58	66.2	
20	1:19 PM	1:20 PM	70.2	79.3	61.1	65.8	56.6	60.7	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	45	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	264	
Medium Trucks	14	
Heavy Trucks	41	
Buses	2	
Count duration	20 min.	

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 14.110' W 77° 34.212'	113.9
1651	N 35° 14.154' W 77° 34.207'	114.0
1655	N 35° 14.130' W 77° 34.206'	114.0

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 29 Total

Additional Notes/Comments: Students talking on sidewalks, occoasional vehicle in parking lot, sea gulls.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: ST 9 LCCC Analyst: Bell / Delp

Sound Level Meter

Model #: 820

Serial #: See Map

Weighting: **A** / C / Flat

Response: **Slow** / Fast / Impl

Windscreen : **Yes** / No (explain)

Field Calibration

Model #: CAL 200

Serial #: 5789

Calibration Level (dBA): 94 / **114**

Pre-Test 114.0 dBA

Post-Test ___ dBA

Weather Data

Model #: WM

Serial #: 03386

Wind: Steady/Gusty/Calm

Precipitation: Yes (explain) (No)

Avg Wind Speed/Direction: 9/W

Temp (°F): 55 RH (%): 28

Bar Psr (Hg): 30.22 Cloud Cover (%): 0

Topo: (Flat) / Hilly

Terrain: Hard/Soft/(Mixed)/Snow

GPS Coordinates (at SLM location)#

See Map

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	12:59 PM								
1	1:00 PM								
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									

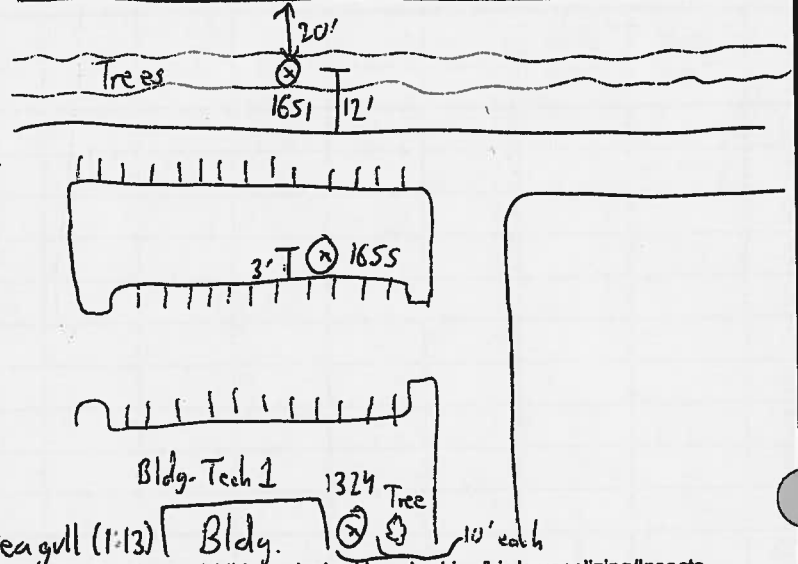
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	Parking Lot
Speed (post/obs)*	45	15
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	0	
Automobiles	264	
Medium Trucks	14	
Heavy Trucks	41	
Buses	2	
Count duration	20 min.	

compass

Site Diagram:

1651: N 35° 14.154' W 077° 34.207'
1655 N 35° 14.130' W 077° 34.206'
1324 N 35° 14.110' W 077° 34.212'



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 29 total

Additional Notes/Comments:

Students talking, music in cars, seagull (1:13)

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

Short Term 9

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass | Project #: 31829015 | Date: 2/17/2014 | Page of

Monitoring Location: Short Term 10: New Testament Church | Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: Steady/**Gusty**/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 2/gusts to 5/W
Temp (°F): 43 RH (%): 47
Bar Psr (Hg): 30.25 Cloud Cover (%): 0

Topo: **Flat** / Hilly
Terrain: Hard/Soft/**Mixed**/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1651	1: L_{max}, 1651	2: L_{eq}, 1655	2: L_{max}, 1655	3: L_{eq}, 1324	3: L_{max}, 1324	Notes/Events
0	11:29 AM	11:30 AM							
1	11:30 AM	11:31 AM	58.2	69	53.2	57.9	48.8	51.6	Begin
2	11:31 AM	11:32 AM	61.3	71.4	53	58.9	48.3	51.2	
3	11:32 AM	11:33 AM	58.7	69.6	50.7	56	47.8	50.3	
4	11:33 AM	11:34 AM	59.1	68.5	53.1	56	49.3	51.8	
5	11:34 AM	11:35 AM	65.2	70.3	58.4	64.1	51.4	54.9	
6	11:35 AM	11:36 AM	63.9	72.2	56.2	63.6	49.7	54.2	
7	11:36 AM	11:37 AM	57.3	64.8	50.6	54.7	47.3	49.2	
8	11:37 AM	11:38 AM	64.4	75.6	56.9	65.7	49.6	53.3	
9	11:38 AM	11:39 AM	66.7	74.1	59	67	51	55.9	
10	11:39 AM	11:40 AM	60.9	69.3	54	58.6	48.6	52.7	
11	11:40 AM	11:41 AM	62.4	72.3	54.2	60.6	49.1	52.4	
12	11:41 AM	11:42 AM	59.8	66.6	53.1	58.8	48.1	51.5	
13	11:42 AM	11:43 AM	62.5	70.9	55.2	60.6	48.4	52.2	
14	11:43 AM	11:44 AM	61.2	71.6	51.1	54.6	47	49.9	
15	11:44 AM	11:45 AM	62.9	72	54.9	60.5	50.4	53.4	
16	11:45 AM	11:46 AM	62.5	71.9	55.2	60.1	49.2	52.4	
17	11:46 AM	11:47 AM	67.2	77.3	59.9	66.5	51.3	54.5	
18	11:47 AM	11:48 AM	59.9	71	51.7	58.1	48.5	50.2	
19	11:48 AM	11:49 AM	64.1	72.8	55.2	61.5	49.5	51.5	
20	11:49 AM	11:50 AM	60.8	71.4	52.3	59.6	48.9	50.4	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	233	
Medium Trucks	9	
Heavy Trucks	46	
Buses		
Count duration	20 min.	

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 14.160' W 77° 33.250'	113.9
1651	N 35° 14.078' W 77° 33.257'	114.0
1655	N 35° 14.114' W 77° 33.249'	114.0

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 30 Total

Additional Notes/Comments: Heat pump in far distance (very limited effect on 1324 only), birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: ST 10 NT Church Analyst: Bell / Delp

Sound Level Meter
- Model #: 820
- Serial #: See Map
- Weighting: **A** / C / Flat
- Response: **Slow** / Fast / Impl
- Windscreen : **Yes** / No (explain)

Field Calibration
- Model #: CAL 200
- Serial #: 5789
- Calibration Level (dBA): 94 / **114**
- Pre-Test 114.0 dBA
- Post-Test ___ dBA

Weather Data
- Model #: WM
- Serial #: 03386
- Wind: Steady/Gusty/Calm
- Precipitation: Yes (explain) / No
- Avg Wind Speed/Direction: 2 / W
- Temp (°F): 43 RH (%): 47
- Bar Psr (Hg): 30.25 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
See Map

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
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15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

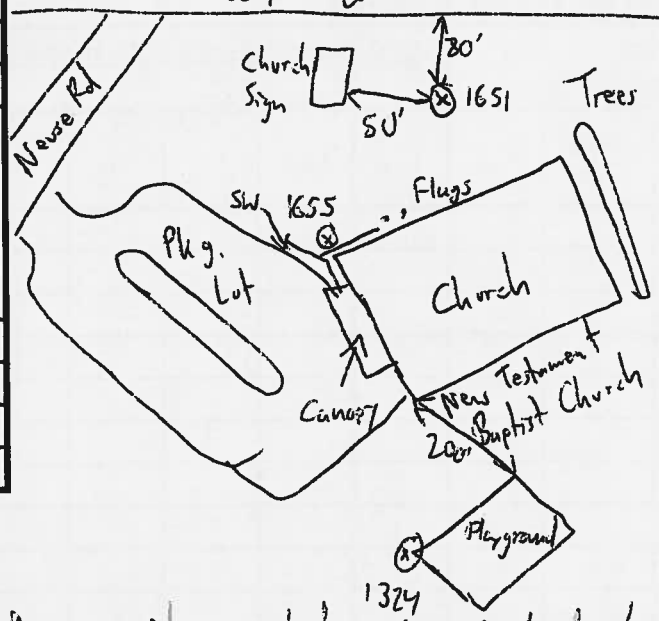
Roadway Name/Dir	70	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	0	
Automobiles	233	
Medium Trucks	9	
Heavy Trucks	46	
Buses	0	
Count duration	20 min.	

compass

N

Site Diagram:

1651: N 35° 14.078' W 077° 33.257'
1655: N 35° 14.114' W 077° 33.249'
1324: N 35° 14.160' W 077° 33.250'



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 105 - 134

Additional Notes/Comments: Heat pump in distance from warehouse next door (1324), birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 10

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass | Project #: 31829015 | Date: 2/17/2014 | Page of

Monitoring Location: Short Term 11: 5775 US 70 East | Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: Steady/**Gusty**/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 8/gusts to 11/W
Temp (°F): 42 RH (%): 59
Bar Psr (Hg): 30.25 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1324	1: L_{max}, 1324	2: L_{eq}, 1651	2: L_{max}, 1651	3: L_{eq}, 1655	3: L_{max}, 1655	Notes/Events
0	10:39 AM	10:40 AM							
1	10:40 AM	10:41 AM	70.2	80.5	62.2	71.3	58.4	65.9	Begin
2	10:41 AM	10:42 AM	65.4	72.7	57.5	65	52.2	57.8	
3	10:42 AM	10:43 AM	62.6	72.9	54.9	65.1	50.3	56.2	
4	10:43 AM	10:44 AM	68.2	76.5	59.4	66.4	54.8	59.7	
5	10:44 AM	10:45 AM	69.3	83.1	61.2	74.4	55.6	65.3	
6	10:45 AM	10:46 AM	63.9	73.5	57.4	66.3	53.4	59.7	
7	10:46 AM	10:47 AM	70.8	79.6	63.6	71.9	58.6	65.4	
8	10:47 AM	10:48 AM	66.3	73	58.2	66.3	54.5	59.7	
9	10:48 AM	10:49 AM	68.6	76.1	60.3	67.3	56.3	62.2	
10	10:49 AM	10:50 AM	65.1	72	57.6	65.2	53.5	58	
11	10:50 AM	10:51 AM	72.1	81.3	64.3	73.1	58.6	66	
12	10:51 AM	10:52 AM	70.6	82.2	63.2	73.9	58.5	67.2	
13	10:52 AM	10:53 AM	71.4	84.3	63.1	75	58.1	66.7	
14	10:53 AM	10:54 AM	72.5	83.9	65.7	76.6	60.3	69.3	
15	10:54 AM	10:55 AM	63.8	72.3	54.7	63	50.1	55.7	
16	10:55 AM	10:56 AM	71.3	80.5	62.5	71.7	57.7	64.4	
17	10:56 AM	10:57 AM	65.9	77.5	57.8	68.1	52.6	61.3	
18	10:57 AM	10:58 AM	71	79.1	63.2	71.6	58.4	65.3	
19	10:58 AM	10:59 AM	68.8	76.4	59.3	66	54.2	58.3	
20	10:59 AM	11:00 AM	70.9	80.7	62.9	70.5	58.5	64.8	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	165	
Medium Trucks	8	
Heavy Trucks	28	
Buses		
Count duration	20 min.	

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 13.090' W 77° 30.132'	113.9
1651	N 35° 13.079' W 77° 30.129'	114.0
1655	N 35° 13.063' W 77° 30.121'	114.0

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 28 Total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: ST 11 Analyst: Bell / Delp

Sound Level Meter
Model #: 820
Serial #: See Map
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm Gusts of 11mph
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 8 / W
Temp (°F): 42 RH (%): 59
Bar Psr (Hg): 30.25 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
See Map

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	10:39								
1	10:40								
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									

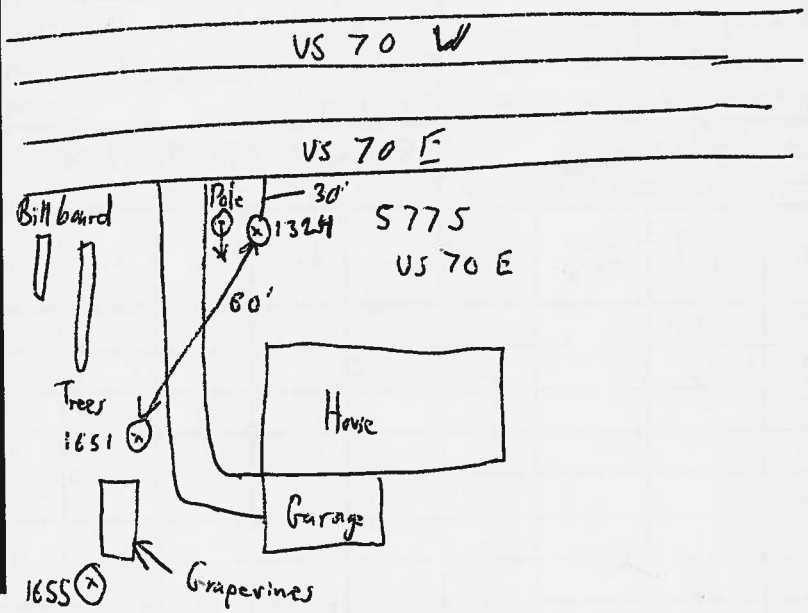
URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	0	
Automobiles	165	
Medium Trucks	8	
Heavy Trucks	28	
Buses	0	
Count duration	20 min.	

compass

Site Diagram:

1324: N 35° 13.090' W 077° 30.132'
1651: N 35° 13.079' W 077° 30.129'
1655: N 35° 13.063' W 077° 30.121'



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 77-104

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 11

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/2014 Page ___ of ___

Monitoring Location: Short Term 12: US 70 at Dover Rd. - Tilghman's Garage Analyst: Bell/Delp

Sound Level Meter
Model #: 820
Serial #: See Sketch
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test All: 114.0 dBA
Post-Test See Sketch dBA

Weather Data
Model #: WM
Serial #: 3386
Wind: **Steady**/Gusty/Calm
Precipitation: Yes (explain) / **No**
Avg Wind Speed/Direction: 8/W
Temp (°F): 41 RH (%): 57
Bar Psr (Hg): 30.25 Cloud Cover (%): 0

Topo: **Flat** / Hilly
Terrain: Hard/**Soft**/Mixed/Snow

GPS Coordinates (at SLM location)#
See Sketch

ID	Start Time	Stop Time	1: L_{eq}, 1655	1: L_{max}, 1655	2: L_{eq}, 1324	2: L_{max}, 1324	3: L_{eq}, 1651	3: L_{max}, 1651	Notes/Events
0	9:47 AM	9:48 AM							
1	9:48 AM	9:49 AM	64.1	71	57.5	66.3	61.1	73.7	Begin
2	9:49 AM	9:50 AM	63.8	73.7	57.2	64.6	53.8	60.4	
3	9:50 AM	9:51 AM	58.7	66.6	56.7	63.1	61.4	69.8	
4	9:51 AM	9:52 AM	66.7	76.6	60.3	69	57.7	65.5	
5	9:52 AM	9:53 AM	64	70.9	59.3	64.6	58.1	65.4	
6	9:53 AM	9:54 AM	58.8	65.6	52	57.4	49.9	55	
7	9:54 AM	9:55 AM	59.8	67.8	55.2	61.8	52	57	
8	9:55 AM	9:56 AM	67.1	78.9	61.4	70	62.9	72.6	
9	9:56 AM	9:57 AM	64.6	72.5	63.2	75.4	68.7	82.5	
10	9:57 AM	9:58 AM	62.6	71	54.5	61.2	55.6	65.6	
11	9:58 AM	9:59 AM	62.6	71.9	57	63.2	59	67.5	
12	9:59 AM	10:00 AM	63.3	68.3	58.9	63.2	58.5	64.8	
13	10:00 AM	10:01 AM	55.3	62.2	53.9	61.3	59	69.3	
14	10:01 AM	10:02 AM	64.9	75.3	57	64.1	58.3	66.4	
15	10:02 AM	10:03 AM	64.5	74.3	62.1	71.3	67.7	79.4	
16	10:03 AM	10:04 AM	62.9	68.5	56.2	61.8	55.5	66.3	
17	10:04 AM	10:05 AM	58.5	65.2	56.3	60.2	61.7	66.9	
18	10:05 AM	10:06 AM	63.9	72.2	56.9	63.1	58	66	
19	10:06 AM	10:07 AM	62.6	72.9	55.1	60.5	56	65.7	
20	10:07 AM	10:08 AM	63.8	73.8	64.2	77.3	71	84.6	End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 70	Dover Rd.
Speed (post/obs)*	55	35
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	118	30
Medium Trucks	3	2
Heavy Trucks	33	4
Buses		
Count duration	20 min.	20 min.

compass

Site Diagram:

Meter	Location	Post-Test
1324	N 35° 13.100' W 77° 27.106'	113.9
1651	N 35° 13.113' W 77° 27.106'	114.0
1655	N 35° 13.077' W 77° 27.103'	114.0

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 30 Total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/17/14 Page ___ of ___

Monitoring Location: ST 12 US 70 / Dover Rd. Analyst: Bell / Delp

Sound Level Meter
- Model #: 820
- Serial #: See Map
- Weighting: **A** / C / Flat
- Response: **Slow** / Fast / Impl
- Windscreen : **Yes** / No (explain)

Field Calibration
- Model #: CAL 200
- Serial #: 5789
- Calibration Level (dBA): 94 / **114**
- Pre-Test 114.0 dBA
- Post-Test 1651/1655: 114.0, 1324: 113.9 dBA

Weather Data
- Model #: WM
- Serial #: 03386
- Wind: Steady/Gusty/Calm
- Precipitation: Yes (explain) / No
- Avg Wind Speed/Direction: 8 / W
- Temp (°F): 41 RH (%): 57
- Bar Psr (Hg): 30.25 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
See Map

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	9:47AM								
1	9:48AM								
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									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

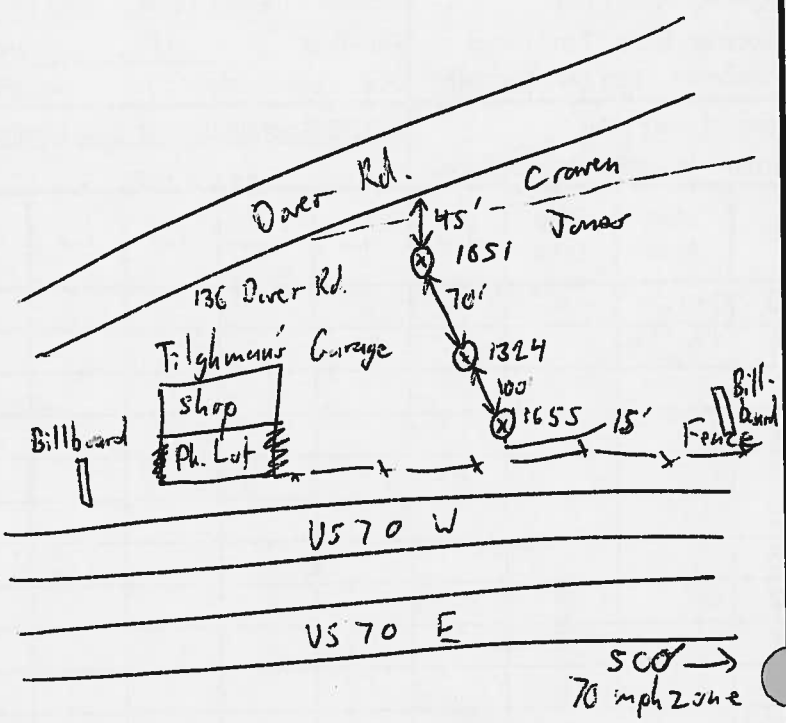
Roadway Name/Dir	70 E/W	Dover Rd.
Speed (post/obs)*	55	35 obs.
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	0	0
Automobiles	118	30
Medium Trucks	3	2
Heavy Trucks	33	4
Buses	0	0
Count duration	20 min.	20 min.

compass

N

Site Diagram:

1655: N 35° 13.077' W 077° 27.103'
1324: N 35° 13.100' W 077° 27.106'
1651: N 35° 13.113' W 077° 27.106'



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 49-78

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 12

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 13: 169 S. Croom Bland Rd. Analyst: Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.3 dBA	Avg Wind Speed/Direction:	2/N
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 65	RH (%): 42.8
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 12.167' W 77° 42.382'		Bar Psr (Hg): 30.00	Cloud Cover (%): 10

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	1:51 PM	1:52 PM							
1	1:52 PM	1:53 PM	48.2	53.1					Begin
2	1:53 PM	1:54 PM	52.9	63.4					
3	1:54 PM	1:55 PM	44.4	56.5					
4	1:55 PM	1:56 PM	48.5	55.3					
5	1:56 PM	1:57 PM	56.6	68.7					
6	1:57 PM	1:58 PM	54.3	63.8					
7	1:58 PM	1:59 PM	52.0	57.3					
8	1:59 PM	2:00 PM	47.9	53.7					
9	2:00 PM	2:01 PM	63.1	70.7					
10	2:01 PM	2:02 PM	49.2	57.5					
11	2:02 PM	2:03 PM	48.0	54.6					
12	2:03 PM	2:04 PM	49.0	55.3					
13	2:04 PM	2:05 PM	49.5	57.3					
14	2:05 PM	2:06 PM	44.2	48.2					
15	2:06 PM	2:07 PM	46.8	56.2					
16	2:07 PM	2:08 PM	57.3	67.6					
17	2:08 PM	2:09 PM	47.4	54.6					
18	2:09 PM	2:10 PM	53.4	60.2					
19	2:10 PM	2:11 PM	51.5	59.2					
20	2:11 PM	2:12 PM	53.6	65.9					
21	2:12 PM	2:13 PM	57.0	70.6					End
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Croom Bland	NC 55
Speed (post/obs)*	45	55
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	9	80
Medium Trucks	2	6
Heavy Trucks		9
Buses		
Count duration	20 min.	20 min.

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 10 Total

Additional Notes/Comments: Distant aircraft, birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: _____ Project #: _____ Date: _____ Page ___ of ___

Monitoring Location: ST-13 169 S CROOM BLAND ROAD Analyst:

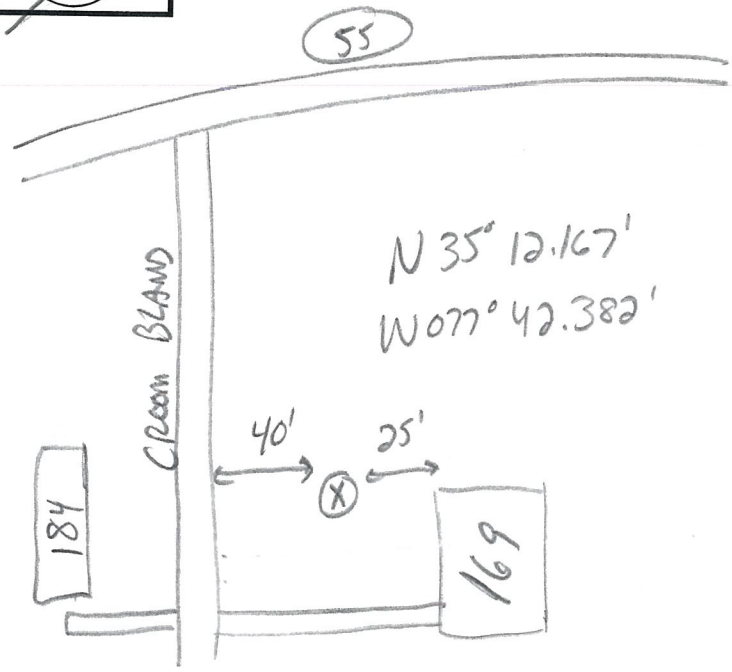
Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD820SLM	Model #:	CAL 200	Model #:	K3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: A / C / Flat		Calibration Level (dBA):	94 / 114	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / No	
Windscreen: Yes / No (explain)		Post-Test	dBA	Avg Wind Speed/Direction:	1-2MPH North
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 65°	RH (%): 42.8
Terrain: Hard/Soft/Mixed/Snow		SEE MAP		Bar Psr (Hg): 1016.4	Cloud Cover (%): 10%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	13:52	14:13							

Roadway Name/Dir	CROOM BLAND	STR 55
Speed (post/obs)*	45	55
Number of Lanes	2	2
Width (pave/row)	24	24
1- or 2- way	2	2
Grade	FLAT	FLAT
Bus Stops	0	0
Stoplights	0	0
Motorcycles	0	0
Automobiles	9	80
Medium Trucks	2	6
Heavy Trucks	0	9
Buses	0	0
Count duration	20 MIN	20 MIN

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 10

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 13

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/19/2014 Page of

Monitoring Location: Short Term 14: 584 Mary Beth Dr. Analyst: Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: Steady/**Gusty**/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.2 dBA	Avg Wind Speed/Direction:	9/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 72	RH (%): 67
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 14.549' W 77° 37.051'		Bar Psr (Hg): 29.90	Cloud Cover (%): 60

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	1:57 PM	1:58 PM							
1	1:58 PM	1:59 PM	61.9	68.2					Begin
2	1:59 PM	2:00 PM	64.6	69.1					
3	2:00 PM	2:01 PM	62.4	66.9					
4	2:01 PM	2:02 PM	61.9	65.1					
5	2:02 PM	2:03 PM	62.3	71.9					
6	2:03 PM	2:04 PM	61.6	66.4					
7	2:04 PM	2:05 PM	60.6	65.4					
8	2:05 PM	2:06 PM	65.7	72.7					
9	2:06 PM	2:07 PM	61.2	64.8					
10	2:07 PM	2:08 PM	62.7	70.1					
11	2:08 PM	2:09 PM	63.4	70.7					
12	2:09 PM	2:10 PM	64.2	70.6					
13	2:10 PM	2:11 PM	60.5	62.9					
14	2:11 PM	2:12 PM	62.5	68.5					
15	2:12 PM	2:13 PM	64.5	70.9					
16	2:13 PM	2:14 PM	62.1	67.5					
17	2:14 PM	2:15 PM	64.4	71					
18	2:15 PM	2:16 PM	61.8	68.3					
19	2:16 PM	2:17 PM	61.2	65					
20	2:17 PM	2:18 PM	63.5	67.4					End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Mary Beth	NC 11/55
Speed (post/obs)*	N/A	55
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		See Video
Automobiles	5	See Video
Medium Trucks		See Video
Heavy Trucks		See Video
Buses		See Video
Count duration	20 min.	20 min.

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 13 Total

Additional Notes/Comments: Distant aircraft, birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: _____ Project #: _____ Date: _____ Page ___ of ___

Monitoring Location: ST-14 584 MARY BETH DRIVE Analyst:

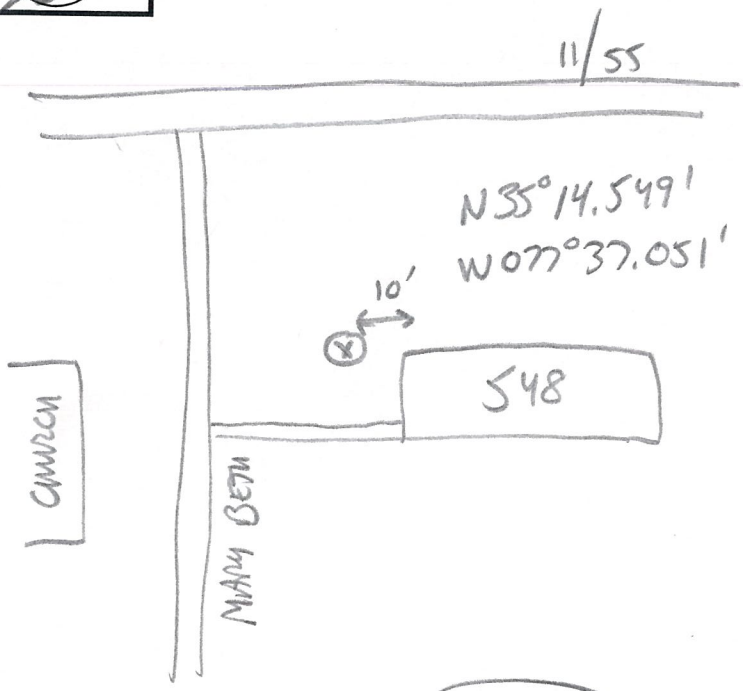
Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD 820	Model #:	CAL 200	Model #:	U3500
Serial #:	1651	Serial #:	5789	Serial #:	1703474
Weighting: A / C / Flat		Calibration Level (dBA):	94 / 114	Wind: Steady/Gusty/Calm	GUSTS 10-12 MPH
Response: Slow / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / No	
Windscreen : Yes / No (explain)		Post-Test	dBA	Avg Wind Speed/Direction:	7.9 MPH EAST
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 72.4	RH (%): 66.6
Terrain: Hard/Soft/Mixed/Snow		SEE MAP		Bar Psr (Hg): 1010.5	Cloud Cover (%): 60%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	13:58	14:18							

Roadway Name/Dir	MARY BETH	HWY 11/55
Speed (post/obs)*	N/A	55/60
Number of Lanes	2	4 DIVIDED
Width (pave/row)	18'	N/A
1- or 2- way	2	2
Grade	FLAT	FLAT
Bus Stops	0	0
Stoplights	0	0
Motorcycles	0	
Automobiles	5	SEE VIDEO
Medium Trucks	0	
Heavy Trucks	0	
Buses	0	
Count duration	20 MIN	20 MIN

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 13

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 14

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 15: 4120 Hwy 55 W. Analyst: Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.3 dBA	Avg Wind Speed/Direction:	5/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 65	RH (%): 50
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 12.794' W 77° 41.556'		Bar Psr (Hg): 30.00	Cloud Cover (%): 10

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	2:29 PM	2:30 PM							
1	2:30 PM	2:31 PM	55.9	67.7					Begin
2	2:31 PM	2:32 PM	58.1	67.4					
3	2:32 PM	2:33 PM	58.3	64.3					
4	2:33 PM	2:34 PM	56.3	65.1					
5	2:34 PM	2:35 PM	56.1	66.0					
6	2:35 PM	2:36 PM	54.6	63.4					
7	2:36 PM	2:37 PM	52.2	63.6					
8	2:37 PM	2:38 PM	60.5	70.2					
9	2:38 PM	2:39 PM	50.4	62.0					
10	2:39 PM	2:40 PM	64.1	75.7					
11	2:40 PM	2:41 PM	55.3	64.1					
12	2:41 PM	2:42 PM	52.0	60.6					
13	2:42 PM	2:43 PM	58.0	64.8					
14	2:43 PM	2:44 PM	60.5	68.5					
15	2:44 PM	2:45 PM	54.3	63.8					
16	2:45 PM	2:46 PM	53.9	64.2					
17	2:46 PM	2:47 PM	57.0	65.3					
18	2:47 PM	2:48 PM	61.7	73.0					
19	2:48 PM	2:49 PM	60.9	72.3					
20	2:49 PM	2:50 PM	59.8	69.9					End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Croom Bland	NC 55
Speed (post/obs)*	45	55
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	1	66
Medium Trucks		4
Heavy Trucks		6
Buses		
Count duration	20 min.	20 min.

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 12 Total

Additional Notes/Comments: Distant aircraft, birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: _____ Project #: _____ Date: _____ Page ___ of ___

Monitoring Location: ST- 15 4120 HWY 55 WEST Analyst:

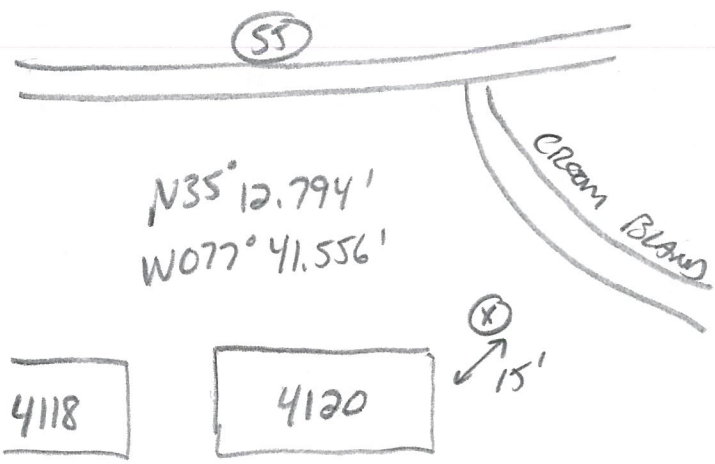
Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD820	Model #:	CAL 200	Model #:	43500
Serial #:	1651	Serial #:	5789	Serial #:	1703474
Weighting: A / C / Flat		Calibration Level (dBA):	94 / 114	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / No	
Windscreen : Yes / No (explain)		Post-Test	dBA	Avg Wind Speed/Direction:	3-5 MPH EAST
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	65° RH (%): 50.0
Terrain: Hard/Soft/Mixed/Snow		SEE MAP		Bar Psr (Hg): 1016.9	Cloud Cover (%): 10%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	14:30	14:50							

Roadway Name/Dir	CREAM BLAND	STR 55
Speed (post/obs)*	45	55
Number of Lanes	2	2
Width (pave/row)	24	24
1- or 2- way	2	2
Grade	FLAT	FLAT
Bus Stops	0	0
Stoplights	0	0
Motorcycles	0	1
Automobiles	1	66
Medium Trucks	0	4
Heavy Trucks	0	6
Buses	0	0
Count duration	20 MIN	20 MIN

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 12

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 15

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 16: 1618 Hwy 11 S. Analyst: Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.3 dBA	Avg Wind Speed/Direction:	3/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 70	RH (%): 43
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 11.082' W 77° 40.161'		Bar Psr (Hg): 30.00	Cloud Cover (%): 10

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	3:14 PM	3:15 PM							
1	3:15 PM	3:16 PM	66.8	75.4					Begin
2	3:16 PM	3:17 PM	64.1	69.9					
3	3:17 PM	3:18 PM	60.9	67.8					
4	3:18 PM	3:19 PM	61.4	67.7					
5	3:19 PM	3:20 PM	69.9	79.2					
6	3:20 PM	3:21 PM	61.6	69.9					
7	3:21 PM	3:22 PM	64.0	71.4					
8	3:22 PM	3:23 PM	65.9	74.3					
9	3:23 PM	3:24 PM	64.0	73.7					
10	3:24 PM	3:25 PM	60.1	69.0					
11	3:25 PM	3:26 PM	64.9	74.1					
12	3:26 PM	3:27 PM	64.2	75.6					
13	3:27 PM	3:28 PM	65.2	72.0					
14	3:28 PM	3:29 PM	68.5	77.9					
15	3:29 PM	3:30 PM	66.5	76.1					
16	3:30 PM	3:31 PM	64.2	72.4					
17	3:31 PM	3:32 PM	64.9	76.6					
18	3:32 PM	3:33 PM	64.7	75.1					
19	3:33 PM	3:34 PM	62.0	71.9					
20	3:34 PM	3:35 PM	65.3	71.9					
21	3:35 PM	3:36 PM	55.9	64.9					End
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 11	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	212	
Medium Trucks	9	
Heavy Trucks	14	
Buses	3	
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 12 Total

Additional Notes/Comments: Distant aircraft, birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: _____ Project #: _____ Date: _____ Page ___ of ___

Monitoring Location: ST-16 1618 HWY 11 SOUTH Analyst:

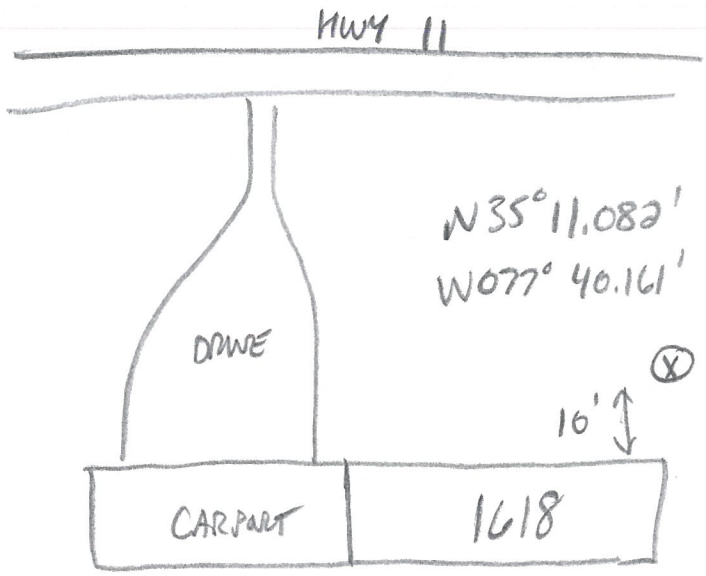
Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD 820	Model #:	CAL 200	Model #:	43500
Serial #:	1651	Serial #:	5789	Serial #:	1703474
Weighting: A / C / Flat		Calibration Level (dBA):	94 / 114	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / No	
Windscreen : Yes / No (explain)		Post-Test	dBA	Avg Wind Speed/Direction:	2-3 MPH EAST
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 70°	RH (%): 43.5
Terrain: Hard/Soft/Mixed/Snow		SEE MAP		Bar Psr (Hg): 1016.6	Cloud Cover (%): 10%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	15:15	15:35							

Roadway Name/Dir	HWY 11
Speed (post/obs)*	55/60
Number of Lanes	4 DIVIDED
Width (pave/row)	N/A
1- or 2- way	2
Grade	FLAT
Bus Stops	0
Stoplights	0
Motorcycles	0
Automobiles	212
Medium Trucks	9
Heavy Trucks	14
Buses	3
Count duration	20 MIN

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 12

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 16

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 17: 883 Hwy 11 S. Analyst: Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.3 dBA	Avg Wind Speed/Direction:	2/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 70	RH (%): 46
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 12.676' W 77° 39.244'		Bar Psr (Hg): 30.00	Cloud Cover (%): 10

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	3:56 PM	3:57 PM							
1	3:57 PM	3:58 PM	68.9	75.9					Begin
2	3:58 PM	3:59 PM	66.1	73.1					
3	3:59 PM	4:00 PM	71.1	80.9					
4	4:00 PM	4:01 PM	63.8	72.7					
5	4:01 PM	4:02 PM	65.8	73.3					
6	4:02 PM	4:03 PM	66.0	71.7					
7	4:03 PM	4:04 PM	66.3	71.7					
8	4:04 PM	4:05 PM	66.7	76.4					
9	4:05 PM	4:06 PM	67.9	72.6					
10	4:06 PM	4:07 PM	66.7	71.9					
11	4:07 PM	4:08 PM	68.0	76.1					
12	4:08 PM	4:09 PM	65.4	72.5					
13	4:09 PM	4:10 PM	67.2	77.3					
14	4:10 PM	4:11 PM	68.0	74.0					
15	4:11 PM	4:12 PM	66.1	71.5					
16	4:12 PM	4:13 PM	68.4	77.9					
17	4:13 PM	4:14 PM	68.8	74.1					
18	4:14 PM	4:15 PM	68.1	77.1					
19	4:15 PM	4:16 PM	65.9	72.3					
20	4:16 PM	4:17 PM	70.2	78.3					End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 11	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	1	
Automobiles	223	
Medium Trucks	6	
Heavy Trucks	9	
Buses	2	
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 11 Total

Additional Notes/Comments: Distant aircraft, birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: _____ Project #: _____ Date: _____ Page ___ of ___

Monitoring Location: ST-17 883 HWY 11 SOUTH Analyst:

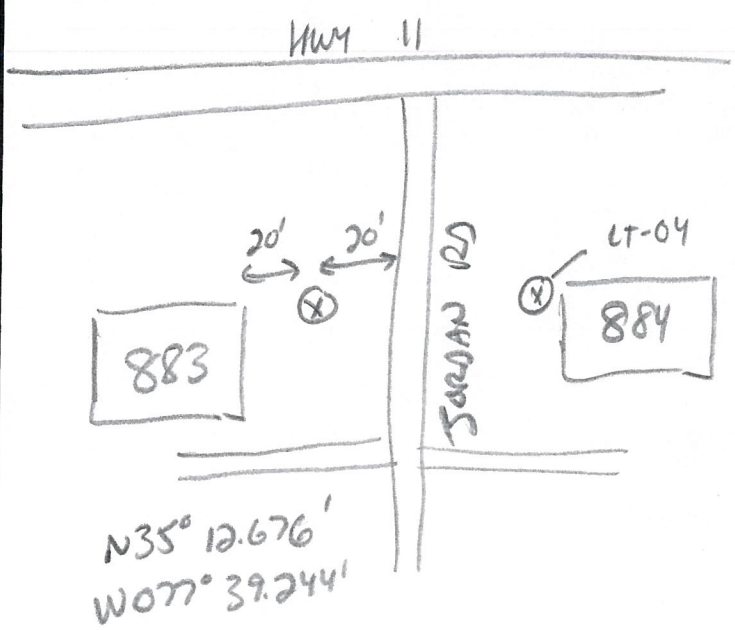
Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD 820	Model #:	CAL 200	Model #:	K3500
Serial #:	1651	Serial #:	5789	Serial #:	1703424
Weighting: A / C / Flat		Calibration Level (dBA):	94 / 114	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / No	
Windscreen : Yes / No (explain)		Post-Test	dBA	Avg Wind Speed/Direction:	1-2 MPH EAST
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 70°	RH (%): 46.2
Terrain: Hard/Soft/Mixed/Snow		SEE MAP		Bar Psr (Hg): 1016.7	Cloud Cover (%): 10%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	15:57	16:17							

Roadway Name/Dir	HWY 11
Speed (post/obs)*	55/60
Number of Lanes	4 DIVIDED
Width (pave/row)	N/A
1- or 2- way	2
Grade	FLAT
Bus Stops	0
Stoplights	0
Motorcycles	1
Automobiles	223
Medium Trucks	6
Heavy Trucks	9
Buses	2
Count duration	20 MIN

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 11

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

Short Term 17

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/19/2014 Page of

Monitoring Location: Short Term 18: 869 Tyree Rd. Analyst: Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.2 dBA	Avg Wind Speed/Direction:	5/NE
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 70	RH (%): 68
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 13.366 W 77° 38.595'		Bar Psr (Hg): 29.80	Cloud Cover (%): 50

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	1:25 PM	1:26 PM							
1	1:26 PM	1:27 PM	58.4	62.4					Begin
2	1:27 PM	1:28 PM	56.4	61					
3	1:28 PM	1:29 PM	61.8	68.3					
4	1:29 PM	1:30 PM	59.5	72.9					
5	1:30 PM	1:31 PM	60.6	70.1					
6	1:31 PM	1:32 PM	54.2	57.9					
7	1:32 PM	1:33 PM	55.7	59.8					
8	1:33 PM	1:34 PM	59.9	66.4					
9	1:34 PM	1:35 PM	58	63.8					
10	1:35 PM	1:36 PM	60.5	63.5					
11	1:36 PM	1:37 PM	56.1	62.5					
12	1:37 PM	1:38 PM	56.8	61.5					
13	1:38 PM	1:39 PM	53.2	57.5					
14	1:39 PM	1:40 PM	62	68					
15	1:40 PM	1:41 PM	56.9	61.5					
16	1:41 PM	1:42 PM	59.6	64.9					
17	1:42 PM	1:43 PM	58	64					
18	1:43 PM	1:44 PM	64.2	74.3					
19	1:44 PM	1:45 PM	61.7	69.2					
20	1:45 PM	1:46 PM	56.7	61.8					End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Tyree Rd.	NC 11/55
Speed (post/obs)*	35	55
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	See Video	See Video
Automobiles	See Video	See Video
Medium Trucks	See Video	See Video
Heavy Trucks	See Video	See Video
Buses	See Video	See Video
Count duration	20 min.	20 min.

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 12 Total

Additional Notes/Comments: Distant aircraft, birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: _____ Project #: _____ Date: _____ Page ___ of ___

Monitoring Location: ST-18 869 TYREE ROAD Analyst:

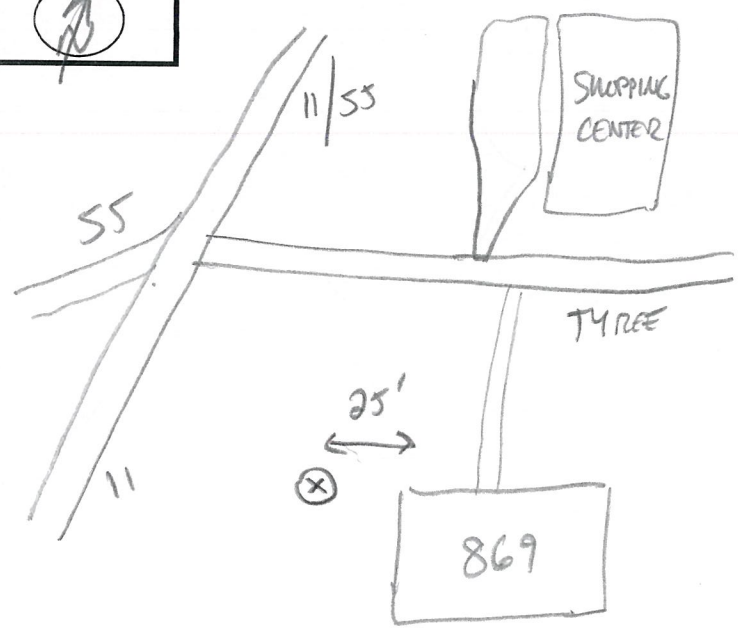
Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD820	Model #:	CAL 200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703474
Weighting: A / C / Flat		Calibration Level (dBA):	94 / 114	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / No	GUSTS 28 MPH
Windscreen : Yes / No (explain)		Post-Test	dBA	Avg Wind Speed/Direction:	5 MPH NE
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 70°	RH (%): 68.0
Terrain: Hard/Soft/Mixed/Snow		SEE MAP		Bar Psr (Hg): 1009.1	Cloud Cover (%): 50%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	13:26	13:46							

Roadway Name/Dir	TYREE	HWY 11/55
Speed (post/obs)*	35/45	55/60
Number of Lanes	2	4 DIVIDED
Width (pave/row)	24'	N/A
1- or 2- way	2	2
Grade	FLAT	FLAT
Bus Stops	0	0
Stoplights	0	0
Motorcycles		
Automobiles		
Medium Trucks	SEE VIDEO	
Heavy Trucks		
Buses		
Count duration	20 MIN	20 MIN

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 12

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 18

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/19/2014 Page of

Monitoring Location: Short Term 19: 1900 Hwy 258 S. Analyst: Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.2 dBA	Avg Wind Speed/Direction:	7/NE
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	68 RH (%): 70
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 14.141 W 77° 36.157'		Bar Psr (Hg):	29.90 Cloud Cover (%): 60

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	12:51 PM	12:52 PM							
1	12:52 PM	12:53 PM	60.4	68.9					Begin
2	12:53 PM	12:54 PM	58.3	64.3					
3	12:54 PM	12:55 PM	63.9	73.1					
4	12:55 PM	12:56 PM	63.1	68.4					
5	12:56 PM	12:57 PM	64.6	73.2					
6	12:57 PM	12:58 PM	57.4	63.2					
7	12:58 PM	12:59 PM	62.7	69.9					
8	12:59 PM	1:00 PM	59.5	65.7					
9	1:00 PM	1:01 PM	63.8	70.8					
10	1:01 PM	1:02 PM	67.7	73.9					Jet overhead
11	1:02 PM	1:03 PM	63.4	71.6					Jet overhead
12	1:03 PM	1:04 PM	61.5	66.4					
13	1:04 PM	1:05 PM	58.3	66.7					
14	1:05 PM	1:06 PM	63.3	70.3					
15	1:06 PM	1:07 PM	62.4	73.4					
16	1:07 PM	1:08 PM	63.2	68.6					
17	1:08 PM	1:09 PM	63.6	73.3					
18	1:09 PM	1:10 PM	65.3	71.6					
19	1:10 PM	1:11 PM	61.8	66.8					
20	1:11 PM	1:12 PM	60.8	67.1					
21	1:12 PM	1:13 PM	63.2	72.1					
22	1:13 PM	1:14 PM	59.6	65.9					
23	1:14 PM	1:15 PM	65	73.9					End
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Hwy. 258	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	1	
Automobiles	163	
Medium Trucks	3	
Heavy Trucks	10	
Buses		
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 13 Total

Additional Notes/Comments: Distant aircraft, birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: _____ Project #: _____ Date: _____ Page ___ of ___

Monitoring Location: ST-19 1900 HWY 258 SOUTH Analyst:

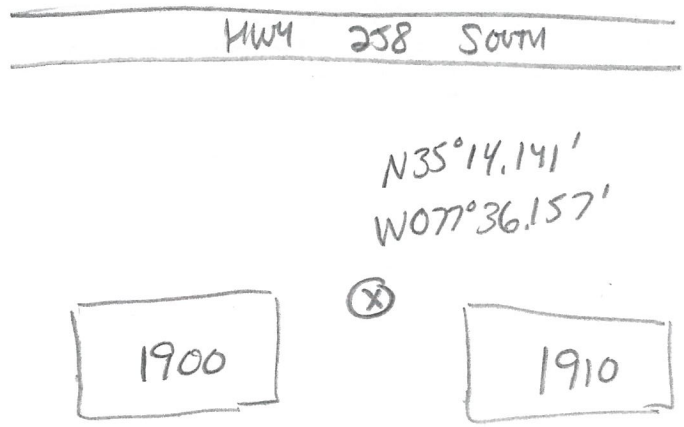
Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD820	Model #:	CAL 200	Model #:	K3500
Serial #:	1651	Serial #:	5789	Serial #:	1703474
Weighting: A / C / Flat		Calibration Level (dBA):	94 / 114	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / No	
Windscreen : Yes / No (explain)		Post-Test	dBA	Avg Wind Speed/Direction:	5-7 MPH NE
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	68° RH (%): 70.0
Terrain: Hard/Soft/Mixed/Snow		SEE MAP		Bar Psr (Hg): 1011.2	Cloud Cover (%): 60%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	12:52	13:15							13:01:00 → 13:02:00 JET

Roadway Name/Dir	HWY 258 S	
Speed (post/obs)*	55/60	
Number of Lanes	2	
Width (pave/row)	24'	
1- or 2- way	2	
Grade	FLAT	
Bus Stops	0	
Stoplights	0	
Motorcycles	1	
Automobiles	163	
Medium Trucks	3	
Heavy Trucks	10	
Buses	0	
Count duration	20 MIN	

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 13

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 19

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 20: Woodington UMC Analyst: Bell

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	WM
Serial #:	1655	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	113.9 dBA	Avg Wind Speed/Direction:	3/NE
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 74	RH (%): 33
Terrain: Hard/Soft/**Mixed**/Snow		N 35° 10.647' W 77° 37.729'		Bar Psr (Hg): 29.95	Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	4:05 PM	4:06 PM							
1	4:06 PM	4:07 PM	60.4	67.8					Begin
2	4:07 PM	4:08 PM	62.2	70.8					
3	4:08 PM	4:09 PM	61.8	71.9					
4	4:09 PM	4:10 PM	58	63.7					
5	4:10 PM	4:11 PM	53.9	61.5					
6	4:11 PM	4:12 PM	64.7	73.5					
7	4:12 PM	4:13 PM	58.6	68.9					
8	4:13 PM	4:14 PM	58.6	66					
9	4:14 PM	4:15 PM	60	69.3					
10	4:15 PM	4:16 PM	53.7	62.8					
11	4:16 PM	4:17 PM	56.8	63.3					
12	4:17 PM	4:18 PM	54.9	62.5					
13	4:18 PM	4:19 PM	58.6	69.6					
14	4:19 PM	4:20 PM	58.5	64.2					
15	4:20 PM	4:21 PM	60.5	68.9					
16	4:21 PM	4:22 PM	58.8	69.2					
17	4:22 PM	4:23 PM	58.5	67.7					
18	4:23 PM	4:24 PM	60.4	68.9					
19	4:24 PM	4:25 PM	59.1	68.3					
20	4:25 PM	4:26 PM	59.2	67					End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 258	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	156	
Medium Trucks	1	
Heavy Trucks	13	
Buses		
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 7 Total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/14 Page ___ of ___

Monitoring Location: ST 20 Woodington VMC Analyst: Bell

Sound Level Meter
- Model #: 820
- Serial #: 1655
- Weighting: **A** / C / Flat
- Response: **Slow** / Fast / Impl
- Windscreen : **Yes** / No (explain)

Field Calibration
- Model #: CAL 200
- Serial #: 5789
- Calibration Level (dBA): 94 / **114**
- Pre-Test 114.0 dBA
- Post-Test dBA

Weather Data
- Model #: VM
- Serial #: 03386
- Wind: Steady/Gusty/Calm
- Precipitation: Yes (explain) / No
- Avg Wind Speed/Direction: 3 / NE
- Temp (°F): 74 RH (%): 33
- Bar Psr (Hg): 29.95 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
N 35.178° W 77.629°

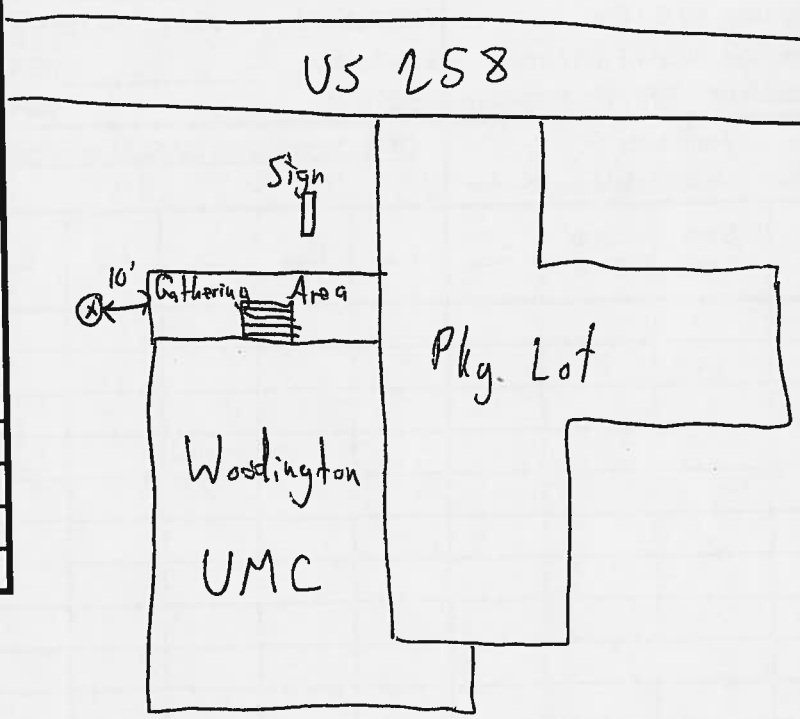
ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0									
1	4:06 PM								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	US 258	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	156	
Medium Trucks	1	
Heavy Trucks	13	
Buses		
Count duration	20 min	

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 7 total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

Short Term 20

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/19/2014 Page of

Monitoring Location: Short Term 21: 117 Bailey's Park Ln. Analyst: Delp

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	N3500
Serial #:	1651	Serial #:	5789	Serial #:	1703494
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: Steady/**Gusty**/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	114.2 dBA	Avg Wind Speed/Direction:	7/N
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	65 RH (%): 67
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 12.328 W 77° 37.528'		Bar Psr (Hg):	1011 Cloud Cover (%): 60

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	12:13 PM	12:14 PM							
1	12:14 PM	12:15 PM							Begin
2	12:15 PM	12:16 PM							
3	12:16 PM	12:17 PM							
4	12:17 PM	12:18 PM							
5	12:18 PM	12:19 PM							
6	12:19 PM	12:20 PM							
7	12:20 PM	12:21 PM							Jet Overhead
8	12:21 PM	12:22 PM							Jet Overhead
9	12:22 PM	12:23 PM							Jet Overhead
10	12:23 PM	12:24 PM							
11	12:24 PM	12:25 PM							
12	12:25 PM	12:26 PM							
13	12:26 PM	12:27 PM							
14	12:27 PM	12:28 PM							Jet Overhead
15	12:28 PM	12:29 PM							Jet Overhead
16	12:29 PM	12:30 PM							Jet Overhead
17	12:30 PM	12:31 PM							Jet Overhead
18	12:31 PM	12:32 PM							Neighbor's Arrive
19	12:32 PM	12:33 PM							Neighbor's Arrive
20	12:33 PM	12:34 PM							
21	12:34 PM	12:35 PM							Jet Overhead
22	12:35 PM	12:36 PM							Jet Overhead
23	12:36 PM	12:37 PM							
24	12:37 PM	12:38 PM							End
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Hwy. 258	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	85	
Medium Trucks	2	
Heavy Trucks	4	
Buses		
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 13 Total

Additional Notes/Comments: Distant aircraft, birds chirping, dogs barking.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: _____ Project #: _____ Date: _____ Page ___ of ___

Monitoring Location: ST-21 117 BAILEY'S PARK LANE Analyst:

Sound Level Meter
Model #: LD820
Serial #: 1651
Weighting: A / C / Flat
Response: Slow / Fast / Impl
Windscreen: Yes / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / 114
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: K3500
Serial #: 1703474
Wind: Steady/Gusty/Calm GUSTS 9 MPH
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 5-7 MPH NORTH
Temp (°F): 65° RH (%): 67.2
Bar Psr (Hg): 1010.5 Cloud Cover (%): 60%

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
SEE MAP

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	12:14	12:38							
									12:20 → 12:23 MILITARY JET FLYOVER
									12:27 → 12:28:30 "
									12:29 → 12:31 "
									12:31:40 → 12:33 NEIGHBORS DRIVE IN
									12:34:30 → 12:36 JET

Roadway Name/Dir	HWY 258 S
Speed (post/obs)*	55/60
Number of Lanes	2
Width (pave/row)	24'
1- or 2- way	2
Grade	FLAT
Bus Stops	0
Stoplights	0
Motorcycles	0
Automobiles	85
Medium Trucks	2
Heavy Trucks	4
Buses	0
Count duration	20 MIN

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 13

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 21

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 22: Grace Baptist Church Analyst: Bell

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	WM
Serial #:	1655	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	113.9 dBA	Avg Wind Speed/Direction:	4/NE
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 72	RH (%): 35
Terrain: Hard/Soft/**Mixed**/Snow		N 35° 13.855' W 77° 34.452'		Bar Psr (Hg): 30.00	Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	3:17 PM	3:18 PM							
1	3:18 PM	3:19 PM	62.3	68.7					Begin
2	3:19 PM	3:20 PM	58.8	63.1					
3	3:20 PM	3:21 PM	61.3	68.3					
4	3:21 PM	3:22 PM	60.7	66.2					
5	3:22 PM	3:23 PM	66.7	77.9					
6	3:23 PM	3:24 PM	63.1	72.6					
7	3:24 PM	3:25 PM	59.4	65.7					
8	3:25 PM	3:26 PM	61.3	67.6					
9	3:26 PM	3:27 PM	59.3	63					
10	3:27 PM	3:28 PM	60.4	65.3					
11	3:28 PM	3:29 PM	58.7	61.2					
12	3:29 PM	3:30 PM	59.8	62.8					
13	3:30 PM	3:31 PM	58.8	63.9					
14	3:31 PM	3:32 PM	60.6	66.6					
15	3:32 PM	3:33 PM	63.9	72.4					
16	3:33 PM	3:34 PM	64.1	72.8					
17	3:34 PM	3:35 PM	61.8	67.9					
18	3:35 PM	3:36 PM	64	69.9					
19	3:36 PM	3:37 PM	62.6	68.5					
20	3:37 PM	3:38 PM	63.9	69.4					End
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 58	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	2	
Automobiles	160	
Medium Trucks	1	
Heavy Trucks	2	
Buses		
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 7 Total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/14 Page ___ of ___

Monitoring Location: ST 22 Grace Baptist Church Analyst: Bell

Sound Level Meter

Model #: 820
Serial #: 1655
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration

Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data

Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 4
Temp (°F): 77 RH (%): 35
Bar Psr (Hg): 30.00 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
N 35.231° W 77.574°

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0									
1	3:18PM								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20		3:38PM							
21									
22									
23									
24									
25									
26									
27									
28									
29									

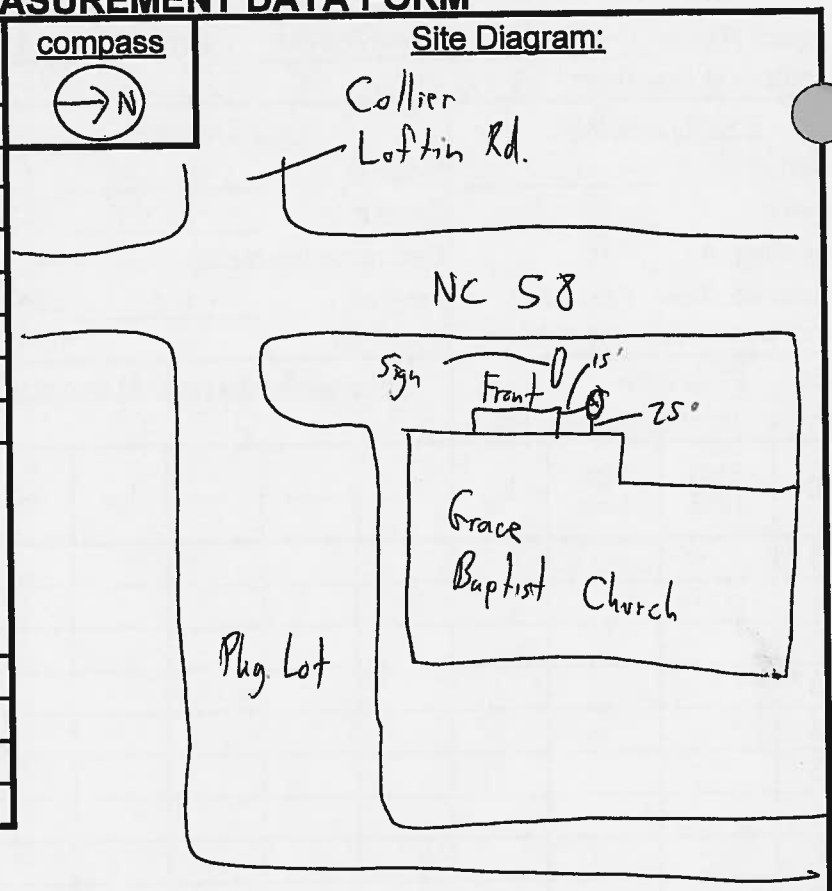
URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 58	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles	2	
Automobiles	160	
Medium Trucks	1	
Heavy Trucks	2	
Buses	0	
Count duration	20 min	

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 7 total

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 22

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 23: Anthony B. Andrews Logging Analyst: Bell

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	WM
Serial #:	1655	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: Steady/**Gusty**/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	113.9 dBA	Avg Wind Speed/Direction:	2/gusts to 4/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 72	RH (%): 36
Terrain: Hard/Soft/**Mixed**/Snow		N 35° 11.055' W 77° 33.601'		Bar Psr (Hg): 29.96	Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	2:10 PM	2:11 PM							
1	2:11 PM	2:12 PM	51	62.5					Start
2	2:12 PM	2:13 PM	57.1	67.6					
3	2:13 PM	2:14 PM	57.1	66.3					
4	2:14 PM	2:15 PM	58.5	70.6					
5	2:15 PM	2:16 PM	52.5	64.2					
6	2:16 PM	2:17 PM	62.5	73.6					Dogs barking/person yelling. Disregard reading.
7	2:17 PM	2:18 PM	61.2	69.1					Dogs barking/person yelling. Disregard reading.
8	2:18 PM	2:19 PM	57.9	66.3					
9	2:19 PM	2:20 PM	44.2	57.4					
10	2:20 PM	2:21 PM	54.9	65.1					
11	2:21 PM	2:22 PM	58.5	69.9					
12	2:22 PM	2:23 PM	60.9	70.9					
13	2:23 PM	2:24 PM	64.1	74.1					Dogs barking/person yelling. Disregard reading.
14	2:24 PM	2:25 PM	63.1	71.4					Dogs barking/person yelling. Disregard reading.
15	2:25 PM	2:26 PM	57	67.2					Dogs barking/person yelling. Disregard reading.
16	2:26 PM	2:27 PM	57.1	65.1					
17	2:27 PM	2:28 PM	57.1	63.9					
18	2:28 PM	2:29 PM	60.9	70.6					
19	2:29 PM	2:30 PM	58.4	68.4					
20	2:30 PM	2:31 PM	56.6	67.5					Dogs barking/person yelling. Disregard reading.
21	2:31 PM	2:32 PM	65.1	77					Dogs barking/person yelling. Disregard reading.
22	2:32 PM	2:33 PM	58.3	68.4					
23	2:33 PM	2:34 PM	57.7	66.3					
24	2:34 PM	2:35 PM	62.5	73.3					
25	2:35 PM	2:36 PM	66.3	79.5					
26	2:36 PM	2:37 PM	57.1	66.2					End
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 58	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	57	
Medium Trucks	3	
Heavy Trucks	1	
Buses		
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 7 Total

Additional Notes/Comments: Birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/14 Page ___ of ___

Monitoring Location: ST 23 Analyst: Bell

Sound Level Meter
Model #: ~~[illegible]~~ 820
Serial #: 1655
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 2/gusts to 4/E
Temp (°F): 71 RH (%): 36
Bar Psr (Hg): 29.96 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
~~[illegible]~~ N35.184° W 77.56°

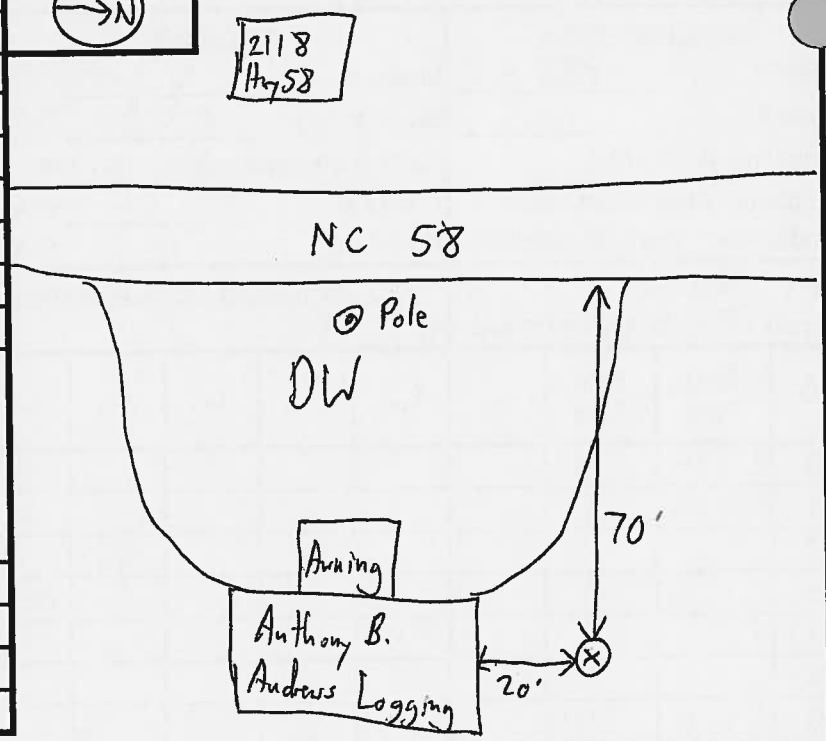
ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	2:10 PM								
1	2:11 PM								
2									
3									
4									
5									
6	2:16 PM	2:17 PM							Dogs / Person
7	2:17 PM	2:18 PM							"
8									
9									
10									
11									
12									
13	2:23 PM	2:24 PM							"
14	2:24 PM	2:25 PM							"
15	2:25 PM	2:26 PM							"
16									
17									
18									
19									
20	2:30 PM	2:31 PM							"
21	2:31 PM	2:32 PM							"
22									
23									
24									
25									
26		2:37 PM							
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 58	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	57	
Medium Trucks	3	
Heavy Trucks	1	
Buses		
Count duration	20 min.	

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments:

Occasional dogs barking, birds, people talking/yelling in far distance

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 23

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 24: 1597 Hwy. 58 Analyst: Bell

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	WM
Serial #:	See Sketch	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: **Steady**/Gusty/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	113.9 dBA	Avg Wind Speed/Direction:	4/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F): 74	RH (%): 32
Terrain: Hard/**Soft**/Mixed/Snow		N 35° 11.928' W 77° 33.610'		Bar Psr (Hg): 29.95	Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	2:43 PM	2:44 PM							
1	2:44 PM	2:45 PM	58.1	65.8					Start
2	2:45 PM	2:46 PM	53.8	58.9					
3	2:46 PM	2:47 PM	59.4	68.1					
4	2:47 PM	2:48 PM	49.9	60					
5	2:48 PM	2:49 PM	53.4	60					
6	2:49 PM	2:50 PM	55.2	64.8					
7	2:50 PM	2:51 PM	54.6	61.4					
8	2:51 PM	2:52 PM	54	63.3					
9	2:52 PM	2:53 PM	60.1	70.6					
10	2:53 PM	2:54 PM	58.3	63.9					
11	2:54 PM	2:55 PM	56.5	63.4					
12	2:55 PM	2:56 PM	61.7	70.1					
13	2:56 PM	2:57 PM	57.4	64.1					
14	2:57 PM	2:58 PM	55.7	62.9					
15	2:58 PM	2:59 PM	57.4	65.1					Resident Talking. Disragard reading.
16	2:59 PM	3:00 PM	55.6	65.5					Resident Talking. Disragard reading.
17	3:00 PM	3:01 PM	53.2	65.5					Resident Talking. Disragard reading.
18	3:01 PM	3:02 PM	57.7	66.9					
19	3:02 PM	3:03 PM	56.7	65.2					
20	3:03 PM	3:04 PM	64.1	74.6					
21	3:04 PM	3:05 PM	56.3	66.7					
22	3:05 PM	3:06 PM	61.7	74.1					
23	3:06 PM	3:07 PM	61.4	69.2					End
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 58	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	86	
Medium Trucks		
Heavy Trucks	4	
Buses	2	
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 7 Total

Additional Notes/Comments: Low humming in far distance. Little to no affect on noise level.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/14 Page ___ of ___

Monitoring Location: ST 24 Analyst: Bell

Sound Level Meter
Model #: 820
Serial #: 1655
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 4 / E
Temp (°F): 74 RH (%): 32
Bar Psr (Hg): 29.95 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
N 35.199° W 77.56°

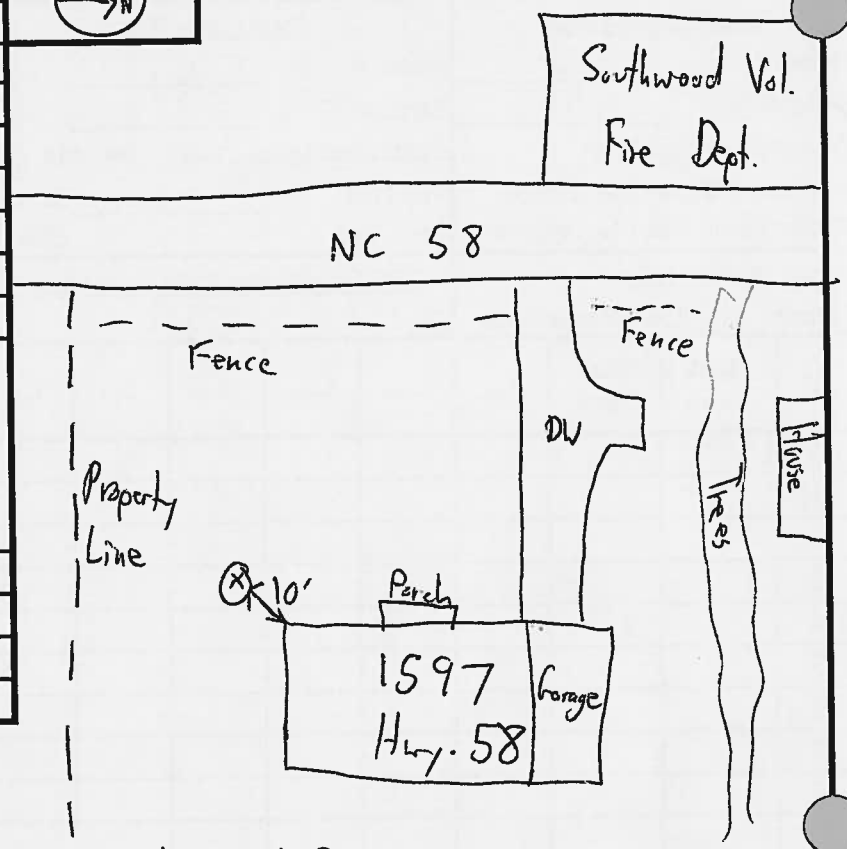
ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	2:43PM								
1	2:44PM								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15	2:58PM	2:59PM							Resident Talking
16	2:59PM	3:00PM							↓
17	3:00PM	3:01PM							
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	NC 58	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	86	
Medium Trucks	0	
Heavy Trucks	4	
Buses	1	
Count duration	20 min.	

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 7 total

Additional Notes/Comments:

Low humming in far distance (leaf blower); traffic by far primary noise

Other Noise Sources: distant aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

Short Term 24

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/2014 Page of

Monitoring Location: Short Term 25: 6290 Wyse Fork Rd. Analyst: Bell

Sound Level Meter		Field Calibration		Weather Data	
Model #:	820	Model #:	CAL200	Model #:	WM
Serial #:	See Sketch	Serial #:	5789	Serial #:	3386
Weighting: **A** / C / Flat		Calibration Level (dBA):	94 / **114**	Wind: Steady/**Gusty**/Calm	
Response: **Slow** / Fast / Impl		Pre-Test	114.0 dBA	Precipitation: Yes (explain) / **No**	
Windscreen : **Yes** / No (explain)		Post-Test	113.9 dBA	Avg Wind Speed/Direction:	2/gusts to 6/E
Topo: **Flat** / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	68 RH (%): 40
Terrain: Hard/Soft/**Mixed**/Snow		N 35° 12.220' W 77° 29.624'		Bar Psr (Hg):	29.98 Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{max}					Notes/Events
0	1:33 PM	1:34 PM							
1	1:34 PM	1:35 PM	48	59.5					Start
2	1:35 PM	1:36 PM	50.6	60.9					
3	1:36 PM	1:37 PM	37.5	40.8					
4	1:37 PM	1:38 PM	38.1	39.9					
5	1:38 PM	1:39 PM	53.8	65.1					
6	1:39 PM	1:40 PM	42.7	49.6					
7	1:40 PM	1:41 PM	37.2	42.2					
8	1:41 PM	1:42 PM	44.9	53.1					
9	1:42 PM	1:43 PM	53.6	63.1					
10	1:43 PM	1:44 PM	40.4	46.9					
11	1:44 PM	1:45 PM	39.5	50.1					
12	1:45 PM	1:46 PM	42.1	52.4					
13	1:46 PM	1:47 PM	55.3	66.3					Resident talking. Disregard reading.
14	1:47 PM	1:48 PM	36.8	44.9					
15	1:48 PM	1:49 PM	43	54.1					
16	1:49 PM	1:50 PM	47.3	57.3					
17	1:50 PM	1:51 PM	43.6	53.2					
18	1:51 PM	1:52 PM	52.4	64.6					
19	1:52 PM	1:53 PM	50.2	62.8					Resident talking. Disregard reading.
20	1:53 PM	1:54 PM	41	49.9					
21	1:54 PM	1:55 PM	36.4	39.5					
22	1:55 PM	1:56 PM	44.1	51.5					End
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Wyse Fork Rd.	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	19	
Medium Trucks	1	
Heavy Trucks	3	
Buses		
Count duration	20 min.	

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? **Yes**/No 8 Total

Additional Notes/Comments: Birds chirping.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: R-2553 US 70 Kinston Bypass Project #: 31829015 Date: 2/18/14 Page ___ of ___

Monitoring Location: ST 25 Analyst: Bell

Sound Level Meter
Model #: 820
Serial #: 1655
Weighting: **A** / C / Flat
Response: **Slow** / Fast / Impl
Windscreen : **Yes** / No (explain)

Field Calibration
Model #: CAL 200
Serial #: 5789
Calibration Level (dBA): 94 / **114**
Pre-Test 114.0 dBA
Post-Test dBA

Weather Data
Model #: WM
Serial #: 03386
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 2/gusts to 6/E
Temp (°F): 68 RH (%): 40
Bar Psr (Hg): 29.98 Cloud Cover (%): 0

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#
N 35.204° W 77.494°

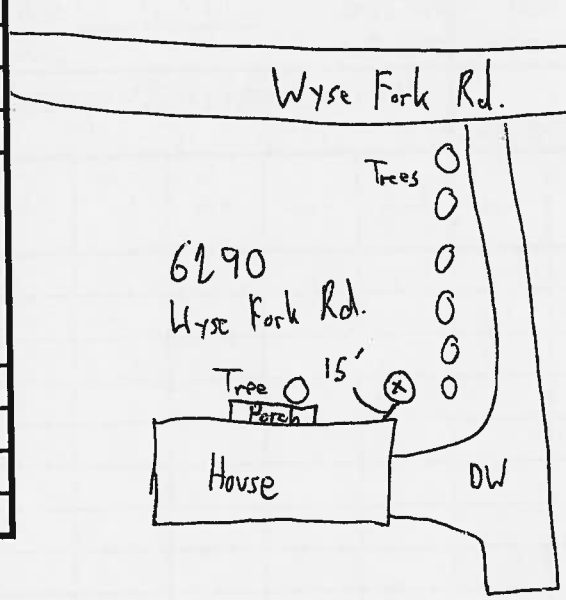
ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
0	1133 PM								
1	1:34 PM								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14	1:47	1:48							Resident talking
15									
16									
17									
18									
19	1:52	1:53							"
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Roadway Name/Dir	Wyse Fork	
Speed (post/obs)*	55	
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles	19	
Medium Trucks	1	
Heavy Trucks	3	
Buses		
Count duration	10 min.	

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No 8 total

Additional Notes/Comments:

Birds chirping

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

Short Term 25

Table A.1
Ambient Noise Level Monitoring

ID	Location	Meter	Longitude	Latitude	Measured L_{eq}	Peak Hour Adjustment*	Peak Hour L_{eq}
Long Term 1	6962 Wyse Fork Rd.	0395	35°13.030'	77°30.596'	N/A	N/A	N/A
Long Term 2	2619 Hillcrest Rd.	0418	35°16.011'	77°37.984'	N/A	N/A	N/A
Long Term 3	2571 US 70 East	0436	35°16.712'	77°44.973'	N/A	N/A	N/A
Long Term 4	884 Jordon Rd.	1652	35°12.696'	77°39.232'	N/A	N/A	N/A
Short Term 1	LaGrange Church of God	1651	35°17.343'	77°45.681'	62.4	1.5	63.9
		1655	35°17.328'	77°45.693'	57.9	1.5	59.4
		1324	35°17.314'	77°45.704'	54.4	1.5	55.9
Short Term 2	3527 Foss Farm Village	1324	35°15.923'	77°43.677'	67.9	1.5	69.4
		1655	35°15.909'	77°43.685'	62.0	1.5	63.5
		1651	35°15.898'	77°43.691'	56.6	1.5	58.1
Short Term 3	5279 Hwy 70 West	1324	35°15.649'	77°40.663'	54.2	N/A	54.2
		1655	35°15.615'	77°40.665'	51.8	N/A	51.8
		1651	35°15.591'	77°40.665'	50.3	N/A	50.3
Short Term 5	Cemetery	1324	35°15.919'	77°38.212'	73.1	N/A	73.1
		1655	35°15.930'	77°38.217'	63.0	N/A	63.0
		1651	35°15.971'	77°38.219'	59.5	N/A	59.5
Short Term 6	Vernon Dialysis	1651	35°15.915'	77°37.673'	70.4	N/A	70.4
		1324	35°15.938'	77°37.684'	66.2	N/A	66.2
		1655	35°15.970'	77°37.695'	61.3	N/A	61.3
Short Term 7	Dog Park	1324	35°15.238'	77°35.956'	55.4	N/A	55.4
		1655	35°15.264'	77°35.935'	53.4	N/A	53.4
		1651	35°15.284'	77°35.916'	54.8	N/A	54.8
Short Term 8	Hampton Inn / Quality Inn	1651	35°14.687'	77°35.236'	67.4	N/A	67.4
		1324	35°14.672'	77°35.251'	61.4	N/A	61.4
		1655	35°14.653'	77°35.268'	57.3	N/A	57.3
Short Term 9	Lenoir Community College	1651	35°14.154'	77°34.207'	70.6	N/A	70.6
		1655	35°14.130'	77°34.206'	60.9	N/A	60.9
		1324	35°14.110'	77°34.212'	57.9	N/A	57.9
Short Term 10	New Testament Church	1651	35°14.078'	77°33.257'	62.8	N/A	62.8
		1655	35°14.114'	77°33.249'	55.2	N/A	55.2
		1324	35°14.160'	77°33.250'	49.3	N/A	49.3
Short Term 11	5775 US 70 East	1324	35°13.090'	77°30.132'	69.3	N/A	69.3
		1651	35°13.079'	77°30.129'	61.5	N/A	61.5
		1655	35°13.063'	77°30.121'	56.6	N/A	56.6
Short Term 12	Tilghman's Garage	1655	35°13.077'	77°27.103'	63.4	N/A	63.4
		1324	35°13.100'	77°27.106'	58.9	N/A	58.9
		1651	35°13.113'	77°27.106'	62.8	N/A	62.8
Short Term 13	169 S. Croom Bland Rd.	1651	35°12.167'	77°42.382'	53.9	N/A	53.9
Short Term 14	584 Mary Beth Dr.	1651	35°14.549'	77°37.051'	62.9	1	63.9
Short Term 15	4120 Hwy 55 W.	1651	35°12.794'	77°41.556'	58.4	N/A	58.4
Short Term 16	1618 Hwy 11 S.	1651	35°11.082'	77°40.161'	65.1	N/A	65.1
Short Term 17	883 Hwy 11 S.	1651	35°12.676'	77°39.244'	67.6	N/A	67.6
Short Term 18	869 Tyree Rd.	1651	35°13.366'	77°38.595'	59.4	1.5	60.9
Short Term 19	1900 Hwy 258 S.	1651	35°14.141'	77°36.157'	62.5	N/A	62.5
Short Term 20	Woodington UMC	1655	35°10.647'	77°37.729'	59.6	N/A	59.6
Short Term 21	117 Bailey's Park Ln.	1651	35°12.328'	77°37.528'	65.7	N/A	65.7
Short Term 22	Grace Baptist Church	1655	35°13.855'	77°34.452'	61.8	2	63.8
Short Term 23	Anthony B. Andrews Logging	1655	35°11.055'	77°33.601'	59.2	N/A	59.2
Short Term 24	1597 Hwy 58	1655	35°11.928'	77°33.610'	58.6	N/A	58.6
Short Term 25	6290 Wyse Fork Rd.	1655	35°12.220'	77°29.624'	48.7	N/A	48.7

* Peak hour adjustment was determined by analyzing the long-term measurement data for peaks. Short-term measurements were assigned the nearest long-term measurement location and adjusted based upon the measurement period compared to the identified peak hour period.

Table A.2
TNM2.5 Model Validation

ID	Meter	Measured L_{eq}	Modeled L_{eq}	Difference
Short Term 1	1651	62.4	63.9	1.5
	1655	57.9	59.0	1.1
	1324	54.4	55.7	1.3
Short Term 2	1324	67.9	68.5	0.6
	1655	62.0	62.9	0.9
	1651	56.6	57.3	0.7
Short Term 5	1324	73.1	72.3	-0.8
	1655	63.0	64.7	1.7
	1651	59.5	58.1	-1.4
Short Term 6	1651	70.4	69.3	-1.1
	1324	66.2	64.5	-1.7
	1655	61.3	62.0	0.7
Short Term 7	1324	55.4	57.8	2.4 [2]
	1655	53.4	56.1	2.7 [2]
	1651	54.8	55.0	0.2
Short Term 8	1651	67.4	67.4	0.0
	1324	61.4	61.7	0.3
	1655	57.3	55.8	-1.5
Short Term 9	1651	70.6	69.2	-1.4
	1655	60.9	60.9	0.0
	1324	57.9	56.6	-1.3
Short Term 10	1651	62.8	65.6	2.8 [3]
	1655	55.2	56.1	0.9
	1324	49.3	51.5	2.2 [3]
Short Term 11	1324	69.3	68.1	-1.2
	1651	61.5	62.1	0.6
	1655	56.6	57.8	1.2
Short Term 12	1655	63.4	62.9	-0.5
	1324	58.9	58.3	-0.6
	1651	62.8	61.1	-1.7
Short Term 14	1651	64.0	62.9	-1.1
Short Term 18	1651	58.7	59.4	0.7
Short Term 21	1651	57.5	55.2	-2.3 [4]
Short Term 23	1655	58.6	59.2	0.6
Short Term 24	1655	57.4	58.6	1.2

1 . Hourly equivalent noise levels, Leq(h), are expressed to the nearest one-tenth decibels to ensure that TNM-predicted noise levels validate to within 3.0 dB(A) of measured noise levels without the benefits of rounding.

2. Moderate swath of trees located between monitors and US 70. Tree zones were not modeled for validation per the agreed-upon scope.

3. A number of vehicles turned onto Neuse Rd or made u-turns on US 70.

4. A number of Air Force jet flyovers occurred during this session. All obvious spikes in noise levels were removed, but some redisual noise may have remained for other time increments.

Appendix B

Hourly Equivalent Traffic Noise Level Tables

Table B.1

Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAE01-01	70-01	1	Residence	B	1	4837 WASHINGTON ST	57	61	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6
NSAE01-02	70-01	2	Residence	B	1	4779 WASHINGTON ST	60	62	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2
NSAE01-03	70-01	3	Residence	B	1	4771 WASHINGTON ST	60	62	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2	62	2
NSAE02-01	70-02	4	Residence	B	1	4374 NORLINE DR	55	58	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5
NSAE02-02	70-02	5	Church	C	1	4345 GEORGE ABBOTT RD	58	61	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6
NSAE02-03	70-02	6	Residence	B	1	4760 CASTELLOE DR	58	61	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6
NSAE02-04	70-02	7	Residence	B	1	4760 CASTELLOE DR	55	58	61	6	61	6	61	6	61	6	61	6	61	6	61	6	61	6	61	6	61	6	61	6	61	6
NSAE03-01			Residence	B	1	7879 HWY 70 W	58	61	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE04-01			Residence	B	1	3317 JIM SUTTON RD	61	64	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE04-02			Vacant Land	G		7801 HWY 70	69	72	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE05-01			Vacant Land	G		7778 HWY 70 W	72	75	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE05-02			Church	C		7768 HWY 70 W	72	75	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE05-03			Residence	B	1	7750 HWY 70 W	70	73	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE05-04			Church	C		7740 HWY 70 W	71	75	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE05-05			Residence	B	1	7720 HWY 70 W	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE06-01	70-03	8	Residence	B	1	4586 NORWOOD HILL RD	60	63	65	5	65	5	65	5	65	5	65	5	65	5	65	5	65	5	65	5	65	5	65	5	65	5
NSAE06-02	70-03	9	Residence	B	1	4572 NORBERT HILL RD	57	60	62	5	62	5	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6
NSAE06-03	70-03	10	Residence	B	1	4572 NORBERT HILL RD	56	59	61	5	61	5	61	5	61	5	61	5	61	5	61	5	61	5	61	5	61	5	61	5	61	5
NSAE07-01	70-05	11	Residence	B	1	7647 HWY 70	59	62	64	5	64	5	64	5	64	5	64	5	64	5	64	5	64	5	64	5	64	5	64	5	64	5
NSAE07-02	70-05	12	Residence	B	1	7567 HWY 70	65	68	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6
NSAE07-03	70-05	13	Residence	B	1	7543 HWY 70	63	66	69	6	69	6	69	6	69	6	69	6	69	6	69	6	69	6	69	6	69	6	69	6	69	6
NSAE07-04			Residence	B	1	7521 HWY 70	69	72	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE07-05	70-05	14	Residence	B	1	7501 HWY 70 W	66	69	72	6	72	6	72	6	72	6	72	6	72	6	72	6	72	6	72	6	72	6	72	6	72	6
NSAE07-06			Residence	B	1	7483 HWY 70	70	73	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE07-07	70-05	15	Residence	B	1	7459 HWY 70 W	64	67	70	6	70	6	70	6	70	6	70	6	70	6	70	6	70	6	70	6	70	6	70	6	70	6
NSAE07-08			Residence	B	1	7455 HWY 70	70	73	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE07-09			Residence	B	1	7443 HWY 70	69	72	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE07-10	70-05	16	Residence	B	1	7443 HWY 70	59	62	70	11	70	11	70	11	70	11	70	11	70	11	70	11	70	11	70	11	70	11	70	11	70	11
NSAE07-11			Residence	B	1	7433 HWY 70	69	72	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE07-12			Residence	B	1	7395 HWY 70	68	71	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE08-01			Vacant Land	G		7608 HWY 70	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE08-02	70-04	17	Residence	B	1	2736 RAYE LYNN DR	62	65	68	6	68	6	68	6	68	6	68	6	68	6	68	6	68	6	68	6	68	6	68	6	68	6
NSAE08-03	70-04	18	Residence	B	1	2737 RAYE LYNN DR	57	60	62	5	62	5	62	5	62	5	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6
NSAE08-04			Residence	B		7578 HWY 70	72	75	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE08-05	70-04	19	Residence	B	1	2737 RAYE LYNN DR	58	61	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6
NSAE08-06	70-04	20	Residence	B	1	2721 RAYE LYNN DR	57	60	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6
NSAE08-07			Residence	B	1	7560 HWY 70	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE08-13			Residence	B	1	7538 HWY 70 W	72	75	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE08-15			Residence	B	1	7522 HWY 70 W	70	73	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE08-16	70-04	27	Residence	B	1	7468 HWY 70 W	65	68	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6	71	6
NSAE08-17	70-04	28	Residence	B	1	7424 HWY 70	55	58	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5	60	5	59	4
NSAE08-18	70-04	29	Residence	B	1	7404 HWY 70	56	59	62	6	62	6	62	6	62	6	62	6	62	6	62	6	62	6	62	6	62	6	62	6	60	4
NSAE09-01			Residence	B	1	7394 HWY 70	70	73	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE09-02			Residence	B	1	7384 HWY 70	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE09-03			Residence	B	1	7376 HWY 70	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE09-04			Residence	B	1	7370 HWY 70	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE09-05			Residence	B	1	4541 NORWOOD HILL RD	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE09-06			Residence	B	1	2713 RAYE LYNN DR	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE10-01	70-06	30	Residence	B	1	6959 HWY 70 W	57	60	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6	63	6
NSAE10-02	70-06	31	Residence	B	1	6953 HWY 70 W	64	67	71	7	71	7	71	7	71	7	71	7	71	7	71	7	71	7	71	7	71	7	71	7	71	7

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1

Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAE10-03	70-06	32	Residence	B	1	6951 HWY 70 W	58	61	63	5	63	5	63	5	63	5	64	6	64	6	64	6	64	6	64	6	64	6	64	6	64	6
NSAE10-04			Recycling Facility	F		6941 HWY 70	72	75	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE11-01		33	Residence	B	1	6844 HWY 70	68	70	73	5	73	5	73	5	73	5	74	6	74	6	73	5	73	5	73	5	73	5	74	6	74	6
NSAE11-02		34	Residence	B	1	2056 ALBERT SUGG RD	63	66	66	3	66	3	67	4	67	4	70	7	70	7	60	-3	60	-3	61	-2	61	-2	70	7	70	7
NSAE12-01			Vacant land	G		6809 HWY 70	71	73	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-02			Residence	B	1	3583 FOSS FARM RD	71	73	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-03			Residence	B	1	3581 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-04			Residence	B	1	3577 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-05			Residence	B	1	3569 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-06			Residence	B	1	3557 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-07			Residence	B	1	3547 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-08	70-10	35	Residence	B	1	3549 FOSS FARM RD	65	67	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	72	7	72	7	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	72	7	72	7
NSAE12-09			Residence	B	1	3539 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-10	70-10	36	Residence	B	1	3541 FOSS FARM RD	64	66	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	72	8	72	8	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	72	8	72	8
NSAE12-11	70-10	37	Residence	B	1	3515 FOSS FARM RD	64	66	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	71	7	71	7	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	71	7	71	7
NSAE12-12			Residence	B	1	3527 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-13			Residence	B	1	3517 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-14	70-10	38	Residence	B	1	3511 FOSS FARM RD	63	65	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	71	8	71	8	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	71	8	71	8
NSAE12-15			Residence	B	1	3513 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-16	70-10	39	Residence	B	1	3507 FOSS FARM RD	61	63	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	71	10	71	10	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	71	10	71	10
NSAE12-17	70-10	40	Residence	B	1	3503 FOSS FARM RD	61	63	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	71	10	71	10	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	71	10	71	10
NSAE12-18			Residence	B	1	3509 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE12-19			Residence	B	1	3505 FOSS FARM RD	68	70	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE13-01			Residence	B	1	6539 HWY 70 W	71	74	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE13-02			Residence	B	1	6517 HWY 70	69	72	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE13-03			Residence	B	1	6499 HWY 70	68	71	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE13-04			Residence	B	1	6483 HWY 70	68	71	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAE14-01	70-11	41	Residence	B	1	6076 HWY 70 W	66	68	71	5	71	5	71	5	71	5	59	-7	59	-7									58	-8	58	-8
NSAE14-02	70-11	42	Residence	B	1	6040 HWY 70	58	61	63	5	63	5	63	5	63	5	55	-3	55	-3									55	-3	55	-3
NSAE14-03	70-11	43	Residence	B	1	5886 HWY 70	64	67	70	6	69	5	70	6	70	6	65	1	65	1									65	1	65	1
NSAE15-01			Residence	B	1	6043 HWY 70	72	75	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A									R/W	N/A	R/W	N/A
NSAE18-01		47	Residence	B	1	3525 BANKS SCHOOL RD	52	55					56	4	56	4	51	-1	51	-1									52	0	52	0
NSAE19-01	70-17	48	Office	E	1	1085 INNOVATION WAY	60	63			64	4	57	-3	57	-3	54	-6	54	-6									55	-5	55	-5
NSAE19-02	70-17	49	Medical Facility	E	1	5080 HWY 70 W	46	48			49	3	45	-1	46	0	43	-3	43	-3									44	-2	44	-2
NSAE19-03	70-17	50	Medical Facility	E	1	4990 HWY 70 W	63	66			65	2	62	-1	62	-1	61	-2	61	-2									61	-2	61	-2
NSAE19-04	70-17	51	Residence	B	1	5699 SANDERSON WAY	56	58									56	0	56	0									57	1	57	1
NSAE21-01	70-19	53	Hotel	E	1	4488 HWY 70	57	59	64	7	57	0																				
NSAE22-01			Business	E		4100 VERNON AVE	71	72	R/W	N/A																						
NSAE22-02			Business	E		4100 VERNON AVE	68	69	R/W	N/A																						
NSAE22-03	70-21	54	Business	E	1	4100 VERNON AVE	64	65	63	-1																						
NSAE23-01	70-21	55	Residence	B	1	902 JEFFERSON DR	56	56	59	3																						
NSAE23-02	70-21	56	Residence	B	1	3609 MONROE ST	57	58	61	4																						
NSAE23-03			Residence	B	1	805 MT VERNON DR	58	58	R/W	N/A																						
NSAE23-04	70-21	57	Residence	B	1	3607 MONROE ST	57	57	60	3																						
NSAE23-05	70-21	58	Residence	B	1	807 MT VERNON DR	52	53	64	12																						
NSAE23-06	70-21	59	Residence	B	1	3605 MONROE ST	56	57	59	3																						
NSAE23-07	70-21	60	Residence	B	1	3600 MONROE ST	54	54	63	9																						
NSAE23-08	70-21	61	Residence	B	1	900 CLEVELAND DR	55	55	57	2																						
NSAE23-09	70-21	62	Residence	B	1	902 CLEVELAND DR	54	54	54	0																						
NSAE23-10	70-21	63	Residence	B	1	903 CLEVELAND DR	57	57	58	1																						

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAE23-11	70-21	64	Residence	B	1	905 CLEVELAND DR	56	56	56	0																						
NSAE23-12	70-21	65	Residence	B	1	907 CLEVELAND DR	55	56	55	0																						
NSAE24-01	70-21	66	Residence	B	1	2679 HILLCREST RD	58	59	59	1																						
NSAE24-02	70-21	67	Residence	B	1	2619 HILLCREST RD	64	65	63	-1																						
NSAE24-03	70-21	68	Residence	B	1	2619 HILLCREST RD	62	63	61	-1																						
NSAE25-01			Shooting Range	F		2404 NEW BERN RD	63	64	R/W	N/A																						
NSAE25-02			Business	F		2404 NEW BERN RD	61	63	R/W	N/A																						
NSAE26-01			Medical Facility	E		3101 NEW BERN RD	64	66	R/W	N/A																						
NSAE27-01	70-24	69	Boat Ramp	C	1	1710 NEW BERN RD	69	69	70	1																						
NSAE28-02	70-25	71	Residence	B	1	1703 NEW BERN RD	70	70	74	4																						
NSAE28-03	70-25	72	Residence	B	1	1701 NEW BERN RD	69	69	70	1																						
NSAE28-04	70-25	73	Residence	B	1	1699 NEW BERN RD	68	68	70	2																						
NSAE28-05	70-25	74	Residence	B	1	1613 NEW BERN RD	66	66	67	1																						
NSAE28-06	70-25	75	Residence	B	1	1613 NEW BERN RD	58	58	62	4																						
NSAE28-08	70-25	77	Vacant Business	F	0	1225 NEW BERN RD	71	71	75	4																						
NSAE29-01	70-24	79	Church	C	1	1600 NEW BERN RD	67	67	72	5																						
NSAE30-01	70-28	80	Church	D*	1.58	1003 NEW BERN RD	57	57	60	3																						
NSAE30-02	70-28	81	Church	D*	1.58	1003 NEW BERN RD	56	56	59	3																						
NSAE31-01			Hotel	E		200 NEW BERN RD	57	57	R/W	N/A																						
NSAE31-02		82	Hotel	E	1	1382 HWY 258 S	53	53	62	9																						
NSAE32-01			Vacant Business	F		1335 HWY 258	71	71	R/W	N/A																						
NSAE32-02			Residence	B	1	203 NEW BERN RD	72	73	R/W	N/A																						
NSAE32-03	70-31	83	Recreational Area	C	1	211 NEW BERN RD	57	57	60	3																						
NSAE32-04	70-31	84	Retail	F	1	225 NEW BERN RD	53	54	57	4																						
NSAE33-01		85	Hotel	E	1	208 NEW BERN RD	51	52	52	1																						
NSAE33-02			Vacant Hotel	E		212 NEW BERN RD	70	71	R/W	N/A																						
NSAE33-03			Hotel	E		410 NEW BERN RD	72	73	R/W	N/A																						
NSAE33-04			Hotel	E		410 NEW BERN RD	71	72	R/W	N/A																						
NSAE34-01		86	Residence	B	1	1408 K CI	56	57	57	1																						
NSAE35-01	70-33	87	Residence	B	1	226 ARTHUR LN	55	57	56	1	50	-5																				
NSAE35-02	70-33	88	Residence	B	1	128 HWY 58	55	56	56	1	53	-2																				
NSAE35-03	70-33	89	Residence	B	1	128 HWY 58	61	63	60	-1	59	-2																				
NSAE36-01	70-34	90	Community College	C	2.74	155 HWY 58	62	64	61	-1	57	-5																				
NSAE36-02	70-34	91	Community College	C	2.74	231 HWY 58 (LCC)	64	66	62	-2	53	-11																				
NSAE36-03	70-34	92	Community College	C	2.74	232 HWY 58 (LCC)	67	69	65	-2	49	-18																				
NSAE36-04	70-34	93	Community College	C	2.74	233 HWY 58 (LCC)	60	63	62	2	49	-11																				
NSAE36-05	70-34	94	Community College	C	2.74	234 HWY 58 (LCC)	56	59	59	3	49	-7																				
NSAE36-06	70-34	95	Community College	C	2.74	235 HWY 58 (LCC)	57	60	60	3	52	-5																				
NSAE36-07	70-34	96	Community College	C	2.74	236 HWY 58 (LCC)	56	59	59	3	49	-7																				
NSAE37-01	70-34	98	Residence	B	1	728 NEW BERN RD	69	71	R/W	N/A	68	-1																				
NSAE39-01		100	Residence	B	1	1317 NEW BERN RD	61	65	68	7	52	-9																				
NSAE39-02	70-38	101	Residence	B	1	1551 HWY 70	62	66	66	4	R/W	N/A																				
NSAE39-03	70-38	102	Residence	B	1	1609 HWY 70	63	68	65	2	R/W	N/A																				
NSAE40-01	70-35	103	Church	C	0.33	126 NEUSE RD	58	63	66	8	49	-9																				
NSAE40-02	70-35	104	Church	C	0.33	126 NEUSE RD	51	55	58	7	49	-2																				
NSAE40-03	70-35	105	Church	C	0.33	126 NEUSE RD	53	57	60	7	49	-4																				
NSAE41-01	70-37	106	Church	C	1	1440 HWY 70	66	70	R/W	N/A	52	-14																				
NSAE41-02	70-37	107	Residence	B	1	145 NEUSE RD	55	59	64	9	51	-4																				
NSAE41-03	70-37	108	Residence	B	1	175 NEUSE RD	51	55	60	9	50	-1																				
NSAE41-04	70-37	109	Residence	B	1	199 NEUSE RD	49	52	57	8	50	1																				

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAE41-05	70-37	110	Residence	B	1	1498 HWY 70	67	71	R/W	N/A	57	-10																				
NSAE41-06	70-37	111	Residence	B	1	1590 HWY 70	66	71	R/W	N/A	66	0																				
NSAE41-07	70-37	112	Residence	B	1	1592 HWY 70	63	68	71	8	67	4																				
NSAE42-01			Residence	B	1	1779 HWY 70	68	71	R/W	N/A	R/W	N/A																				
NSAE42-02			Residence	B	1	1779 HWY 70	68	70	R/W	N/A	R/W	N/A																				
NSAE42-03			Residence	B	1	1799 HWY 70	69	71	R/W	N/A	R/W	N/A																				
NSAE42-04			Residence	B	1	1811 HWY 70	69	72	R/W	N/A	R/W	N/A																				
NSAE42-05	70-39	113	Residence	B	1	1815 HWY 70	60	62	66	6	65	5																				
NSAE42-06	70-39	114	Church	C	0.5	1817 HWY 70	52	54	65	13	56	4																				
NSAE42-07	70-39	115	Church	C	0.5	1817 HWY 70	63	65	68	5	68	5																				
NSAE42-08	70-39	116	Residence	B	1	1869 HWY 70	65	67	70	5	70	5																				
NSAE43-01			Residence	B	1	1900 HWY 70	69	71	R/W	N/A	R/W	N/A																				
NSAE43-02			Residence	B	1	1934 HWY 70	70	72	R/W	N/A	R/W	N/A																				
NSAE44-01			Residence	B	1	2005 HWY 70	69	72	R/W	N/A	R/W	N/A																				
NSAE44-02			Residence	B	1	2017 HWY 70	68	71	R/W	N/A	R/W	N/A																				
NSAE44-03			Residence	B	1	118 LYNLEY PL	68	71	R/W	N/A	R/W	N/A																				
NSAE44-04			Residence	B	1	121 LYNLEY PL	69	71	R/W	N/A	R/W	N/A																				
NSAE44-06	70-41	118	Residence	B	1	2051 HWY 70 E	59	61	68	9	68	9																				
NSAE44-07	70-41	119	Residence	B	1	120 LYNLEY PL	56	58	68	12	68	12																				
NSAE44-08			Residence	B	1	2049 HWY 70	68	71	R/W	N/A	R/W	N/A																				
NSAE44-09			Residence	B	1	114 KRISTEN LEIGH DR	70	72	R/W	N/A	R/W	N/A																				
NSAE44-10	70-41	120	Residence	B	1	122 KRISTEN LEIGH DR	61	63	69	8	68	7																				
NSAE44-11	70-41	121	Residence	B	1	123 KRISTEN LEIGH DR	61	63	69	8	69	8																				
NSAE44-12			Residence	B	1	117 KRISTEN LEIGH DR	68	70	R/W	N/A	R/W	N/A																				
NSAE44-13			Residence	B	1	2071 HWY 70	66	69	R/W	N/A	R/W	N/A																				
NSAE44-14			Residence	B	1	2085 HWY 70	68	70	R/W	N/A	R/W	N/A																				
NSAE44-16	70-41	123	Residence	B	1	2109 HWY 70 E	60	63	66	6	65	5																				
NSAE44-17			Residence	B	1	2129 HWY 70	67	70	R/W	N/A	R/W	N/A																				
NSAE44-18			Residence	B	1	2149 HWY 70	67	69	R/W	N/A	R/W	N/A																				
NSAE44-19			Residence	B	1	2161 HWY 70 E	67	70	R/W	N/A	R/W	N/A																				
NSAE44-20			Residence	B	1	2173 HWY 70	68	70	R/W	N/A	R/W	N/A																				
NSAE44-21			Residence	B	1	2199 HWY 70	68	70	R/W	N/A	R/W	N/A																				
NSAE44-22			Residence	B	1	2211 HWY 70	68	70	R/W	N/A	R/W	N/A																				
NSAE44-23			Residence	B	1	120 KING HEIGHTS BLVD	67	69	R/W	N/A	R/W	N/A																				
NSAE45-01			Residence	B	1	2072 HWY 70	68	71	R/W	N/A	R/W	N/A																				
NSAE45-02	70-42	124	Residence	B	1	2142 HWY 70	65	68	71	6	71	6																				
NSAE45-03	70-42	125	Residence	B	1	132 BRITISH RD	60	63	65	5	65	5																				
NSAE46-01	70-41	126	Residence	B	1	121 KING HEIGHTS BLVD	67	70	72	5	72	5																				
NSAE46-02			Residence	B	1	2313 HWY 70	69	71	R/W	N/A	R/W	N/A																				
NSAE46-03			Residence	B	1	2329 HWY 70	69	72	R/W	N/A	R/W	N/A																				
NSAE47-01			Residence	B	1	2358 HWY 70	70	73	R/W	N/A	R/W	N/A																				
NSAE47-02			Residence	B	1	2388 HWY 70	70	73	R/W	N/A	R/W	N/A																				
NSAE47-03			Residence	B	1	2420 HWY 70	71	73	R/W	N/A	R/W	N/A																				
NSAE47-04			Residence	B	1	2420 HWY 70 EAST	70	73	R/W	N/A	R/W	N/A																				
NSAE47-05			Residence	B	1	6570 HWY 70	71	73	R/W	N/A	R/W	N/A																				
NSAE47-06			Residence	B	1	2420 HWY 70 EAST	69	72	R/W	N/A	R/W	N/A																				
NSAE47-07			Residence	B	1	2420 HWY 70 EAST	69	72	R/W	N/A	R/W	N/A																				
NSAE47-08		127	Residence	B	1	6276 HWY 70	65	68	70	5	70	5																				
NSAE48-01			Gas Station	F		5953 HWY 70	70	73	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE48-02			Gas Station	F		5953 HWY 70	57	59	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAE48-03			Residence	B	1	US 70	70	73	R/W	N/A	R/W	N/A									R/W	N/A					R/W	N/A				
NSAE49-01			Residence	B	1	5775 HWY 70	70	73	R/W	N/A	R/W	N/A									R/W	N/A										
NSAE50-01			Residence	B	1	5671 HWY 70	67	70	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE50-02			Residence	B	1	5661 HWY 70	68	71	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE50-03			Residence	B	1	5661 HWY 70	68	71	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE50-04			Residence	B	1	5609 HWY 70	71	74	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE51-01		128	Residence	B	1	5586 HWY 70	67	70	66	-1	66	-1			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE52-01			Residence	B	1	5517 HWY 70	69	72	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE52-02			Residence	B	1	5489 HWY 70	69	72	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE52-03			Residence	B	1	5489 HWY 70	69	72	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE52-04			Residence	B	1	5471 HWY 70	69	71	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE52-05			Residence	B	1	5453 HWY 70	68	71	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE53-01			Residence	B	1	5235 HWY 70	66	69	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE53-02			Residence	B	1	5121 HWY 70	64	67	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE53-03		129	Residence	B	1	5121 HWY 70	67	70	72	5	72	5			72	5			72	5	72	5					70	3	71	4		
NSAE53-04			Residence	B	1	5121 HWY 70	69	72	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE54-01		130	Residence	B	1	4827 HWY 70	69	72	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A		
NSAE55-01	70-50	131	Residence	B	1	4666 HWY 70	67	70	72	5	72	5	66	-1	72	5	66	-1	72	5	72	5	68	1	66	-1	72	5	72	5	66	-1
NSAE55-02	70-50	132	Residence	B	1	4656 HWY 70	58	61	64	6	64	6	58	0	64	6	58	0	64	6	64	6	60	2	58	0	64	6	64	6	58	0
NSAE56-01		133	Residence	B	1	4379 HWY 70	54	57	55	1	55	1	56	2	54	0	56	2	54	0	54	0	57	3	56	2	54	0	54	0	56	2
NSAE57-01		134	Residence	B	1	133 WHITLEY ST	61	63	66	5	66	5	64	3	66	5	65	4	66	5	66	5	64	3	62	1	66	5	66	5	64	3
NSAS201-01	LP-01	135	Residence	B	1	1979 BROOKSTONE DR	49	49													56	7	56	7								
NSAS201-02	LP-01	136	Residence	B	1	1889 BROOKSTONE DR	49	49													57	8	57	8								
NSAS202-01	55-07	137	Residence	B	1	126 ROUSE ADAMS LN	54	54													55	1	55	1								
NSAS202-02	55-07	138	Meeting House	C	1	4448 HWY 55 W	54	54													69	15	69	15								
NSAS202-03	55-07	139	Church	C	1	4478 HWY 55 W	54	54													62	8	62	8								
NSAS202-04	55-07	140	Residence	B	1	4516 HWY 55 W	54	54													52	-2	52	-2								
NSAS202-05	55-07	141	Residence	B	1	4568 HWY 55 W	54	54													54	0	54	0								
NSAS202-06	55-06	142	Residence	B	1	4585 HWY 55 W	54	54													57	3	57	3								
NSAS202-07	55-07	143	Business	F	1	4620 HWY 55 W	54	54													55	1	55	1								
NSAS202-09		145	Residence	B	1	4662 HWY 55 W	54	54													59	5	59	5								
NSAS202-10		146	Residence	B	1	4661 HWY 55 W	54	54													60	6	60	6								
NSAS203-01	55-06	147	Residence	B	1	4459 HWY 55 W	54	54													60	6	60	6								
NSAS203-02			Residence	B	1	4471 HWY 55 W	54	54													R/W	N/A	R/W	N/A								
NSAS203-03	55-06	148	Residence	B	1	2178 GREENE HAYNES RD	54	54													55	1	55	1								
NSAS203-04	55-06	149	Residence	B	1	4487 HWY 55 W	54	54													64	10	64	10								
NSAS204-01	55-08	150	Residence	B	1	4813 HWY 55 W	54	54													66	12	66	12								
NSAS204-02	55-08	151	Residence	B	1	4853 HWY 55 W	54	54													67	13	67	13								
NSAS205-01	JGS-01	152	Residence	B	1	4364 HWY 258 S	60	60													59	-1	59	-1								
NSAS205-02	JGS-01	153	Residence	B	1	120 JOHN GREEN SMITH RD	60	60													58	-2	58	-2								
NSAS205-03	JGS-01	154	Residence	B	1	140 JOHN GREEN SMITH RD	60	60													55	-5	56	-4								
NSAS205-04	JGS-01	155	Residence	B	1	152 JOHN GREEN SMITH RD	60	60													52	-8	52	-8								
NSAS205-05	JGS-01	156	Residence	B	1	166 JOHN GREEN SMITH RD	60	60													50	-10	50	-10								
NSAS206-01	258-08	157	Residence	B	1	144 CLARENCE POTTER RD	60	60													52	-8	52	-8								
NSAS206-02	258-08	158	Residence	B	1	134 CLARENCE POTTER RD	60	60													55	-5	55	-5								
NSAS206-03	258-08	159	Residence	B	1	128 CLARENCE POTTER RD	60	60													57	-3	57	-3								
NSAS206-04	258-08	160	Residence	B	1	4732 HWY 258 S	60	60													63	3	63	3								
NSAS206-05	258-08	161	Residence	B	1	155 CLARENCE POTTER RD	49	49													49	0	49	0								
NSAS206-06	258-08	162	Residence	B	1	131 CLARENCE POTTER RD	49	49													58	9	58	9								
NSAS206-07	258-08	163	Residence	B	1	135 CLARENCE POTTER RD	49	49													49	0	49	0								

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAS206-08	258-08	164	Residence	B	1	135 CLARENCE POTTER RD	49	49													54	5	54	5								
NSAS206-09	258-08	165	Residence	B	1	4802 HWY 258 S	49	49													55	6	55	6								
NSAS206-10		166	Residence	B	1	4682 HWY 258 S	49	49													53	4	53	4								
NSAS206-11		167	Residence	B	1	373 JOHN GREEN SMITH RD	49	49													65	16	65	16								
NSAS206-12		168	Residence	B	1	388 JOHN GREEN SMITH RD	49	49													62	13	62	13								
NSAS206-13		169	Residence	B	1	387 JOHN GREEN SMITH RD	49	49													56	7	56	7								
NSAS206-14		170	Residence	B	1	411 JOHN GREEN SMITH RD	49	49													55	6	55	6								
NSAS207-01	258-09	171	Residence	B	1	4763 HWY 258 S	66	66													62	-4	62	-4								
NSAS207-02	258-09	172	Residence	B	1	4851 HWY 258 S	66	66													65	-1	65	-1								
NSAS208-01		173	Residence	B	1	2167 STROUDS CORNER RD	49	49													69	20	69	20								
NSAS208-02	AR-01	174	Residence	B	1	2187 MARION LN	49	49													54	5	54	5								
NSAS208-03	AR-01	175	Residence	B	1	2221 MARION LN	49	49													60	11	60	11								
NSAS209-01	SC-02	176	Residence	B	1	2219 STROUD'S CORNER RD	49	49													71	22	71	22								
NSAS209-02	SC-02	177	Residence	B	1	2236 STROUDS CORNER RD	49	49													58	9	58	9								
NSAS209-03	SC-02	178	Residence	B	1	2253 STROUDS CORNER RD	49	49													59	10	59	10								
NSAS210-01	PF-01	179	Residence	B	1	1740 PARKER FORK RD	49	49													56	7	56	7								
NSAS210-02	PF-01	180	Residence	B	1	1724 PARKER FORK RD	49	49													53	4	53	4								
NSAS210-03	PF-01	181	Residence	B	1	1719 PARKER FORK RD	49	49													54	5	55	6								
NSAS210-04	PF-01	182	Residence	B	1	1731 PARKER FORK RD	49	49													57	8	57	8								
NSAS210-05	PF-01	183	Residence	B	1	1745 PARKER FORK RD	49	49													59	10	59	10								
NSAS211-01	58-08	184	Residence	B	1	2074 HWY 58 S	59	59													67	8	67	8								
NSAS211-02	58-08	185	Residence	B	1	2118 HWY 58 S	59	59													69	10	69	10								
NSAS211-03		186	Residence	B	1	2142 HWY 58 S	59	59													61	2	61	2								
NSAS212-01	58-08	187	Residence	B	1	2067 HWY 58 S	59	59													65	6	65	6								
NSAS212-02			Residence	B	1	2091 HWY 58 S	59	59													R/W	N/A	R/W	N/A								
NSAS212-03	58-08	188	Residence	B	1	2079 HWY 58 S	59	59													67	8	67	8								
NSAS213-01	58-07	189	Residence	B	1	1897 HWY 58 S	59	59													58	-1	58	-1								
NSAS213-02	58-07	190	Retirement Home	B	8	1956 IDLEWILD RD	59	59													57	-2	57	-2								
NSAS213-03	58-07	191	Retirement Home	B	8	1956 IDLEWILD RD	59	59													62	3	62	3								
NSAS213-04	58-07	192	Retirement Home	B	8	1935 IDLEWILD RD	59	59													62	3	62	3								
NSAS213-05	58-07	193	Retirement Home	B	8	1918 IDLEWILD RD	59	59													53	-6	53	-6								
NSAS213-06	58-07	194	Retirement Home	B	8	1922 IDLEWILD RD	59	59													49	-10	49	-10								
NSAS213-07	58-07	195	Retirement Home	B	8	1946 IDLEWILD RD	59	59													53	-6	53	-6								
NSAS213-08	58-07	196	Retirement Home	B	8	1946 IDLEWILD RD	59	59													55	-4	55	-4								
NSAS214-01	SO-01	197	Residence	B	1	1375 SUMRELL RD	49	49													50	1	50	1								
NSAS214-02	SO-01	198	Residence	B	1	2059 SOUTHWOOD RD	49	49													53	4	54	5								
NSAS214-03	SO-01	199	Residence	B	1	2119 SOUTHWOOD RD	49	49													68	19	68	19								
NSAS215-01	SO-02	200	Residence	B	1	2173 SOUTHWOOD RD	49	49													59	10	59	10								
NSAS215-02	SO-02	201	Residence	B	1	2173 SOUTHWOOD RD	49	49													59	10	59	10								
NSAS215-03	SO-02	202	Residence	B	1	2170 SOUTHWOOD RD	49	49													62	13	62	13								
NSAS215-04	SO-02	203	Residence	B	1	2170 SOUTHWOOD RD	49	49													62	13	63	14								
NSAS215-05	SO-02	204	Residence	B	1	2170 SOUTHWOOD RD	49	49													58	9	58	9								
NSAS215-06	SO-02	205	Residence	B	1	2173 SOUTHWOOD RD	49	49													52	3	52	3								
NSAS215-07	SO-02	206	Residence	B	1	2193 SOUTHWOOD RD	49	49													52	3	52	3								
NSAS215-08	SO-02	207	Residence	B	1	2201 SOUTHWOOD RD	49	49													51	2	51	2								
NSAS216-01		208	Residence	B	1	2503 ELIJAH LOFTIN RD	49	49													67	18	67	18								
NSAS217-01	EL-02	209	Residence	B	1	2569 ELIJAH LOFTIN RD	49	49													54	5	54	5								
NSAS217-02	EL-02	210	Residence	B	1	2511 ELIJAH LOFTIN RD	49	49													66	17	66	17								
NSAS218-01	EL-01	211	Residence	B	1	2457 ELIJAH LOFTIN RD	49	49													64	15	64	15								
NSAS218-02	EL-01	212	Residence	B	1	2449 ELIJAH LOFTIN RD	49	49													59	10	59	10								

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1

Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																					
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAS218-03	EL-01	213	Residence	B	1	2439 ELIJAH LOFTIN RD	49	49													57	8	58	9								
NSAS218-04	EL-01	214	Residence	B	1	2433 ELIJAH LOFTIN RD	49	49													55	6	55	6								
NSAX-05	KH-04	215	Residence	B	1	2411 LANG SKINNER DR DR	49	49																	57	8	57	8				
NSAX-06	KH-04	216	Residence	B	1	2424 LANG SKINNER DR DR	49	49																	57	8	57	8				
NSAX-07	KH-04	217	Residence	B	1	2401 LANG SKINNER DR DR	49	49																	61	12	61	12				
NSAX-08		218	Residence	B	1	1852 KENNEDY HOME RD	49	49									59	10	59	10									60	11	61	12
NSAX-09		219	Residence	B	1	1766 KENNEDY HOME RD	49	49									65	16	65	16									48	-1	49	0
NSAX-10	KH-03	220	Retirement Comm.	B	1	2557 CEDAR DELL LN	49	49									60	11	60	11												
NSAX-11	KH-03	221	Retirement Comm.	B	1	2529 CEDAR DELL LN	49	49									60	11	60	11												
NSAX-12	KH-03	222	Retirement Comm.	B	1	2495 CEDAR DELL LN	49	49									59	10	59	10												
NSAX-13	KH-03	223	Retirement Comm.	B	1	2465 CEDAR DELL LN	49	49									57	8	57	8												
NSAX-14	KH-03	224	Retirement Comm.	B	1	1132 CEDAR DELL LOOP RD	49	49									65	16	65	16												
NSAX-15	KH-03	225	Retirement Comm.	B	1	1102 CEDAR DELL LOOP RD	49	49									66	17	66	17												
NSAX-16	KH-03	226	Retirement Comm.	B	1	1090 CEDAR DELL LOOP RD	49	49									66	17	66	17												
NSAX-17	KH-03	227	Retirement Comm.	B	1	1072 CEDAR DELL LOOP RD	49	49									65	16	65	16												
NSAX-18	KH-03	228	Retirement Comm.	B	1	1056 CEDAR DELL LOOP RD	49	49									57	8	57	8												
NSAX-19	KH-03	229	Retirement Comm.	B	1	2356 CEDAR DELL LN	49	49									58	9	58	9												
NSAX-20	KH-03	230	Baseball Field	C	0.13	1072 CEDAR DELL LOOP RD	49	49									72	23	72	23												
NSAX-21	KH-03	231	Baseball Field	C	0.13	1072 CEDAR DELL LOOP RD	49	49									72	23	72	23												
NSAX-22	KH-03	232	Baseball Field	C	0.13	1072 CEDAR DELL LOOP RD	49	49									67	18	67	18												
NSAX-23	KH-03	233	Baseball Field	C	0.13	1072 CEDAR DELL LOOP RD	49	49									67	18	67	18												
NSAX-24	KH-03	234	Baseball Field	C	0.13	1072 CEDAR DELL LOOP RD	49	49									67	18	67	18												
NSAX-22.1	KH-03	232.1	Baseball Field	C	0.13	1072 CEDAR DELL LOOP RD	49	49									63	14	63	14												
NSAX-23.1	KH-03	233.1	Baseball Field	C	0.13	1072 CEDAR DELL LOOP RD	49	49									63	14	63	14												
NSAX-24.1	KH-03	234.1	Baseball Field	C	0.13	1072 CEDAR DELL LOOP RD	49	49									63	14	63	14												
NSAX-25	KH-03	235	Retirement Comm.	B	1	2280 KENNEDY DAIRY RD	49	49									57	8	57	8												
NSAX-26		236	Residence	B	1	845 PRUITT RD	49	49					64	15	64	15																
NSAX-27	70-19	237	Cemetery	C	0.09	4488 HWY 70	71	73	69	-2	69	-2																				
NSAX-28	70-19	238	Cemetery	C	0.09	4488 HWY 70	71	73	69	-2	69	-2																				
NSAX-29	70-19	239	Cemetery	C	0.09	4488 HWY 70	64	67	67	3	63	-1																				
NSAX-30	70-19	240	Cemetery	C	0.09	4488 HWY 70	64	66	66	2	62	-2																				
NSAX-31	70-19	241	Cemetery	C	0.09	4488 HWY 70	60	62	65	5	59	-1																				
NSAX-32	70-19	242	Cemetery	C	0.09	4488 HWY 70	60	62	65	5	59	-1																				
NSAX-33	70-19	243	Cemetery	C	0.09	4488 HWY 70	59	62	65	6	59	0																				
NSAX-34	70-19	244	Cemetery	C	0.09	4488 HWY 70	59	61	65	6	58	-1																				
NSAX-35	70-19	245	Cemetery	C	0.09	4488 HWY 70	57	60	64	7	58	1																				
NSAX-36	70-19	246	Cemetery	C	0.09	4488 HWY 70	57	60	64	7	58	1																				
NSAX-37	70-19	247	Cemetery	C	0.09	4488 HWY 70	57	59	64	7	57	0																				
NSAX-38	70-21	248	Cemetery	C	0.05	WESTVIEW CEMETERY	71	72	71	0																						
NSAX-39	70-21	249	Cemetery	C	0.05	WESTVIEW CEMETERY	72	72	70	-2																						
NSAX-40	70-21	250	Cemetery	C	0.05	WESTVIEW CEMETERY	71	72	70	-1																						
NSAX-41	70-21	251	Cemetery	C	0.05	WESTVIEW CEMETERY	71	72	69	-2																						
NSAX-42	70-21	252	Cemetery	C	0.05	WESTVIEW CEMETERY	71	72	69	-2																						
NSAX-43	70-21	253	Cemetery	C	0.05	WESTVIEW CEMETERY	71	72	68	-3																						
NSAX-44	70-21	254	Cemetery	C	0.05	WESTVIEW CEMETERY	71	71	67	-4																						
NSAX-45	70-21	255	Cemetery	C	0.05	WESTVIEW CEMETERY	70	71	66	-4																						
NSAX-46	70-21	256	Cemetery	C	0.05	WESTVIEW CEMETERY	64	65	61	-3																						
NSAX-47	70-21	257	Cemetery	C	0.05	WESTVIEW CEMETERY	64	65	60	-4																						
NSAX-48	70-21	258	Cemetery	C	0.05	WESTVIEW CEMETERY	65	65	62	-3																						
NSAX-49	70-21	259	Cemetery	C	0.05	WESTVIEW CEMETERY	65	66	62	-3																						

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAX-39.1	70-21	249.1	Cemetery	C	0.05	WESTVIEW CEMETERY	65	66	64	-1																						
NSAX-40.1	70-21	250.1	Cemetery	C	0.05	WESTVIEW CEMETERY	66	66	65	-1																						
NSAX-40.2	70-21	250.2	Cemetery	C	0.05	WESTVIEW CEMETERY	61	62	60	-1																						
NSAX-41.1	70-21	251.1	Cemetery	C	0.05	WESTVIEW CEMETERY	66	66	63	-3																						
NSAX-41.2	70-21	251.2	Cemetery	C	0.05	WESTVIEW CEMETERY	61	62	60	-1																						
NSAX-42.1	70-21	252.1	Cemetery	C	0.05	WESTVIEW CEMETERY	65	66	63	-2																						
NSAX-42.2	70-21	252.2	Cemetery	C	0.05	WESTVIEW CEMETERY	61	62	59	-2																						
NSAX-47.1	70-21	257.1	Cemetery	C	0.05	WESTVIEW CEMETERY	61	61	59	-2																						
NSAX-48.1	70-21	258.1	Cemetery	C	0.05	WESTVIEW CEMETERY	61	61	59	-2																						
NSAX-49.1	70-21	259.1	Cemetery	C	0.05	WESTVIEW CEMETERY	61	62	59	-2																						
NSAX-50	70-23	260	Residence	B	1	3509 SCOTT ST	56	57	55	-1																						
NSAX-51	70-23	261	Residence	B	1	3503 SCOTT ST	55	55	55	0																						
NSAX-52	70-23	262	Residence	B	1	902 SYCAMORE AVE	51	52	53	2																						
NSAX-53	70-23	263	Residence	B	1	900 SYCAMORE AVE	53	54	55	2																						
NSAX-54	70-23	264	Residence	B	1	806 SYCAMORE AVE	55	55	57	2																						
NSAX-55	70-23	265	Residence	B	1	804 SYCAMORE AVE	59	59	59	0																						
NSAX-56	70-23	266	Residence	B	1	805 SYCAMORE AVE	60	60	62	2																						
NSAX-57	70-23	267	Residence	B	1	807 SYCAMORE AVE	56	56	58	2																						
NSAX-58	70-23	268	Residence	B	1	901 SYCAMORE AVE	53	53	54	1																						
NSAX-59	70-23	269	Residence	B	1	903 SYCAMORE AVE	50	50	52	2																						
NSAX-60	70-23	270	Residence	B	1	3409 SCOTT ST	52	52	54	2																						
NSAX-61	70-23	271	Residence	B	1	3408 SCOTT ST	60	60	62	2																						
NSAX-62	70-23	272	Residence	B	1	3407 SCOTT ST	51	51	52	1																						
NSAX-63	70-23	273	Residence	B	1	3405 SCOTT ST	49	50	51	2																						
NSAX-64	70-23	274	Residence	B	1	3406 SCOTT ST	58	59	61	3																						
NSAX-65	70-23	275	Residence	B	1	3403 SCOTT ST	51	51	52	1																						
NSAX-66	70-23	276	Church	C	1	2909 VERNON AVE	65	65	66	1																						
NSAX-67	11-04	277	Residence	B	1	442 EDGEWOOD DR	64	64			55	-9																				
NSAX-68	11-03	278	Church	C	1	1745 HWY 11/55	64	64			73	9																				
NSAX-69	11-04	279	Residence	B	1	1708 HWY 11/55	64	64			65	1																				
NSAX-70	11-04	280	Residence	B	1	1704 HWY 11/55	64	64			73	9																				
NSAX-71	11-03	281	Residence	B	1	548 MARY BETH RD	64	64			71	7																				
NSAX-72	11-03	282	Residence	B	1	527 MARY BETH RD	64	64			60	-4																				
NSAX-73	11-03	283	Residence	B	1	513 MAGNOLIA DR	64	64			64	0																				
NSAX-74	11-03	284	Residence	B	1	513 MAGNOLIA DR	64	64			68	4																				
NSAX-75	11-03	285	Residence	B	1	496 MAGNOLIA DR	64	64			62	-2																				
NSAX-76	11-03	286	Residence	B	1	496 MAGNOLIA DR	64	64			64	0																				
NSAX-77	11-03	287	Residence	B	1	1671 HWY 11/55	64	64			73	9																				
NSAX-78	11-03	288	Residence	B	1	1663 HWY 11/55	64	64			72	8																				
NSAX-79	GO-01	289	Residence	B	1	433 MAGNOLIA DR DR	64	64			58	-6																				
NSAX-80	GO-01	290	Residence	B	1	250 GOODMAN RD	64	64			61	-3																				
NSAX-81	GO-01	291	Residence	B	1	242 GOODMAN RD	64	64			64	0																				
NSAX-82	GO-01	292	Residence	B	1	244 GOODMAN RD	64	64			64	0																				
NSAX-83	11-01	293	Residence	B	1	1491 HWY 11/55	64	64			71	7																				
NSAX-84	11-02	294	Residence	B	1	1476 HWY 11/55	64	64			68	4																				
NSAX-85	11-02	295	Residence	B	1	1476 HWY 11/55	64	64			63	-1																				
NSAX-86	11-02	296	Residence	B	1	1476 HWY 11/55	64	64			62	-2																				
NSAX-87	11-02	297	Residence	B	1	1476 HWY 11/55	64	64			62	-2																				
NSAX-88	11-01	298	Residence	B	1	1407 HWY 11/55	64	64			74	10																				
NSAX-89	GO-02	299	Residence	B	1	481 WHITFIELD DR	64	64			60	-4																				

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																					
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAX-90	GO-02	300	Residence	B	1	481 WHITFIELD DR	64	64			61	-3																				
NSAX-91	GO-03	301	Residence	B	1	400 FOURTH ST	49	49			66	17																				
NSAX-92	GO-03	302	Residence	B	1	391 FOURTH ST	49	49			70	21																				
NSAX-93	GO-03	303	Residence	B	1	390 FOURTH ST	49	49			63	14																				
NSAX-94	GO-03	304	Residence	B	1	381 FOURTH ST	49	49			68	19																				
NSAX-95	GO-03	305	Residence	B	1	365 FOURTH ST	49	49			67	18																				
NSAX-96	GO-03	306	Residence	B	1	366 FOURTH ST	49	49			60	11																				
NSAX-98	GO-03	308	Residence	B	1	339 FOURTH ST	49	49			61	12																				
NSAX-99	GO-03	309	Residence	B	1	326 FOURTH ST	49	49			58	9																				
NSAX-100			Church	C		1165 HWY 11 S	71	71	R/W	N/A																						
NSAX-101			Dog Park	C		1039 HWY 11/55	65	65	R/W	N/A																						
NSAX-102	70-27	310	Dog Park	C	0.52	1039 HWY 11/55	59	59	58	-1																						
NSAX-103	70-27	311	Dog Park	C	0.52	1039 HWY 11/55	58	58	57	-1																						
NSAX-104		312	Residence	B	1	2024 HWY 258 S	63	63			58	-5																				
NSAX-105	258-03	313	Residence	B	1	221 FORDHAM LN	49	49			62	13																				
NSAX-106	258-03	314	Residence	B	1	233 FORDHAM LN	49	49			66	17																				
NSAX-107	258-02	315	Residence	B	1	162 FERGUSON LN	63	63			54	-9																				
NSAX-108	258-02	316	Residence	B	1	154 FERGUSON LN	63	63			55	-8																				
NSAX-109	258-02	317	Residence	B	1	146 FERGUSON LN	63	63			55	-8																				
NSAX-110	258-02	318	Residence	B	1	132 FERGUSON LN	63	63			56	-7																				
NSAX-111	258-02	319	Church	C	1	1752 HWY 258	63	63			67	4																				
NSAX-112	258-02	320	Residence	B	1	1706 HWY 258	63	63			68	5																				
NSAX-113	258-02	321	Residence	B	1	1690 HWY 258	63	63			68	5																				
NSAX-114	258-01	322	Residence	B	1	109 OLD SECOND ST	63	63			67	4																				
NSAX-115	258-01	323	Residence	B	1	1697 HWY 258 S	63	63			67	4																				
NSAX-116	258-01	324	Residence	B	1	1697 HWY 258 S	63	63			66	3																				
NSAX-117	258-01	325	Residence	B	1	111 OLD SECOND ST	63	63			53	-10																				
NSAX-118	258-01	326	Residence	B	1	117 OLD SECOND ST	63	63			55	-8																				
NSAX-119	258-01	327	Residence	B	1	123 OLD SECOND ST	63	63			54	-9																				
NSAX-120	258-01	328	Residence	B	1	111 OLD SECOND ST	63	63			57	-6																				
NSAX-121	258-01	329	Residence	B	1	122 OLD SECOND ST	63	63			52	-11																				
NSAX-122	258-01	330	Residence	B	1	129 OLD SECOND ST	63	63			52	-11																				
NSAX-123	258-01	331	Residence	B	1	118 COLLIER LOFTIN RD	63	63			65	2																				
NSAX-124	258-01	332	Residence	B	1	123 COLLIER LOFTIN RD	63	63			60	-3																				
NSAX-125	258-01	333	Residence	B	1	128 COLLIER LOFTIN RD	63	63			59	-4																				
NSAX-126	258-01	334	Residence	B	1	142 COLLIER LOFTIN RD	63	63			56	-7																				
NSAX-128	258-01	336	Residence	B	1	169 COLLIER LOFTIN RD	49	49			54	5																				
NSAX-129	258-01	337	Residence	B	1	162 COLLIER LOFTIN RD	49	49			55	6																				
NSAX-130	258-01	338	Residence	B	1	168 COLLIER LOFTIN RD	49	49			54	5																				
NSAX-131	258-01	339	Residence	B	1	182 COLLIER LOFTIN RD	49	49			53	4																				
NSAX-132	258-01	340	Residence	B	1	194 COLLIER LOFTIN RD	49	49			52	3																				
NSAX-133	258-01	341	Residence	B	1	193 COLLIER LOFTIN RD	49	49			55	6																				
NSAX-134	258-01	342	Residence	B	1	215 COLLIER LOFTIN RD	49	49			55	6																				
NSAX-135	258-01	343	Residence	B	1	216 COLLIER LOFTIN RD	49	49			52	3																				
NSAX-136	258-01	344	Residence	B	1	233 COLLIER LOFTIN RD	49	49			53	4																				
NSAX-137	258-01	345	Residence	B	1	243 COLLIER LOFTIN RD	49	49			53	4																				
NSAX-138	258-01	346	Residence	B	1	246 COLLIER LOFTIN RD	49	49			49	0																				
NSAX-139	258-01	347	Residence	B	1	253 COLLIER LOFTIN RD	49	49			52	3																				
NSAX-140	258-01	348	Residence	B	1	267 COLLIER LOFTIN RD	49	49			53	4																				
NSAX-141	258-01	349	Residence	B	1	286 COLLIER LOFTIN RD	49	49			49	0																				

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAX-142		350	Business	E	1	192 HWY 58 S	65	67	66	1	68	3																				
NSAX-143	70-34	351	Community College	C	2.74	231 HWY 58 (LCC)	53	55	52	-1	58	5																				
NSAX-144	70-34	352	Community College	C	2.74	232 HWY 58 (LCC)	51	53	50	-1	55	4																				
NSAX-145	70-34	353	Community College	C	0.13	LCC BALLPARK	49	51	50	1	49	0																				
NSAX-146	70-34	354	Community College	C	0.13	LCC BALLPARK	49	51	50	1	49	0																				
NSAX-147	70-34	355	Community College	C	0.13	LCC BALLPARK	49	51	51	2	49	0																				
NSAX-148	70-34	356	Community College	C	0.13	LCC BALLPARK	49	50	51	2	49	0																				
NSAX-149	70-34	357	Community College	C	0.13	LCC BALLPARK	49	50	49	0	49	0																				
NSAX-150	70-34	358	Community College	C	0.13	LCC BALLPARK	49	50	50	1	49	0																				
NSAX-151	70-34	359	Community College	C	0.13	LCC BALLPARK	49	50	50	1	49	0																				
NSAX-152	70-34	360	Community College	C	0.13	LCC BALLPARK	49	50	50	1	49	0																				
NSAX-153	70-34	361	Community College	C	0.13	LCC BALLPARK	49	50	50	1	49	0																				
NSAX-154	70-34	362	Community College	C	0.13	LCC BALLPARK	49	50	49	0	50	1																				
NSAX-155	70-34	363	Community College	C	0.13	LCC BALLPARK	49	50	49	0	50	1																				
NSAX-151.1	70-34	353.1	Community College	C	0.13	LCC BALLPARK	49	49	49	0	50	1																				
NSAX-152.1	70-34	354.1	Community College	C	0.13	LCC BALLPARK	49	50	49	0	49	0																				
NSAX-153.1	70-34	355.1	Community College	C	0.13	LCC BALLPARK	49	50	49	0	49	0																				
NSAX-154.1	70-34	356.1	Community College	C	0.13	LCC BALLPARK	49	49	49	0	51	2																				
NSAX-155.1	70-34	357.1	Community College	C	0.13	LCC BALLPARK	49	49	49	0	51	2																				
NSAX-157	58-09	365	Residence	B	1	796 COLLIER LOFTIN RD	64	64			63	-1																				
NSAX-158	58-09	366	Church	C	1	331 HWY 58	64	64			67	3																				
NSAX-159	58-09	367	Residence	B	1	307 HWY 58	64	64			68	4																				
NSAX-160			Residence	B	1	470 HWY 58	64	64			R/W	N/A																				
NSAX-161			Residence	B	1	436 AARON JOHNSON LN	64	64			R/W	N/A																				
NSAX-162			Residence	B	1	450 AARON JOHNSON LN	64	64			R/W	N/A																				
NSAX-163			Residence	B	1	414 AARON JOHNSON LN	64	64			R/W	N/A																				
NSAX-165			Residence	B	1	497 HWY 58	64	64			R/W	N/A																				
NSAX-166	58-01	368	Residence	B	1	415 AARON JOHNSON LN	64	64			69	5																				
NSAX-167	58-01	369	Residence	B	1	502 HWY 58	64	64			69	5																				
NSAX-168	58-01	370	Residence	B	1	512 HWY 58	64	64			69	5																				
NSAX-169	58-01	371	Residence	B	1	572 HWY 58	64	64			68	4																				
NSAX-170			Residence	B	1	569 HWY 58	64	64			R/W	N/A																				
NSAX-171			Residence	B	1	615 HWY 58	64	64			R/W	N/A																				
NSAX-172			Residence	B	1	615 HWY 58	64	64			R/W	N/A																				
NSAX-173	58-01	372	Residence	B	1	1178 WILL BAKER RD	64	64			51	-13																				
NSAX-174	58-01	373	Residence	B	1	1194 WILL BAKER RD	64	64			54	-10																				
NSAX-175	58-01	374	Residence	B	1	1221 WILL BAKER RD	64	64			66	2																				
NSAX-176	58-01	375	Residence	B	1	1189 WILL BAKER RD	64	64			54	-10																				
NSAX-177	58-01	376	Residence	B	1	1185 WILL BAKER RD	64	64			51	-13																				
NSAX-178	58-01	377	Residence	B	1	640 HWY 58	64	64			65	1																				
NSAX-179	58-01	378	Residence	B	1	650 HWY 58	64	64			66	2																				
NSAX-180	58-01	379	Residence	B	1	682 HWY 58	64	64			60	-4																				
NSAX-181			Residence	B	1	2752 HWY 55	61	61					R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A									R/W	N/A	R/W	N/A
NSAX-182			Residence	B	1	2752 HWY 55	61	61					R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A									R/W	N/A	R/W	N/A
NSAX-183		380	Residence	B	1	2812 HWY 55	61	61					66	5	66	5	66	5	66	5									66	5	66	5
NSAX-184		381	Residence	B	1	3893 HWY 55 W	58	58															61	3	61	3						
NSAX-185	55-03	382	Residence	B	1	3892 HWY 55 W	58	58															63	5	63	5						
NSAX-186	55-03	383	Residence	B	1	3942 HWY 55 W	58	58															58	0	58	0						
NSAX-187	55-03	384	Residence	B	1	3946 HWY 55 W	58	58															56	-2	56	-2						
NSAX-188		385	Residence	B	1	4142 HWY 55 W	58	58															64	6	64	6						

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAX-189		386	Residence	B	1	4141 HWY 55 W	58	58																	57	-1	57	-1				
NSAX-190		387	Residence	B	1	4120 HWY 55 W	58	58																	61	3	61	3				
NSAX-191		388	Residence	B	1	4118 HWY 55 W	58	58																	64	6	64	6				
NSAX-192		389	Residence	B	1	125 CROONS DR	58	58																	59	1	59	1				
NSAX-193		390	Residence	B	1	119 CROONS DR	58	58																	60	2	60	2				
NSAX-194		391	Residence	B	1	113 CROONS DR	58	58																	61	3	61	3				
NSAX-195		392	Residence	B	1	4002 HWY 55 W	58	58																	58	0	58	0				
NSAX-204	JB-01	393	Residence	B	1	344 JESSIE T BRYAN RD	49	49																	61	12	61	12				
NSAX-205	JB-01	394	Residence	B	1	352 JESSIE T. BRYAN RD	49	49																	59	10	59	10				
NSAX-206	JB-02	395	Residence	B	1	353 JESSIE T BRYAN RD	49	49																	58	9	58	9				
NSAX-207	JB-01	396	Residence	B	1	376 JESSIE T. BRYAN RD	49	49																	67	18	67	18				
NSAX-208	JB-02	397	Residence	B	1	391 JESSIE T. BRYAN RD	49	49																	62	13	62	13				
NSAX-209	JB-02	398	Residence	B	1	407 JESSIE T. BRYAN RD	49	49																	69	20	69	20				
NSAX-210	JB-03	399	Residence	B	1	1336 BARWICK RD	49	49																	61	12	61	12				
NSAX-211	JB-03	400	Residence	B	1	1314 BARWICK RD	49	49																	63	14	63	14				
NSAX-212	JB-03	401	Residence	B	1	444 JESSIE T. BRYAN RD	49	49																	61	12	61	12				
NSAX-213	JB-03	402	Residence	B	1	1337 BARWICK RD	49	49																	57	8	57	8				
NSAX-214	JB-03	403	Residence	B	1	404 OAKS DR	49	49																	58	9	58	9				
NSAX-215	JB-03	404	Residence	B	1	405 OAKS DR	49	49																	58	9	58	9				
NSAX-216	JB-03	405	Residence	B	1	464 JESSIE T. BRYAN RD	49	49																	59	10	59	10				
NSAX-217	JB-03	406	Residence	B	1	470 JESSIE T. BRYAN RD	49	49																	59	10	59	10				
NSAX-218	JB-03	407	Residence	B	1	413 OAKS DR	49	49																	56	7	56	7				
NSAX-219	JB-03	408	Residence	B	1	412 OAKS DR	49	49																	55	6	55	6				
NSAX-220	JB-03	409	Residence	B	1	413 OAKS DR	49	49																	54	5	54	5				
NSAX-221	JB-03	410	Residence	B	1	478 JESSIE T. BRYAN RD	49	49																	57	8	57	8				
NSAX-222		411	Residence	B	1	892 HWY 11	69	70																	69	0	69	0				
NSAX-223	11-06	412	Residence	B	1	893 HWY 11	67	69																	68	1	68	1				
NSAX-224	11-06	413	Residence	B	1	875 HWY 11	70	71																	70	0	70	0				
NSAX-225	11-06	414	Residence	B	1	869 HWY 11	70	72																	71	1	71	1				
NSAX-226	11-06	415	Residence	B	1	861 HWY 11	70	71																	70	0	71	1				
NSAX-227	11-05	416	Residence	B	1	345 HWY 11	69	71					72	3	72	3	72	3	72	3									72	3	72	3
NSAX-228	11-05	417	Residence	B	1	335 HWY 11	63	65					66	3	66	3	66	3	66	3									66	3	66	3
NSAX-229	11-05	418	Residence	B	1	323 HWY 11	66	68					68	2	68	2	69	3	69	3									68	2	68	2
NSAX-230	11-05	419	Residence	B	1	218 SHERRY DR	65	67					68	3	68	3	68	3	68	3									68	3	68	3
NSAX-231	11-05	420	Residence	B	1	217 SHERRY DR	69	71					72	3	72	3	72	3	72	3									72	3	72	3
NSAX-231.5		421	Medical Facility	C	1	288 HWY 11	49	49					55	6	55	6	55	6	55	6									55	6	55	6
NSAX-232	11-05	422	Residence	B	1	226 SHERRY DR	57	59					60	3	60	3	60	3	60	3									60	3	60	3
NSAX-233	11-05	423	Residence	B	1	331 HWY 11	56	57					59	3	59	3	60	4	60	4									59	3	59	3
NSAX-234	11-05	424	Residence	B	1	258 SHERRY DR	54	56					60	6	60	6	60	6	60	6									60	6	60	6
NSAX-235	11-05	425	Residence	B	1	261 SHERRY DR	49	49					56	7	56	7	56	7	56	7									57	8	57	8
NSAX-236	11-05	426	Residence	B	1	219 DEBBIE AVE	49	49					57	8	57	8	57	8	57	8									57	8	57	8
NSAX-227.1		416.1	Residence	B	1	338 WILLIAMS LOOP RD	65	66					63	-2	63	-2	64	-1	64	-1									63	-2	63	-2
NSAX-227.2		416.2	Residence	B	1	332 WILLIAMS LOOP RD	56	57					62	6	61	5	62	6	62	6									62	6	62	6
NSAX-228.1		417.1	Residence	B	1	341 WILLIAMS LOOP RD	71	73					66	-5	66	-5	66	-5	66	-5									66	-5	66	-5
NSAX-228.2		417.2	Residence	B	1	339 WILLIAMS LOOP RD	63	65					65	2	65	2	65	2	65	2									65	2	65	2
NSAX-228.3		417.3	Residence	B	1	333 WILLIAMS LOOP RD	60	62					64	4	64	4	64	4	64	4									64	4	64	4
NSAX-229.1		418.1	Residence	B	1	238 WILLIAMS LOOP RD	71	73					66	-5	66	-5	66	-5	66	-5									66	-5	66	-5
NSAX-229.2		418.2	Residence	B	1	232 WILLIAMS LOOP RD	61	63					65	4	64	3	65	4	65	4									65	4	65	4
NSAX-229.3		418.3	Residence	B	1	226 WILLIAMS LOOP RD	58	60					63	5	63	5	63	5	63	5									63	5	63	5
NSAX-230.1		419.1	Residence	B	1	237 WILLIAMS LOOP RD	72	74					66	-6	66	-6	67	-5	67	-5									66	-6	66	-6

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1

Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																					
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAX-230.2		419.2	Residence	B	1	225 WILLIAMS LOOP RD	65	67					65	0	65	0	65	0	65	0									65	0	65	0
NSAX-230.3		419.3	Residence	B	1	219 WILLIAMS LOOP RD	60	62					64	4	64	4	64	4	64	4									64	4	64	4
NSAX-231.1	11-05	420.1	Residence	B	1	348 HWY 11	70	72					66	-4	66	-4	66	-4	66	-4									66	-4	66	-4
NSAX-231.2	11-05	420.2	Residence	B	1	346 HWY 11	72	74					66	-6	66	-6	67	-5	67	-5									66	-6	66	-6
NSAX-232.1	11-05	422.1	Residence	B	1	355 SHERRY DR	68	70					64	-4	63	-5	64	-4	64	-4									64	-4	64	-4
NSAX-232.2	11-05	422.2	Residence	B	1	379 HWY 11	68	70					64	-4	63	-5	64	-4	64	-4									64	-4	64	-4
NSAX-232.3	11-05	422.3	Residence	B	1	373 HWY 11	69	70					64	-5	63	-6	64	-5	64	-5									64	-5	64	-5
NSAX-232.4	11-05	422.4	Residence	B	1	363 HWY 11	69	70					64	-5	63	-6	64	-5	64	-5									64	-5	64	-5
NSAX-232.5	11-05	426.1	Residence	B	1	355 HWY 11	69	71					64	-5	63	-6	64	-5	64	-5									64	-5	64	-5
NSAX-236.1	11-05	426.2	Residence	B	1	237 DEBBIE AVE	49	49					56	7	56	7	56	7	56	7									56	7	56	7
NSAX-236.2	11-05	426.3	Residence	B	1	247 DEBBIE AVE	49	49					56	7	56	7	56	7	56	7									56	7	56	7
NSAX-237	JN-04	427	Residence	B	1	945 JOE NUNN RD	49	49																	57	8	57	8				
NSAX-238	JN-04	428	Residence	B	1	931 JOE NUNN RD	49	49																	59	10	59	10				
NSAX-239	JN-02	429	Residence	B	1	782 JONUNN RD	49	49																	60	11	60	11				
NSAX-240	JN-02	430	Residence	B	1	762 JOE NUNN RD	49	49																	56	7	56	7				
NSAX-241	JN-03	431	Residence	B	1	749 JOE NUNN RD	49	49																	58	9	58	9				
NSAX-242	JN-03	432	Residence	B	1	779 JOE NUNN RD	49	49																	62	13	62	13				
NSAX-243	JN-01	433	Residence	B	1	506 JOE NUNN RD	49	49					69	20	69	20	69	20	69	20									69	20	69	20
NSAX-244	JN-01	434	Residence	B	1	642 LONESOME PINE DR	49	49					73	24	73	24	73	24	73	24									73	24	73	24
NSAX-245	JN-01	435	Residence	B	1	632 LONESOME PINE DR	49	49					73	24	73	24	73	24	73	24									73	24	73	24
NSAX-246	JN-01	436	Residence	B	1	624 LONESOME PINE DR	49	49					70	21	70	21	70	21	70	21									70	21	70	21
NSAX-247	JN-01	437	Residence	B	1	610 LONESOME PINE DR	49	49					68	19	68	19	67	18	67	18									68	19	68	19
NSAX-243.1	JN-01	433.1	Residence	B	1	487 JOE NUNN RD	49	49					62	13	62	13	62	13	62	13									63	14	63	14
NSAX-244.1	JN-01	434.1	Residence	B	1	490 JOE NUNN RD	49	49					62	13	62	13	62	13	62	13									62	13	62	13
NSAX-245.1	JN-01	435.1	Residence	B	1	641 LONESOME PINE DR	49	49					63	14	63	14	63	14	63	14									63	14	63	14
NSAX-246.1	JN-01	436.1	Residence	B	1	631 LONESOME PINE DR	49	49					62	13	62	13	62	13	62	13									62	13	62	13
NSAX-247.1	JN-01	437.1	Residence	B	1	621 LONESOME PINE DR	49	49					61	12	61	12	61	12	61	12									61	12	61	12
NSAX-243.2	JN-01	433.2	Residence	D*	1	469 JOE NUNN RD	39	39					49	10	49	10	49	10	49	10									49	10	49	10
NSAX-244.2	JN-01	434.2	Residence	B	2	478/480 JOE NUNN RD	49	49					58	9	58	9	58	9	58	9									58	9	58	9
NSAX-246.2	JN-01	435.2	Residence	B	1	638 CANDACE RD	49	49					60	11	60	11	60	11	60	11									60	11	60	11
NSAX-247.2	JN-01	436.2	Residence	B	1	524 CANDACE RD	49	49					60	11	60	11	60	11	60	11									60	11	60	11
NSAX-245.2	JN-01	437.2	Residence	B	1	828 RANDY RD	49	49					60	11	60	11	60	11	60	11									60	11	60	11
NSAX-243.3	JN-01	433.3	Residence	B	1	451 JOE NUNN RD	49	49					57	8	57	8	57	8	57	8									57	8	57	8
NSAX-246.3	JN-01	435.3	Residence	B	1	535 CANDACE RD	49	49					57	8	57	8	57	8	57	8									57	8	57	8
NSAX-247.3	JN-01	436.3	Residence	B	1	525 CANDACE RD	49	49					56	7	56	7	56	7	56	7									56	7	56	7
NSAX-248	258-06	438	Residence	B	1	3206 HWY 258 S	66	66					63	-3	62	-4	63	-3	63	-3					66	0	66	0	62	-4	62	-4
NSAX-249	258-06	439	Residence	B	1	141 BAILEYS PARK LN	66	66					54	-12	54	-12	54	-12	54	-12					54	-12	54	-12	54	-12	54	-12
NSAX-250	258-06	440	Residence	B	1	125 BAILEYS PARK LN	66	66					53	-13	53	-13	53	-13	53	-13					54	-12	53	-13	53	-13	53	-13
NSAX-251	258-06	441	Residence	B	1	125 BAILEYS PARK LN	66	66					55	-11	55	-11	55	-11	55	-11					57	-9	57	-9	55	-11	55	-11
NSAX-252	258-06	442	Residence	B	1	115 BAILEYS PARK LN	66	66					57	-9	57	-9	57	-9	57	-9					60	-6	59	-7	57	-9	57	-9
NSAX-253	258-06	443	Residence	B	1	3266 HWY 258	66	66					64	-2	63	-3	63	-3	63	-3					67	1	66	0	63	-3	63	-3
NSAX-254	258-05	444	Residence	B	1	3269 HWY 258 S	66	66					56	-10	55	-11	55	-11	55	-11					58	0	57	-9	55	-11	55	-11
NSAX-255	258-05	445	Residence	B	1	3267 HWY 258	66	66					57	-9	56	-10	56	-10	56	-10					59	-7	59	-7	56	-10	56	-10
NSAX-256		446	Residence	B	1	1583 PATTERSON RD	66	66					57	-9	57	-9	57	-9	57	-9					57	-9	57	-9	57	-9	57	-9
NSAX-257	PA-01	447	Residence	B	1	1310 PATTERSON RD	49	49					71	22	71	22	71	22	71	22					71	22	71	22	71	22	71	22
NSAX-258	PA-01	448	Residence	B	1	1277 PATTERSON RD	49	49					72	23	72	23	72	23	72	23					72	23	72	23	72	23	72	23
NSAX-257.1		447.1	Residence	B	1	1436 PATTERSON RD	49	49					55	6	55	6	55	6	55	6					54	5	54	5	55	6	55	6
NSAX-258.1		448.1	Residence	B	1	1423 PATTERSON RD	49	49					55	6	55	6	55	6	55	6					54	5	54	5	55	6	55	6
NSAX-259	PA-01	449	Residence	B	1	1245 PATTERSON RD	49	49					61	12	61	12	61	12	61	12					61	12	61	12	61	12	61	12
NSAX-318	58-06	450	Residence	B	1	1605 HWY 58	61	61					62	1	62	1	62	1	62	1					62	1	62	1	62	1	62	1

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																					
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAX-319	58-05	451	Residence	B	1	1590 HWY 58	56	57					58	2	58	2	58	2	58	2					58	2	58	2	58	2	58	2
NSAX-320	58-06	452	Residence	B	1	1597 HWY 58	61	61					63	2	63	2	63	2	63	2					63	2	63	2	63	2	63	2
NSAX-321			Fire Station	F		1556 HWY 58	62	63					R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A					R/W	N/A	R/W	N/A	R/W	N/A	R/W	N/A
NSAX-322	58-05	453	Residence	B	1	1898 ELIJAH LOFTIN RD	49	49					56	7	55	6	56	7	56	7					55	6	56	7	56	7	56	7
NSAX-323	58-05	454	Residence	B	1	1872 ELIJAH LOFTIN RD	49	49					54	5	54	5	54	5	54	5					54	5	54	5	54	5	54	5
NSAX-324	58-03	455	Residence	B	1	1338 HWY 58	49	49					60	11	60	11	60	11	60	11					60	11	60	11	60	11	60	11
NSAX-325	58-03	456	Residence	B	1	1268 HWY 58	67	68					68	1	68	1	68	1	68	1					68	1	68	1	68	1	68	1
NSAX-326	58-03	457	Residence	B	1	1274 HWY 58	67	67					68	1	68	1	68	1	68	1					68	1	68	1	68	1	68	1
NSAX-327	58-03	458	Residence	B	1	1288 HWY 58	67	67					68	1	68	1	68	1	68	1					68	1	68	1	68	1	68	1
NSAX-328	58-04	459	Residence	B	1	1285 HWY 58	64	64					65	1	65	1	65	1	65	1					65	1	65	1	65	1	65	1
NSAX-329	58-04	460	Residence	B	1	1094 ELIJAH SYKES RD	63	63					63	0	63	0	63	0	63	0					63	0	63	0	63	0	63	0
NSAX-330	58-04	461	Residence	B	1	1069 ELIJAH SYKES RD	52	52					55	3	55	3	55	3	55	3					55	3	55	3	55	3	55	3
NSAX-331		462	Residence	B	1	842 ELIJAH SYKES RD	49	49					58	9	58	9	59	10	58	9					58	9	58	9	58	9	59	10
NSAX-332	WH-01	463	Residence	B	1	796 WHALEY RD	49	49					56	7	68	19	56	7	68	19					55	6	67	18	68	19	56	7
NSAX-333	WH-01	464	Residence	B	1	766 WHALEY RD	49	49					51	2	59	10	51	2	59	10					50	1	59	10	59	10	51	2
NSAX-334		465	Residence	B	1	1018 COBB RD	49	49					55	6			55	6			61	12	61	12	55	6					55	6
NSAX-335			Residence	B	1	1031 COBB RD	49	49					R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A	R/W	N/A					R/W	N/A
NSAX-336			Residence	B	1	1011 COBB RD	49	49					R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A	R/W	N/A					R/W	N/A
NSAX-337			Residence	B	1	952 COBB RD	49	49					R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A	R/W	N/A					R/W	N/A
NSAX-338			Residence	B	1	926 COBB RD	49	49					R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A	R/W	N/A					R/W	N/A
NSAX-339		466	Residence	B	1	912 COBB RD	49	49					56	7			56	7			52	3	52	3	56	7					56	7
NSAX-339.1		466.1	Residence	B	1	900 COBB RD	49	49					54	5			54	5			52	3	51	2	54	5					54	5
NSAX-340	CO-02	467	Residence	B	1	824 COBB RD	49	49							59	10			59	10							59	10	59	10		
NSAX-341	CO-02	468	Residence	B	1	850 COBB RD	49	49							56	7			56	7							56	7	56	7		
NSAX-342	CO-02	469	Residence	B	1	850 COBB RD	49	49							59	10			59	10							59	10	59	10		
NSAX-343			Residence	B	1	760 COBB RD	49	49							R/W	N/A			R/W	N/A							R/W	N/A	R/W	N/A		
NSAX-344			Residence	B	1	759 COBB RD	49	49							R/W	N/A			R/W	N/A							R/W	N/A	R/W	N/A		
NSAX-345			Residence	B	1	731 COBB RD	49	49							R/W	N/A			R/W	N/A							R/W	N/A	R/W	N/A		
NSAX-346		470	Residence	B	1	501 BILL SMITH RD	49	49							62	13			62	13	65	16					62	13	62	13		
NSAX-347	WF-05	471	Residence	B	1	6168 WYSE FORK RD	49	49					60	11			60	11					55	6	60	11					60	11
NSAX-348	WF-05	472	Residence	B	1	6186 WYSE FORK RD	49	49					59	10			59	10					55	6	59	10					59	10
NSAX-348.1		472.1	Residence	B	1	6290 WYSE FORK RD	49	49					56	7			56	7					50	1	56	7					59	10
NSAX-349	WF-04	473	Residence	B	1	6438 WYSE FORK RD	49	49					56	7			56	7					50	1	56	7					56	7
NSAX-350	WF-04	474	Residence	B	1	6464 WYSE FORK RD	49	49					55	6			55	6					49	0	55	6					55	6
NSAX-352	WF-04	476	Residence	B	1	6482 WYSE FORK RD	49	49					55	6			55	6					50	1	55	6					55	6
NSAX-353			Residence	B	1	6535 WYSE FORK RD	49	49					R/W	N/A			R/W	N/A					R/W	N/A	R/W	N/A					R/W	N/A
NSAX-354		477	Residence	B	1	6778 WYSE FORK RD	49	49	59	10	59	10			56	7			57	8	56	7					55	6	57	8		
NSAX-355		478	Fire Station	F	1	6936 WYSE FORK RD	60	62	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					62	2	62	2		
NSAX-356	WF-01	479	Residence	B	1	279 CASWELL STATION RD	50	52	54	4	54	4			49	-1			49	-1	49	-1					47	-3	49	-1		
NSAX-357	WF-01	480	Residence	B	1	279 CASWELL STATION RD	57	60	58	1	58	1			49	-8			49	-8	49	-8					46	-11	49	-8		
NSAX-358	WF-01	481	Residence	B	1	279 CASWELL STATION RD	57	60	54	-3	54	-3			49	-8			49	-8	49	-8					47	-10	49	-8		
NSAX-359	WF-02	482	Residence	B	1	155 HOOD FARM LN	49	49	60	11	60	11			49	0			49	0	49	0					47	-2	49	0		
NSAX-360	WF-02	483	Residence	B	1	155 HOOD FARM LN	49	49	54	5	54	5			49	0			49	0	49	0					47	-2	49	0		
NSAX-361		484	Residence	B	1	OFF SR 1311	56	58	60	4	60	4			60	4			60	4	59	3					58	2	60	4		
NSAX-362	70-52	485	Residence	B	1	470 W OLD DOVER RD	49	49	55	6	55	6			54	5			55	6	55	6					55	6	55	6		
NSAX-363	70-52	486	Residence	B	1	355 W OLD DOVER RD	49	49	49	0	49	0			49	0			49	0	49	0					49	0	49	0		
NSAX-364	70-52	487	Residence	B	1	14400 OLD US 70 HWY	50	52	50	0	50	0			50	0			50	0	50	0					50	0	50	0		
NSAX-365	70-52	488	Residence	B	1	14400 OLD US 70 HWY	49	52	52	3	52	3			52	3			52	3	52	3					52	3	52	3		
NSAX-366	70-52	489	Residence	B	1	439 W RAILROAD ST	49	50	52	3	52	3			52	3			52	3	52	3					52	3	52	3		
NSAX-367	70-52	490	Residence	B	1	439 W KORNEGAY ST	49	49	R/W	N/A	R/W	N/A			R/W	N/A			R/W	N/A	R/W	N/A					R/W	N/A	57	8		

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

Table B.1
Receptors, Noise Levels, and Noise Impacts

Receptors							Predicted Noise Levels, $L_{eq(h)}$ (dB(A))																							
Receiver	NSA	ID#	Use	NAC	ER	Address	2015	2040	1 UE		1 UE SB		11		12		31		32		35		36		51		52		63		65	
							BY No-Build	FY No-Build	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.	dBA	Inc.
NSAX-368	70-52	491	Residence	B	1	438 W KORNEGAY ST	49	49	62	13	62	13			61	12			62	13	62	13					62	13	62	13		
NSAX-369	70-52	492	Residence	B	1	434 W KORNEGAY ST	49	49	58	9	58	9			57	8			57	8	57	8					57	8	57	8		
NSAX-370	70-52	493	Residence	B	1	429 W RAILROAD ST	49	50	51	2	51	2			51	2			51	2	51	2					51	2	51	2		
NSAX-371	70-52	494	Residence	B	1	431 W RAILROAD ST	49	49	51	2	51	2			51	2			51	2	51	2					51	2	51	2		

*Interior noise levels for Activity Category D were computed by subtracting the noise reduction factor (10dB) from the predicted exterior level for the building in question.

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 5: La Grange Church of God	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	10
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**3,640**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 53: Holiday Inn Express & Suites Kinston	
	Motel Outside Uses (Activity Category E)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	For the Exterior Area of Motel Being Evaluated	
D	Number of Motel Rooms	80
E	Average Number of People per Room	1.5
F	Occupancy Rate (percent)	65%
G	Percent of Occupants Using Outside Facilities	50%
H	**Total Number of Users per Day = D x E x F x G**	**39**
I	Days per Month Available for Use	30
J	Months per Year Available for Use	10
K	**Person-hours per year of Use = H x I x J**	**11,700**
L	Percent of Outside Area Impacted by Project	0%
M	Percent of Outside Area Benefited by Project Abatement	0%
N	**Percentage of Building Use Value = Maximum of L and M**	**0%**
O	**EQUIVALENT RECEPTOR VALUE = K/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 69: Boat Ramp	
	Park / Recreation Area (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8760
C	**Person-hours per Year Available for Use = A x B**	**26280**
	For the Park Area Being Evaluated	
D	Percent of Usable Area of Park Impacted by Project Noise	100%
E	Percent of Usable Area of Park Benefited by Proposed Noise Wall	0%
F	**Maximum of D and E**	**100%**
G	Average Number of Visitors per Day	25
H	Number of Park Staff	0
I	**Total Number of Occupants per Day = G + H**	**25**
J	Average Hours per Day Used by Each Visitor	3
K	Operational Days per Week	7
L	Operational Weeks per Year	52
M	**Person-hours per Year Available for Use = F x I x J x K x L**	**27,300**
N	**EQUIVALENT RESIDENCE VALUE = M/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 79: Silo Christian Church	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	10
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**3,640**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 80-81: Tabernacle Free Will Baptist	
	Church (Activity Category C/D)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	****For the Interior Uses at the Church Facility Being Evaluated**	
J	Average Number of Users (Students and Staff) per Day	200
K	Daily Hours Used	2
L	Days per Week Open	4
M	Weeks per Year Open	52
N	**Days per Year Open = L x M**	**208**
O	**Person-hours per Year Available for Use = J x K x N**	**83,200**
P	Percent of Building Use Areas Impacted by Project	100%
Q	Percent of Building Use Areas Benefited by Project Abatement	0%
R	**Percentage of Building Use Value = Maximum of P and Q**	**100%**
S	**EQUIVALENT RECEPTOR VALUE = (O/C) x R**	**3.2**
U	Number of receptor points used to represent area	2
V	**Equivalent Residence Value Assigned to Each Point = S/U**	**1.58**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 82: Hampton Inn Kinston	
	Motel Outside Uses (Activity Category E)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	For the Exterior Area of Motel Being Evaluated	
D	Number of Motel Rooms	122
E	Average Number of People per Room	1.5
F	Occupancy Rate (percent)	65%
G	Percent of Occupants Using Outside Facilities	50%
H	**Total Number of Users per Day = D x E x F x G**	**59**
I	Days per Month Available for Use	30
J	Months per Year Available for Use	10
K	**Person-hours per year of Use = H x I x J**	**17,843**
L	Percent of Outside Area Impacted by Project	0%
M	Percent of Outside Area Benefited by Project Abatement	0%
N	**Percentage of Building Use Value = Maximum of L and M**	**0%**
O	**EQUIVALENT RECEPTOR VALUE = K/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 83: Recreation Area near Neuse Sport Shop	
	Park / Recreation Area (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8760
C	**Person-hours per Year Available for Use = A x B**	**26280**
	For the Park Area Being Evaluated	
D	Percent of Usable Area of Park Impacted by Project Noise	0%
E	Percent of Usable Area of Park Benefited by Proposed Noise Wall	0%
F	**Maximum of D and E**	**0%**
G	Average Number of Visitors per Day	25
H	Number of Park Staff	0
I	**Total Number of Occupants per Day = G + H**	**25**
J	Average Hours per Day Used by Each Visitor	3
K	Operational Days per Week	7
L	Operational Weeks per Year	52
M	**Person-hours per Year Available for Use = I x J x K x L**	**27,300**
N	**EQUIVALENT RESIDENCE VALUE = M/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 85: Red Carpet Inn & Suites	
	Motel Outside Uses (Activity Category E)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	For the Exterior Area of Motel Being Evaluated	
D	Number of Motel Rooms	80
E	Average Number of People per Room	1.5
F	Occupancy Rate (percent)	65%
G	Percent of Occupants Using Outside Facilities	50%
H	**Total Number of Users per Day = D x E x F x G**	**39**
I	Days per Month Available for Use	30
J	Months per Year Available for Use	10
K	**Person-hours per year of Use = H x I x J**	**11,700**
L	Percent of Outside Area Impacted by Project	0%
M	Percent of Outside Area Benefited by Project Abatement	0%
N	**Percentage of Building Use Value = Maximum of L and M**	**0%**
O	**EQUIVALENT RECEPTOR VALUE = K/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 90-96, 351-352: Lenoir Community College	
	Park / Recreation Area (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8760
C	**Person-hours per Year Available for Use = A x B**	**26280**
	For the Park Area Being Evaluated	
D	Percent of Usable Area of Park Impacted by Project Noise	0%
E	Percent of Usable Area of Park Benefited by Proposed Noise Wall	0%
F	**Maximum of D and E**	**0%**
G	Average Number of Visitors per Day	3500
H	Number of Park Staff	100
I	**Total Number of Occupants per Day = G + H**	**3600**
J	Average Hours per Day Used by Each Visitor	1
K	Operational Days per Week	5
L	Operational Weeks per Year	36
M	**Person-hours per Year Available for Use = I x J x K x L**	**648,000**
N	**EQUIVALENT RESIDENCE VALUE = M/C**	**24.7**
O	Number of receptor points used to represent area	9
P	**Equivalent Residence Value Assigned to Each Point = N/O**	**2.74**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 103-105: New Testament Baptist Church	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	25
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**9,100**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**
U	Number of receptor points used to represent area	3
V	**Equivalent Residence Value Assigned to Each Point = I/U**	**0.33**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 114-115: Armenia Christian Church	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	25
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**9,100**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**
U	Number of receptor points used to represent area	2
V	**Equivalent Residence Value Assigned to Each Point = I/U**	**0.50**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 138: Croom Meeting House	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	10
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**3,640**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 139: Webb Chapel United Methodist	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	25
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**9,100**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 230-234.1: Baseball Field	
	Park / Recreation Area (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8760
C	**Person-hours per Year Available for Use = A x B**	**26280**
	For the Park Area Being Evaluated	
D	Percent of Usable Area of Park Impacted by Project Noise	100%
E	Percent of Usable Area of Park Benefited by Proposed Noise Wall	100%
F	**Maximum of D and E**	**100%**
G	Average Number of Visitors per Day	25
H	Number of Park Staff	0
I	**Total Number of Occupants per Day = G + H**	**25**
J	Average Hours per Day Used by Each Visitor	3
K	Operational Days per Week	7
L	Operational Weeks per Year	52
M	**Person-hours per Year Available for Use = F x I x J x K x L**	**27,300**
N	**EQUIVALENT RESIDENCE VALUE = M/C**	**1.0**
O	A grid of receptor points at 100-foot spacing was developed to represent the impacted or benefited park usage area.	8
P	**Equivalent Residence Value Assigned to Each Grid Point = N/O**	**0.13**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 237-247: Pinelawn Memorial Park	
	Park / Recreation Area (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8760
C	**Person-hours per Year Available for Use = A x B**	**26280**
	For the Park Area Being Evaluated	
D	Percent of Usable Area of Park Impacted by Project Noise	27%
E	Percent of Usable Area of Park Benefited by Proposed Noise Wall	0%
F	**Maximum of D and E**	**27%**
G	Average Number of Visitors per Day	75
H	Number of Park Staff	4
I	**Total Number of Occupants per Day = G + H**	**79**
J	Average Hours per Day Used by Each Visitor	3
K	Operational Days per Week	7
L	Operational Weeks per Year	52
M	**Person-hours per Year Available for Use = F x I x J x K x L**	**23,292**
N	**EQUIVALENT RESIDENCE VALUE = M/C**	**1.0**
O	A grid of receptor points at 100-foot spacing was developed to represent the impacted or benefited park usage area.	11
P	**Equivalent Residence Value Assigned to Each Grid Point = N/O**	**0.09**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 248-259.1: Westview Cemetery	
	Park / Recreation Area (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8760
C	**Person-hours per Year Available for Use = A x B**	**26280**
	For the Park Area Being Evaluated	
D	Percent of Usable Area of Park Impacted by Project Noise	36%
E	Percent of Usable Area of Park Benefited by Proposed Noise Wall	0%
F	**Maximum of D and E**	**36%**
G	Average Number of Visitors per Day	75
H	Number of Park Staff	4
I	**Total Number of Occupants per Day = G + H**	**79**
J	Average Hours per Day Used by Each Visitor	3
K	Operational Days per Week	7
L	Operational Weeks per Year	52
M	**Person-hours per Year Available for Use = F x I x J x K x L**	**31,056**
N	**EQUIVALENT RESIDENCE VALUE = M/C**	**1.2**
O	A grid of receptor points at 100-foot spacing was developed to represent the impacted or benefited park usage area.	22
P	**Equivalent Residence Value Assigned to Each Grid Point = N/O**	**0.05**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 276: Neuse Baptist Church	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	25
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**9,100**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 278: Southwest PFWB Church	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	10
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**3,640**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 310-311: Kinston Rotary Dog Park	
	Park / Recreation Area (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8760
C	**Person-hours per Year Available for Use = A x B**	**26280**
	For the Park Area Being Evaluated	
D	Percent of Usable Area of Park Impacted by Project Noise	0%
E	Percent of Usable Area of Park Benefited by Proposed Noise Wall	0%
F	**Maximum of D and E**	**0%**
G	Average Number of Visitors per Day	25
H	Number of Park Staff	0
I	**Total Number of Occupants per Day = G + H**	**25**
J	Average Hours per Day Used by Each Visitor	3
K	Operational Days per Week	7
L	Operational Weeks per Year	52
M	**Person-hours per Year Available for Use = I x J x K x L**	**27,300**
N	**EQUIVALENT RESIDENCE VALUE = M/C**	**1.0**
O	Number of receptor points used to represent area	2
P	**Equivalent Residence Value Assigned to Each Grid Point = N/O**	**0.52**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 319: Rivermont Presbyterian Church	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	10
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**3,640**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 353-357.1: Baseball Field	
	Park / Recreation Area (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3.0
B	Hours Available for Use per Year	8760
C	**Person-hours per Year Available for Use = A x B**	**26280**
	For the Park Area Being Evaluated	
D	Percent of Usable Area of Park Impacted by Project Noise	0%
E	Percent of Usable Area of Park Benefited by Proposed Noise Wall	0%
F	**Maximum of D and E**	**0%**
G	Average Number of Visitors per Day	50
H	Number of Park Staff	0
I	**Total Number of Occupants per Day = G + H**	**50**
J	Average Hours per Day Used by Each Visitor	3
K	Operational Days per Week	7
L	Operational Weeks per Year	52
M	**Person-hours per Year Available for Use = I x J x K x L**	**54,600**
N	**EQUIVALENT RESIDENCE VALUE = M/C**	**2.1**
O	A grid of receptor points at 100-foot spacing was developed to represent the impacted or benefited park usage area.	16
P	**Equivalent Residence Value Assigned to Each Grid Point = N/O**	**0.13**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 366: Rivermont Presbyterian Church	
	Church Playground (Activity Category C)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	***For the Exterior Uses at the Church Being Evaluated**	
D	Average Number of Children Plus Staff per Day Using Playground	10
E	Hours/day that Each Person Uses Playground	1.0
F	Days per Week Open	7
G	Weeks per Year Open	52
H	**Person-hours per Year Available for Use = D x E x F x G**	**3,640**
I	**EQUIVALENT RECEPTOR VALUE = H/C**	**1.0**

CALCULATION OF EQUIVALENT RECEPTOR VALUE

CASE:	Receptor 433.2: Freedom Fellowship	
	Church (Activity Category C/D)	
Line	**For an Average Single Family Residential Unit in North Carolina**	
A	People per Residence	3
B	Hours Available for Use per Year	8,760
C	**Person-hours per Year Available for Use = A x B**	**26,280**
	****For the Interior Uses at the Church Facility Being Evaluated**	
J	Average Number of Users (Students and Staff) per Day	80
K	Daily Hours Used	3
L	Days per Week Open	2
M	Weeks per Year Open	52
N	**Days per Year Open = L x M**	**104**
O	**Person-hours per Year Available for Use = J x K x N**	**24,960**
P	Percent of Building Use Areas Impacted by Project	100%
Q	Percent of Building Use Areas Benefited by Project Abatement	0%
R	**Percentage of Building Use Value = Maximum of P and Q**	**100%**
S	**EQUIVALENT RECEPTOR VALUE = (O/C) x R**	**1.0**

Appendix C

Traffic Noise Models

General
This appendix documents the TNM Model Input used in this traffic noise analysis. The TNM Models utilized five TNM object types to approximate the study area assessed for the US 70 Kinston Bypass project Traffic Noise Analysis:

Roadways
Receptors (Receivers)
Barriers

Coordinate System
Each of the TNM Objects was modeled using the North American Datum 1983 (NAD83) horizontal coordinate system, and North American Vertical Datum 1988 (NAVD88).

Modeling Procedure
Roadways:
TNM Roadway Element widths were selected based upon representation of one (1) or two (2) lanes of traffic per TNM roadway element. For the proposed highway facility, TNM Roadway vertices were selected to represent interval lengths that appropriately represent fluctuations in the horizontal and vertical roadway geometry. For highways in which more than one parallel TNM roadway element were modeled, the modeled roadway lane widths were set to ensure horizontal overlapping of adjacent modeled roadway elements. Overlapping TNM roadway elements is necessary to accurately represent the contiguous paved surface. TNM roadway elements of various widths were also modeled to represent the existing local roadways (refer to Figures C-1 through C-50).

Receivers (Receptors):
TNM Receiver Elements were modeled by assigning a point location to the most sensitive likely 'area of frequent human use' for each residence, school, church, and noise-sensitive commercial land use within the project limits. All base level receivers in the TNM models were assigned a height of 5 feet. For buildings that had outdoor balconies on additional levels, 5 foot incremental heights were assigned based on floor level. Given the non-homogeneous terrain and resulting inconsistent intervening source-to-receptor topography throughout the project vicinity, noise levels at each discrete receptor were determined by means of modeling an individual TNM receiver at all representative locations for 'loudest-condition' existing, design year 2040 no-build, and design year 2040 build-condition predicted traffic.

Figure C-1: 2015 Existing and 2040 No-Build Conditions, Model NSA 1-9

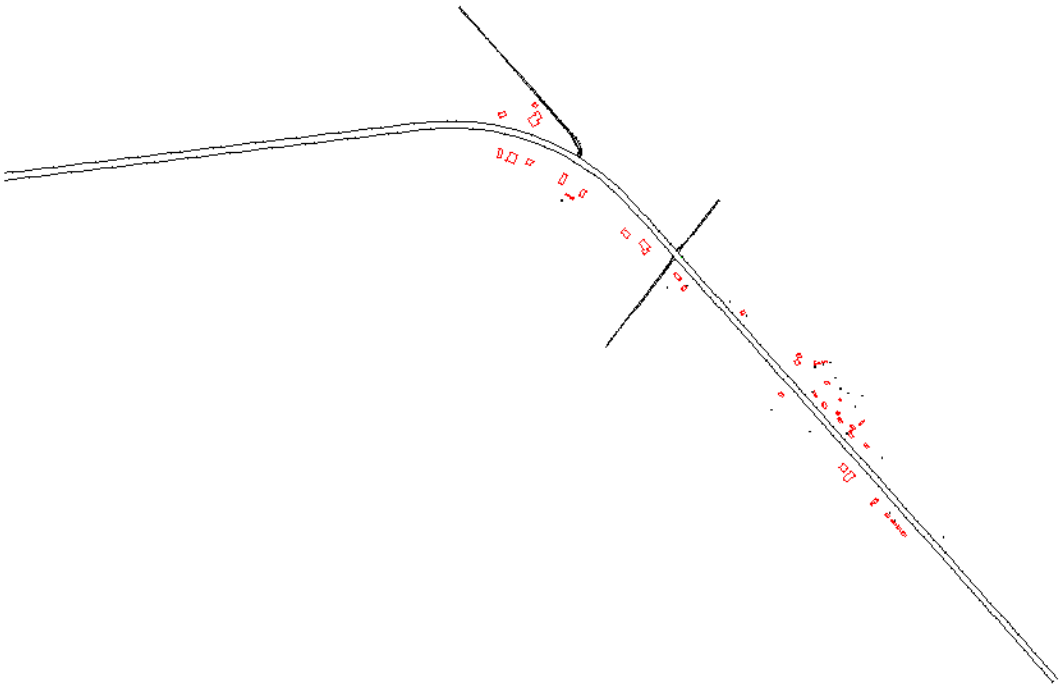


Figure C-2: 2015 Existing and 2040 No-Build Conditions, Model NSA 10-13

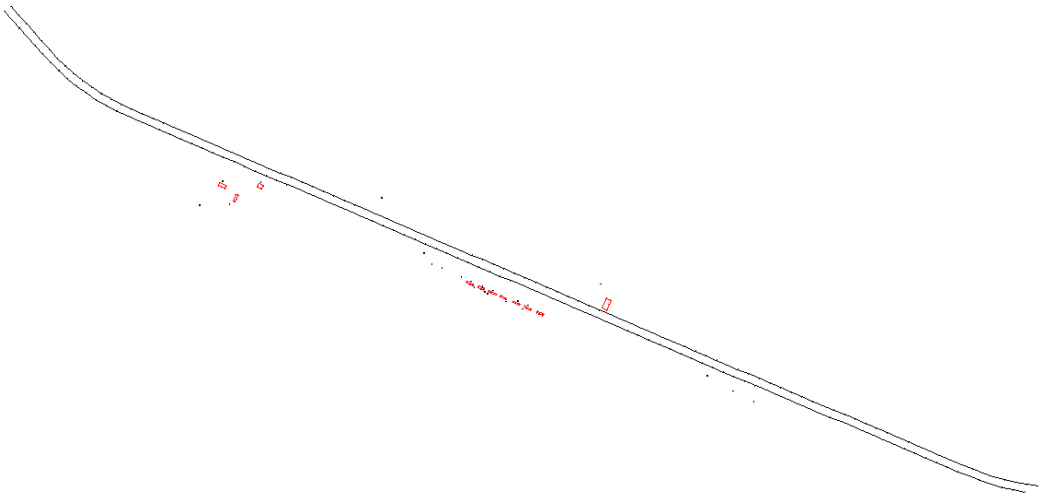


Figure C-3: 2015 Existing and 2040 No-Build Conditions, Model NSA 14-18

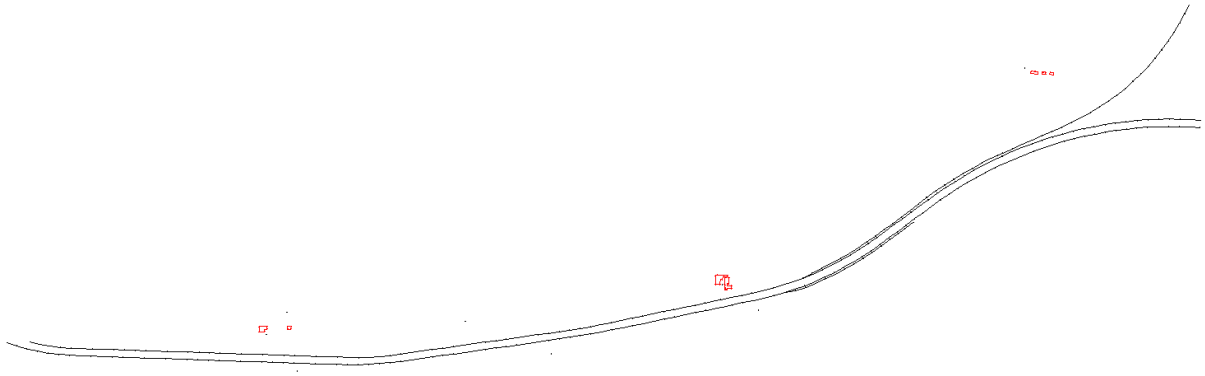


Figure C-4: 2015 Existing and 2040 No-Build Conditions, Model NSA 19-26

Figure C-5: 2015 Existing and 2040 No-Build Conditions, Model NSA 27-31

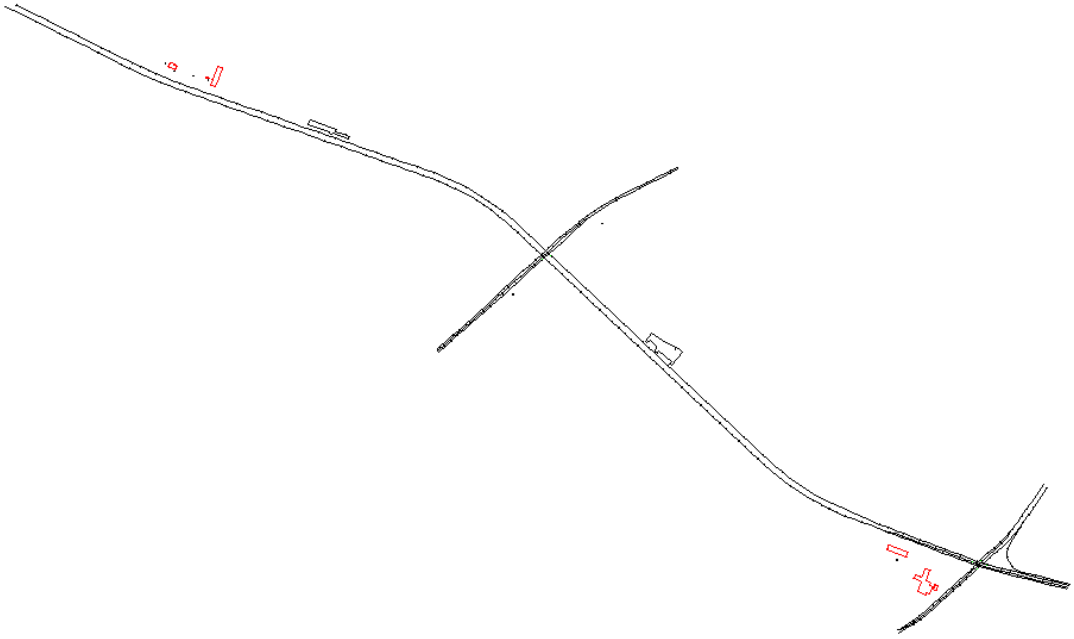


Figure C-6: 2015 Existing and 2040 No-Build Conditions, Model NSA 32-41

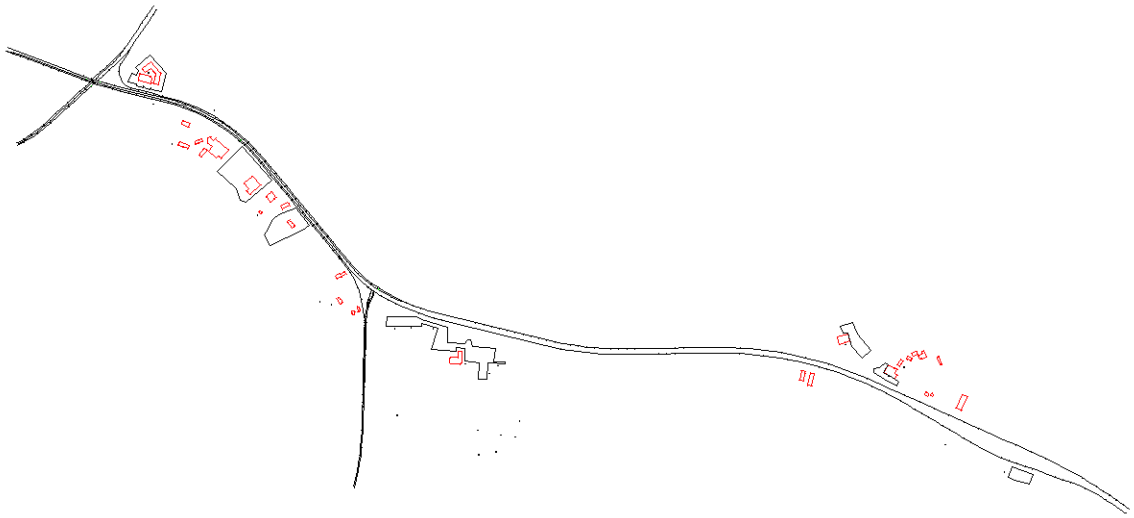


Figure C-7: 2015 Existing and 2040 No-Build Conditions, Model NSA 42-48

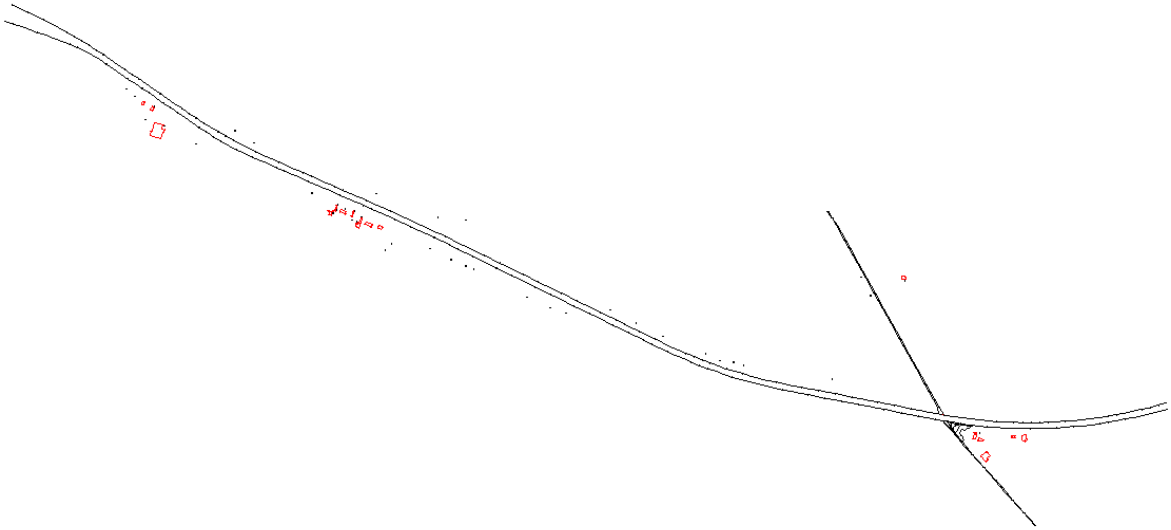


Figure C-8: 2015 Existing and 2040 No-Build Conditions, Model NSA 49-57

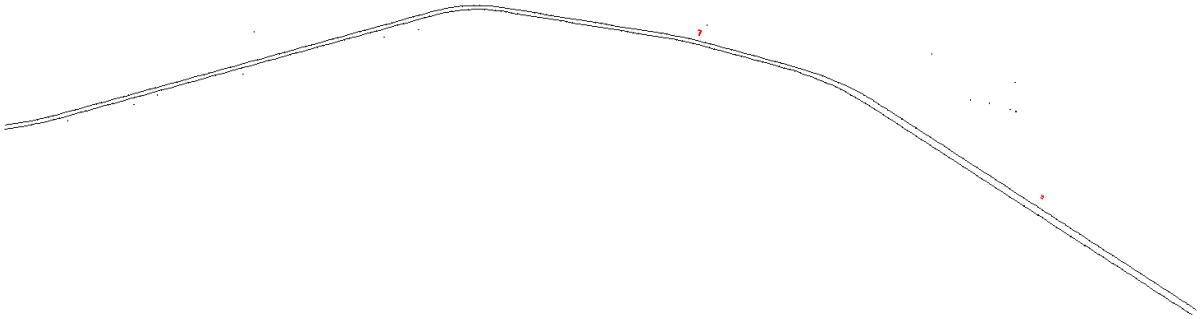


Figure C-9: 2015 Existing and 2040 No-Build Conditions, Model NSA 10

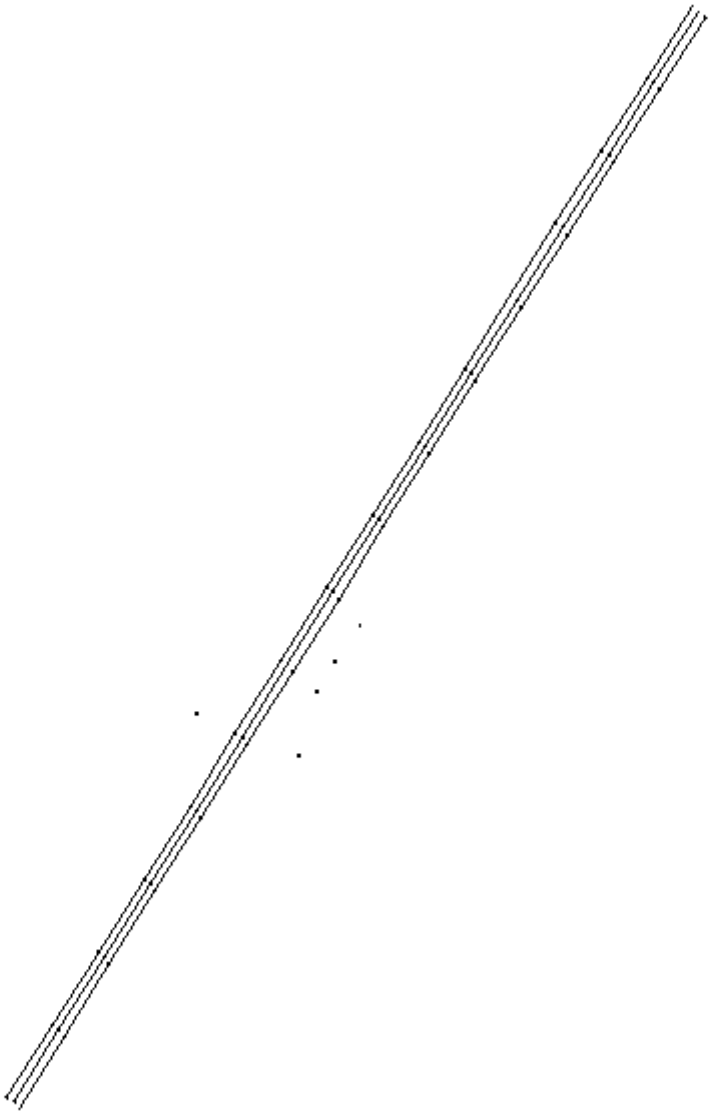


Figure C-10: 2015 Existing and 2040 No-Build Conditions, Model NSA 12

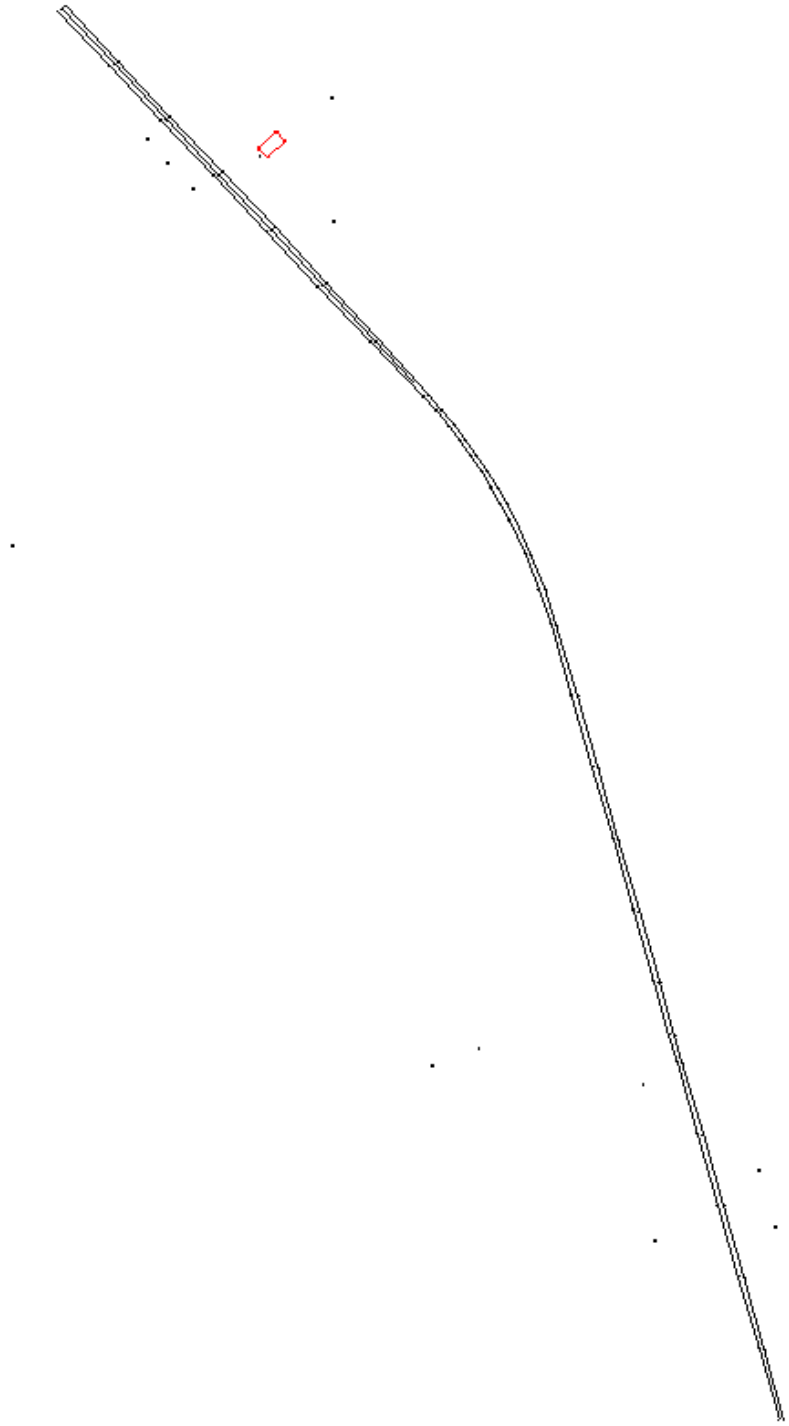


Figure C-11: 2015 Existing and 2040 No-Build Conditions, Model NSA 14

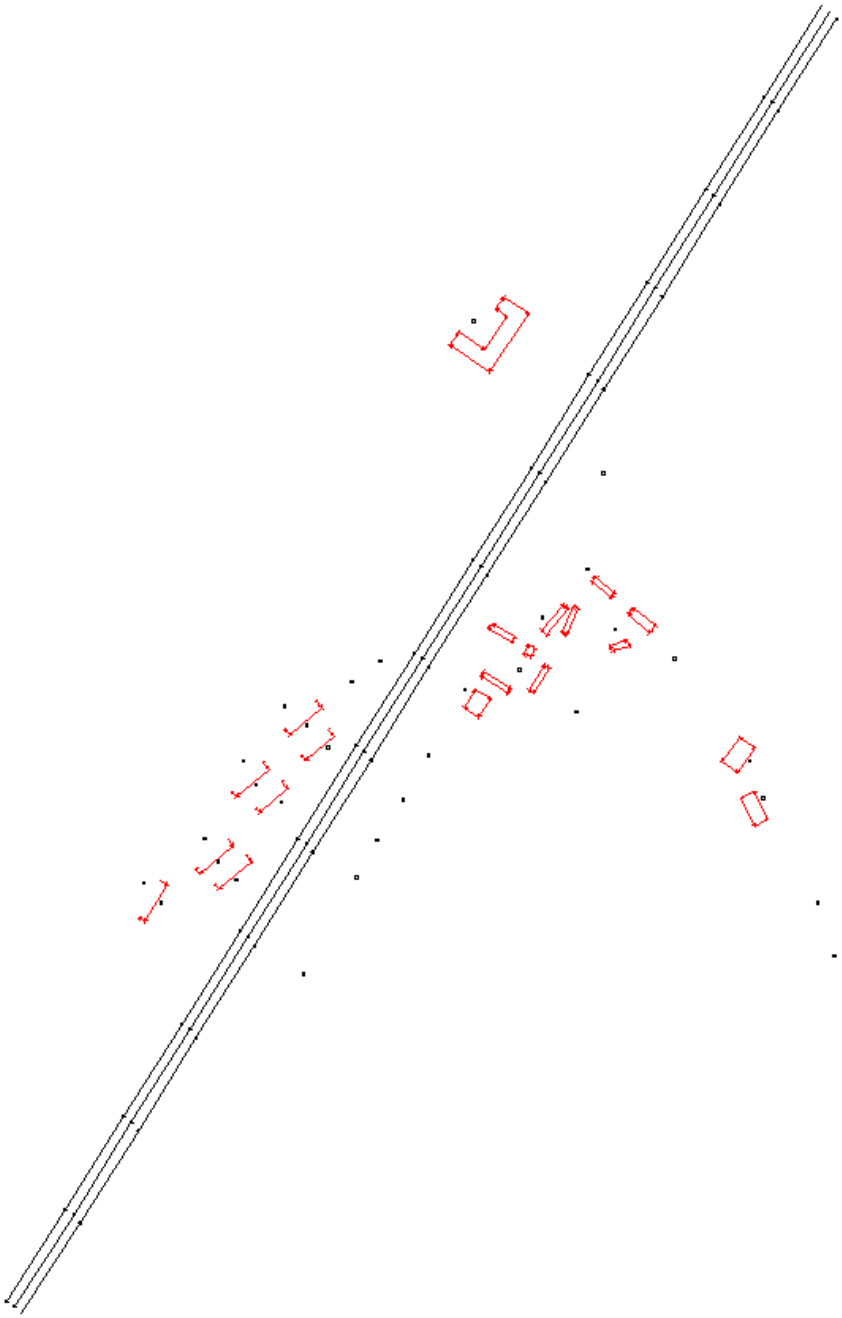


Figure C-12: 2040 Build Condition, M01 (Alts: 1 UE, 1 UE SB, 11, 12, 31, 32, 35, 36, 51, 52, 63, 65)

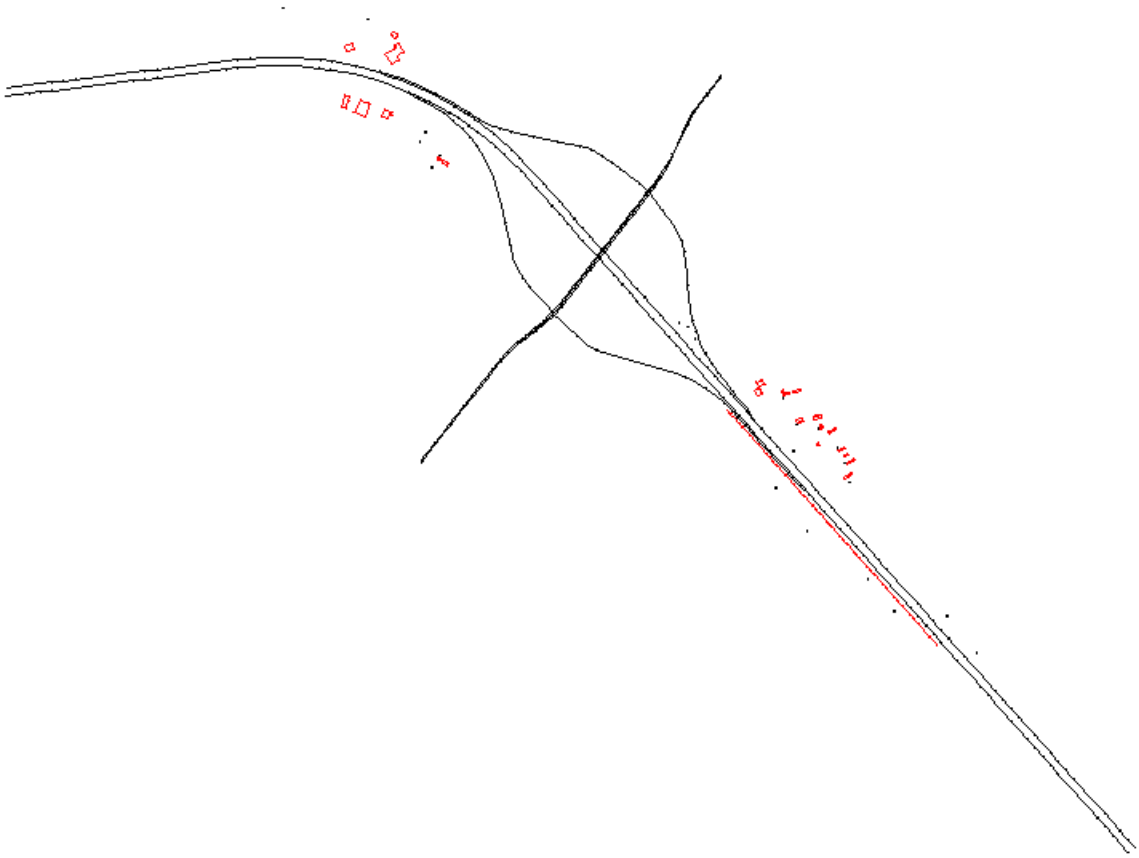


Figure C-13: 2040 Build Condition, M02 (Alts: 1 UE, 1 UE SB, 11, 12)

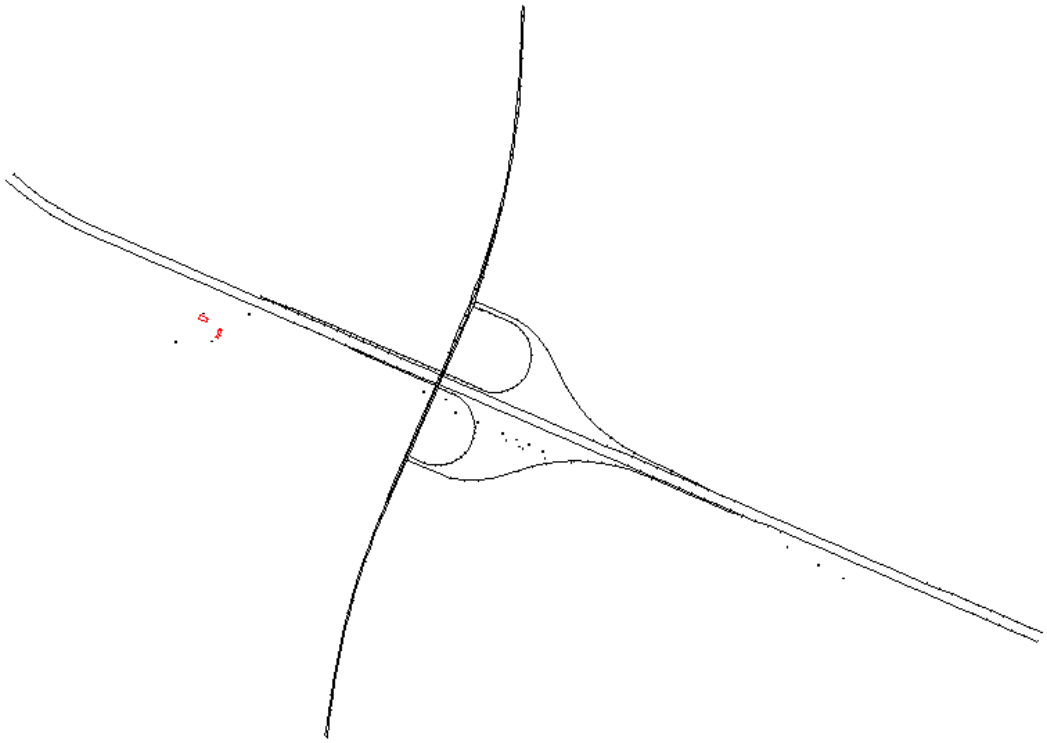


Figure C-14: 2040 Build Condition, M02-A31 (Alts: 31, 32, 63, 65)

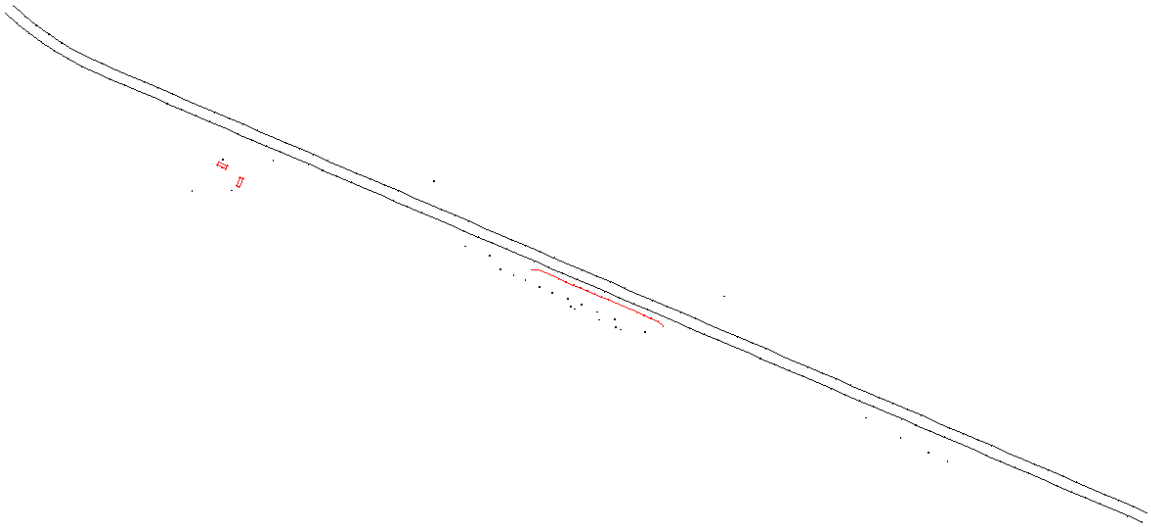


Figure C-15: 2040 Build Condition, M02-S2 (Alts: 35, 36, 51, 52)

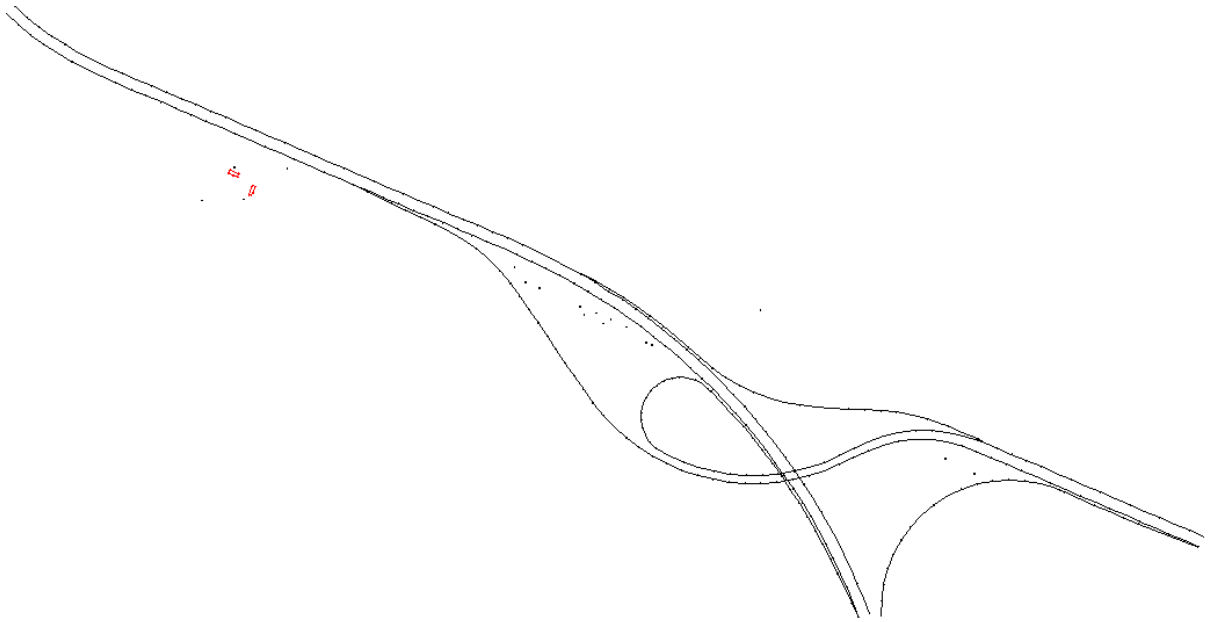


Figure C-16; 2040 Build Condition, M03 (Alts: 35, 36)

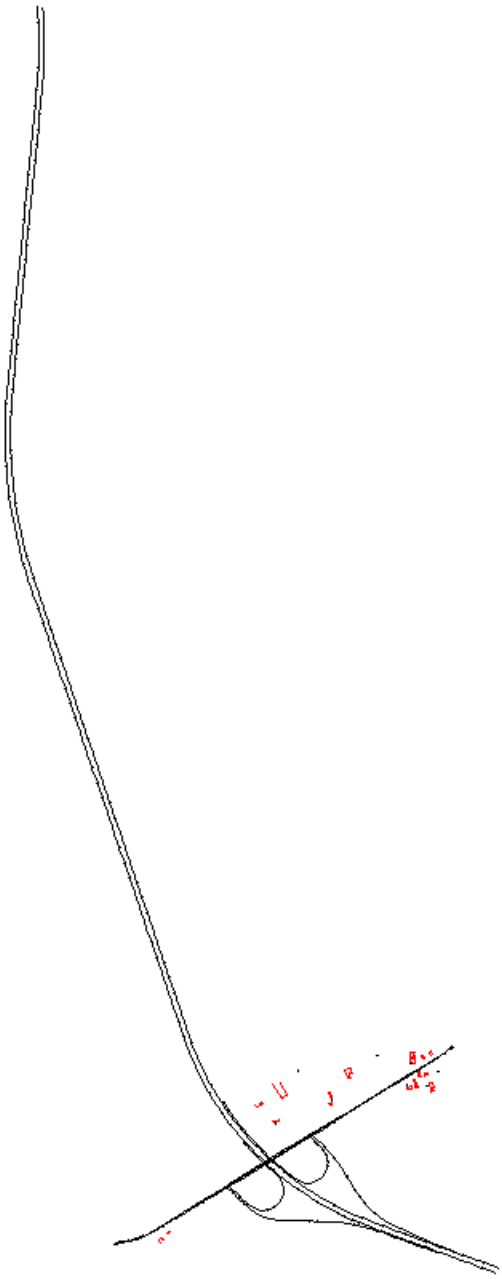


Figure C-17: 2040 Build Condition, M04 (Alts: 35, 36)

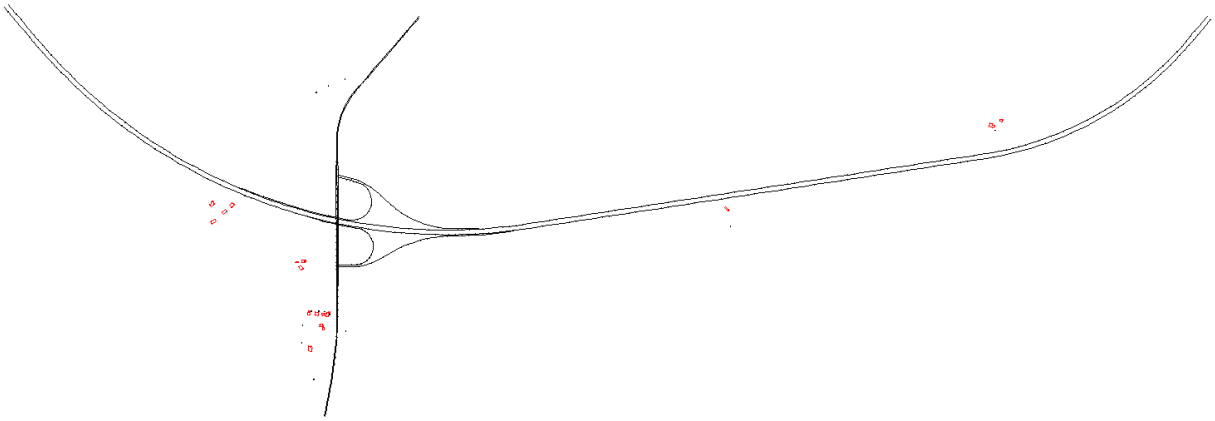


Figure C-18: 2040 Build Condition, M05 (Alts: 35, 36)

Figure C-19: 2040 Build Condition, M06-A35 (Alt: 35)

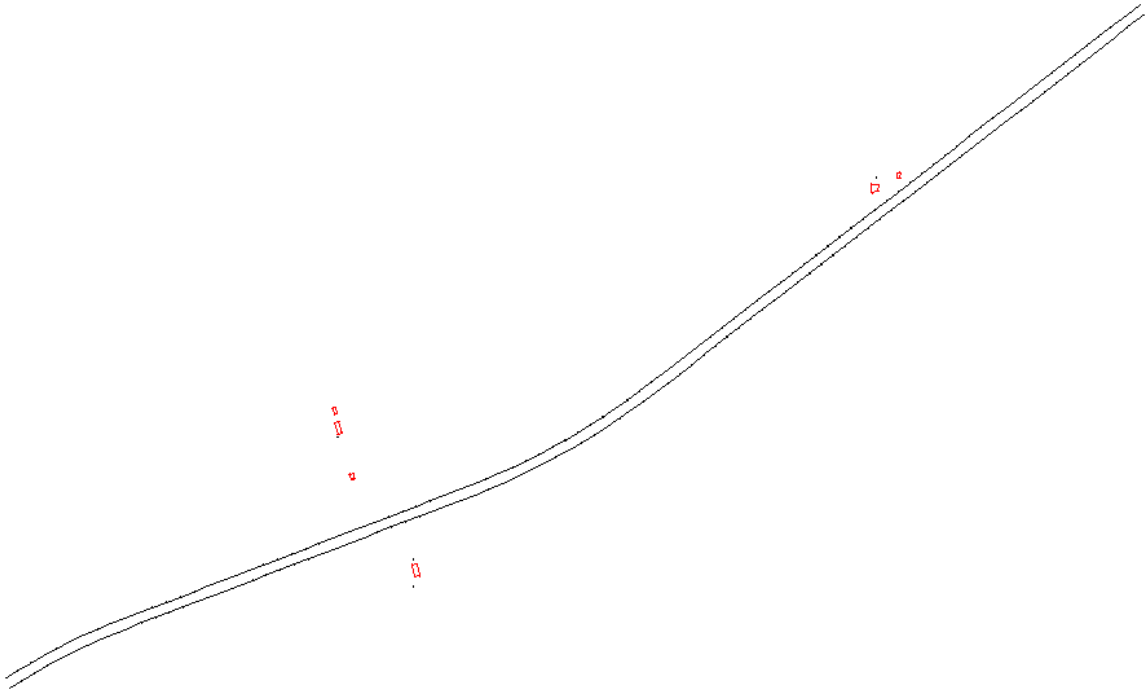


Figure C-20: 2040 Build Condition, M06-A36 (Alt: 36)

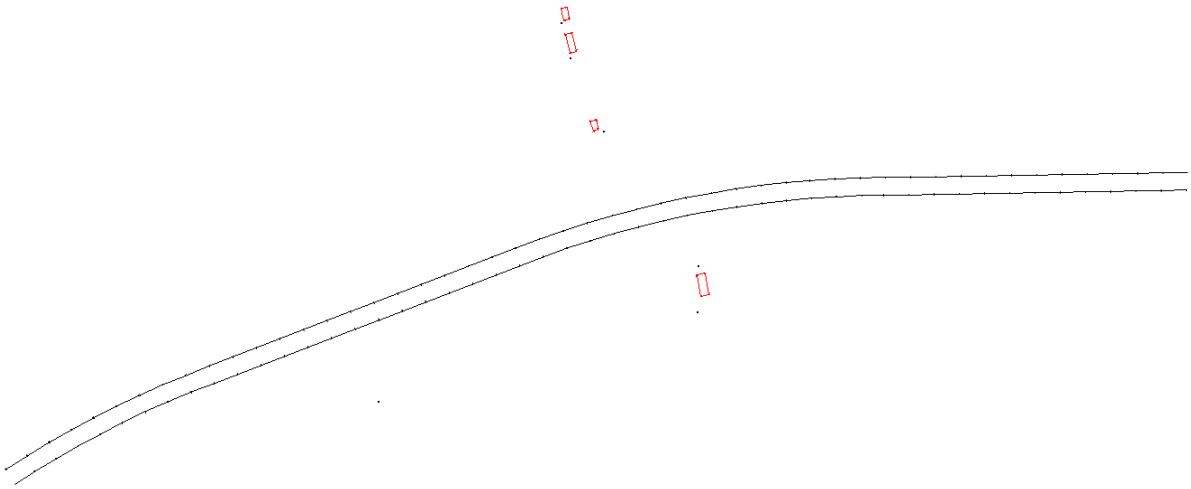


Figure C-21: 2040 Build Condition, M06-A51 (Alts: 11, 31, 51, 65)

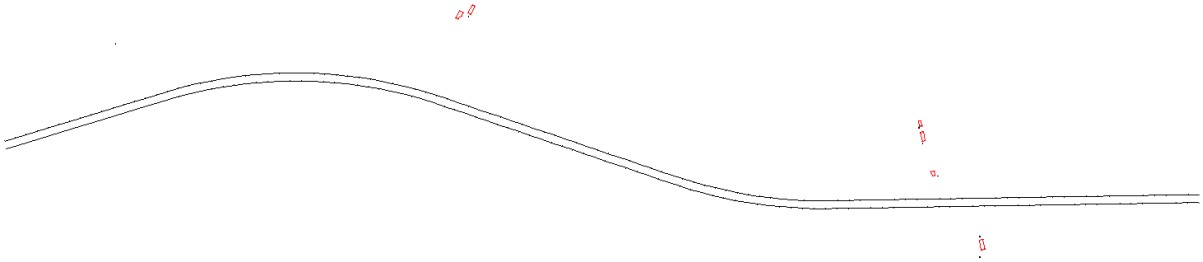


Figure C-22: 2040 Build Condition, M06-A52 (Alts: 12, 32, 52, 63)

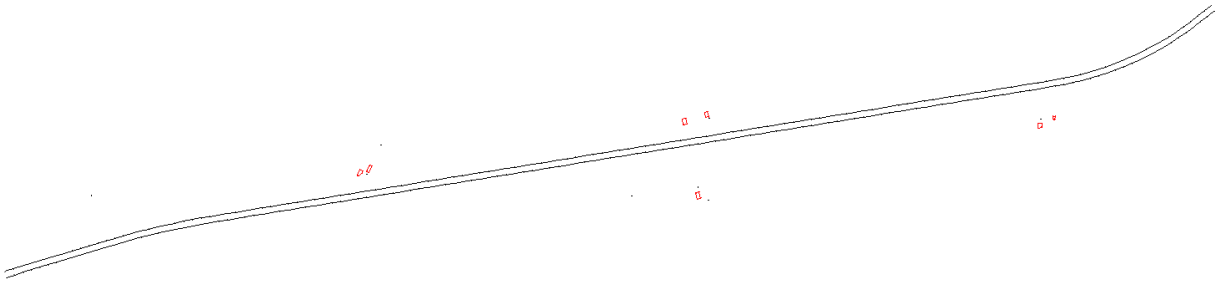


Figure C-23: 2040 Build Condition, M07 (Alts: 11, 31, 36, 51, 65)

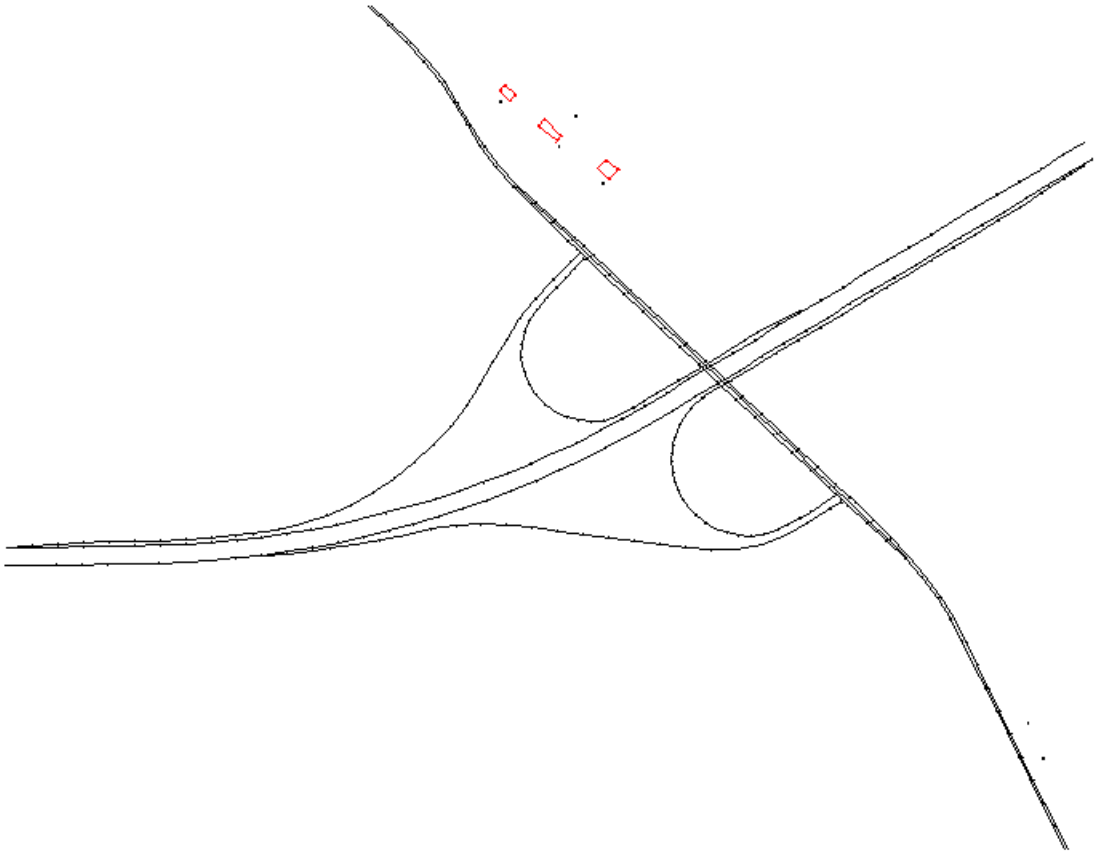


Figure C-24: 2040 Build Condition, M08-A11 (Alts: 11, 31, 36, 51, 65)

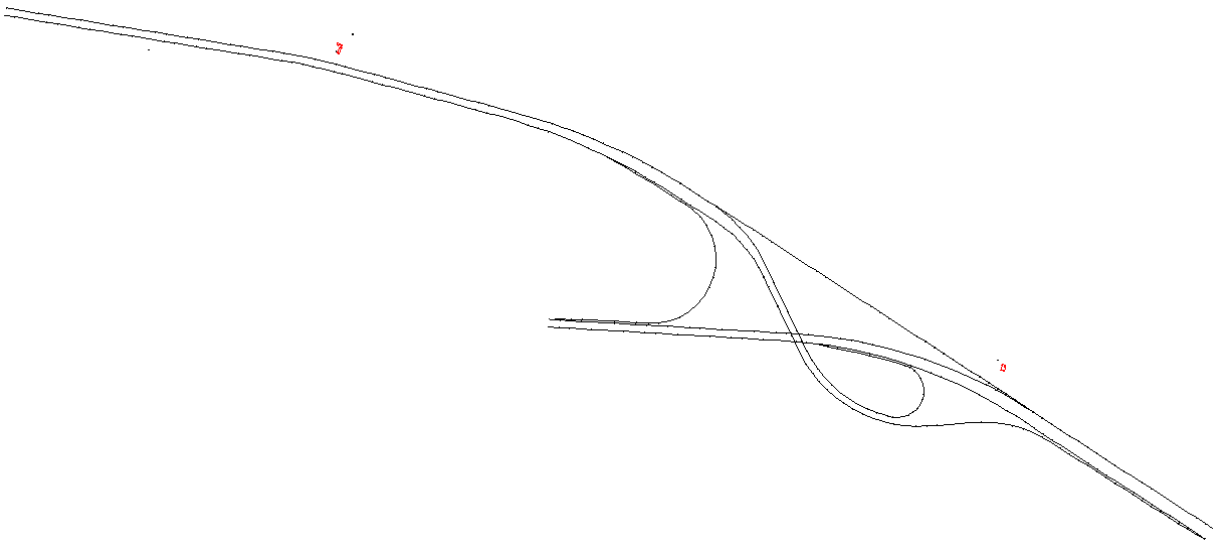


Figure C-25: 2040 Build Condition, M08-A12 (Alts: 1 UE, 1 UE SB, 12, 32, 35, 52, 63)

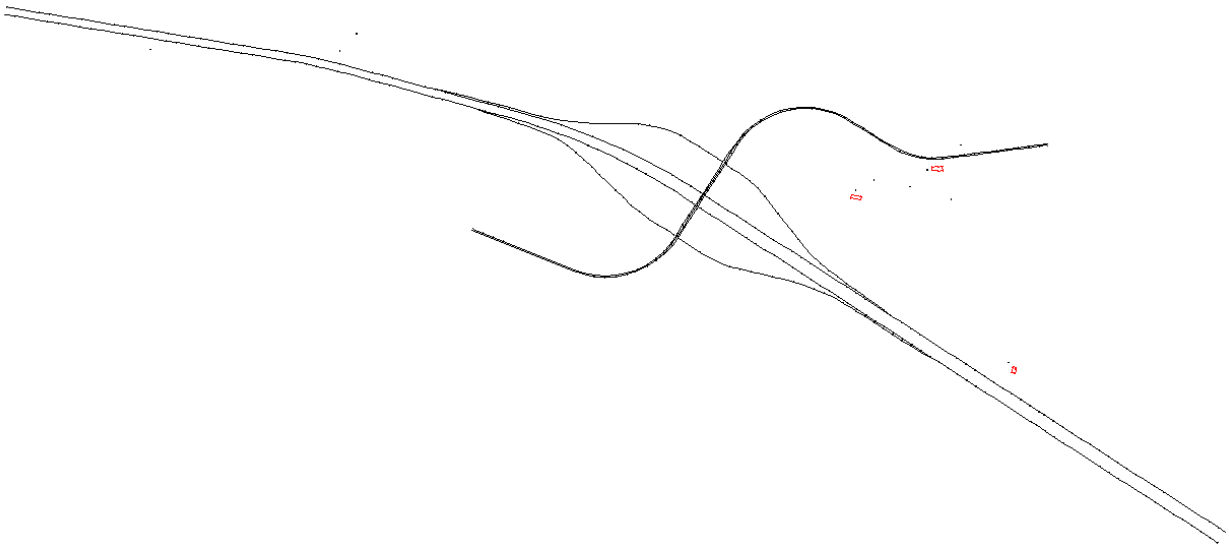


Figure C-26: 2040 Build Condition, M09 (Alts: 51, 52)

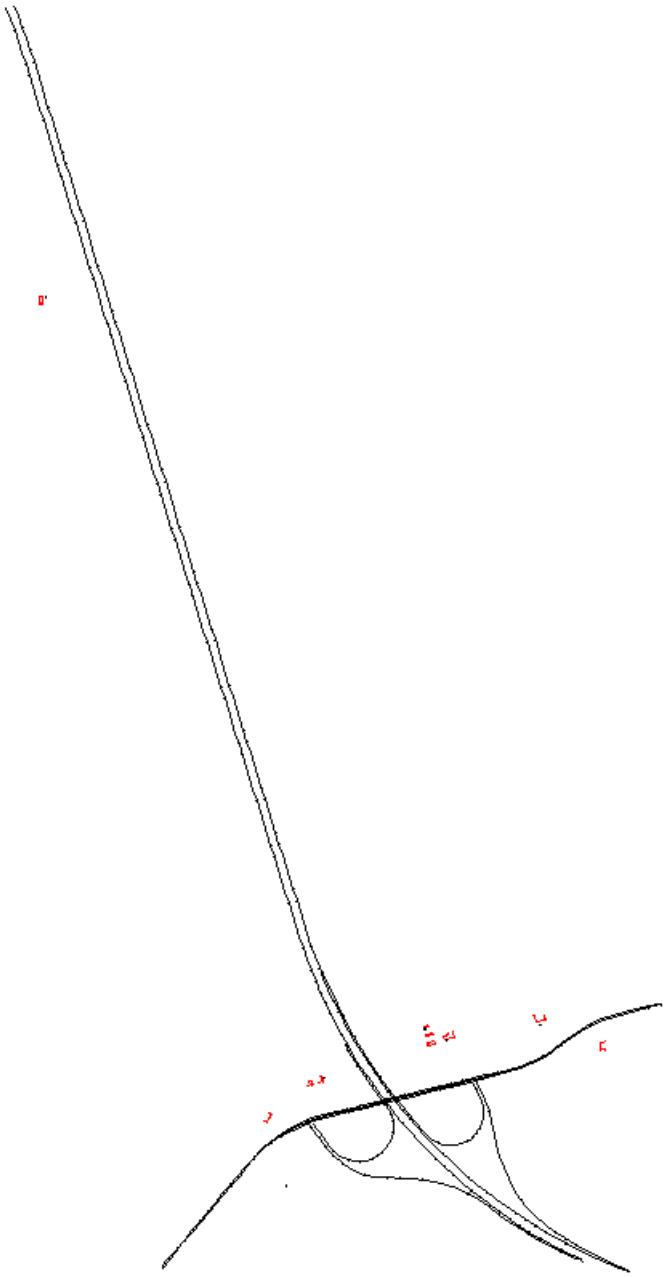


Figure C-27: 2040 Build Condition, M10 (Alts: 51, 52)

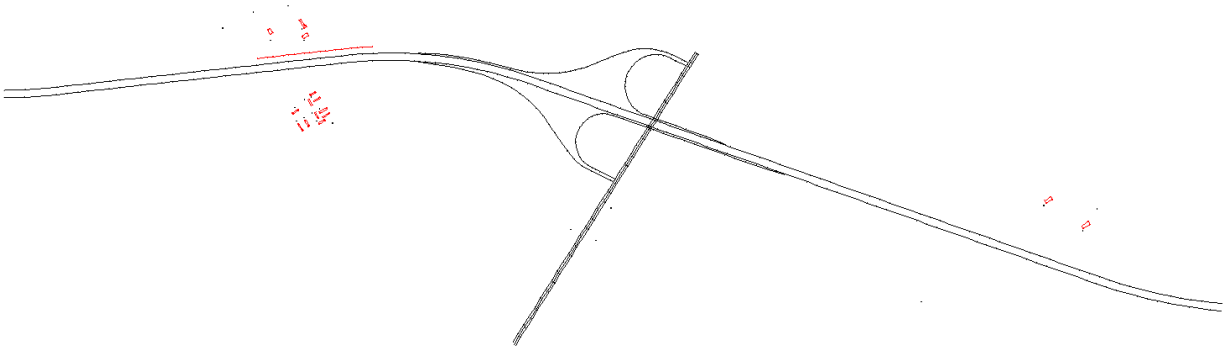


Figure C-28: 2040 Build Condition, M11-A11 (Alts: 11, 12, 31, 32, 63, 65)

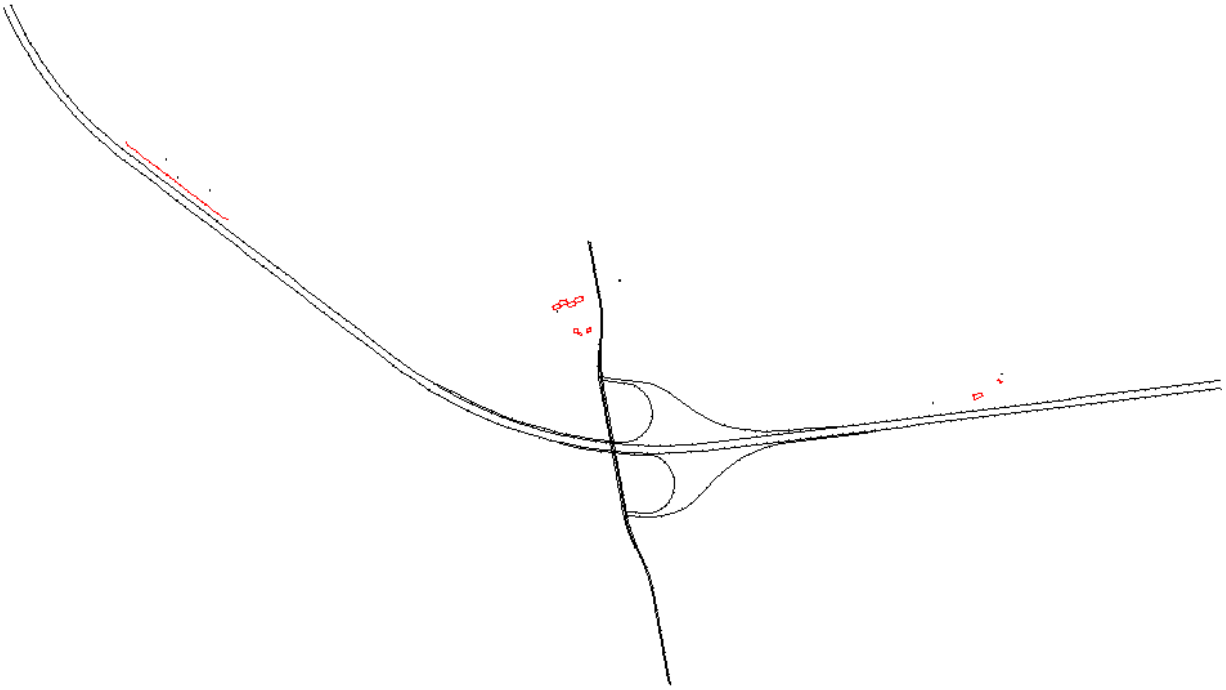


Figure C-29: 2040 Build Condition, M11-A52 (Alts: 51, 52)

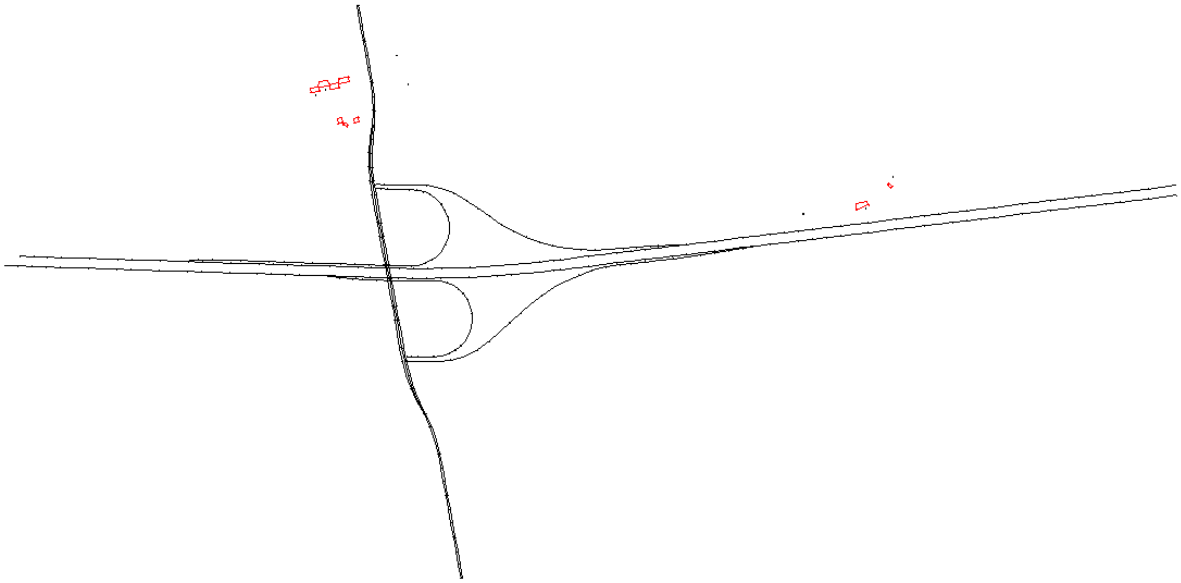


Figure C-30: 2040 Build Condition, M12 (Alts: 11, 12, 31, 32, 51, 52, 63, 65)

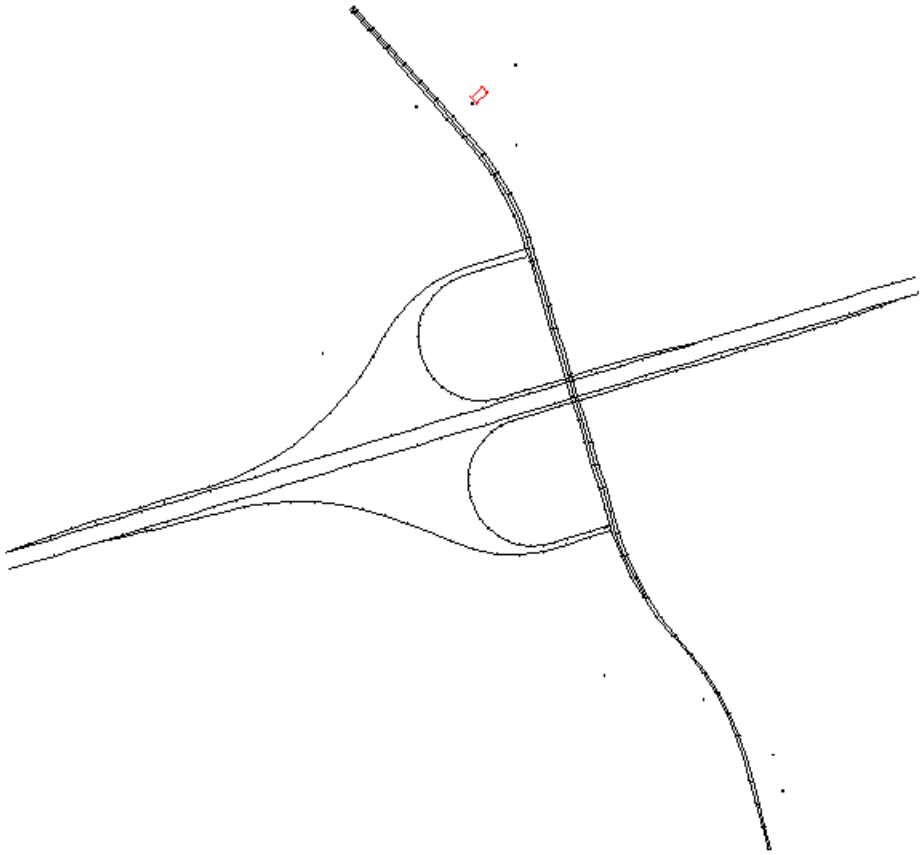


Figure C-31: 2040 Build Condition, M13-A31 (Alts: 31, 32)

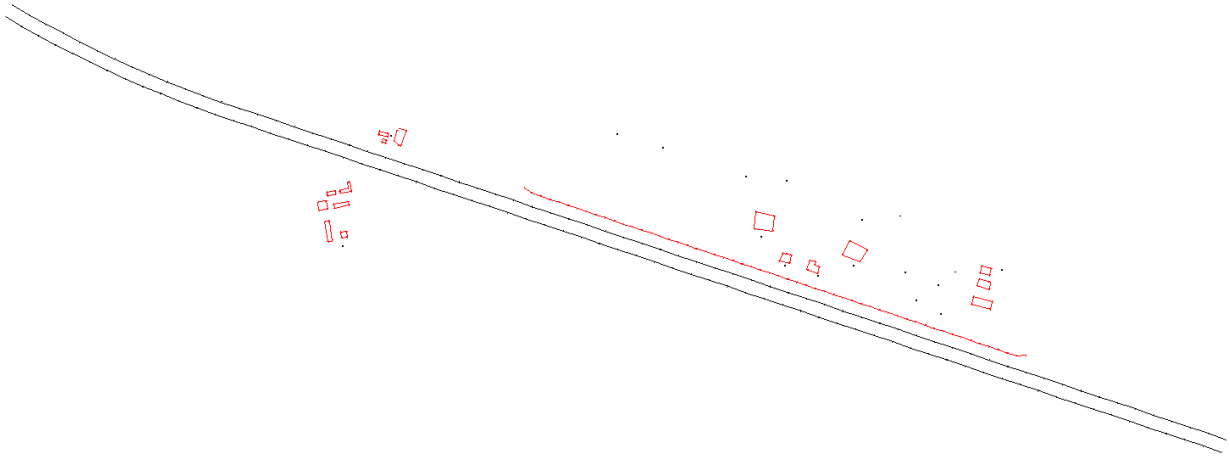


Figure C-32: 2040 Build Condition, M13-A63 (Alts: 63, 65)

Figure C-33: 2040 Build Condition, M13B (Alts: 11, 12)

Figure C-34: 2040 Build Condition, M14 (Alts: 11, 12, 31, 32, 63, 65)

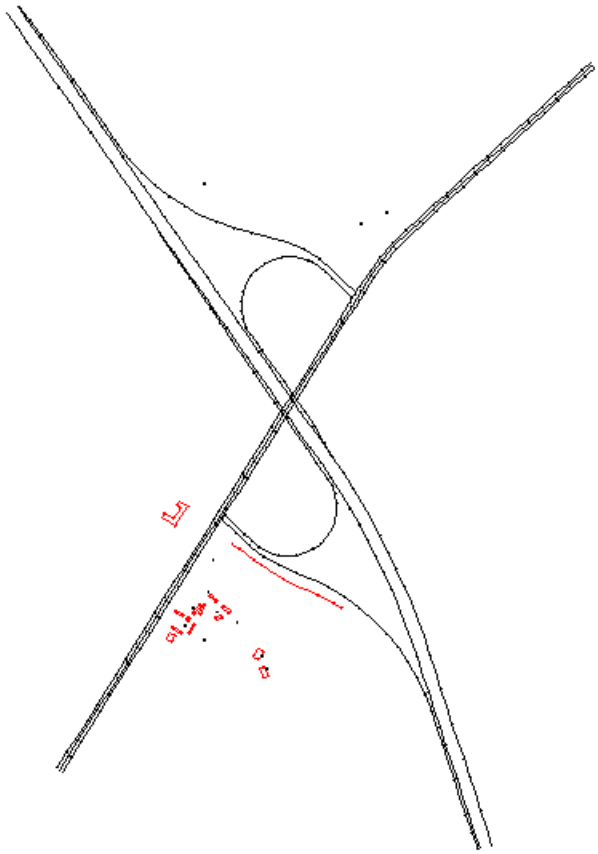


Figure C-35: 2040 Build Condition, M15-A11 (Alts: 1 UE, 1 UE SB, 11, 12)

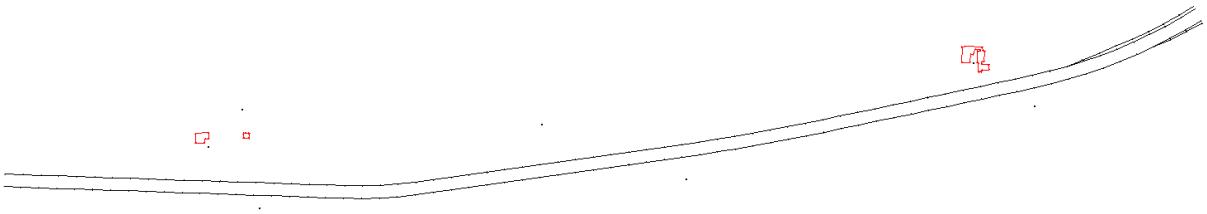


Figure C-36: 2040 Build Condition, M15-A31 (Alts: 31, 32, 63, 65)

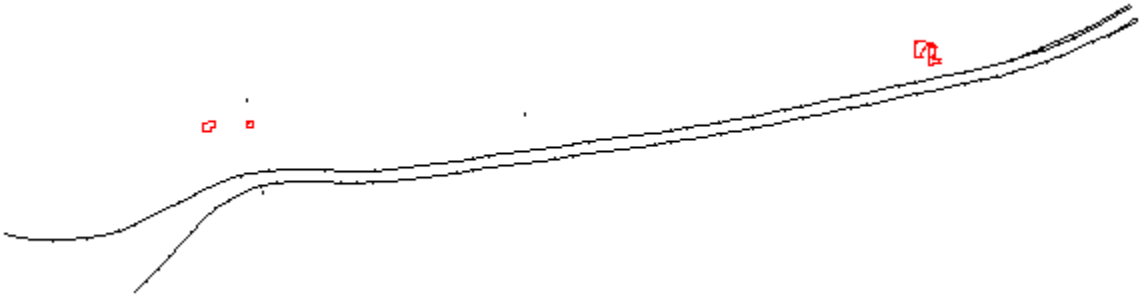


Figure C-37: 2040 Build Condition, M16-A32 (Alts: 31, 32, 63, 65)

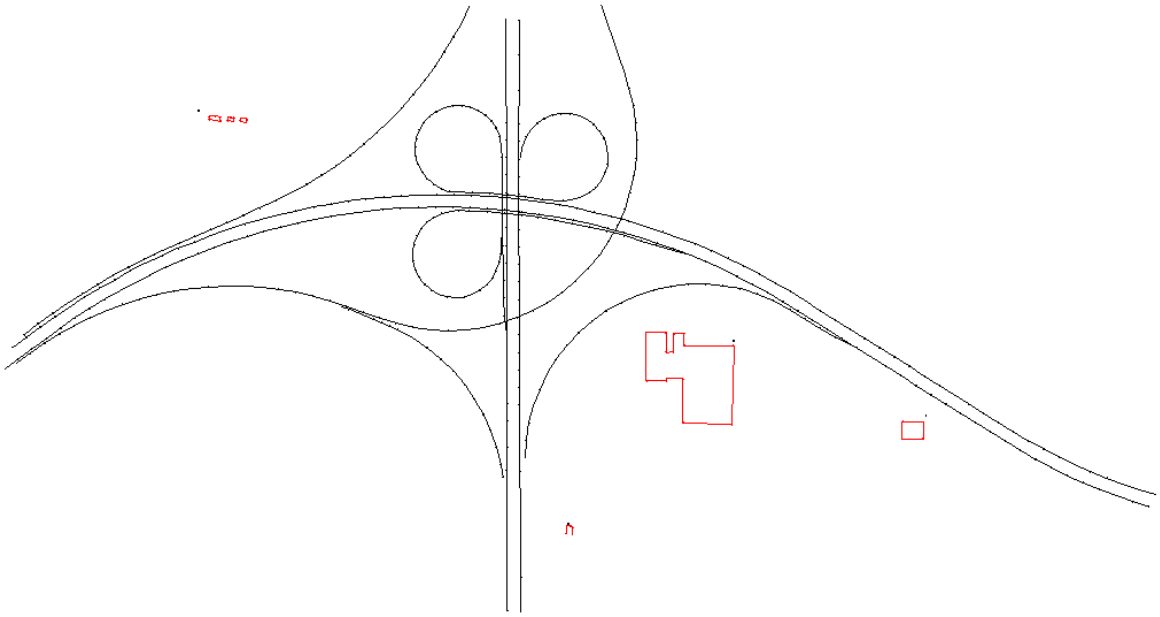


Figure C-38: 2040 Build Condition, M16-A11 (Alts: 11, 12)

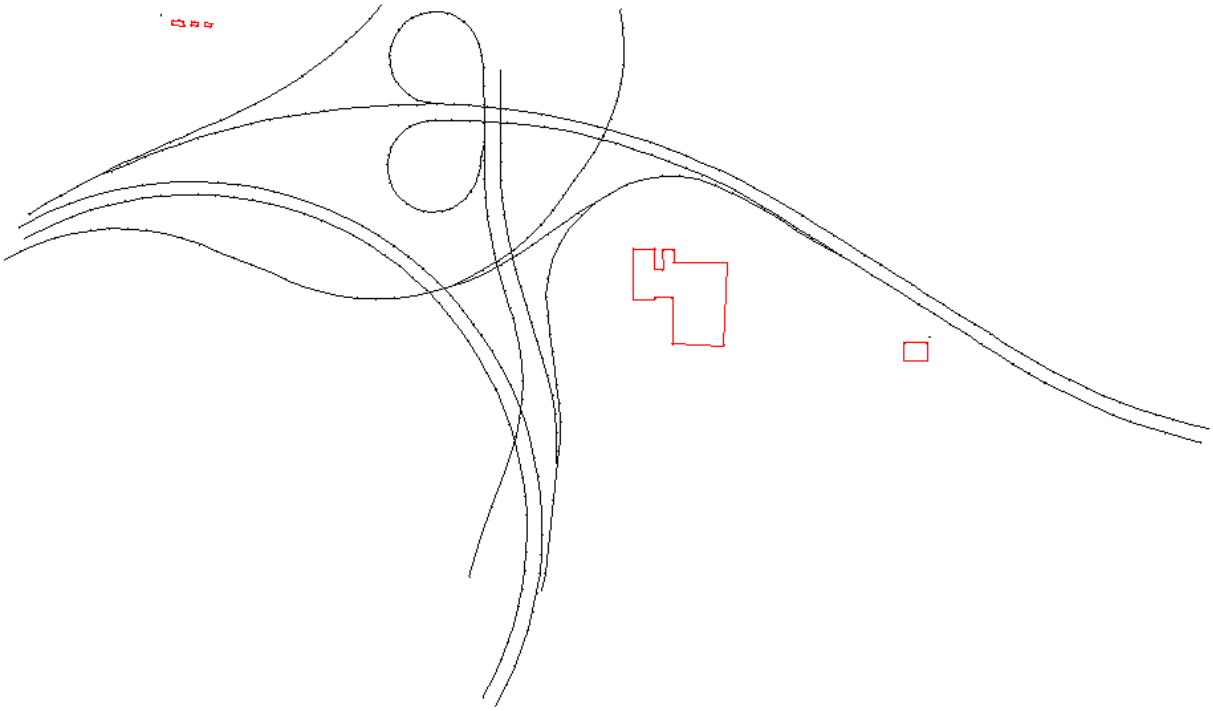


Figure C-39: 2040 Build Condition, M17-UX (Alt: 1 UE)

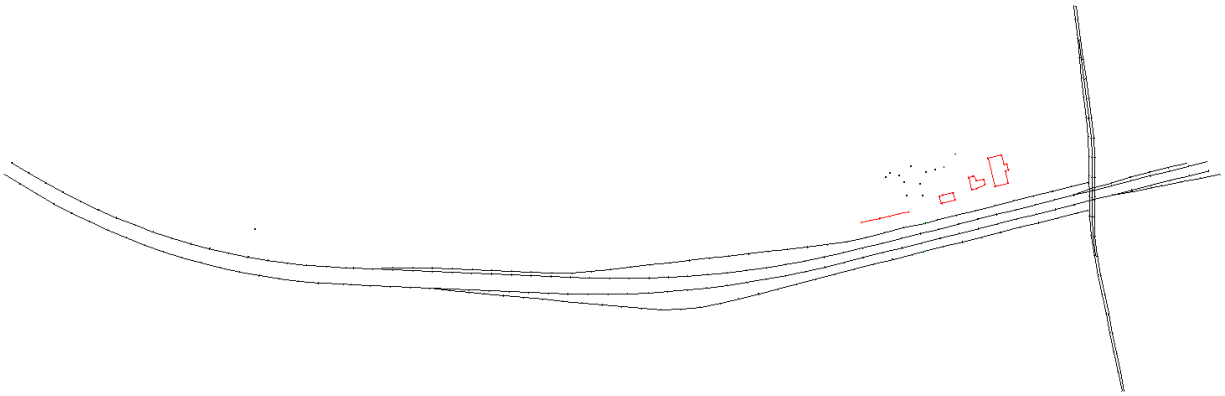


Figure C-40: 2040 Build Condition, M17-UEX (Alt: 1 UE SB)

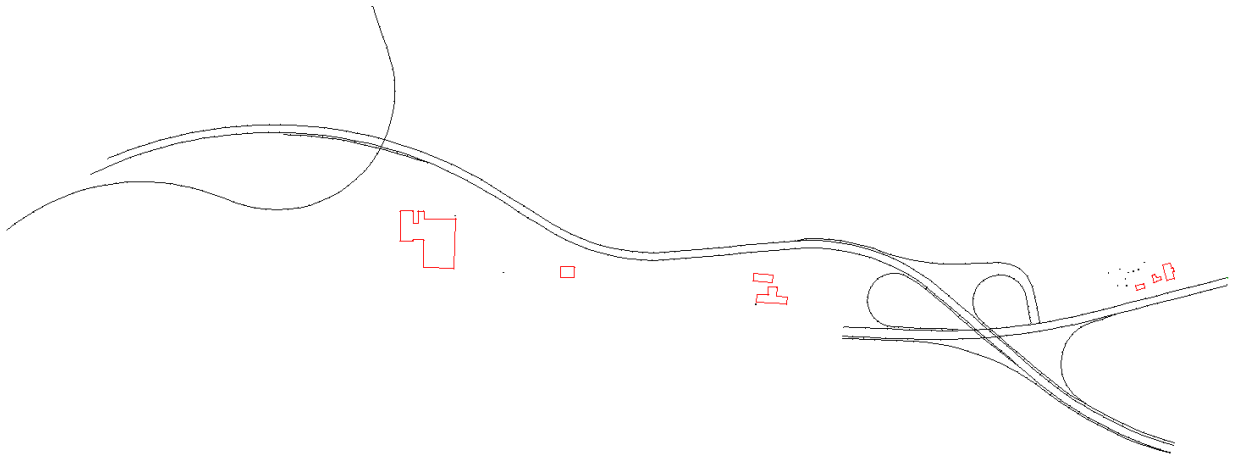


Figure C-41: 2040 Build Condition, M18 (Alt: 1 UE SB)

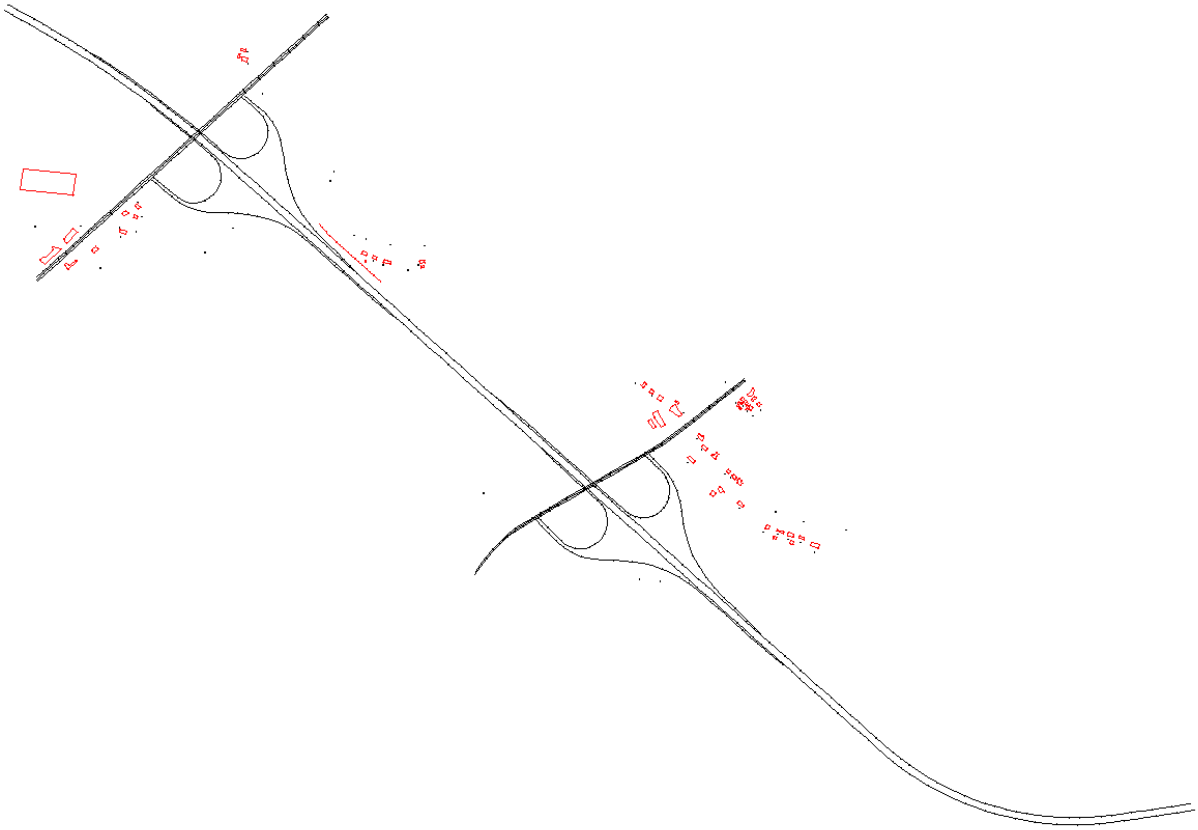


Figure C-42: 2040 Build Condition, M19 (Alt: 1 UE SB)

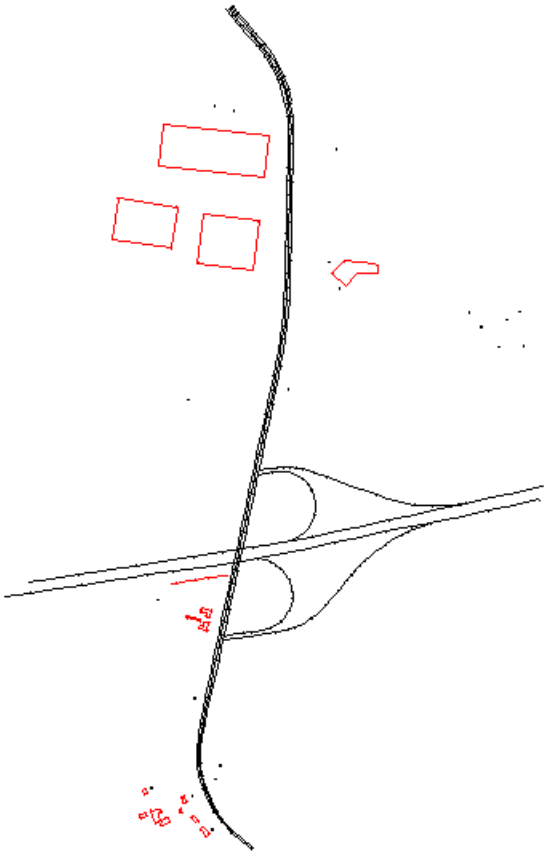


Figure C-43: 2040 Build Condition, M20 (Alt: 1 UE)

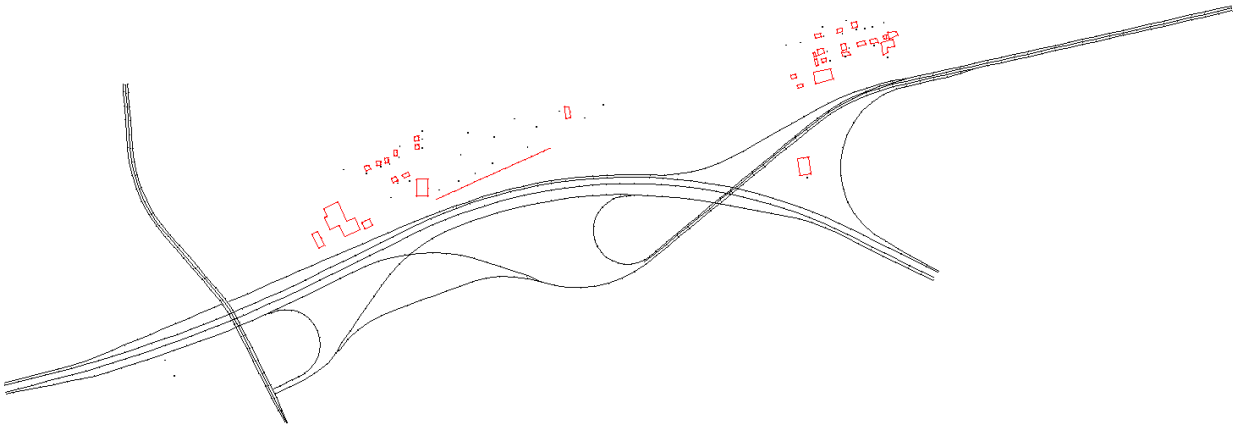


Figure C-44: 2040 Build Condition, M21 (Alt: 1 UE)

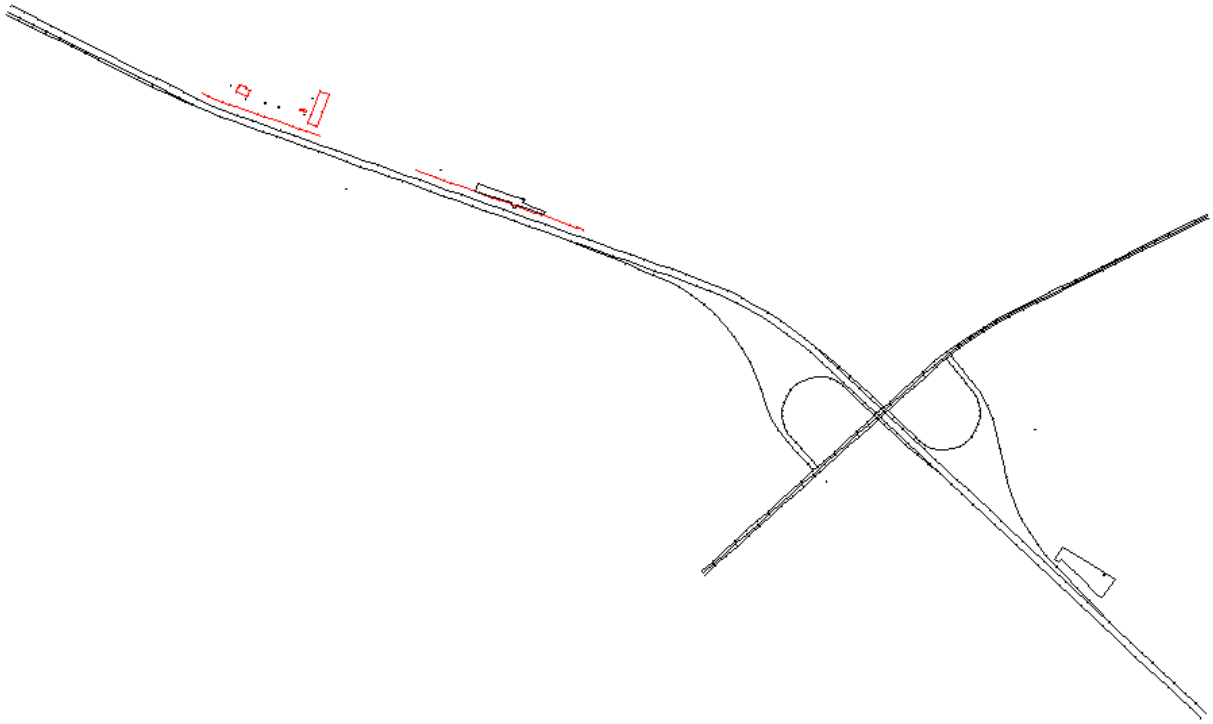


Figure C-45: 2040 Build Condition, M22 (Alt: 1 UE)

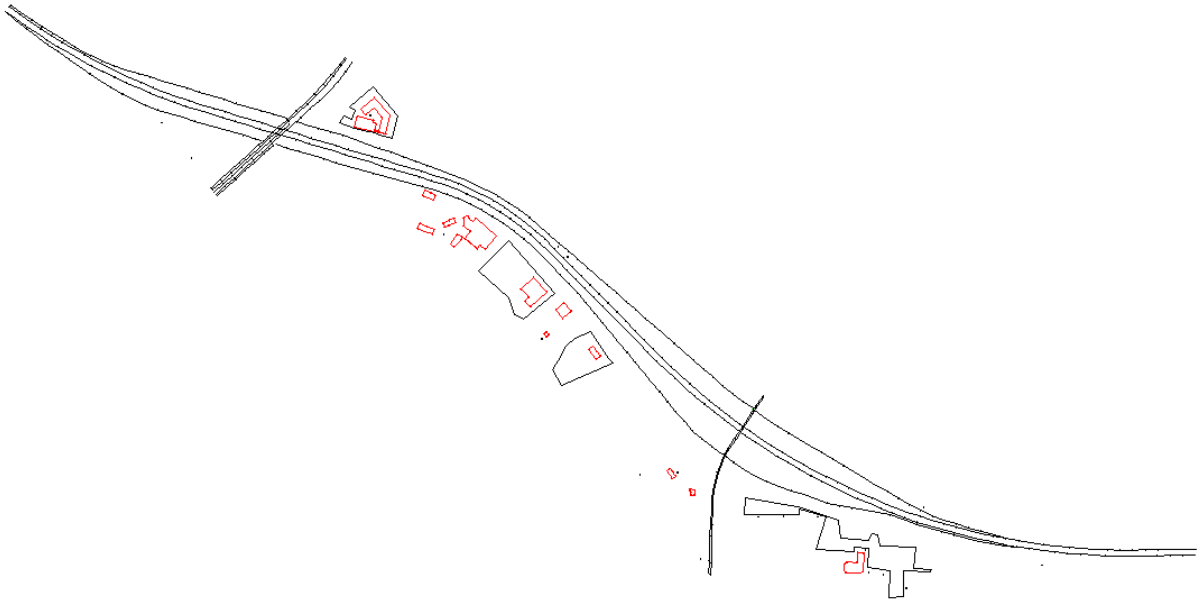


Figure C-46: 2040 Build Condition, M23-UE (Alt: 1 UE)

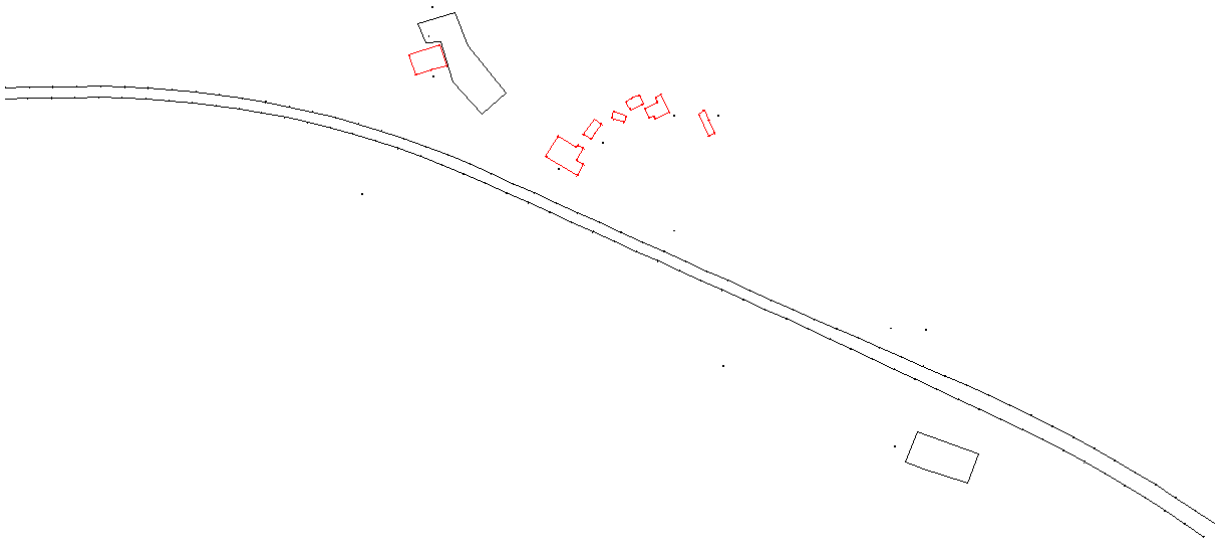


Figure C-47: 2040 Build Condition, M23-UES (Alt: 1 UE SB)

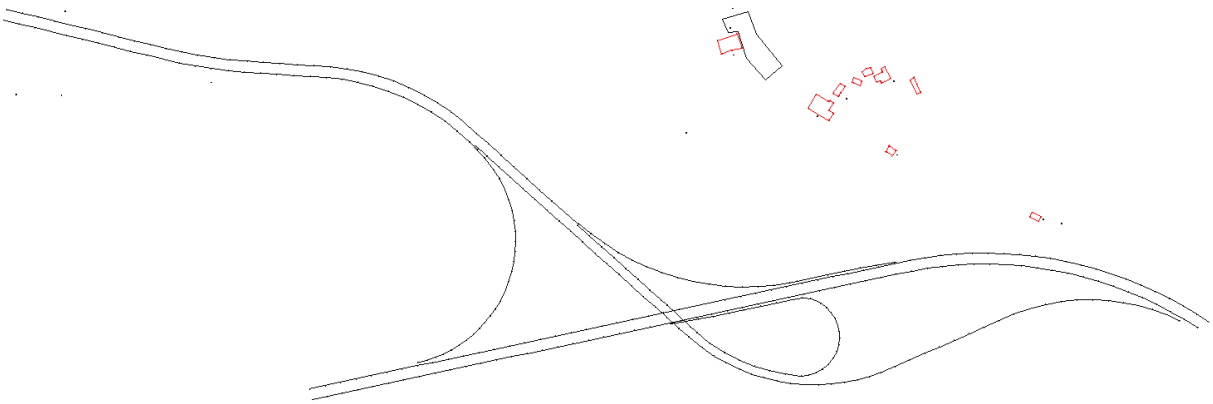


Figure C-48: 2040 Build Condition, M24 (Alts: 1 UE, 1 UE SB)

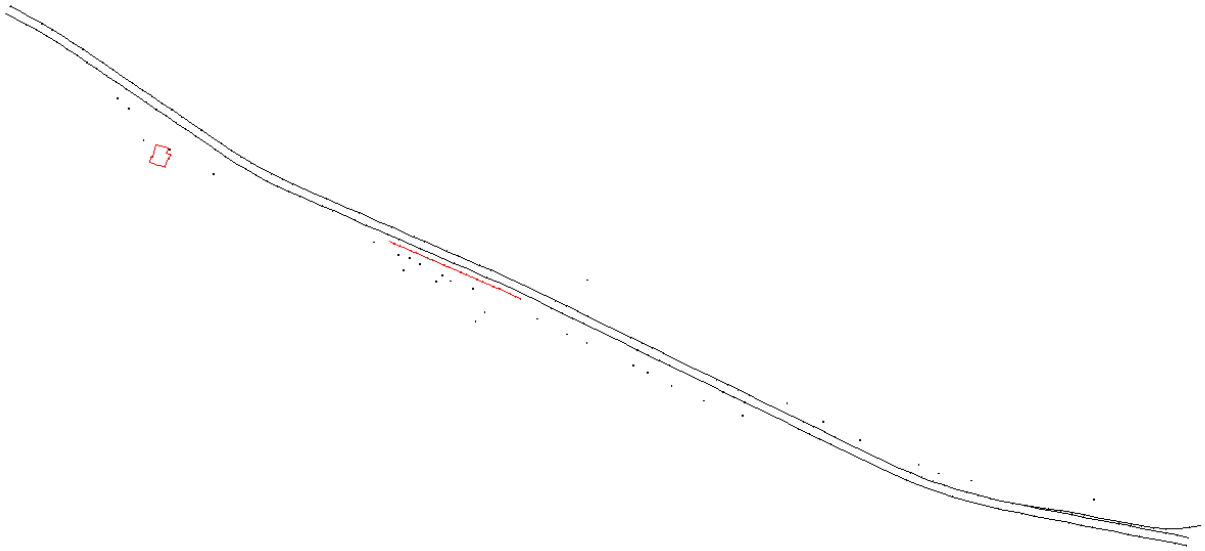


Figure C-49: 2040 Build Condition, M25-12 (Alts: 12, 32, 35, 52, 63)

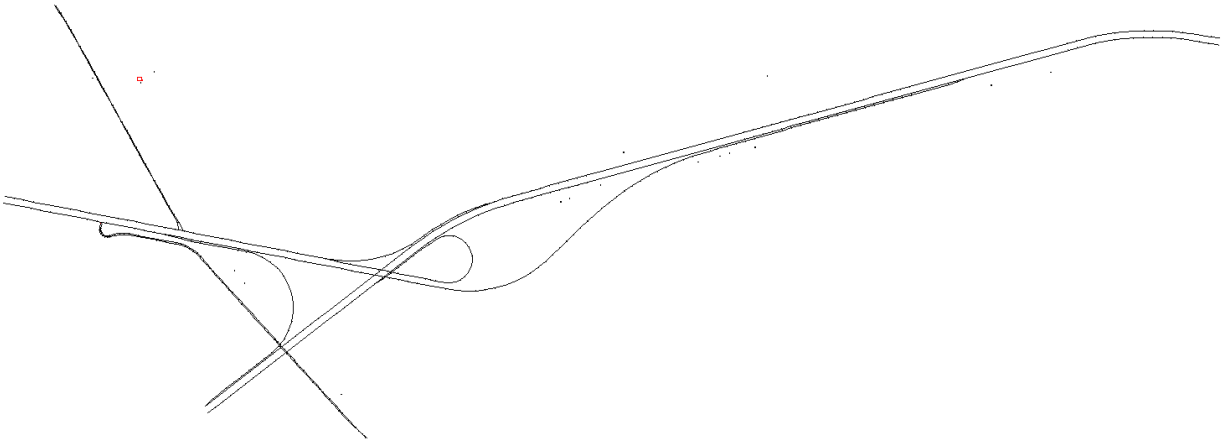
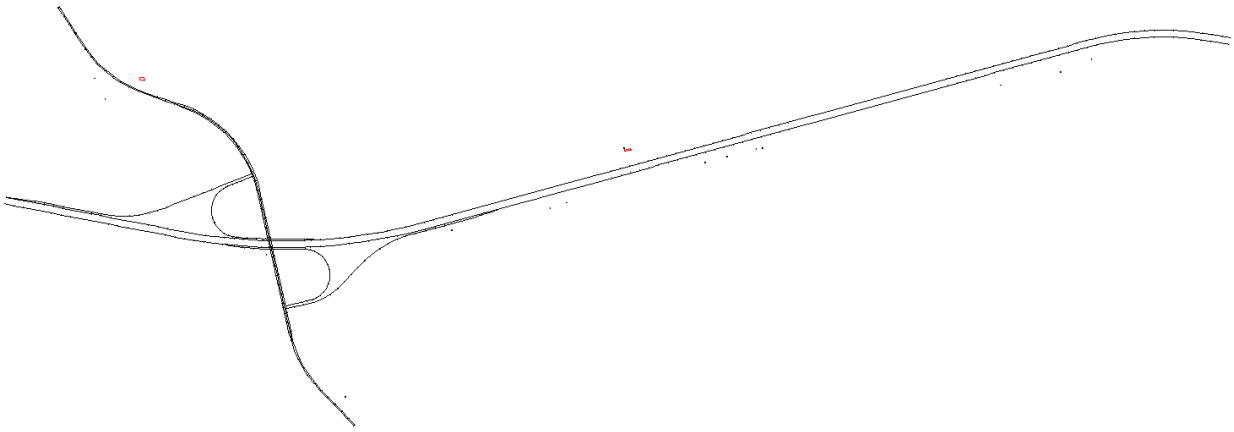


Figure C-50: 2040 Build Condition, M25-UES (Alts: 1 UE, 1 UE SB)



Appendix D

Noise Barrier Analysis

Noise Barrier Analysis
Alternative 1 UE, Barrier 70-05

Alternative 1 UE, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE, Barrier 70-05 Parameters	
Length (ft): 2350	Area / Benefit (ft^2): 3760
Average Height (ft): 8	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	63	1
NSAE07-02 (12)	7567 HWY 70	1	B	71	65	6
NSAE07-03 (13)	7543 HWY 70	1	B	69	64	5
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	65	7
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	65	5
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.

NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1 UE 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3760 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 1 UE SB, Barrier 70-05

Alternative 1 UE SB, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE SB, Barrier 70-05 Parameters	
Length (ft): 2200	Area / Benefit (ft^2): 3520
Average Height (ft): 8	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 17600	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	65	6
NSAE07-03 (13)	7543 HWY 70	1	B	69	64	5
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	65	7
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	65	5
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1UESB 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3520 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 11, Barrier 70-05

Alternative 11, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 11, Barrier 70-05 Parameters	
Length (ft): 2400	Area / Benefit (ft^2): 3840
Average Height (ft): 8	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 19200	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	63	1
NSAE07-02 (12)	7567 HWY 70	1	B	71	65	6
NSAE07-03 (13)	7543 HWY 70	1	B	69	64	5
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	65	7
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	65	5
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 11 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3840 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 12, Barrier 70-05

Alternative 12, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 12, Barrier 70-05 Parameters	
Length (ft): 2400	Area / Benefit (ft^2): 3840
Average Height (ft): 8	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 19200	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	63	1
NSAE07-02 (12)	7567 HWY 70	1	B	71	65	6
NSAE07-03 (13)	7543 HWY 70	1	B	69	64	5
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	65	7
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	65	5
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 12 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3840 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 31, Barrier 70-05

Alternative 31, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 31, Barrier 70-05 Parameters	
Length (ft): 1800	Area / Benefit (ft^2): 3600
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	66	5
NSAE07-03 (13)	7543 HWY 70	1	B	69	63	6
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	63	9
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	64	6
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 31 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3600 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 32, Barrier 70-05

Alternative 32, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 32, Barrier 70-05 Parameters	
Length (ft): 1800	Area / Benefit (ft^2): 3600
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	66	5
NSAE07-03 (13)	7543 HWY 70	1	B	69	63	6
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	63	9
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	64	6
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 32 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3600 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 35, Barrier 70-05

Alternative 35, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 35, Barrier 70-05 Parameters	
Length (ft): 1800	Area / Benefit (ft^2): 3600
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	66	5
NSAE07-03 (13)	7543 HWY 70	1	B	69	63	6
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	63	9
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	64	6
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 35 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3600 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 36, Barrier 70-05

Alternative 36, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 36, Barrier 70-05 Parameters	
Length (ft): 1800	Area / Benefit (ft^2): 3600
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	66	5
NSAE07-03 (13)	7543 HWY 70	1	B	69	63	6
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	63	9
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	64	6
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 36 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3600 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 51, Barrier 70-05

Alternative 51, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 51, Barrier 70-05 Parameters	
Length (ft): 1800	Area / Benefit (ft^2): 3600
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	66	5
NSAE07-03 (13)	7543 HWY 70	1	B	69	63	6
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	63	9
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	64	6
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 51 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3600 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 52, Barrier 70-05

Alternative 52, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 52, Barrier 70-05 Parameters	
Length (ft): 1800	Area / Benefit (ft^2): 3600
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	66	5
NSAE07-03 (13)	7543 HWY 70	1	B	69	63	6
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	63	9
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	64	6
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 52 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3600 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 63, Barrier 70-05

Alternative 63, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 63, Barrier 70-05 Parameters	
Length (ft): 1800	Area / Benefit (ft^2): 3600
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	66	5
NSAE07-03 (13)	7543 HWY 70	1	B	69	63	6
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	63	9
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	64	6
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 63 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3600 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 65, Barrier 70-05

Alternative 65, Barrier 70-05 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 65, Barrier 70-05 Parameters	
Length (ft): 1800	Area / Benefit (ft^2): 3600
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 18000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE07-01 (11)	7647 HWY 70	1	B	64	64	0
NSAE07-02 (12)	7567 HWY 70	1	B	71	66	5
NSAE07-03 (13)	7543 HWY 70	1	B	69	63	6
NSAE07-05 (14)	7501 HWY 70 W	1	B	72	63	9
NSAE07-07 (15)	7459 HWY 70 W	1	B	70	64	6
NSAE07-10 (16)	7443 HWY 70	1	B	70	65	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 65 70-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3600 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 31, Barrier 70-10

Alternative 31, Barrier 70-10 Acoustical Performance Summary	
Impacts: 6	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 6	Total Benefits: 6
Non-Impacted Receptors Benefited: 0	

Alternative 31, Barrier 70-10 Parameters	
Length (ft): 750	Area / Benefit (ft^2): 1250
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 7500	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE12-08 (35)	3549 FOSS FARM RD	1	B	72	67	5
NSAE12-10 (36)	3541 FOSS FARM RD	1	B	72	65	7
NSAE12-11 (37)	3515 FOSS FARM RD	1	B	71	65	6
NSAE12-14 (38)	3511 FOSS FARM RD	1	B	71	65	6
NSAE12-16 (39)	3507 FOSS FARM RD	1	B	71	66	5
NSAE12-17 (40)	3503 FOSS FARM RD	1	B	71	66	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-10 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NW70-10 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 31 70-10 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 6 **# BENEFITS -** 6 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1250 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 32, Barrier 70-10

Alternative 32, Barrier 70-10 Acoustical Performance Summary	
Impacts: 6	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 6	Total Benefits: 6
Non-Impacted Receptors Benefited: 0	

Alternative 32, Barrier 70-10 Parameters	
Length (ft): 750	Area / Benefit (ft^2): 1250
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 7500	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE12-08 (35)	3549 FOSS FARM RD	1	B	72	67	5
NSAE12-10 (36)	3541 FOSS FARM RD	1	B	72	65	7
NSAE12-11 (37)	3515 FOSS FARM RD	1	B	71	65	6
NSAE12-14 (38)	3511 FOSS FARM RD	1	B	71	65	6
NSAE12-16 (39)	3507 FOSS FARM RD	1	B	71	66	5
NSAE12-17 (40)	3503 FOSS FARM RD	1	B	71	66	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-10 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NW70-10 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 32 70-10 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 6 **# BENEFITS -** 6 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1250 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 63, Barrier 70-10

Alternative 63, Barrier 70-10 Acoustical Performance Summary	
Impacts: 6	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 6	Total Benefits: 6
Non-Impacted Receptors Benefited: 0	

Alternative 63, Barrier 70-10 Parameters	
Length (ft): 750	Area / Benefit (ft^2): 1250
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 7500	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE12-08 (35)	3549 FOSS FARM RD	1	B	72	67	5
NSAE12-10 (36)	3541 FOSS FARM RD	1	B	72	65	7
NSAE12-11 (37)	3515 FOSS FARM RD	1	B	71	65	6
NSAE12-14 (38)	3511 FOSS FARM RD	1	B	71	65	6
NSAE12-16 (39)	3507 FOSS FARM RD	1	B	71	66	5
NSAE12-17 (40)	3503 FOSS FARM RD	1	B	71	66	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-10 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NW70-10 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 63 70-10 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 6 **# BENEFITS -** 6 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1250 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 65, Barrier 70-10

Alternative 65, Barrier 70-10 Acoustical Performance Summary	
Impacts: 6	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 6	Total Benefits: 6
Non-Impacted Receptors Benefited: 0	

Alternative 65, Barrier 70-10 Parameters	
Length (ft): 750	Area / Benefit (ft^2): 1250
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 7500	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE12-08 (35)	3549 FOSS FARM RD	1	B	72	67	5
NSAE12-10 (36)	3541 FOSS FARM RD	1	B	72	65	7
NSAE12-11 (37)	3515 FOSS FARM RD	1	B	71	65	6
NSAE12-14 (38)	3511 FOSS FARM RD	1	B	71	65	6
NSAE12-16 (39)	3507 FOSS FARM RD	1	B	71	66	5
NSAE12-17 (40)	3503 FOSS FARM RD	1	B	71	66	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-10 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NW70-10 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 65 70-10 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 6 **# BENEFITS -** 6 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1250 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 51, Barrier JB-01/JB-02

Alternative 51, Barrier JB-01/JB-02 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 2
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 51, Barrier JB-01/JB-02 Parameters	
Length (ft): 1600	Area / Benefit (ft^2): 3840
Average Height (ft): 12	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 19200	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-204 (393)	344 JESSIE T. BRYAN RD	1	B	61	56	5
NSAX-205 (394)	352 JESSIE T. BRYAN RD	1	B	59	54	5
NSAX-206 (395)	353 JESSIE T. BRYAN RD	1	B	58	55	3
NSAX-207 (396)	376 JESSIE T. BRYAN RD	1	B	67	59	8
NSAX-208 (397)	391 JESSIE T. BRYAN RD	1	B	62	57	5
NSAX-209 (398)	407 JESSIE T. BRYAN RD	1	B	69	60	9

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWJB-01/JB-02 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.

NWJB-01/JB-02 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 51 JB-1/JB-2 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3840 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 52, Barrier JB-01/JB-02

Alternative 52, Barrier JB-01/JB-02 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 2
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 52, Barrier JB-01/JB-02 Parameters	
Length (ft): 1650	Area / Benefit (ft^2): 3960
Average Height (ft): 12	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 19800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-204 (393)	344 JESSIE T. BRYAN RD	1	B	61	56	5
NSAX-205 (394)	352 JESSIE T. BRYAN RD	1	B	59	54	5
NSAX-206 (395)	353 JESSIE T. BRYAN RD	1	B	58	54	4
NSAX-207 (396)	376 JESSIE T. BRYAN RD	1	B	67	59	8
NSAX-208 (397)	391 JESSIE T. BRYAN RD	1	B	62	57	5
NSAX-209 (398)	407 JESSIE T. BRYAN RD	1	B	69	59	10

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWJB-01/JB-02 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.

NWJB-01/JB-02 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 52 JB-1/JB-2 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 3960 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 11, Barrier JN-01

Alternative 11, Barrier JN-01 Acoustical Performance Summary	
Impacts: 14	Benefited Receptors @ ≥ 7 dB(A) NLR: 7
Impacted Receptors Benefited: 14	Total Benefits: 17
Non-Impacted Receptors Benefited: 3	

Alternative 11, Barrier JN-01 Parameters	
Length (ft): 1650	Area / Benefit (ft^2): 1553
Average Height (ft): 16	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 26400	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-243 (433)	506 JOE NUNN RD	1	B	69	58	11
NSAX-244 (434)	642 LONESOME PINE DR	1	B	73	59	14
NSAX-245 (435)	632 LONESOME PINE DR	1	B	73	60	13
NSAX-246 (436)	624 LONESOME PINE DR	1	B	70	60	10
NSAX-247 (437)	610 LONESOME PINE DR	1	B	68	61	7
NSAX-243.1 (433.1)	487 JOE NUNN RD	1	B	62	56	6
NSAX-244.1 (434.1)	490 JOE NUNN RD	1	B	62	55	7
NSAX-245.1 (435.1)	641 LONESOME PINE DR	1	B	63	56	7
NSAX-246.1 (436.1)	631 LONESOME PINE DR	1	B	62	56	6
NSAX-247.1 (437.1)	621 LONESOME PINE DR	1	B	61	56	5
NSAX-243.2 (433.2)	469 JOE NUNN RD	1	D	49	44	5
NSAX-244.2 (434.2)	478/480 JOE NUNN RD	2	B	58	53	5
NSAX-246.2 (435.2)	638 CANDACE RD	1	B	60	54	6
NSAX-247.2 (436.2)	524 CANDACE RD	1	B	60	54	6
NSAX-245.2 (437.2)	828 RANDY RD	1	B	60	55	5
NSAX-243.3 (433.3)	451 JOE NUNN RD	1	B	57	53	4
NSAX-246.3 (435.3)	535 CANDACE RD	1	B	57	52	5
NSAX-247.3 (436.3)	525 CANDACE RD	1	B	56	52	4

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWJN-01 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NWJN-01 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 11 JN-01 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 14 **# BENEFITS -** 17 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☑ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1553 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 12, Barrier JN-01

Alternative 12, Barrier JN-01 Acoustical Performance Summary	
Impacts: 14	Benefited Receptors @ ≥ 7 dB(A) NLR: 7
Impacted Receptors Benefited: 14	Total Benefits: 17
Non-Impacted Receptors Benefited: 3	

Alternative 12, Barrier JN-01 Parameters	
Length (ft): 1650	Area / Benefit (ft^2): 1553
Average Height (ft): 16	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 26400	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-243 (433)	506 JOE NUNN RD	1	B	69	58	11
NSAX-244 (434)	642 LONESOME PINE DR	1	B	73	59	14
NSAX-245 (435)	632 LONESOME PINE DR	1	B	73	60	13
NSAX-246 (436)	624 LONESOME PINE DR	1	B	70	60	10
NSAX-247 (437)	610 LONESOME PINE DR	1	B	68	61	7
NSAX-243.1 (433.1)	487 JOE NUNN RD	1	B	62	56	6
NSAX-244.1 (434.1)	490 JOE NUNN RD	1	B	62	55	7
NSAX-245.1 (435.1)	641 LONESOME PINE DR	1	B	63	56	7
NSAX-246.1 (436.1)	631 LONESOME PINE DR	1	B	62	56	6
NSAX-247.1 (437.1)	621 LONESOME PINE DR	1	B	61	56	5
NSAX-243.2 (433.2)	469 JOE NUNN RD	1	D	49	44	5
NSAX-244.2 (434.2)	478/480 JOE NUNN RD	2	B	58	53	5
NSAX-246.2 (435.2)	638 CANDACE RD	1	B	60	54	6
NSAX-247.2 (436.2)	524 CANDACE RD	1	B	60	54	6
NSAX-245.2 (437.2)	828 RANDY RD	1	B	60	55	5
NSAX-243.3 (433.3)	451 JOE NUNN RD	1	B	57	53	4
NSAX-246.3 (435.3)	535 CANDACE RD	1	B	57	52	5
NSAX-247.3 (436.3)	525 CANDACE RD	1	B	56	52	4

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWJN-01 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NWJN-01 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 12 JN-01 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 14 **# BENEFITS -** 17 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☑ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1553 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 31, Barrier JN-01

Alternative 31, Barrier JN-01 Acoustical Performance Summary	
Impacts: 14	Benefited Receptors @ ≥ 7 dB(A) NLR: 7
Impacted Receptors Benefited: 14	Total Benefits: 17
Non-Impacted Receptors Benefited: 3	

Alternative 31, Barrier JN-01 Parameters	
Length (ft): 1650	Area / Benefit (ft^2): 1553
Average Height (ft): 16	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 26400	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-243 (433)	506 JOE NUNN RD	1	B	69	58	11
NSAX-244 (434)	642 LONESOME PINE DR	1	B	73	59	14
NSAX-245 (435)	632 LONESOME PINE DR	1	B	73	60	13
NSAX-246 (436)	624 LONESOME PINE DR	1	B	70	60	10
NSAX-247 (437)	610 LONESOME PINE DR	1	B	68	60	8
NSAX-243.1 (433.1)	487 JOE NUNN RD	1	B	62	56	6
NSAX-244.1 (434.1)	490 JOE NUNN RD	1	B	62	55	7
NSAX-245.1 (435.1)	641 LONESOME PINE DR	1	B	63	56	7
NSAX-246.1 (436.1)	631 LONESOME PINE DR	1	B	62	56	6
NSAX-247.1 (437.1)	621 LONESOME PINE DR	1	B	61	56	5
NSAX-243.2 (433.2)	469 JOE NUNN RD	1	D	49	44	5
NSAX-244.2 (434.2)	478/480 JOE NUNN RD	2	B	58	53	5
NSAX-246.2 (435.2)	638 CANDACE RD	1	B	60	54	6
NSAX-247.2 (436.2)	524 CANDACE RD	1	B	60	54	6
NSAX-245.2 (437.2)	828 RANDY RD	1	B	60	55	5
NSAX-243.3 (433.3)	451 JOE NUNN RD	1	B	57	53	4
NSAX-246.3 (435.3)	535 CANDACE RD	1	B	57	52	5
NSAX-247.3 (436.3)	525 CANDACE RD	1	B	56	52	4

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWJN-01 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NWJN-01 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 31 JN-01 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 14 **# BENEFITS -** 17 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☑ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1553 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 32, Barrier JN-01

Alternative 32, Barrier JN-01 Acoustical Performance Summary	
Impacts: 14	Benefited Receptors @ ≥ 7 dB(A) NLR: 7
Impacted Receptors Benefited: 14	Total Benefits: 17
Non-Impacted Receptors Benefited: 3	

Alternative 32, Barrier JN-01 Parameters	
Length (ft): 1650	Area / Benefit (ft^2): 1553
Average Height (ft): 16	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 26400	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-243 (433)	506 JOE NUNN RD	1	B	69	58	11
NSAX-244 (434)	642 LONESOME PINE DR	1	B	73	59	14
NSAX-245 (435)	632 LONESOME PINE DR	1	B	73	60	13
NSAX-246 (436)	624 LONESOME PINE DR	1	B	70	60	10
NSAX-247 (437)	610 LONESOME PINE DR	1	B	68	60	8
NSAX-243.1 (433.1)	487 JOE NUNN RD	1	B	62	56	6
NSAX-244.1 (434.1)	490 JOE NUNN RD	1	B	62	55	7
NSAX-245.1 (435.1)	641 LONESOME PINE DR	1	B	63	56	7
NSAX-246.1 (436.1)	631 LONESOME PINE DR	1	B	62	56	6
NSAX-247.1 (437.1)	621 LONESOME PINE DR	1	B	61	56	5
NSAX-243.2 (433.2)	469 JOE NUNN RD	1	D	49	44	5
NSAX-244.2 (434.2)	478/480 JOE NUNN RD	2	B	58	53	5
NSAX-246.2 (435.2)	638 CANDACE RD	1	B	60	54	6
NSAX-247.2 (436.2)	524 CANDACE RD	1	B	60	54	6
NSAX-245.2 (437.2)	828 RANDY RD	1	B	60	55	5
NSAX-243.3 (433.3)	451 JOE NUNN RD	1	B	57	53	4
NSAX-246.3 (435.3)	535 CANDACE RD	1	B	57	52	5
NSAX-247.3 (436.3)	525 CANDACE RD	1	B	56	52	4

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWJN-01 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NWJN-01 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 32 JN-01 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 14 **# BENEFITS -** 17 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☑ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1553 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 63, Barrier JN-01

Alternative 63, Barrier JN-01 Acoustical Performance Summary	
Impacts: 14	Benefited Receptors @ ≥ 7 dB(A) NLR: 7
Impacted Receptors Benefited: 14	Total Benefits: 17
Non-Impacted Receptors Benefited: 3	

Alternative 63, Barrier JN-01 Parameters	
Length (ft): 1650	Area / Benefit (ft^2): 1553
Average Height (ft): 16	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 26400	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-243 (433)	506 JOE NUNN RD	1	B	69	58	11
NSAX-244 (434)	642 LONESOME PINE DR	1	B	73	59	14
NSAX-245 (435)	632 LONESOME PINE DR	1	B	73	60	13
NSAX-246 (436)	624 LONESOME PINE DR	1	B	70	60	10
NSAX-247 (437)	610 LONESOME PINE DR	1	B	68	61	7
NSAX-243.1 (433.1)	487 JOE NUNN RD	1	B	62	56	6
NSAX-244.1 (434.1)	490 JOE NUNN RD	1	B	62	55	7
NSAX-245.1 (435.1)	641 LONESOME PINE DR	1	B	63	56	7
NSAX-246.1 (436.1)	631 LONESOME PINE DR	1	B	62	56	6
NSAX-247.1 (437.1)	621 LONESOME PINE DR	1	B	61	56	5
NSAX-243.2 (433.2)	469 JOE NUNN RD	1	D	49	44	5
NSAX-244.2 (434.2)	478/480 JOE NUNN RD	2	B	58	53	5
NSAX-246.2 (435.2)	638 CANDACE RD	1	B	60	54	6
NSAX-247.2 (436.2)	524 CANDACE RD	1	B	60	54	6
NSAX-245.2 (437.2)	828 RANDY RD	1	B	60	55	5
NSAX-243.3 (433.3)	451 JOE NUNN RD	1	B	57	53	4
NSAX-246.3 (435.3)	535 CANDACE RD	1	B	57	52	5
NSAX-247.3 (436.3)	525 CANDACE RD	1	B	56	52	4

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWJN-01 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NWJN-01 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 63 JN-01 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 14 **# BENEFITS -** 17 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☑ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1553 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 65, Barrier JN-01

Alternative 65, Barrier JN-01 Acoustical Performance Summary	
Impacts: 14	Benefited Receptors @ ≥ 7 dB(A) NLR: 7
Impacted Receptors Benefited: 14	Total Benefits: 17
Non-Impacted Receptors Benefited: 3	

Alternative 65, Barrier JN-01 Parameters	
Length (ft): 1650	Area / Benefit (ft^2): 1553
Average Height (ft): 16	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 26400	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-243 (433)	506 JOE NUNN RD	1	B	69	58	11
NSAX-244 (434)	642 LONESOME PINE DR	1	B	73	59	14
NSAX-245 (435)	632 LONESOME PINE DR	1	B	73	60	13
NSAX-246 (436)	624 LONESOME PINE DR	1	B	70	60	10
NSAX-247 (437)	610 LONESOME PINE DR	1	B	68	61	7
NSAX-243.1 (433.1)	487 JOE NUNN RD	1	B	62	56	6
NSAX-244.1 (434.1)	490 JOE NUNN RD	1	B	62	55	7
NSAX-245.1 (435.1)	641 LONESOME PINE DR	1	B	63	56	7
NSAX-246.1 (436.1)	631 LONESOME PINE DR	1	B	62	56	6
NSAX-247.1 (437.1)	621 LONESOME PINE DR	1	B	61	56	5
NSAX-243.2 (433.2)	469 JOE NUNN RD	1	D	49	44	5
NSAX-244.2 (434.2)	478/480 JOE NUNN RD	2	B	58	53	5
NSAX-246.2 (435.2)	638 CANDACE RD	1	B	60	54	6
NSAX-247.2 (436.2)	524 CANDACE RD	1	B	60	54	6
NSAX-245.2 (437.2)	828 RANDY RD	1	B	60	55	5
NSAX-243.3 (433.3)	451 JOE NUNN RD	1	B	57	53	4
NSAX-246.3 (435.3)	535 CANDACE RD	1	B	57	52	5
NSAX-247.3 (436.3)	525 CANDACE RD	1	B	56	52	4

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWJN-01 does preliminarily meet NCDOT feasibility and reasonableness criteria.
NWJN-01 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 65 JN-01 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 14 **# BENEFITS -** 17 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☑ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1553 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 31, Barrier KH-03

Alternative 31, Barrier KH-03 Acoustical Performance Summary	
Impacts: 8	Benefited Receptors @ ≥ 7 dB(A) NLR: 5
Impacted Receptors Benefited: 8	Total Benefits: 10
Non-Impacted Receptors Benefited: 2	

Alternative 31, Barrier KH-03 Parameters	
Length (ft): 2400	Area / Benefit (ft^2): 2869
Average Height (ft): 12	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 28800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-10 (220)	2557 CEDAR DELL LN	1	B	60	55	5
NSAX-11 (221)	2529 CEDAR DELL LN	1	B	60	54	6
NSAX-12 (222)	2495 CEDAR DELL LN	1	B	59	53	6
NSAX-13 (223)	2465 CEDAR DELL LN	1	B	57	51	6
NSAX-14 (224)	1132 CEDAR DELL LOOP RD	1	B	65	57	8
NSAX-15 (225)	1102 CEDAR DELL LOOP RD	1	B	66	58	8
NSAX-16 (226)	1090 CEDAR DELL LOOP RD	1	B	66	58	8
NSAX-17 (227)	1072 CEDAR DELL LOOP RD	1	B	65	57	8
NSAX-18 (228)	1056 CEDAR DELL LOOP RD	1	B	57	53	4
NSAX-19 (229)	2356 CEDAR DELL LN	1	B	58	53	5
NSAX-20 (230)	1072 CEDAR DELL LOOP RD	0.13	C	72	60	12
NSAX-21 (231)	1072 CEDAR DELL LOOP RD	0.13	C	72	60	12
NSAX-22 (232)	1072 CEDAR DELL LOOP RD	0.13	C	67	59	8
NSAX-23 (233)	1072 CEDAR DELL LOOP RD	0.13	C	67	60	7
NSAX-24 (234)	1072 CEDAR DELL LOOP RD	0.13	C	67	61	6
NSAX-22.1 (232.1)	1072 CEDAR DELL LOOP RD	0.13	C	63	57	6
NSAX-23.1 (233.1)	1072 CEDAR DELL LOOP RD	0.13	C	63	58	5
NSAX-24.1 (234.1)	1072 CEDAR DELL LOOP RD	0.13	C	63	58	5
NSAX-25 (235)	2280 KENNEDY DAIRY RD	1	B	57	57	0

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWKH-03 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NWKH-03 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 31 KH-03 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 8 **# BENEFITS -** 10 **NAC:** ☐ **A** ☑ **B** ☑ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 2869 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 32, Barrier KH-03

Alternative 32, Barrier KH-03 Acoustical Performance Summary	
Impacts: 8	Benefited Receptors @ ≥ 7 dB(A) NLR: 5
Impacted Receptors Benefited: 8	Total Benefits: 10
Non-Impacted Receptors Benefited: 2	

Alternative 32, Barrier KH-03 Parameters	
Length (ft): 2400	Area / Benefit (ft^2): 2869
Average Height (ft): 12	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 28800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-10 (220)	2557 CEDAR DELL LN	1	B	60	55	5
NSAX-11 (221)	2529 CEDAR DELL LN	1	B	60	54	6
NSAX-12 (222)	2495 CEDAR DELL LN	1	B	59	53	6
NSAX-13 (223)	2465 CEDAR DELL LN	1	B	57	51	6
NSAX-14 (224)	1132 CEDAR DELL LOOP RD	1	B	65	57	8
NSAX-15 (225)	1102 CEDAR DELL LOOP RD	1	B	66	58	8
NSAX-16 (226)	1090 CEDAR DELL LOOP RD	1	B	66	58	8
NSAX-17 (227)	1072 CEDAR DELL LOOP RD	1	B	65	57	8
NSAX-18 (228)	1056 CEDAR DELL LOOP RD	1	B	57	53	4
NSAX-19 (229)	2356 CEDAR DELL LN	1	B	58	53	5
NSAX-20 (230)	1072 CEDAR DELL LOOP RD	0.13	C	72	60	12
NSAX-21 (231)	1072 CEDAR DELL LOOP RD	0.13	C	72	60	12
NSAX-22 (232)	1072 CEDAR DELL LOOP RD	0.13	C	67	59	8
NSAX-23 (233)	1072 CEDAR DELL LOOP RD	0.13	C	67	60	7
NSAX-24 (234)	1072 CEDAR DELL LOOP RD	0.13	C	67	61	6
NSAX-22.1 (232.1)	1072 CEDAR DELL LOOP RD	0.13	C	63	57	6
NSAX-23.1 (233.1)	1072 CEDAR DELL LOOP RD	0.13	C	63	58	5
NSAX-24.1 (234.1)	1072 CEDAR DELL LOOP RD	0.13	C	63	58	5
NSAX-25 (235)	2280 KENNEDY DAIRY RD	1	B	57	57	0

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWKH-03 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NWKH-03 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 32 KH-03 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 8 **# BENEFITS -** 8 **NAC:** ☐ **A** ☑ **B** ☑ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 2869 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 11, Barrier 11-05

Alternative 11, Barrier 11-05 Acoustical Performance Summary	
Impacts: 7	Benefited Receptors @ ≥ 7 dB(A) NLR: 0
Impacted Receptors Benefited: 0	Total Benefits: 0
Non-Impacted Receptors Benefited: 0	

Alternative 11, Barrier 11-05 Parameters	
Length (ft): 700	Area / Benefit (ft^2): N/A
Average Height (ft): 24	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 16800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-227 (416)	345 HWY 11	1	B	72	72	0
NSAX-228 (417)	335 HWY 11	1	B	66	66	0
NSAX-229 (418)	323 HWY 11	1	B	68	68	0
NSAX-230 (419)	218 SHERRY DR	1	B	68	68	0
NSAX-231 (420)	217 SHERRY DR	1	B	72	72	0
NSAX-232 (422)	226 SHERRY DR	1	B	60	61	-1
NSAX-233 (423)	331 HWY 11	1	B	59	61	-2
NSAX-234 (424)	258 SHERRY DR	1	B	60	61	-1
NSAX-235 (425)	261 SHERRY DR	1	B	56	61	-5
NSAX-236 (426)	219 DEBBIE AVE	1	B	57	61	-4
NSAX-231.1 (420.1)	348 HWY 11	1	B	66	66	0
NSAX-231.2 (420.2)	346 HWY 11	1	B	66	66	0
NSAX-232.1 (422.1)	355 SHERRY DR	1	B	64	64	0
NSAX-232.2 (422.2)	379 HWY 11	1	B	64	64	0
NSAX-232.3 (422.3)	373 HWY 11	1	B	64	64	0
NSAX-232.4 (422.4)	363 HWY 11	1	B	64	64	0
NSAX-232.5 (426.1)	355 HWY 11	1	B	64	64	0
NSAX-236.1 (426.2)	237 DEBBIE AVE	1	B	56	56	0
NSAX-236.2 (426.3)	247 DEBBIE AVE	1	B	56	56	0

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW11-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW11-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 11 11-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 7 **# BENEFITS -** 0 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? NO
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? NO
2. Is the quantity per benefited receptor of N/A square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? NO
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 12, Barrier 11-05

Alternative 12, Barrier 11-05 Acoustical Performance Summary	
Impacts: 7	Benefited Receptors @ ≥ 7 dB(A) NLR: 0
Impacted Receptors Benefited: 0	Total Benefits: 0
Non-Impacted Receptors Benefited: 0	

Alternative 12, Barrier 11-05 Parameters	
Length (ft): 700	Area / Benefit (ft^2): N/A
Average Height (ft): 24	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 16800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-227 (416)	345 HWY 11	1	B	72	72	0
NSAX-228 (417)	335 HWY 11	1	B	66	65	1
NSAX-229 (418)	323 HWY 11	1	B	68	68	0
NSAX-230 (419)	218 SHERRY DR	1	B	68	68	0
NSAX-231 (420)	217 SHERRY DR	1	B	72	72	0
NSAX-232 (422)	226 SHERRY DR	1	B	60	61	-1
NSAX-233 (423)	331 HWY 11	1	B	59	61	-2
NSAX-234 (424)	258 SHERRY DR	1	B	60	61	-1
NSAX-235 (425)	261 SHERRY DR	1	B	56	61	-5
NSAX-236 (426)	219 DEBBIE AVE	1	B	57	61	-4
NSAX-231.1 (420.1)	348 HWY 11	1	B	66	66	0
NSAX-231.2 (420.2)	346 HWY 11	1	B	66	66	0
NSAX-232.1 (422.1)	355 SHERRY DR	1	B	63	63	0
NSAX-232.2 (422.2)	379 HWY 11	1	B	63	63	0
NSAX-232.3 (422.3)	373 HWY 11	1	B	63	63	0
NSAX-232.4 (422.4)	363 HWY 11	1	B	63	63	0
NSAX-232.5 (426.1)	355 HWY 11	1	B	63	63	0
NSAX-236.1 (426.2)	237 DEBBIE AVE	1	B	56	61	-5
NSAX-236.2 (426.3)	247 DEBBIE AVE	1	B	56	61	-5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW11-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW11-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 12 11-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 7 **# BENEFITS -** 0 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? NO
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? NO
2. Is the quantity per benefited receptor of N/A square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? NO
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 31, Barrier 11-05

Alternative 31, Barrier 11-05 Acoustical Performance Summary	
Impacts: 7	Benefited Receptors @ ≥ 7 dB(A) NLR: 0
Impacted Receptors Benefited: 0	Total Benefits: 0
Non-Impacted Receptors Benefited: 0	

Alternative 31, Barrier 11-05 Parameters	
Length (ft): 700	Area / Benefit (ft^2): N/A
Average Height (ft): 24	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 16800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-227 (416)	345 HWY 11	1	B	72	72	0
NSAX-228 (417)	335 HWY 11	1	B	66	66	0
NSAX-229 (418)	323 HWY 11	1	B	69	69	0
NSAX-230 (419)	218 SHERRY DR	1	B	68	68	0
NSAX-231 (420)	217 SHERRY DR	1	B	72	72	0
NSAX-232 (422)	226 SHERRY DR	1	B	60	61	-1
NSAX-233 (423)	331 HWY 11	1	B	60	61	-1
NSAX-234 (424)	258 SHERRY DR	1	B	60	61	-1
NSAX-235 (425)	261 SHERRY DR	1	B	56	61	-5
NSAX-236 (426)	219 DEBBIE AVE	1	B	57	61	-4
NSAX-231.1 (420.1)	348 HWY 11	1	B	66	66	0
NSAX-231.2 (420.2)	346 HWY 11	1	B	67	67	0
NSAX-232.1 (422.1)	355 SHERRY DR	1	B	64	64	0
NSAX-232.2 (422.2)	379 HWY 11	1	B	64	64	0
NSAX-232.3 (422.3)	373 HWY 11	1	B	64	64	0
NSAX-232.4 (422.4)	363 HWY 11	1	B	64	64	0
NSAX-232.5 (426.1)	355 HWY 11	1	B	64	64	0
NSAX-236.1 (426.2)	237 DEBBIE AVE	1	B	56	61	-5
NSAX-236.2 (426.3)	247 DEBBIE AVE	1	B	56	61	-5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW11-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW11-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 31 11-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 7 **# BENEFITS -** 0 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? NO
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? NO
2. Is the quantity per benefited receptor of N/A square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? NO
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 32, Barrier 11-05

Alternative 32, Barrier 11-05 Acoustical Performance Summary	
Impacts: 7	Benefited Receptors @ ≥ 7 dB(A) NLR: 0
Impacted Receptors Benefited: 0	Total Benefits: 0
Non-Impacted Receptors Benefited: 0	

Alternative 32, Barrier 11-05 Parameters	
Length (ft): 700	Area / Benefit (ft^2): N/A
Average Height (ft): 24	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 16800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-227 (416)	345 HWY 11	1	B	72	72	0
NSAX-228 (417)	335 HWY 11	1	B	66	66	0
NSAX-229 (418)	323 HWY 11	1	B	69	69	0
NSAX-230 (419)	218 SHERRY DR	1	B	68	68	0
NSAX-231 (420)	217 SHERRY DR	1	B	72	72	0
NSAX-232 (422)	226 SHERRY DR	1	B	60	61	-1
NSAX-233 (423)	331 HWY 11	1	B	60	61	-1
NSAX-234 (424)	258 SHERRY DR	1	B	60	61	-1
NSAX-235 (425)	261 SHERRY DR	1	B	56	61	-5
NSAX-236 (426)	219 DEBBIE AVE	1	B	57	61	-4
NSAX-231.1 (420.1)	348 HWY 11	1	B	66	66	0
NSAX-231.2 (420.2)	346 HWY 11	1	B	67	67	0
NSAX-232.1 (422.1)	355 SHERRY DR	1	B	64	64	0
NSAX-232.2 (422.2)	379 HWY 11	1	B	64	64	0
NSAX-232.3 (422.3)	373 HWY 11	1	B	64	64	0
NSAX-232.4 (422.4)	363 HWY 11	1	B	64	64	0
NSAX-232.5 (426.1)	355 HWY 11	1	B	64	64	0
NSAX-236.1 (426.2)	237 DEBBIE AVE	1	B	56	61	-5
NSAX-236.2 (426.3)	247 DEBBIE AVE	1	B	56	61	-5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW11-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW11-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 32 11-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 7 **# BENEFITS -** 0 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? NO
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? NO
2. Is the quantity per benefited receptor of N/A square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? NO
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 63, Barrier 11-05

Alternative 63, Barrier 11-05 Acoustical Performance Summary	
Impacts: 7	Benefited Receptors @ ≥ 7 dB(A) NLR: 0
Impacted Receptors Benefited: 0	Total Benefits: 0
Non-Impacted Receptors Benefited: 0	

Alternative 63, Barrier 11-05 Parameters	
Length (ft): 700	Area / Benefit (ft^2): N/A
Average Height (ft): 24	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 16800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-227 (416)	345 HWY 11	1	B	72	72	0
NSAX-228 (417)	335 HWY 11	1	B	66	66	0
NSAX-229 (418)	323 HWY 11	1	B	68	68	0
NSAX-230 (419)	218 SHERRY DR	1	B	68	68	0
NSAX-231 (420)	217 SHERRY DR	1	B	72	72	0
NSAX-232 (422)	226 SHERRY DR	1	B	60	61	-1
NSAX-233 (423)	331 HWY 11	1	B	59	61	-2
NSAX-234 (424)	258 SHERRY DR	1	B	60	61	-1
NSAX-235 (425)	261 SHERRY DR	1	B	57	61	-4
NSAX-236 (426)	219 DEBBIE AVE	1	B	57	61	-4
NSAX-231.1 (420.1)	348 HWY 11	1	B	66	66	0
NSAX-231.2 (420.2)	346 HWY 11	1	B	66	66	0
NSAX-232.1 (422.1)	355 SHERRY DR	1	B	64	64	0
NSAX-232.2 (422.2)	379 HWY 11	1	B	64	64	0
NSAX-232.3 (422.3)	373 HWY 11	1	B	64	64	0
NSAX-232.4 (422.4)	363 HWY 11	1	B	64	64	0
NSAX-232.5 (426.1)	355 HWY 11	1	B	64	64	0
NSAX-236.1 (426.2)	237 DEBBIE AVE	1	B	56	61	-5
NSAX-236.2 (426.3)	247 DEBBIE AVE	1	B	56	61	-5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW11-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW11-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 63 11-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 7 **# BENEFITS -** 0 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? NO
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? NO
2. Is the quantity per benefited receptor of N/A square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? NO
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 65, Barrier 11-05

Alternative 65, Barrier 11-05 Acoustical Performance Summary	
Impacts: 7	Benefited Receptors @ ≥ 7 dB(A) NLR: 0
Impacted Receptors Benefited: 0	Total Benefits: 0
Non-Impacted Receptors Benefited: 0	

Alternative 65, Barrier 11-05 Parameters	
Length (ft): 700	Area / Benefit (ft^2): N/A
Average Height (ft): 24	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 16800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-227 (416)	345 HWY 11	1	B	72	72	0
NSAX-228 (417)	335 HWY 11	1	B	66	66	0
NSAX-229 (418)	323 HWY 11	1	B	68	68	0
NSAX-230 (419)	218 SHERRY DR	1	B	68	68	0
NSAX-231 (420)	217 SHERRY DR	1	B	72	72	0
NSAX-232 (422)	226 SHERRY DR	1	B	60	61	-1
NSAX-233 (423)	331 HWY 11	1	B	59	61	-2
NSAX-234 (424)	258 SHERRY DR	1	B	60	61	-1
NSAX-235 (425)	261 SHERRY DR	1	B	57	61	-4
NSAX-236 (426)	219 DEBBIE AVE	1	B	57	61	-4
NSAX-231.1 (420.1)	348 HWY 11	1	B	66	66	0
NSAX-231.2 (420.2)	346 HWY 11	1	B	66	66	0
NSAX-232.1 (422.1)	355 SHERRY DR	1	B	64	64	0
NSAX-232.2 (422.2)	379 HWY 11	1	B	64	64	0
NSAX-232.3 (422.3)	373 HWY 11	1	B	64	64	0
NSAX-232.4 (422.4)	363 HWY 11	1	B	64	64	0
NSAX-232.5 (426.1)	355 HWY 11	1	B	64	64	0
NSAX-236.1 (426.2)	237 DEBBIE AVE	1	B	56	61	-5
NSAX-236.2 (426.3)	247 DEBBIE AVE	1	B	56	61	-5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW11-05 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW11-05 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 65 11-05 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 7 **# BENEFITS -** 0 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? NO
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? NO
2. Is the quantity per benefited receptor of N/A square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? NO
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 1 UE SB, Barrier GO-03

Alternative 1 UE SB, Barrier GO-03 Acoustical Performance Summary	
Impacts: 7	Benefited Receptors @ ≥ 7 dB(A) NLR: 4
Impacted Receptors Benefited: 7	Total Benefits: 7
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE SB, Barrier GO-03 Parameters	
Length (ft): 1350	Area / Benefit (ft^2): 4243
Average Height (ft): 22	Allowable Area / Benefit (ft^2): 2500
Area (ft^2): 29700	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-91 (301)	400 FOURTH ST	1	B	66	58	8
NSAX-92 (302)	391 FOURTH ST	1	B	70	56	14
NSAX-93 (303)	390 FOURTH ST	1	B	63	57	6
NSAX-94 (304)	381 FOURTH ST	1	B	68	56	12
NSAX-95 (305)	365 FOURTH ST	1	B	67	56	11
NSAX-96 (306)	366 FOURTH ST	1	B	60	55	5
NSAX-98 (308)	339 FOURTH ST	1	B	61	56	5
NSAX-99 (309)	326 FOURTH ST	1	B	58	55	3

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NWGO-03 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NWGO-03 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1UESB GO-03 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 7 **# BENEFITS -** 7 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 4243 square feet less than the maximum allowable quantity per benefited receptor of 2500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 1 UE SB, Barrier 58-01

Alternative 1 UE SB, Barrier 58-01 Acoustical Performance Summary	
Impacts: 4	Benefited Receptors @ ≥ 7 dB(A) NLR: 0
Impacted Receptors Benefited: 0	Total Benefits: 0
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE SB, Barrier 58-01 Parameters	
Length (ft): 450	Area / Benefit (ft^2): N/A
Average Height (ft): 24	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 10800	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-166 (368)	415 AARON JOHNSON LN	1	B	69	68	1
NSAX-167 (369)	502 HWY 58	1	B	69	69	0
NSAX-168 (370)	512 HWY 58	1	B	69	69	0
NSAX-169 (371)	572 HWY 58	1	B	68	69	-1

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW58-01 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.

NW58-01 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1UESB 58-01 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 4 **# BENEFITS -** 0 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? NO
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? NO
2. Is the quantity per benefited receptor of N/A square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? NO
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 1 UE, Barrier 70-21

Alternative 1 UE, Barrier 70-21 Acoustical Performance Summary	
Impacts: 0	Benefited Receptors @ ≥ 7 dB(A) NLR: 0
Impacted Receptors Benefited: 0	Total Benefits: 0
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE, Barrier 70-21 Parameters	
Length (ft): 900	Area / Benefit (ft^2): 48000
Average Height (ft): 24	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 21600	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAX-38 (248)	WESTVIEW CEMETERY	0.05	C	71	66	5
NSAX-39 (249)	WESTVIEW CEMETERY	0.05	C	70	60	10
NSAX-40 (250)	WESTVIEW CEMETERY	0.05	C	70	60	10
NSAX-41 (251)	WESTVIEW CEMETERY	0.05	C	69	60	9
NSAX-42 (252)	WESTVIEW CEMETERY	0.05	C	69	60	9
NSAX-43 (253)	WESTVIEW CEMETERY	0.05	C	68	60	8
NSAX-44 (254)	WESTVIEW CEMETERY	0.05	C	67	60	7
NSAX-45 (255)	WESTVIEW CEMETERY	0.05	C	66	60	6
NSAX-46 (256)	WESTVIEW CEMETERY	0.05	C	61	60	1
NSAX-47 (257)	WESTVIEW CEMETERY	0.05	C	60	60	0
NSAX-48 (258)	WESTVIEW CEMETERY	0.05	C	62	60	2
NSAX-49 (259)	WESTVIEW CEMETERY	0.05	C	62	60	2
NSAX-39.1 (249.1)	WESTVIEW CEMETERY	0.05	C	64	60	4
NSAX-40.1 (250.1)	WESTVIEW CEMETERY	0.05	C	65	60	5
NSAX-40.2 (250.2)	WESTVIEW CEMETERY	0.05	C	60	60	0
NSAX-41.1 (251.1)	WESTVIEW CEMETERY	0.05	C	63	60	3
NSAX-41.2 (251.2)	WESTVIEW CEMETERY	0.05	C	60	60	0
NSAX-42.1 (252.1)	WESTVIEW CEMETERY	0.05	C	63	60	3
NSAX-42.2 (252.2)	WESTVIEW CEMETERY	0.05	C	59	59	0
NSAX-47.1 (257.1)	WESTVIEW CEMETERY	0.05	C	59	59	0
NSAX-48.1 (258.1)	WESTVIEW CEMETERY	0.05	C	59	59	0
NSAX-49.1 (259.1)	WESTVIEW CEMETERY	0.05	C	59	59	0

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-21 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-21 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1 UE 70-21 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 0 **# BENEFITS -** 0 **NAC:** ☐ **A** ☐ **B** ☑ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? NO
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 48000 square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 1 UE, Barrier 70-25

Alternative 1 UE, Barrier 70-25 Acoustical Performance Summary	
Impacts: 4	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 4	Total Benefits: 4
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE, Barrier 70-25 Parameters	
Length (ft): 650	Area / Benefit (ft^2): 1300
Average Height (ft): 8	Allowable Area / Benefit (ft^2): 1500
Area (ft^2): 5200	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE28-02 (71)	1703 NEW BERN RD	1	B	74	67	7
NSAE28-03 (72)	1701 NEW BERN RD	1	B	70	65	5
NSAE28-04 (73)	1699 NEW BERN RD	1	B	70	65	5
NSAE28-05 (74)	1613 NEW BERN RD	1	B	67	62	5
NSAE28-06 (75)	1613 NEW BERN RD	1	B	62	61	1

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-25 does preliminarily meet NCDOT feasibility and reasonableness criteria.

NW70-25 is likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1 UE 70-25 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 4 **# BENEFITS -** 4 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 1300 square feet less than the maximum allowable quantity per benefited receptor of 1500 square feet? YES

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? YES
3. Is the noise wall likely? YES

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 1 UE, Barrier 70-28

Alternative 1 UE, Barrier 70-28 Acoustical Performance Summary	
Impacts: 3	Benefited Receptors @ ≥ 7 dB(A) NLR: 2
Impacted Receptors Benefited: 3	Total Benefits: 3
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE, Barrier 70-28 Parameters	
Length (ft): 650	Area / Benefit (ft^2): 2057
Average Height (ft): 10	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 6500	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE30-01 (80)	1003 NEW BERN RD	1.58	D	60	53	7
NSAE30-02 (81)	1003 NEW BERN RD	1.58	D	60	54	6

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-28 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-28 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1 UE 70-28 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 3 **# BENEFITS -** 3 **NAC:** ☐ **A** ☐ **B** ☐ **C** ☑ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 2057 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 1 UE, Barrier 70-41

Alternative 1 UE, Barrier 70-41 Acoustical Performance Summary	
Impacts: 5	Benefited Receptors @ ≥ 7 dB(A) NLR: 2
Impacted Receptors Benefited: 5	Total Benefits: 5
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE, Barrier 70-41 Parameters	
Length (ft): 1100	Area / Benefit (ft^2): 2640
Average Height (ft): 12	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 13200	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE44-06 (118)	2051 HWY 70 E	1	B	68	63	5
NSAE44-07 (119)	120 LYNLEY PL	1	B	68	63	5
NSAE44-10 (120)	122 KRISTEN LEIGH DR	1	B	69	62	7
NSAE44-11 (121)	123 KRISTEN LEIGH DR	1	B	69	62	7
NSAE44-16 (123)	2109 HWY 70 E	1	B	66	61	5

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-41 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.

NW70-41 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1 UE 70-41 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 5 **# BENEFITS -** 5 **NAC:** ☐ **A** ☑ **B** ☑ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 2640 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Noise Barrier Analysis
Alternative 1 UE SB, Barrier 70-41

Alternative 1 UE SB, Barrier 70-41 Acoustical Performance Summary	
Impacts: 4	Benefited Receptors @ ≥ 7 dB(A) NLR: 1
Impacted Receptors Benefited: 4	Total Benefits: 4
Non-Impacted Receptors Benefited: 0	

Alternative 1 UE SB, Barrier 70-41 Parameters	
Length (ft): 750	Area / Benefit (ft^2): 2250
Average Height (ft): 12	Allowable Area / Benefit (ft^2): 2000
Area (ft^2): 9000	

Receptor No.	Address	E.R.s	NAC Category	Future Year Build dB(A)	dB(A) With Barrier	Noise Level Red. (dB(A))
NSAE44-06 (118)	2051 HWY 70 E	1	B	68	63	5
NSAE44-07 (119)	120 LYNLEY PL	1	B	68	63	5
NSAE44-10 (120)	122 KRISTEN LEIGH DR	1	B	68	62	6
NSAE44-11 (121)	123 KRISTEN LEIGH DR	1	B	69	62	7
NSAE44-16 (123)	2109 HWY 70 E	1	B	65	65	0

Impact =
5 to 6 dB(A) Reduction =
≥ 7 dB(A) Reduction =

NW70-41 does NOT preliminarily meet NCDOT feasibility and reasonableness criteria due to Area/Benefit exceeding the Allowable Area/Benefit.
NW70-41 is NOT likely to be incorporated into the project.

To be used with Traffic Noise Reports only

NCDOT NOISE WALL

FEASIBILITY & REASONABLENESS WORKSHEET

PROJECT - Kinston Bypass **TIP# -** R-2553

NOISE WALL # - 1UESB 70-41 **COUNTY(IES) -** Lenoir, Jones and Craven

 # IMPACTS - 4 **# BENEFITS -** 4 **NAC:** ☐ **A** ☑ **B** ☐ **C** ☐ **D** ☐ **E**

A. FEASBILITY:

1. Can a 5-dB(A) reduction in traffic noise levels be achieved for at least two impacted receptors? YES
2. Does topography negatively affect the proposed noise wall? NO
3. Does the proposed noise wall negatively affect property access, drainage, utilities or maintenance requirements? NO
4. Is there control of access in the vicinity of the proposed noise wall? YES

B. REASONABLENESS

1. Can a 7- dB(A) reduction in traffic noise levels be achieved for at least one benefited receptor? YES
2. Is the quantity per benefited receptor of 2250 square feet less than the maximum allowable quantity per benefited receptor of 2000 square feet? NO

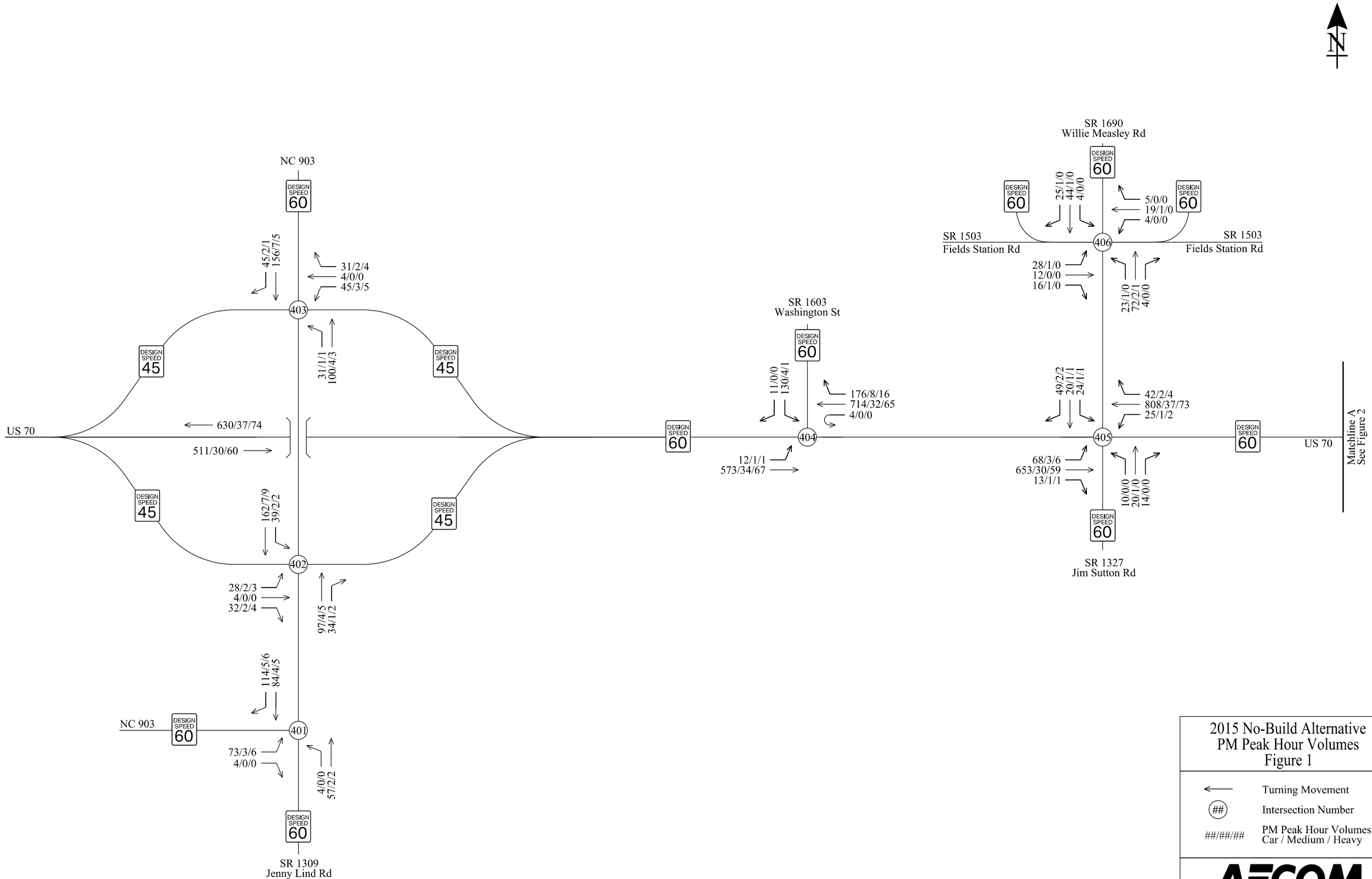
C. NOISE WALL PRELIMINARY DECISION

1. Is the noise wall preliminarily feasible? YES
2. Is the noise wall preliminarily reasonable? NO
3. Is the noise wall likely? NO

PREPARED BY: Elizabeth Wargo **DATE PREPARED:** 3/12/2018

Appendix E

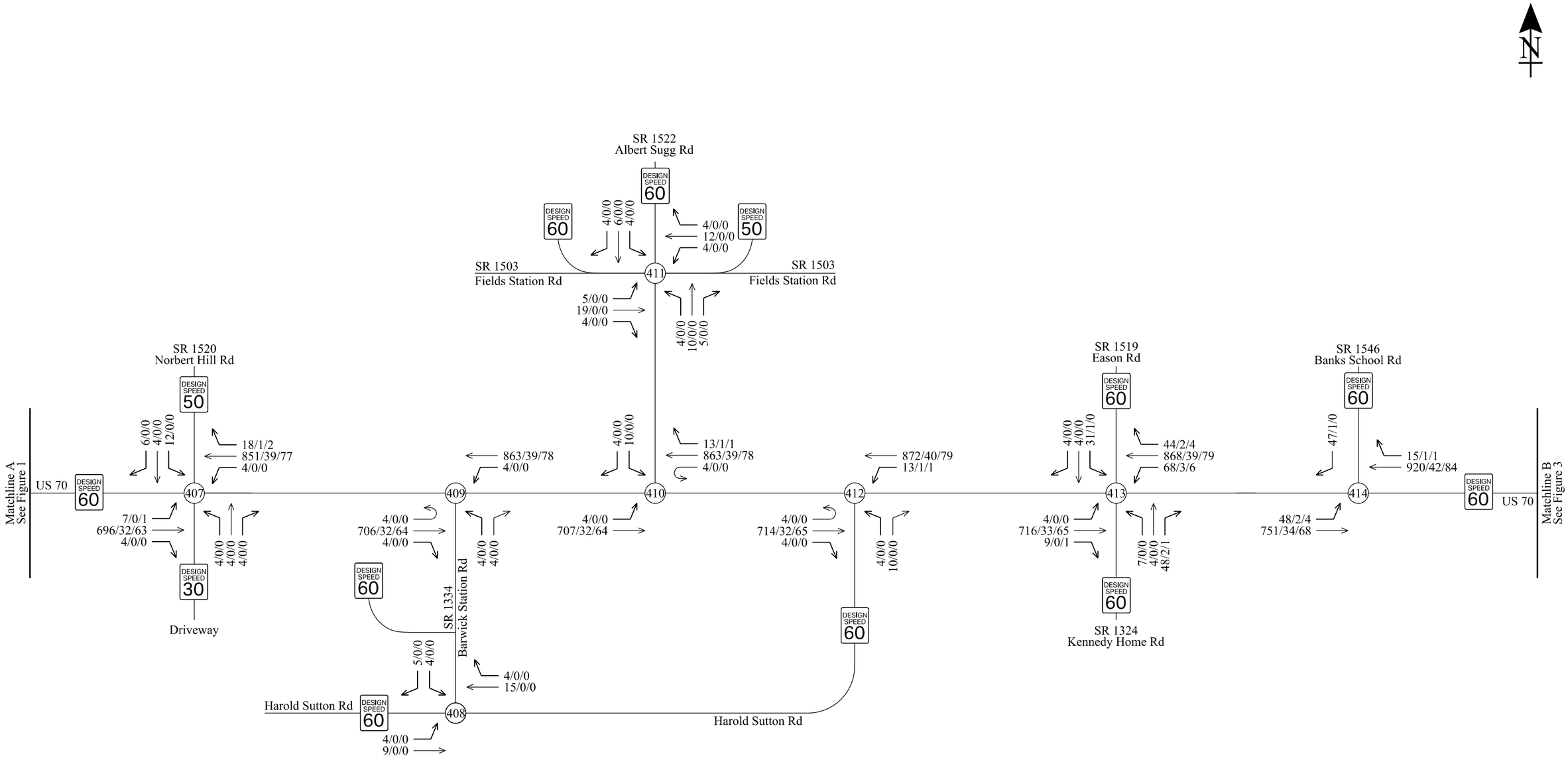
Predicted Traffic Volumes



2015 No-Build Alternative
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

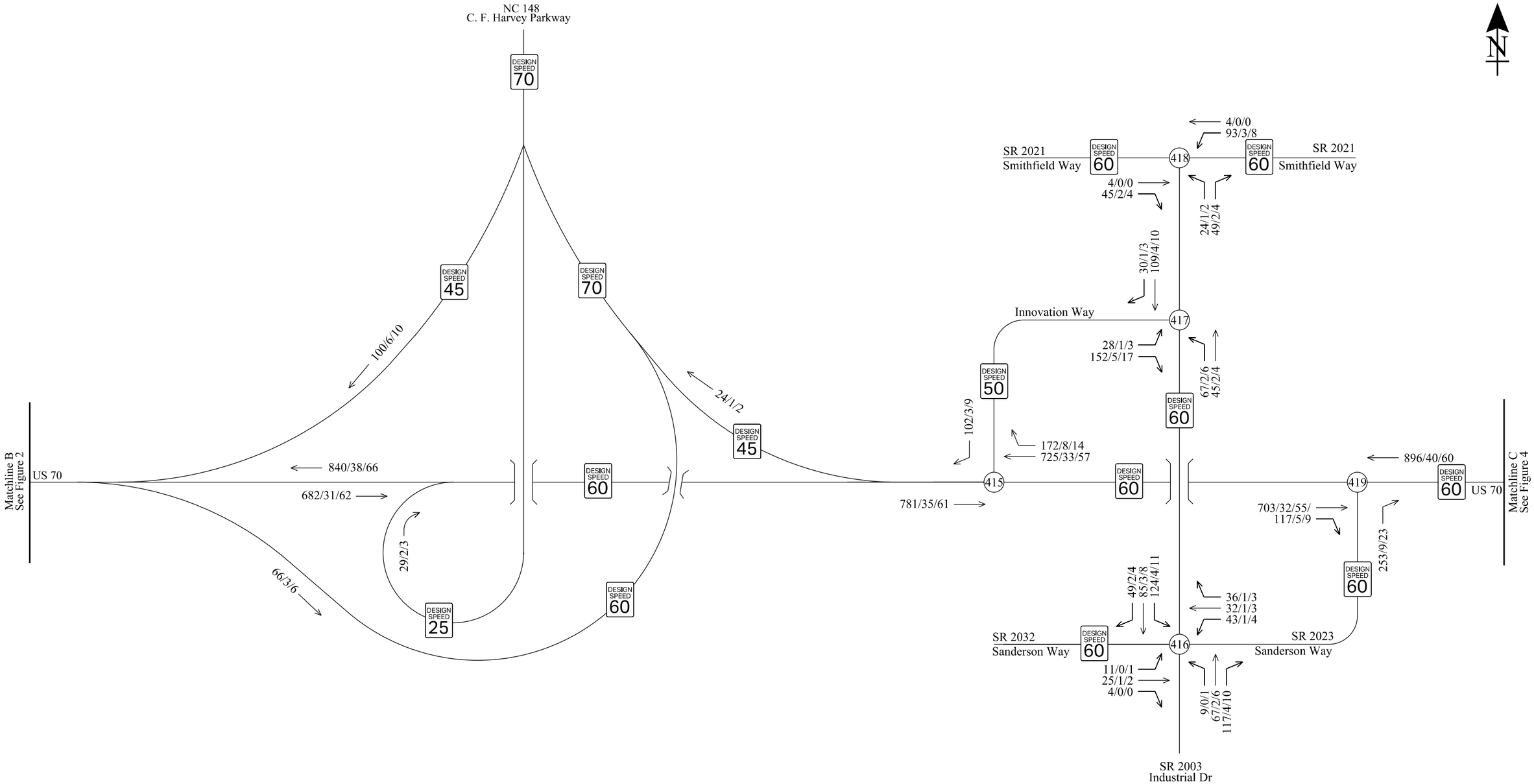
AECOM



2015 No-Build Alternative
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

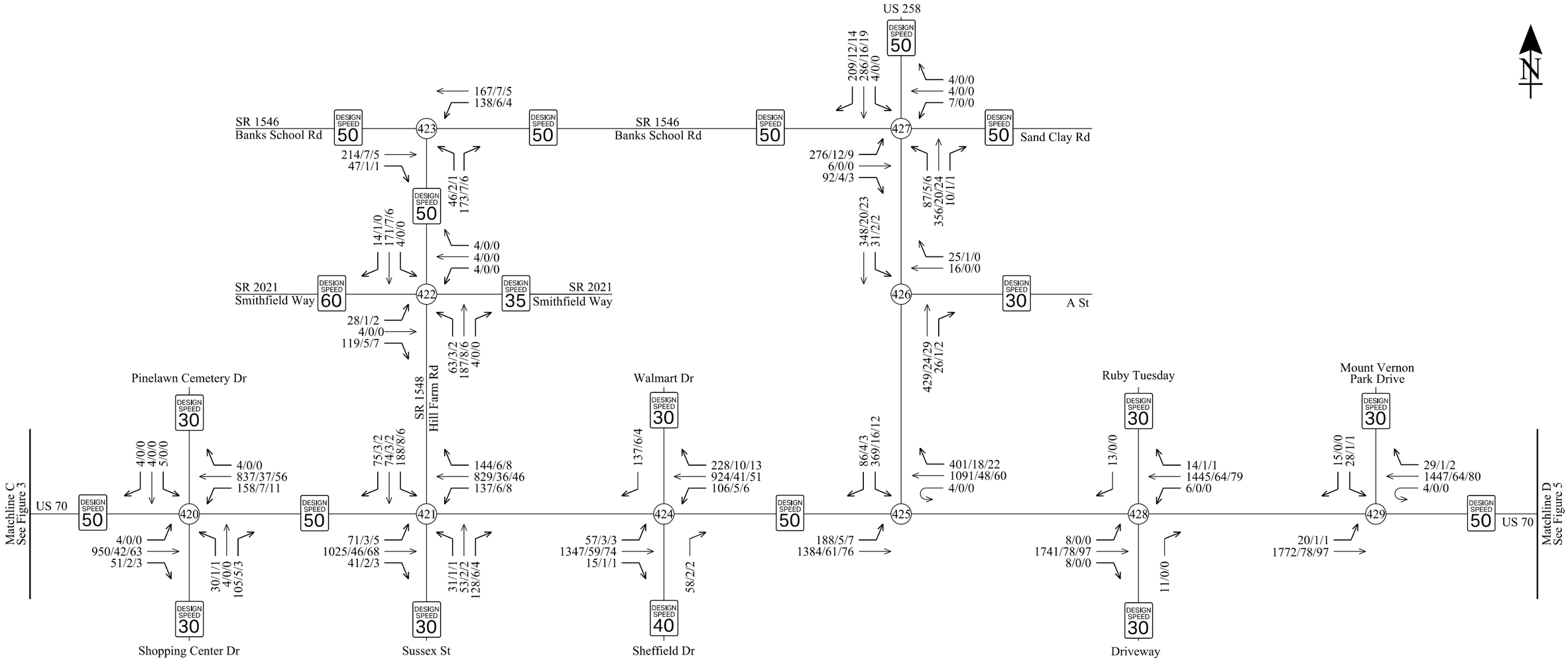
AECOM



2015 No-Build Alternative
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

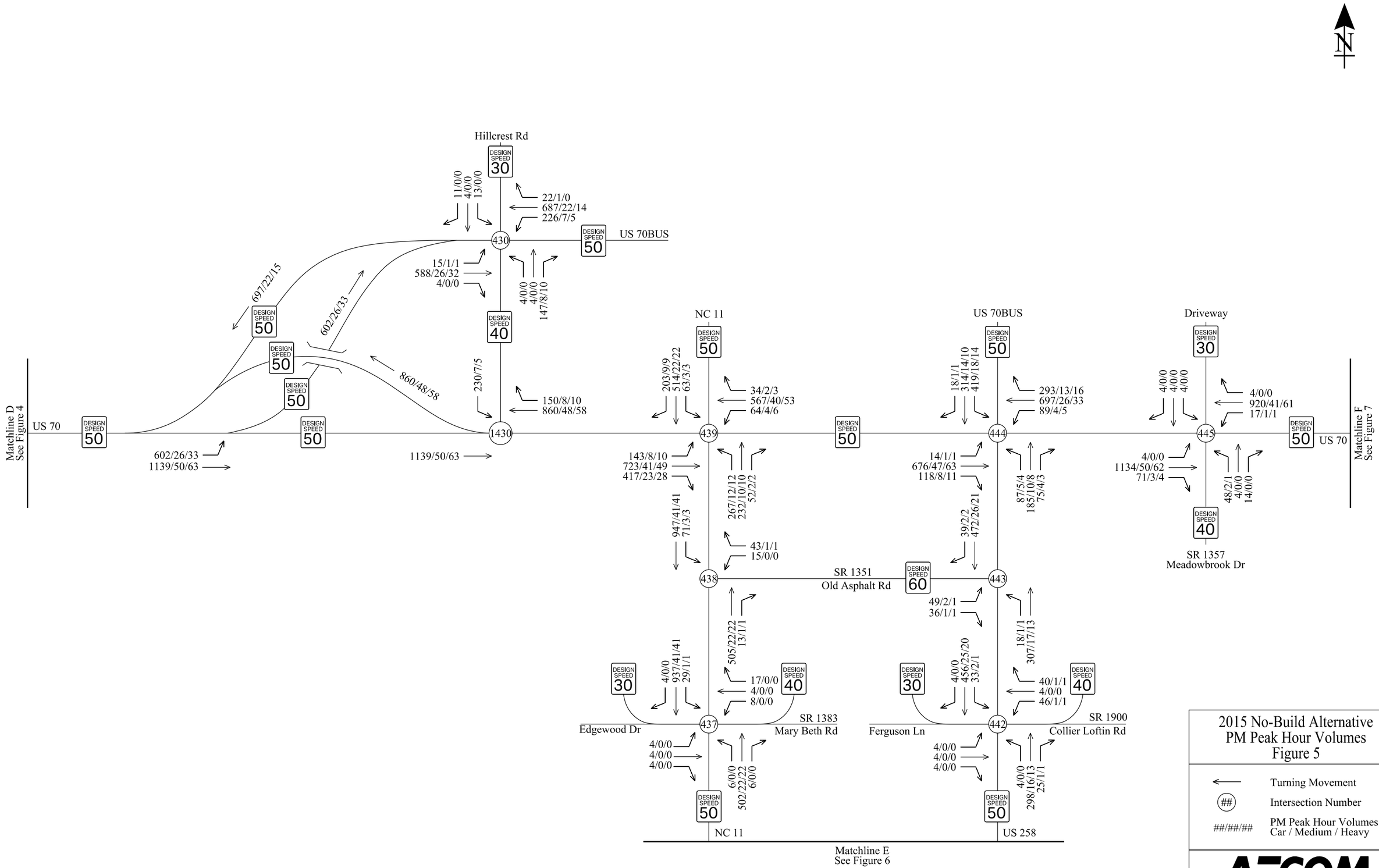
AECOM



2015 No-Build Alternative
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

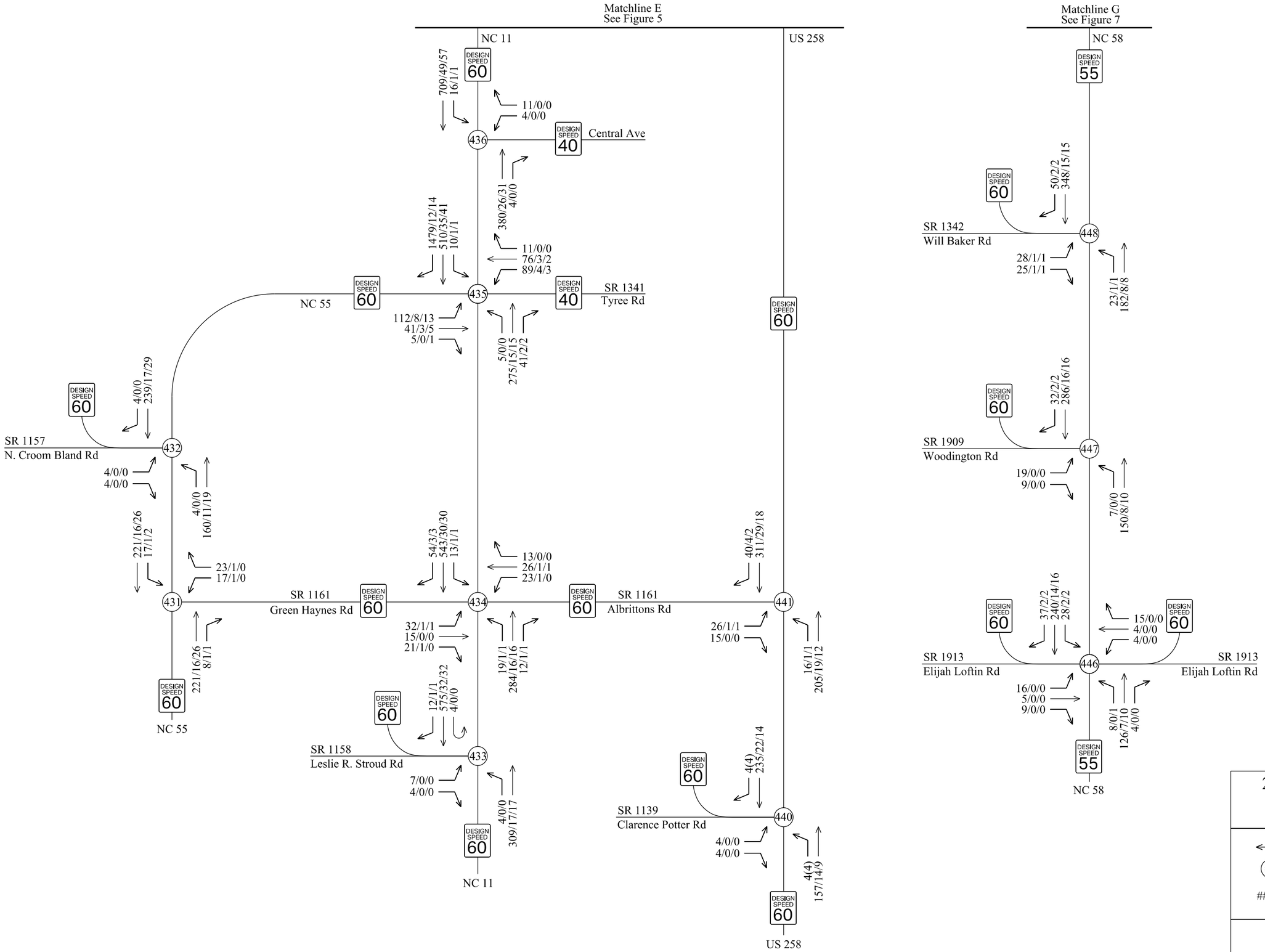
AECOM



2015 No-Build Alternative
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

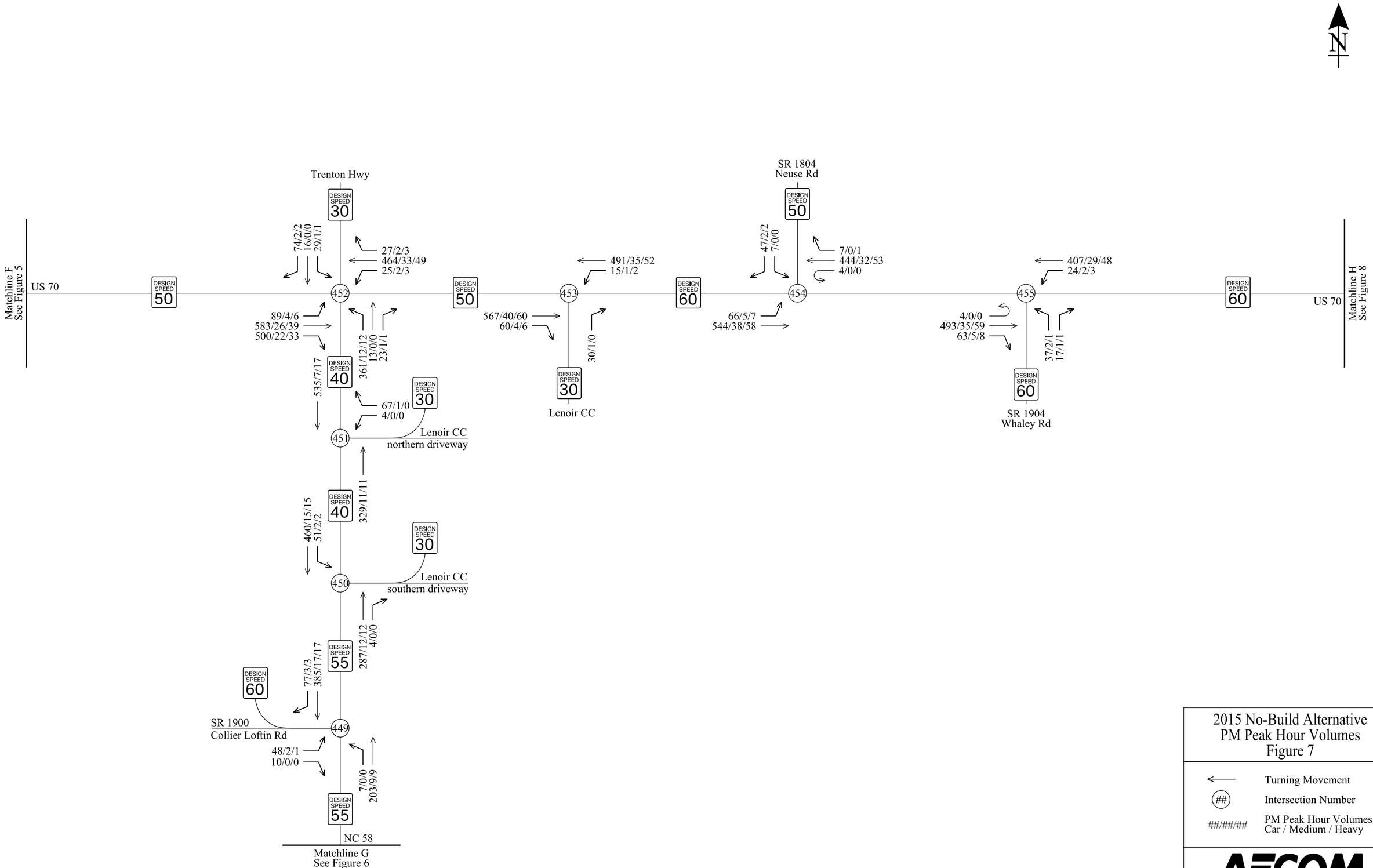
AECOM



2015 No-Build Alternative
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

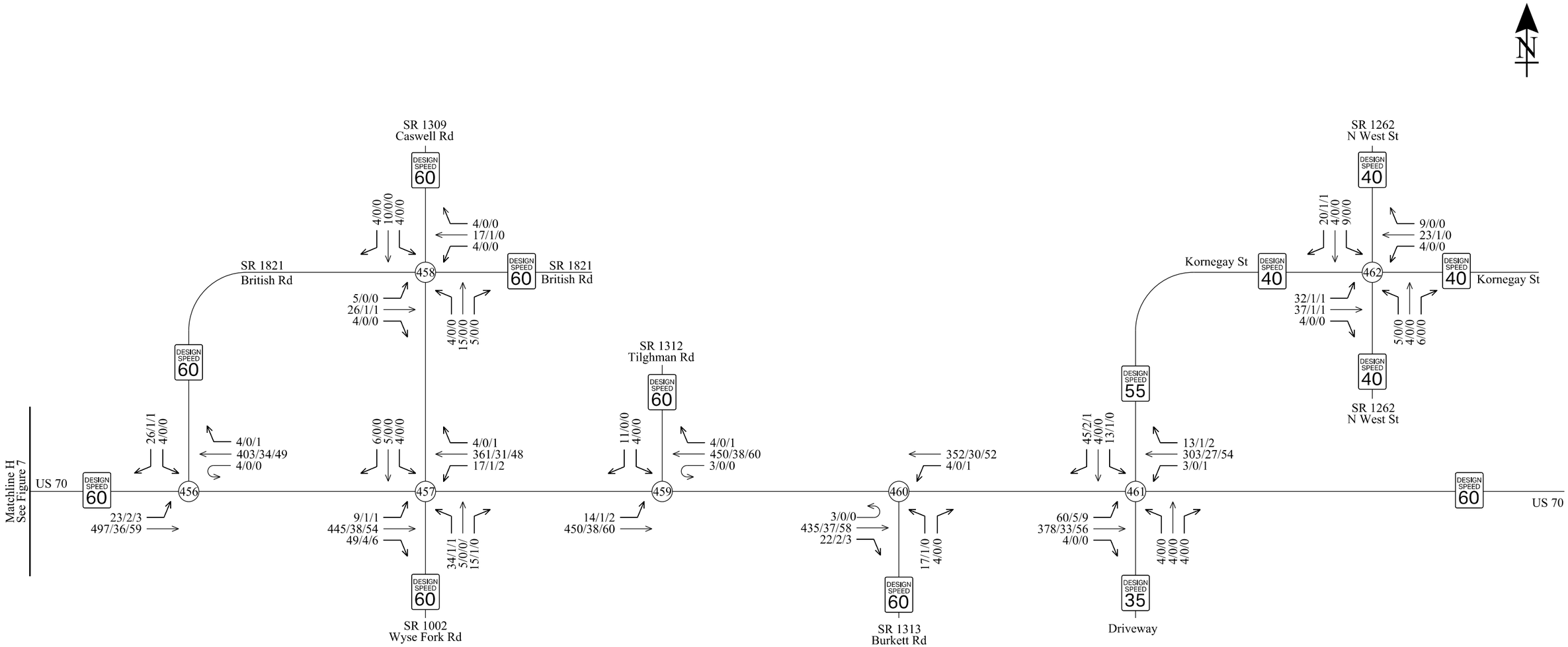
AECOM



2015 No-Build Alternative
PM Peak Hour Volumes
Figure 7

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

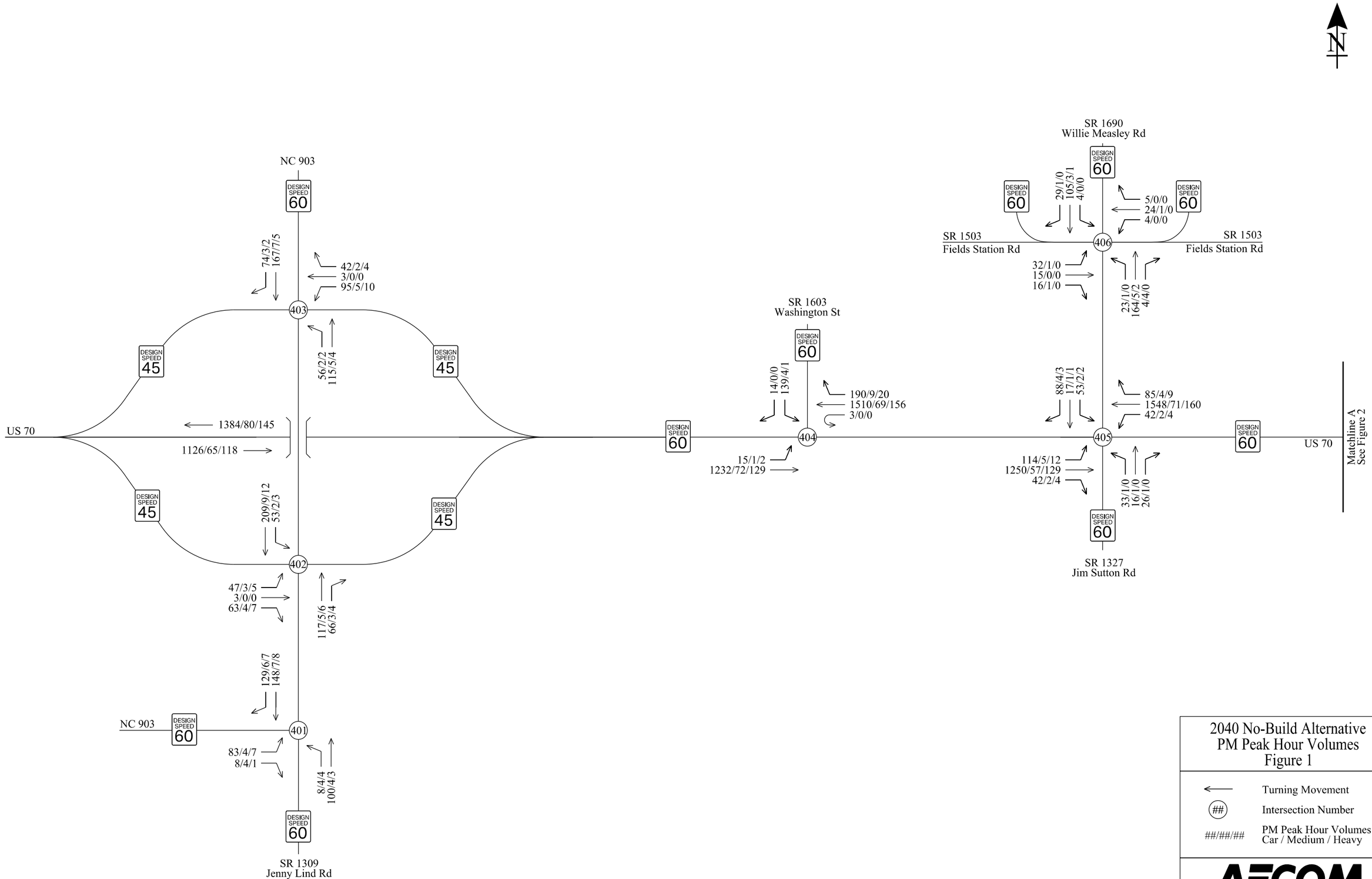
AECOM



2015 No-Build Alternative
PM Peak Hour Volumes
Figure 8

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

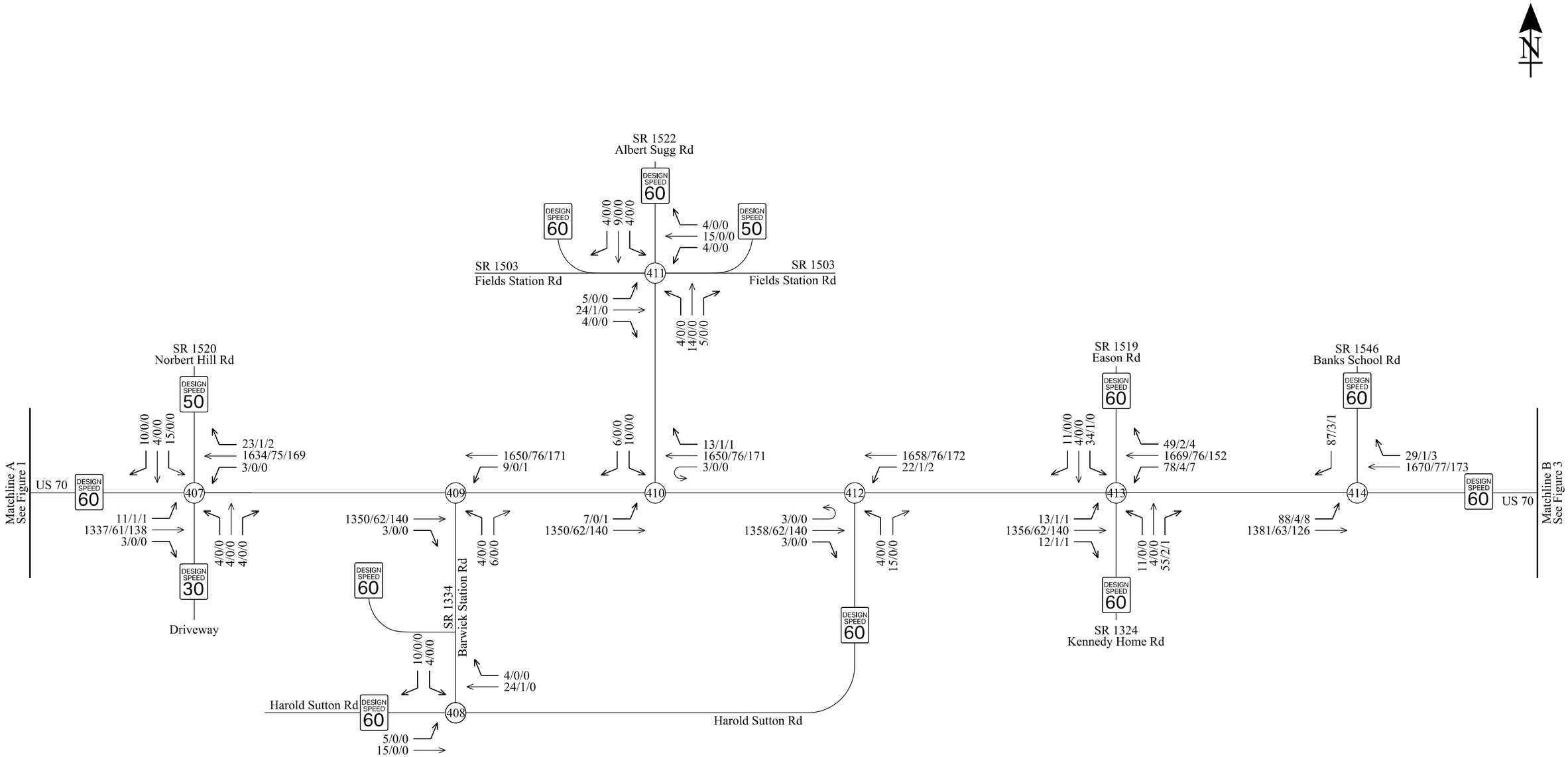
AECOM



2040 No-Build Alternative
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

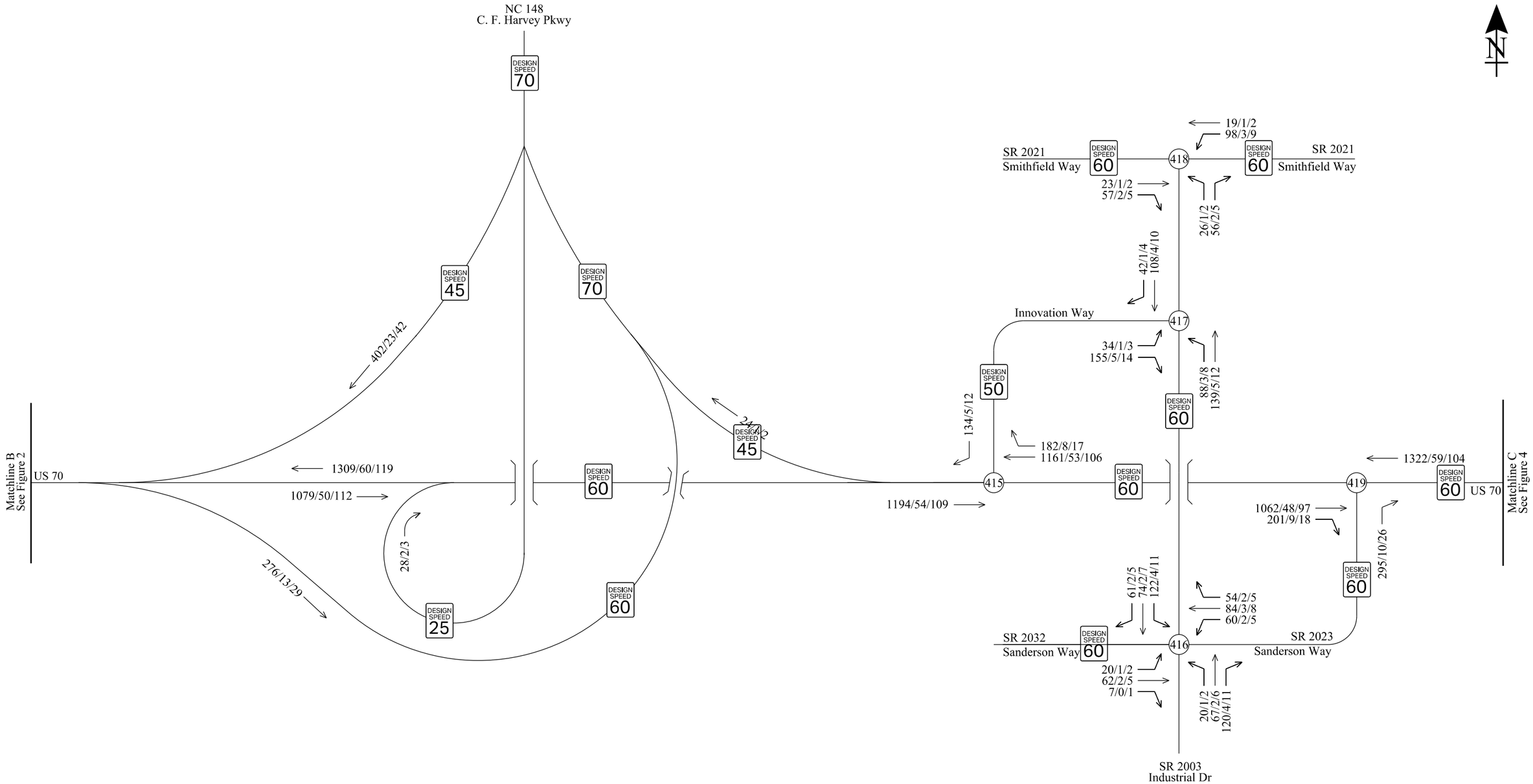
AECOM



2040 No-Build Alternative
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

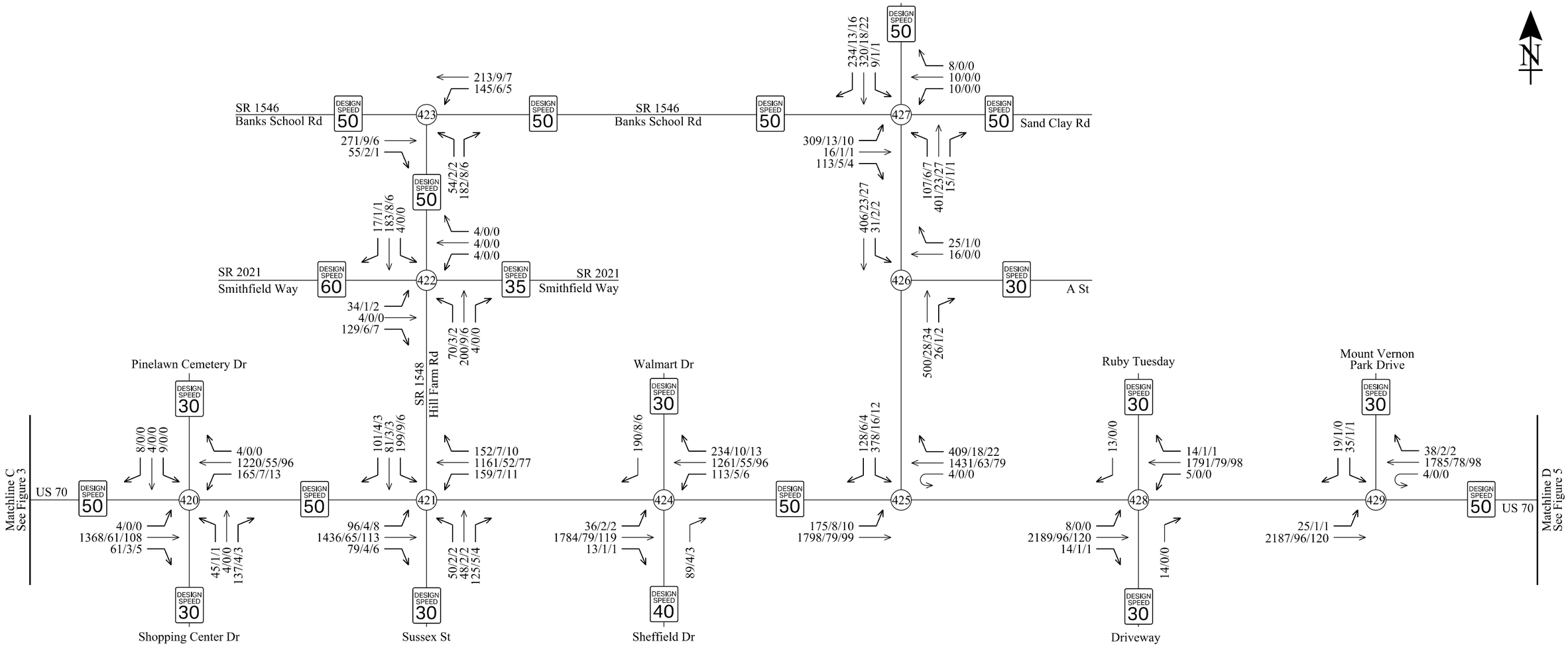
AECOM



2040 No-Build Alternative
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

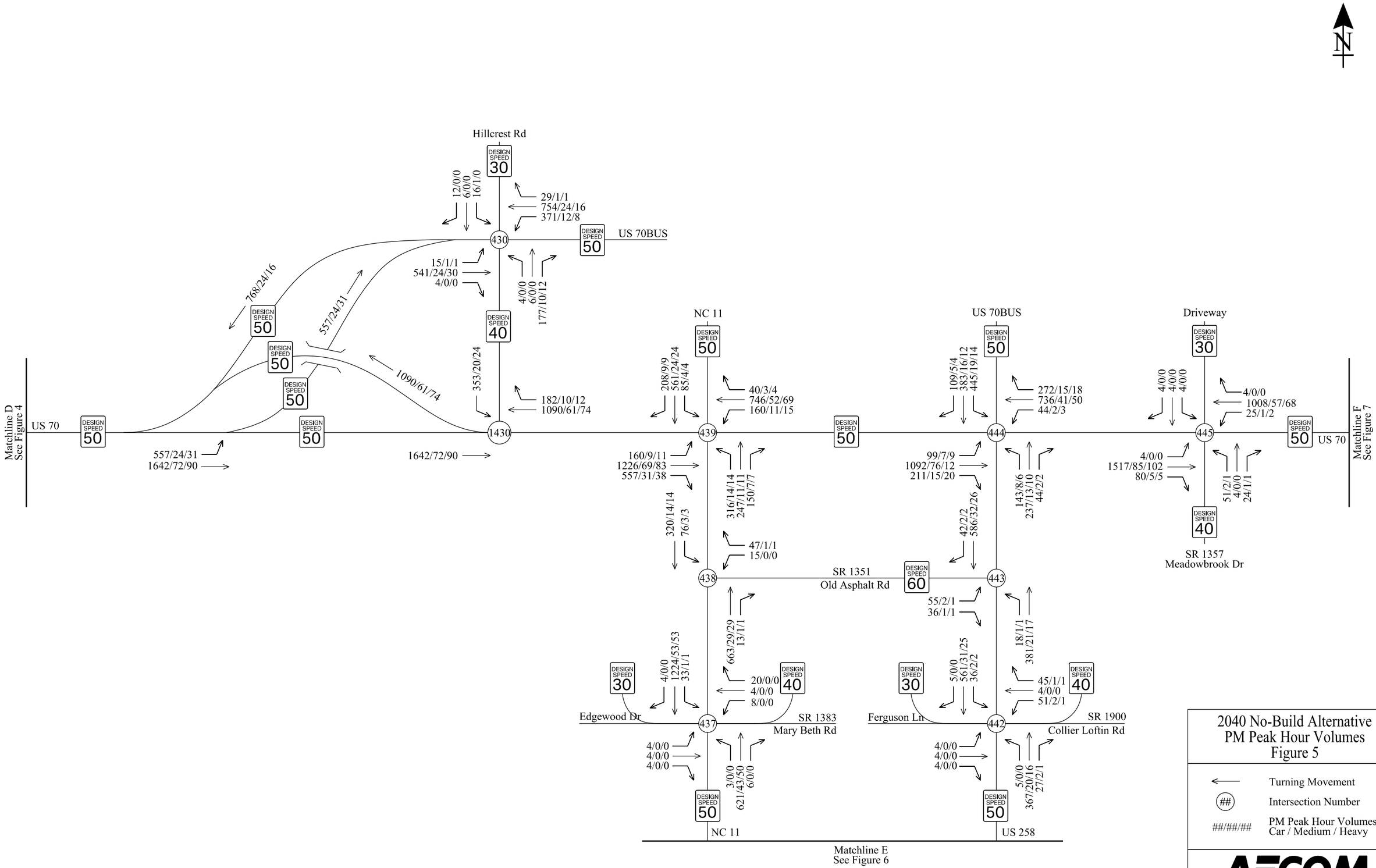
AECOM



2040 No-Build Alternative
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

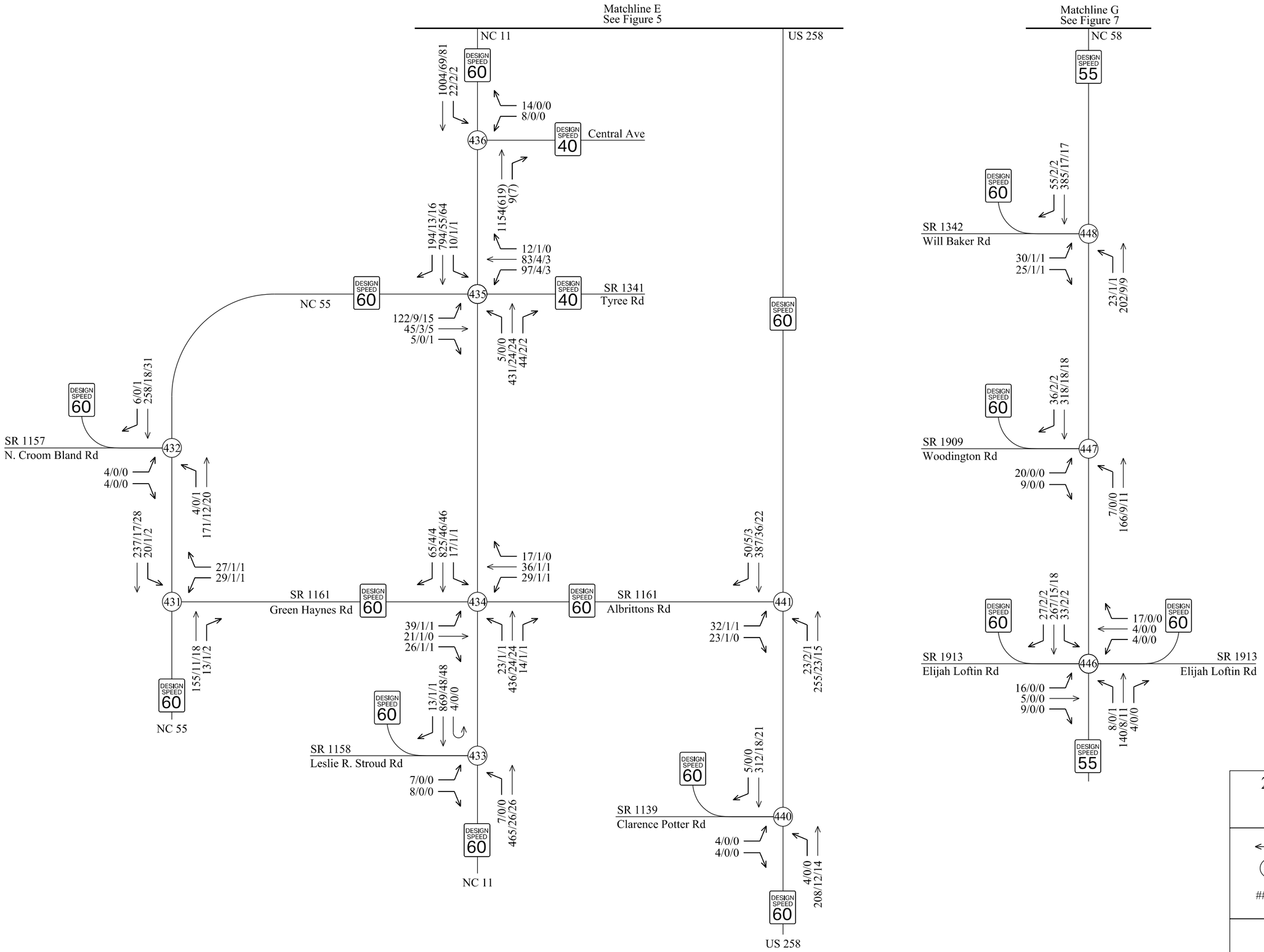
AECOM



2040 No-Build Alternative
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

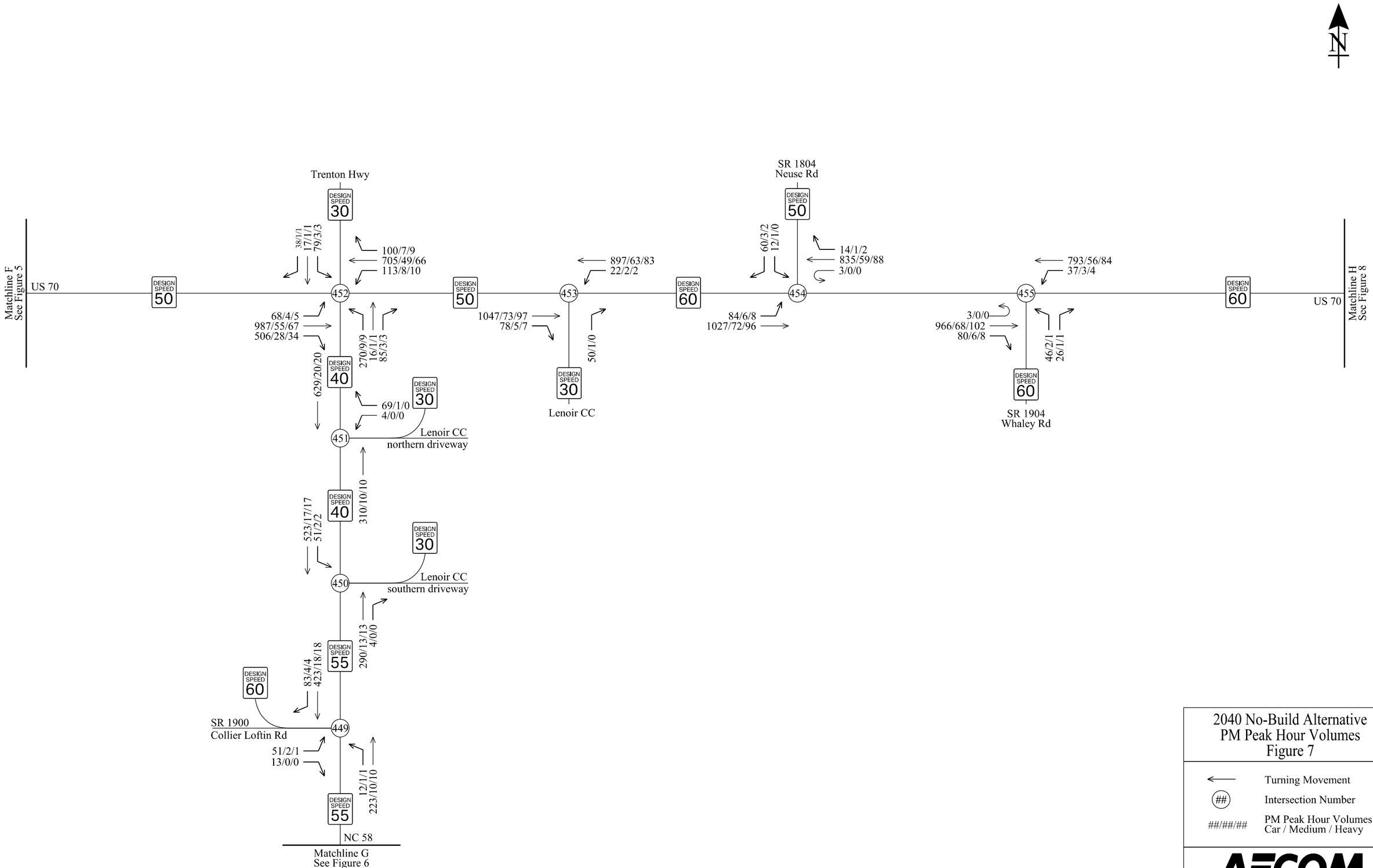
AECOM



2040 No-Build Alternative
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

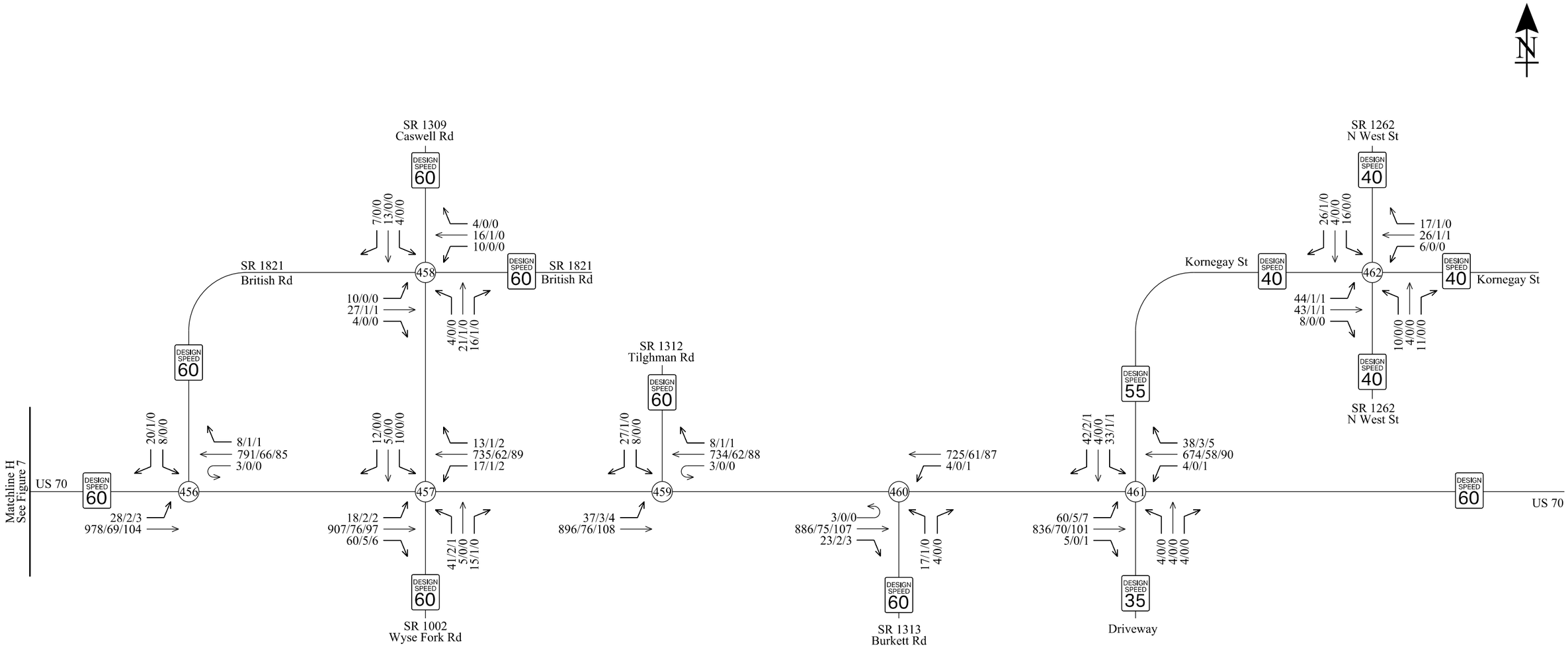
AECOM



2040 No-Build Alternative
PM Peak Hour Volumes
Figure 7

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

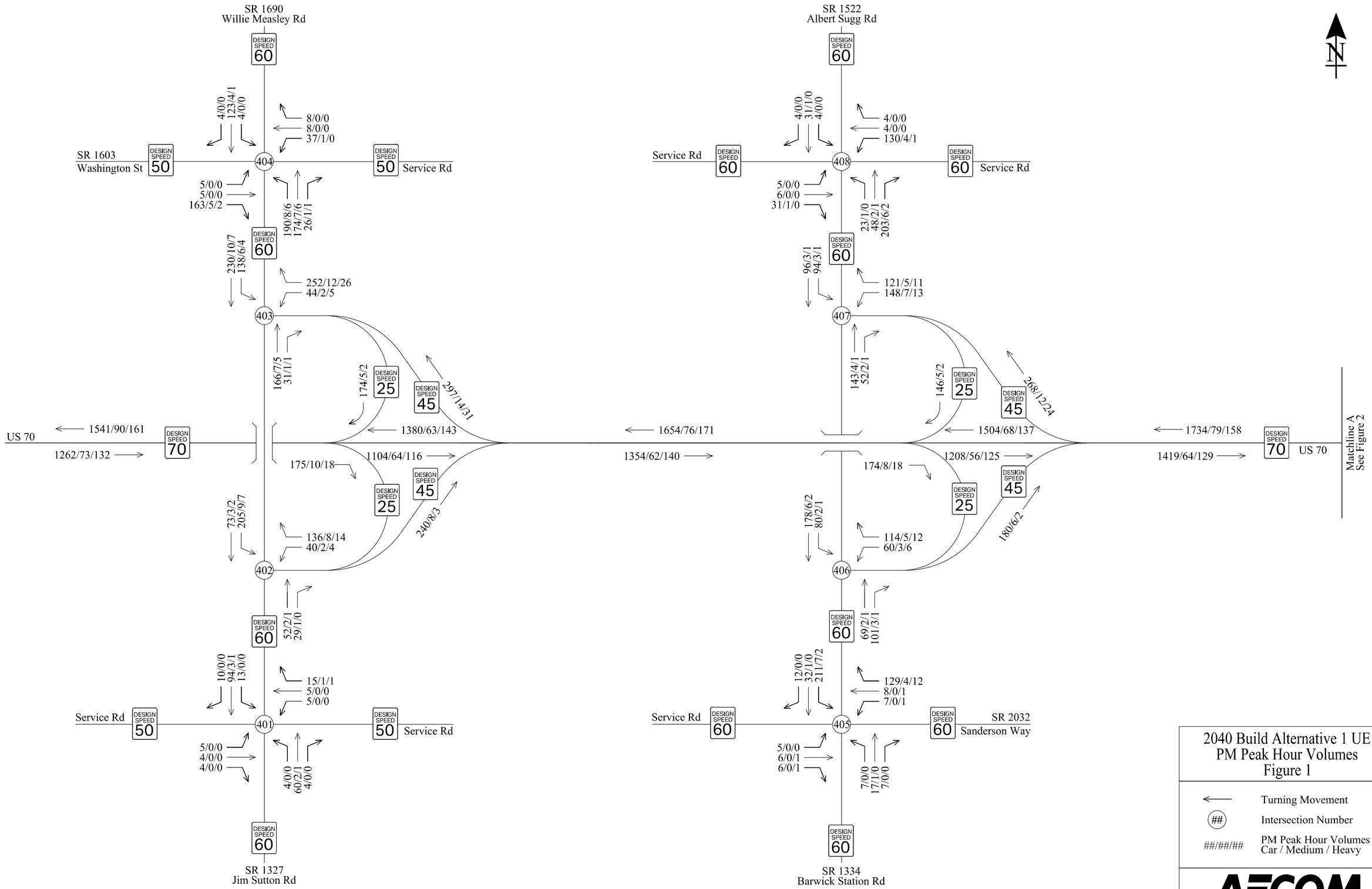
AECOM



2040 No-Build Alternative
PM Peak Hour Volumes
Figure 8

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

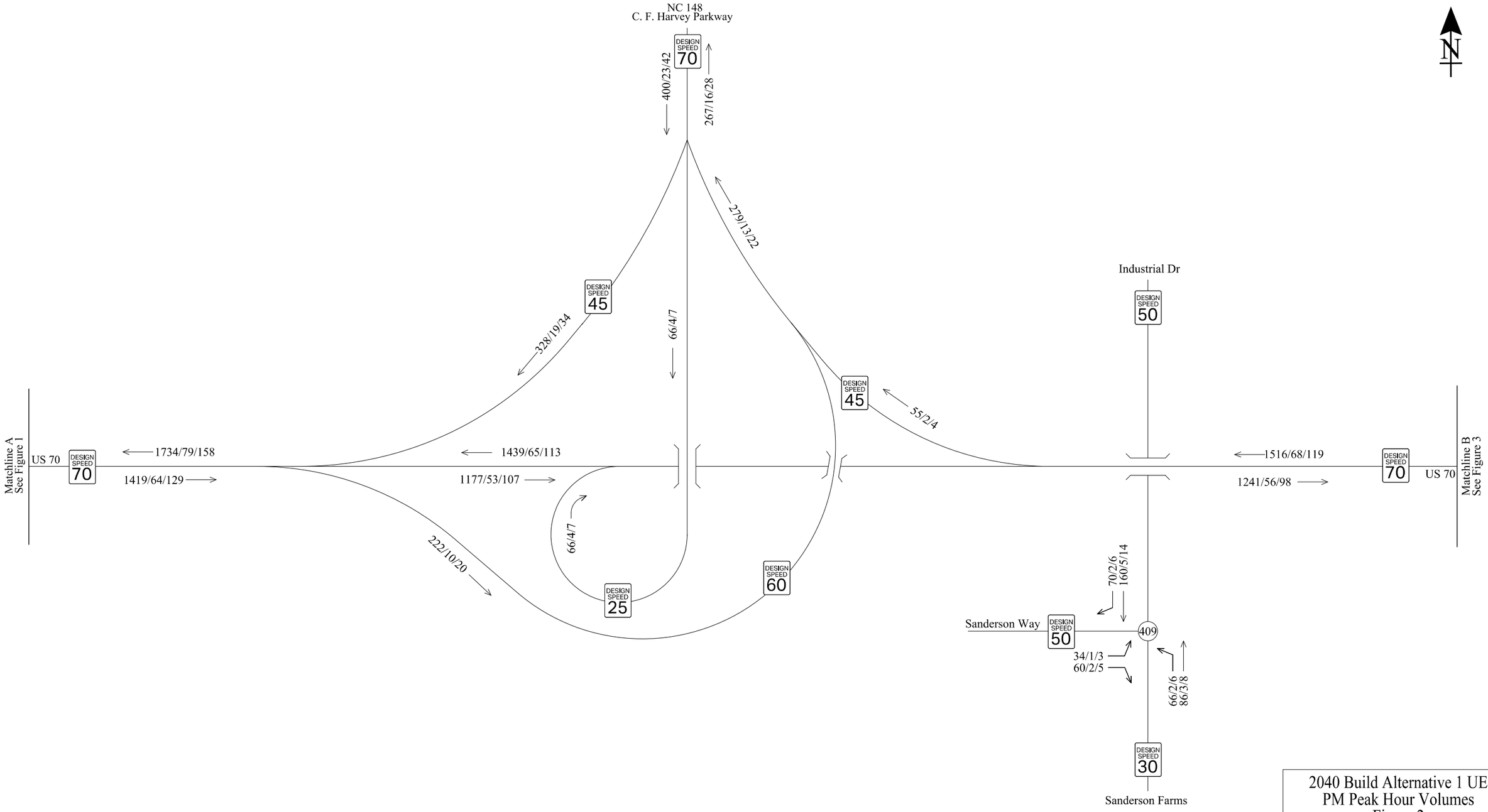
AECOM



2040 Build Alternative 1 UE
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

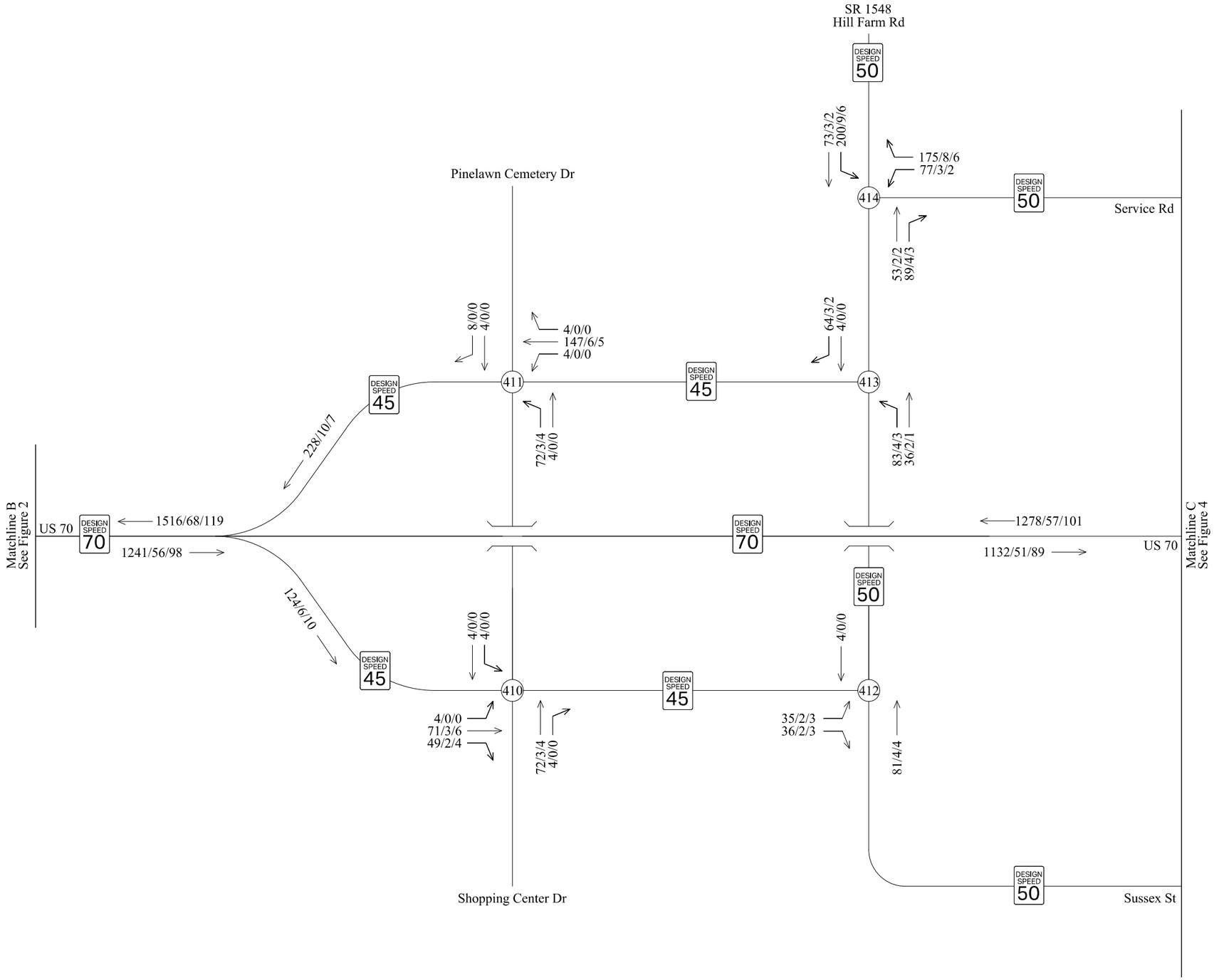
AECOM



2040 Build Alternative 1 UE
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

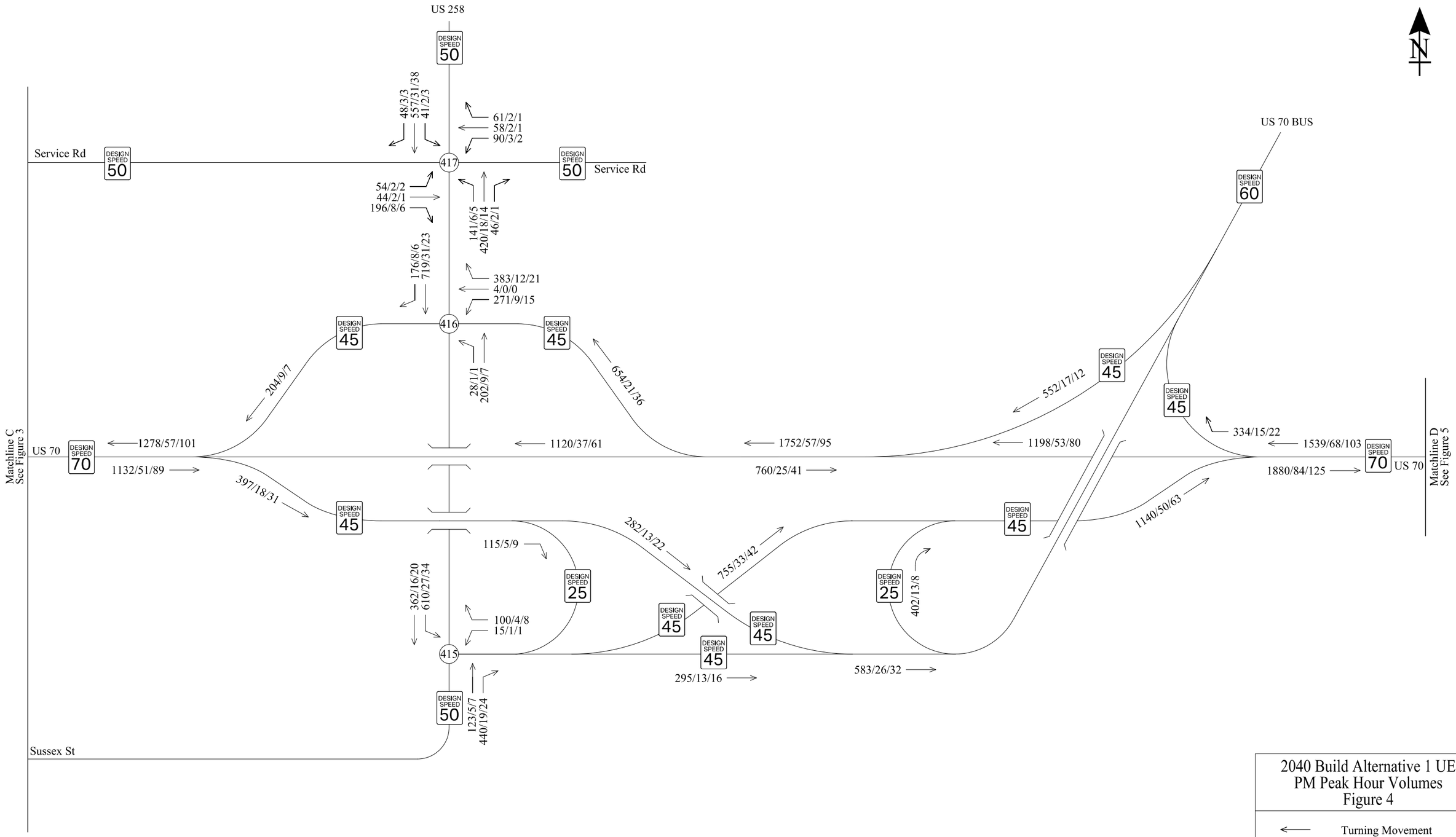
AECOM



2040 Build Alternative 1 UE
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

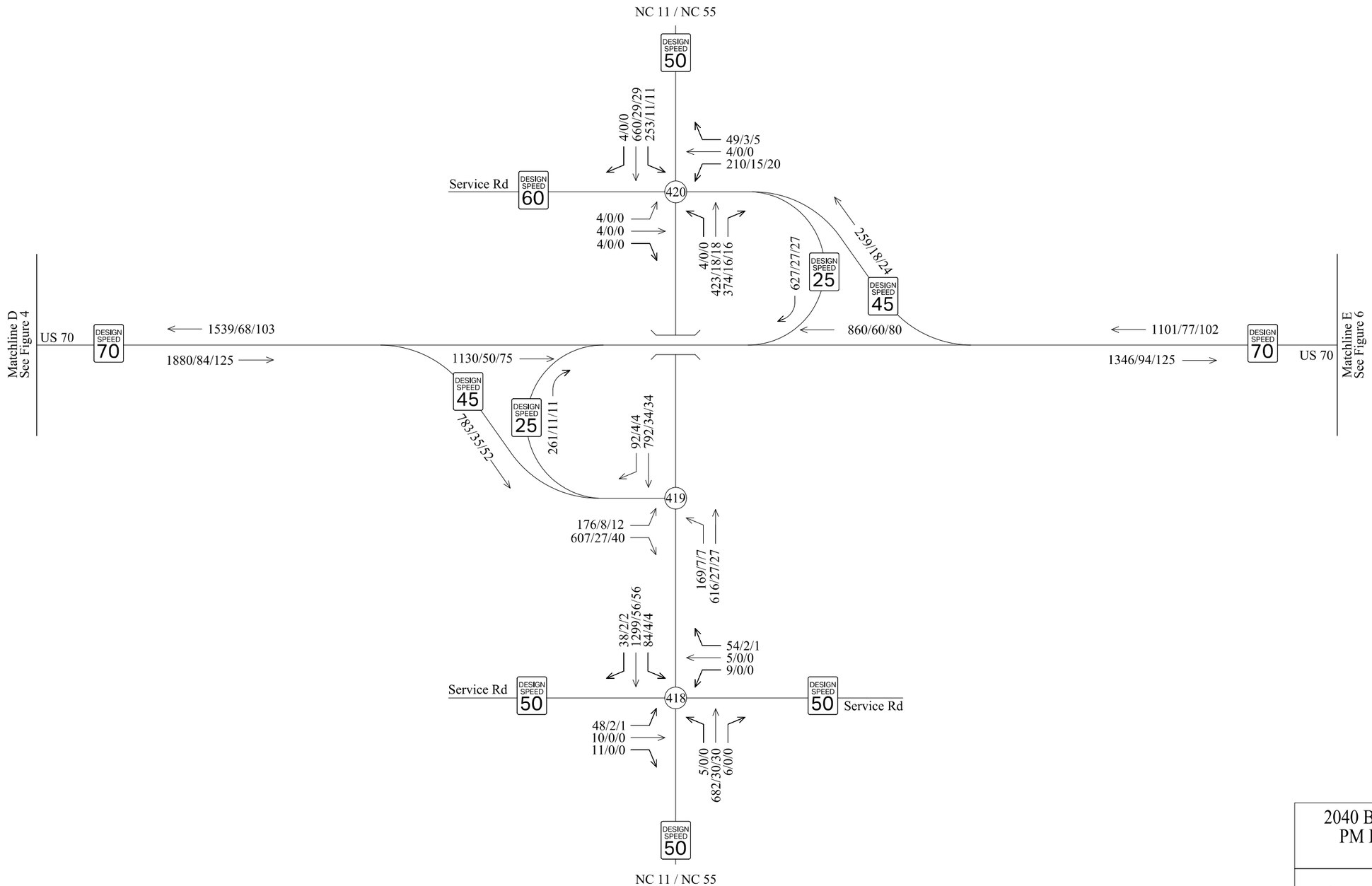
AECOM



2040 Build Alternative 1 UE
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

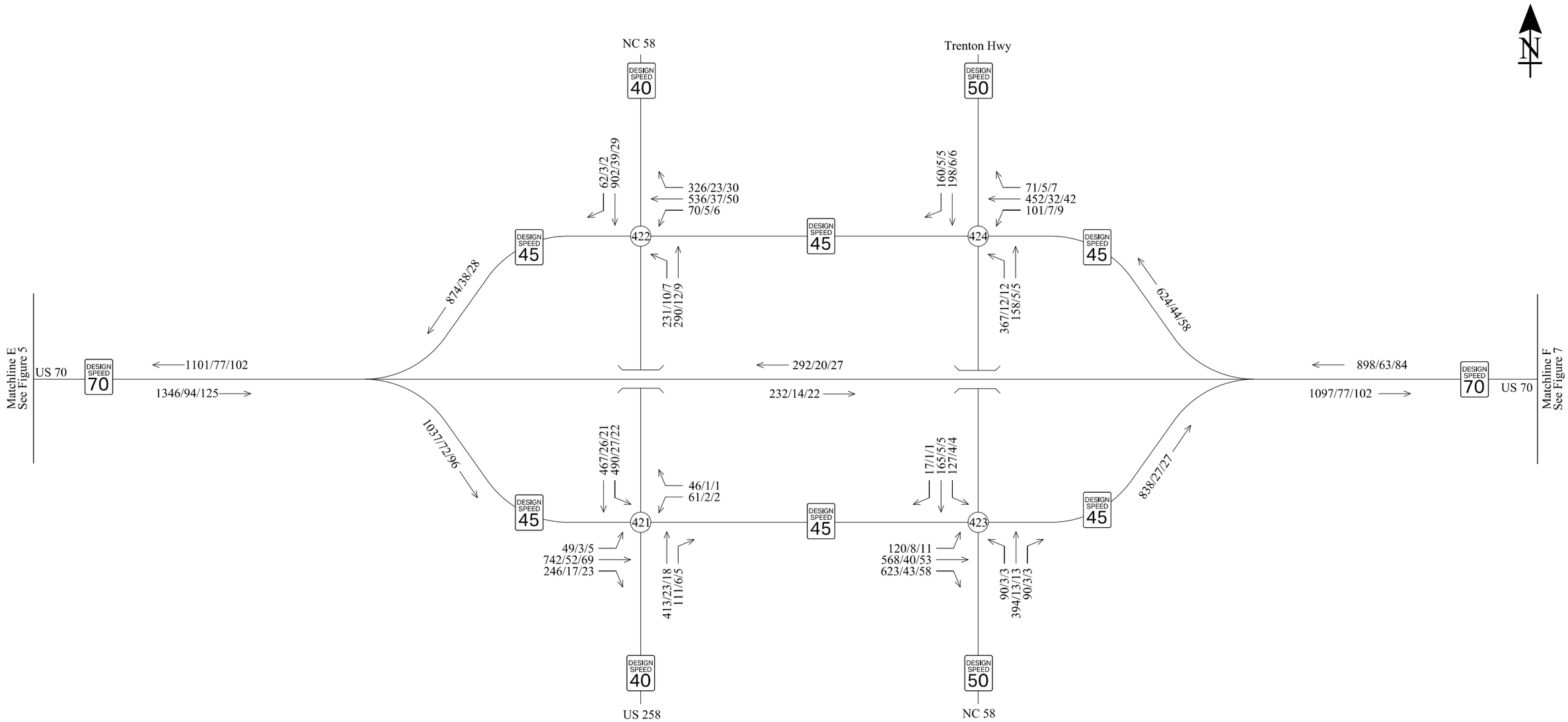
AECOM



2040 Build Alternative 1 UE
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

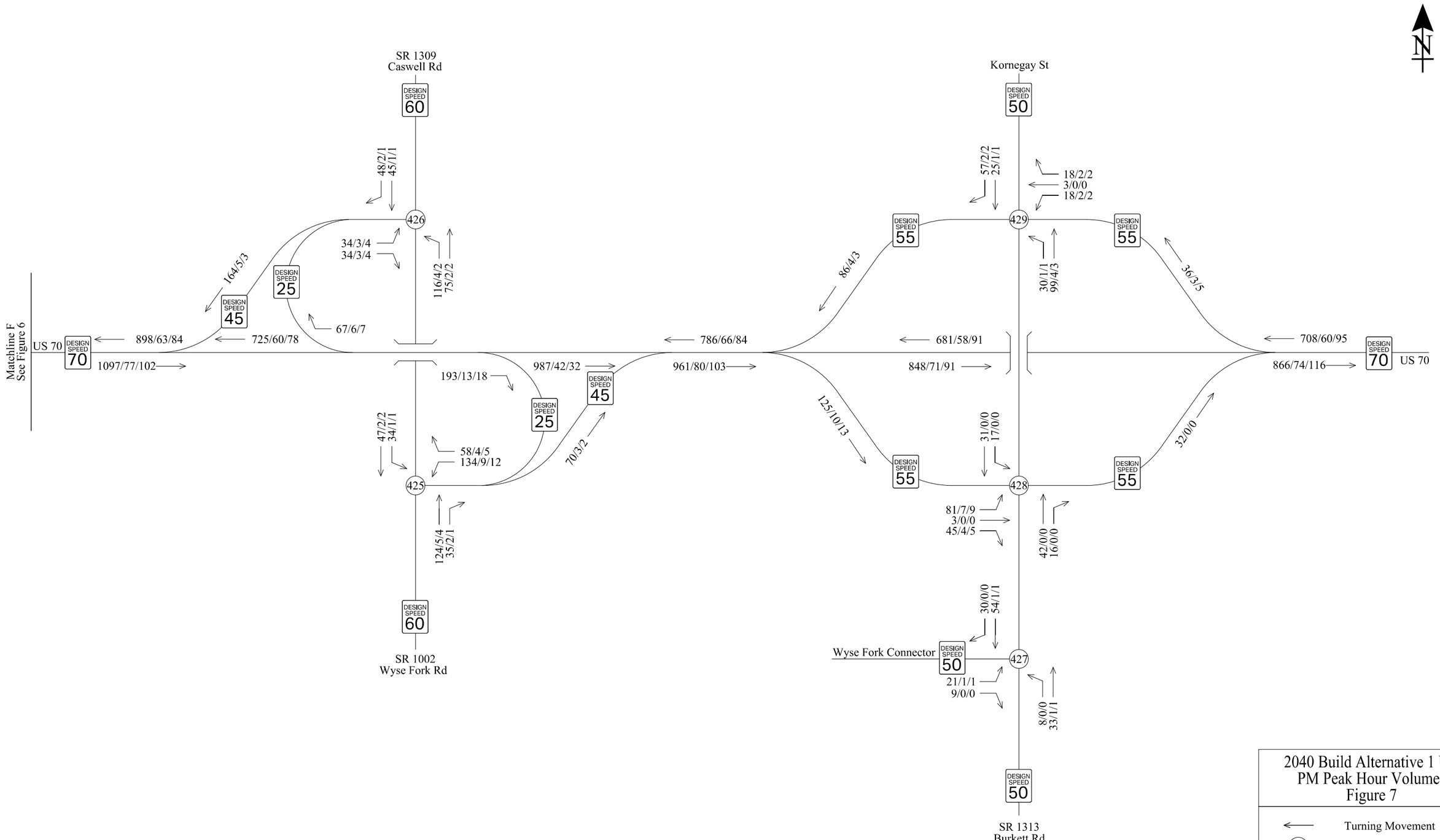
AECOM



2040 Build Alternative 1 UE
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

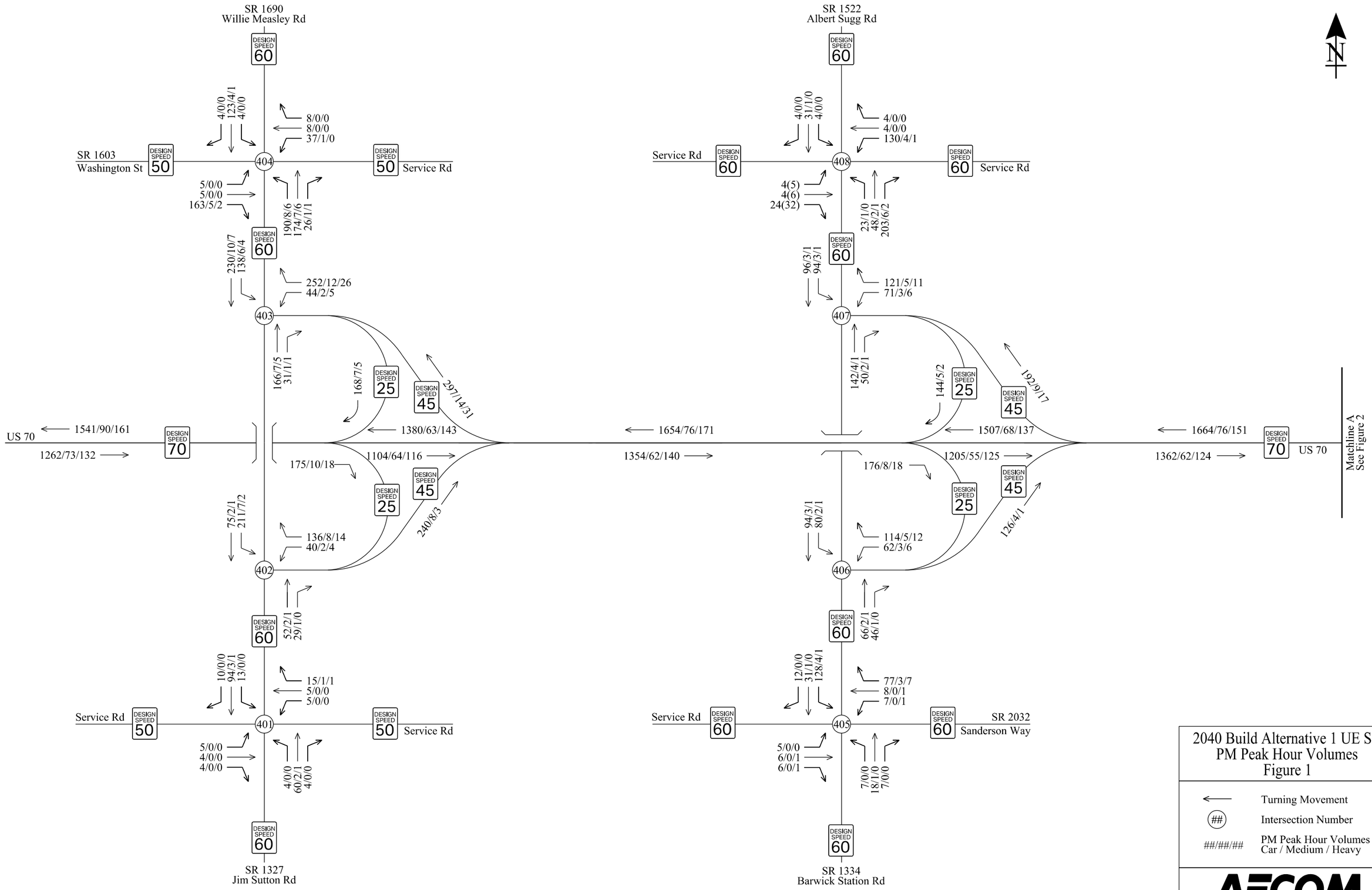
AECOM



2040 Build Alternative 1 UE
PM Peak Hour Volumes
Figure 7

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

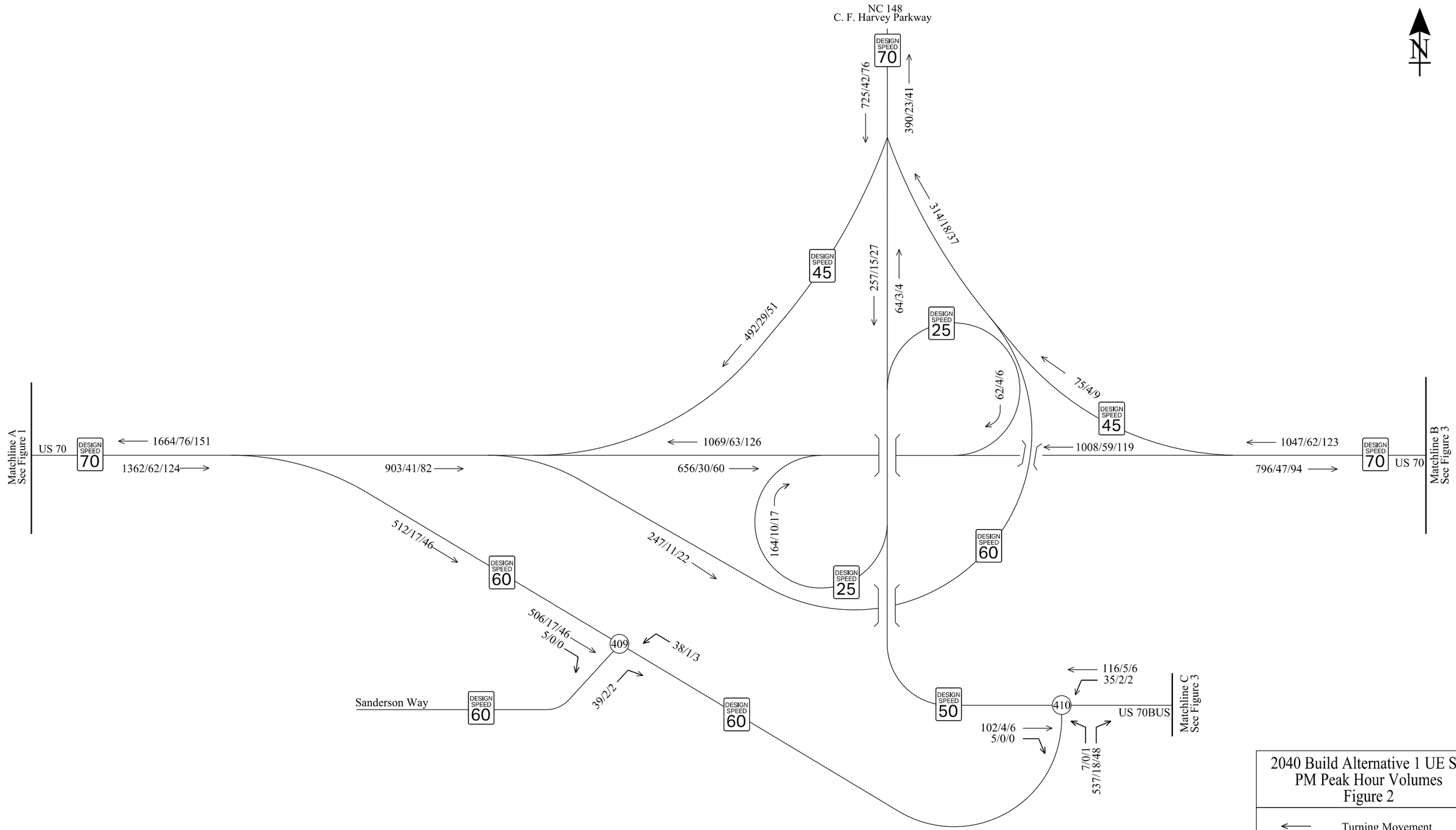
AECOM



2040 Build Alternative 1 UE SB
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

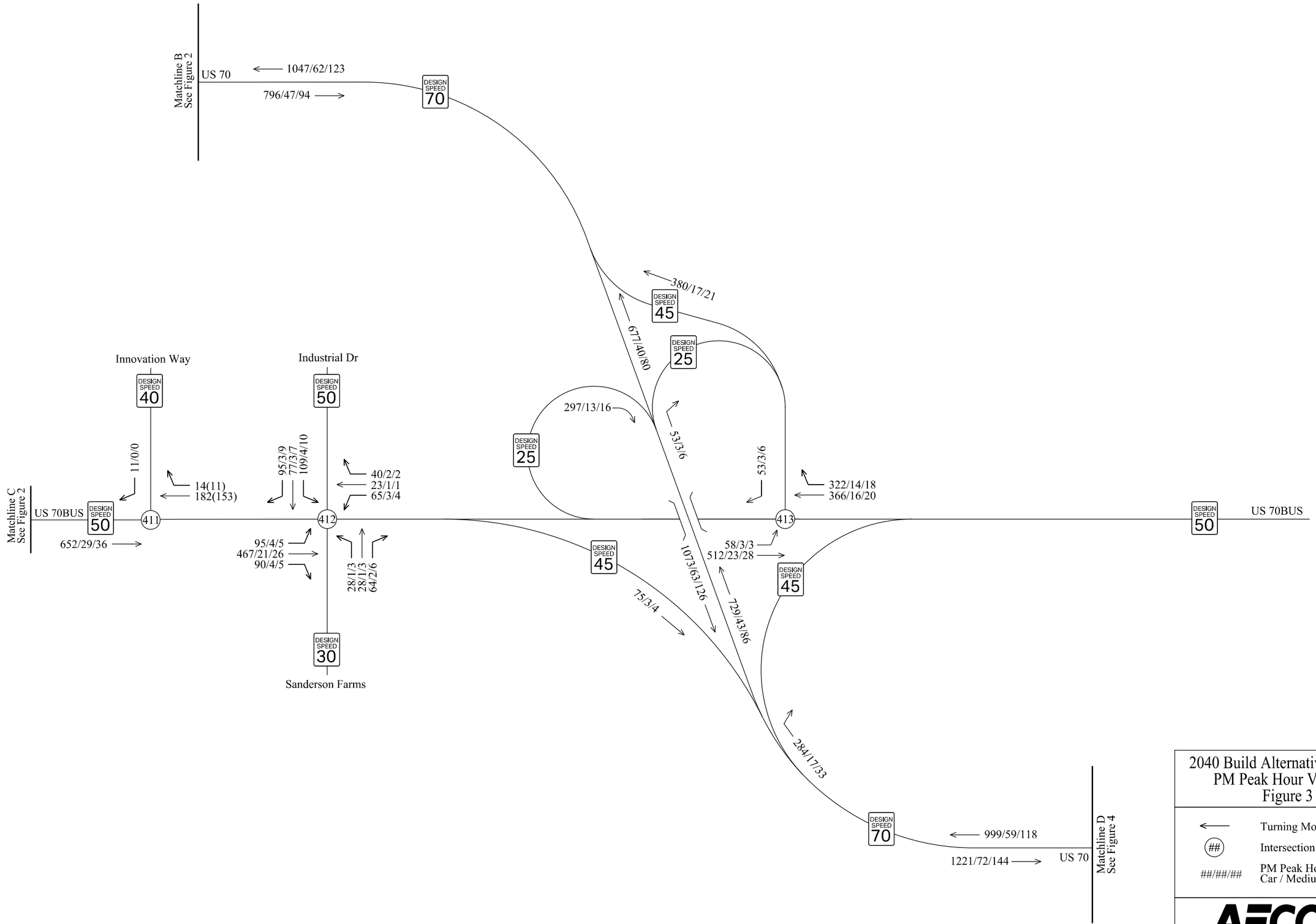
AECOM



2040 Build Alternative 1 UE SB
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

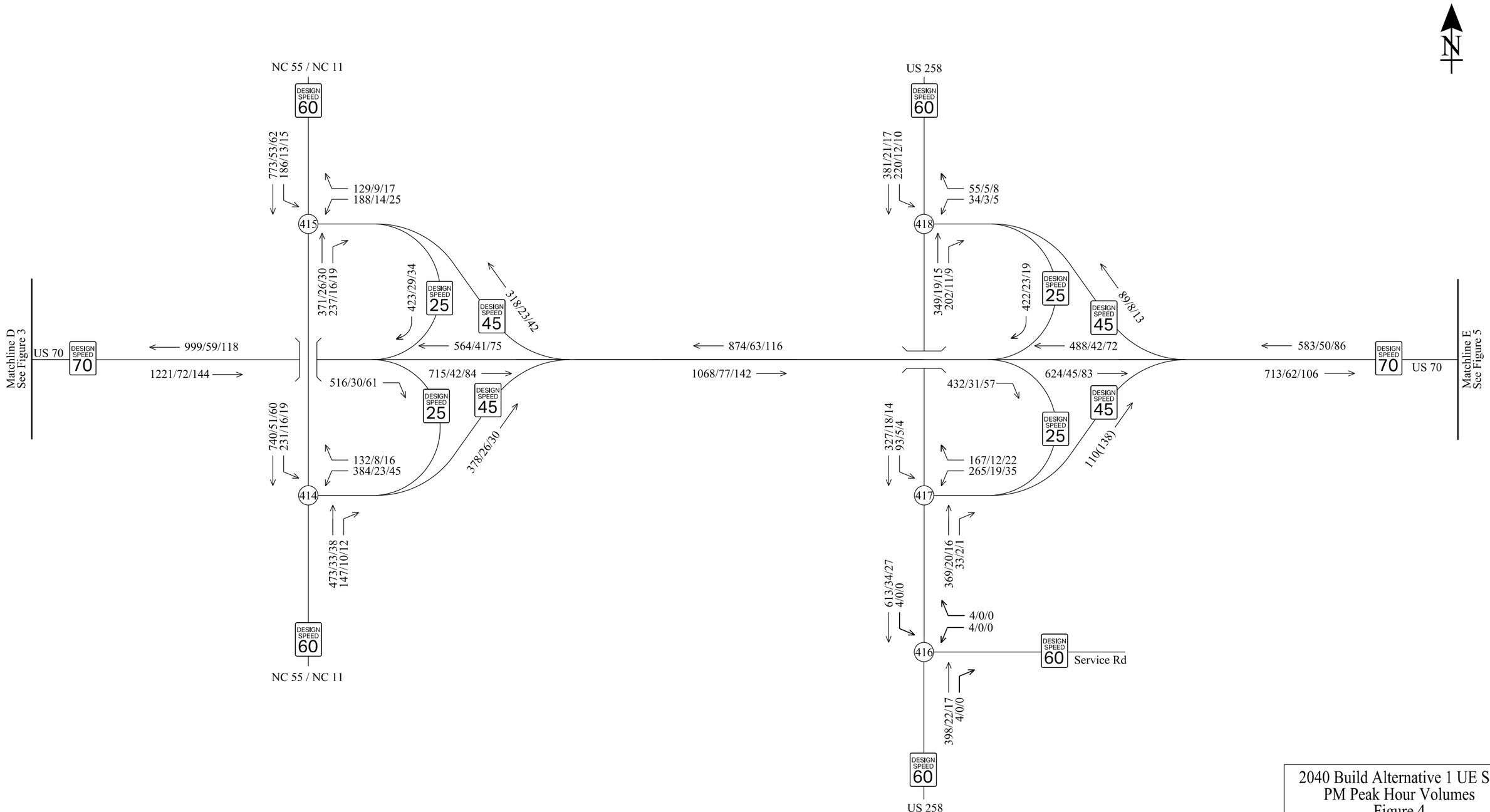
AECOM



2040 Build Alternative 1 UE SB
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

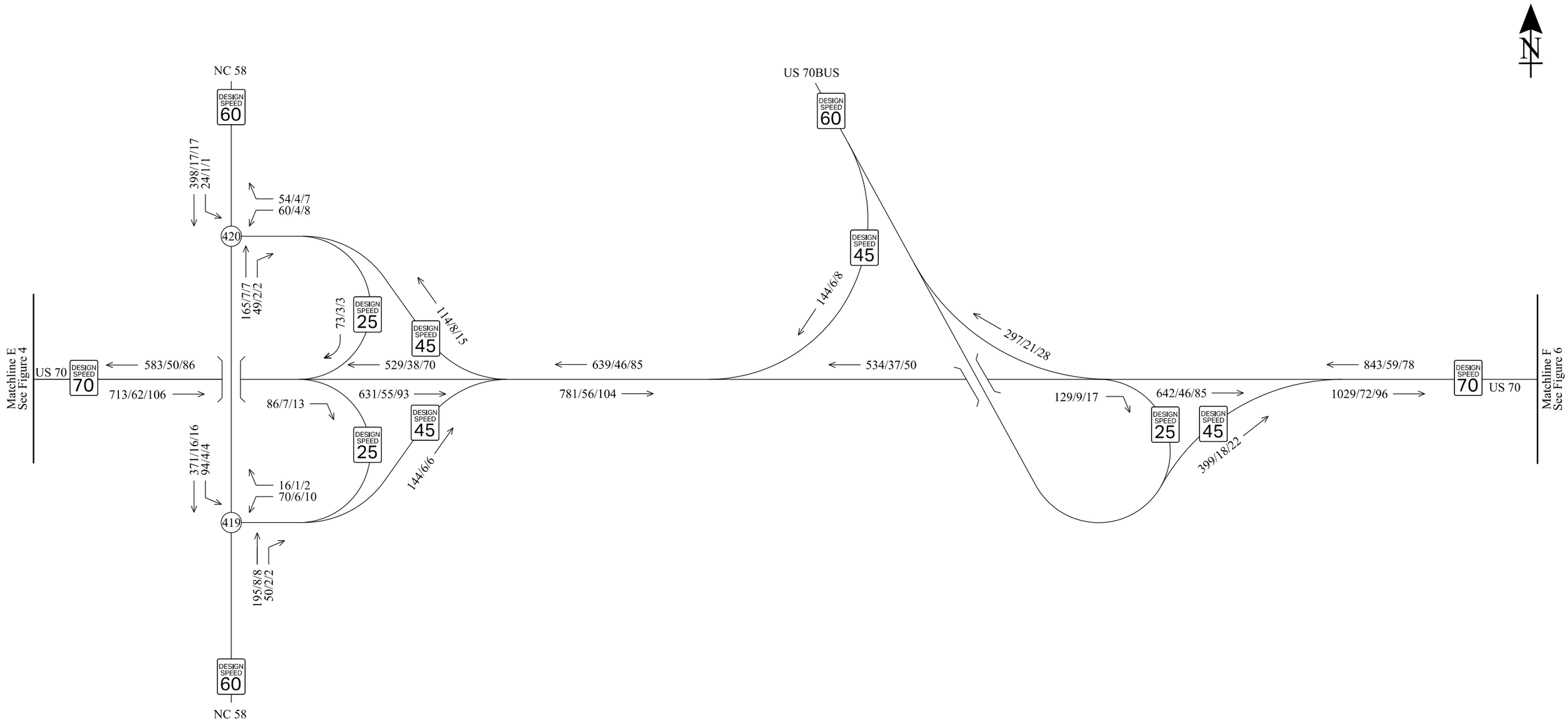
AECOM



2040 Build Alternative 1 UE SB
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

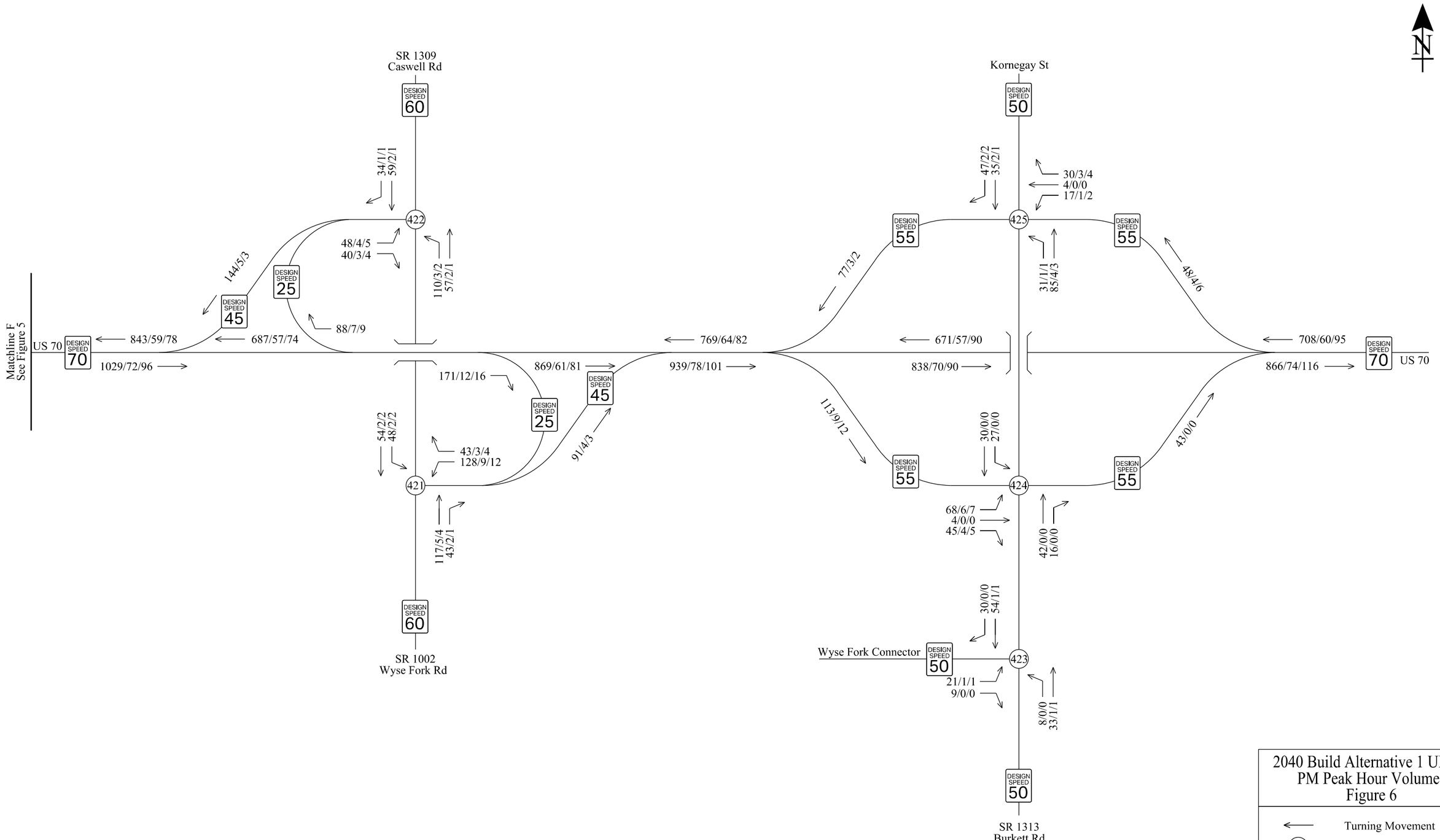
AECOM



2040 Build Alternative 1 UE SB
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

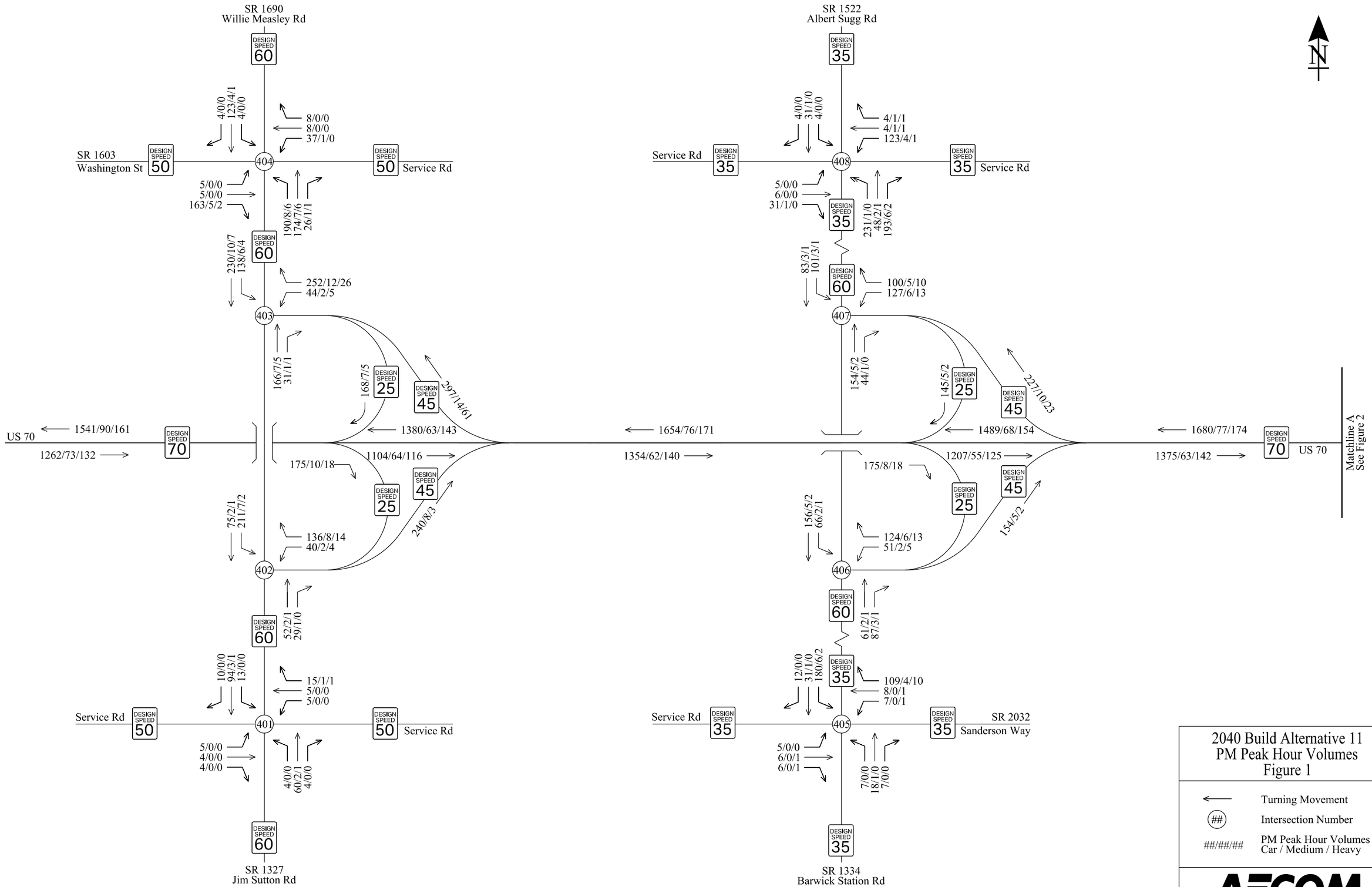
AECOM



2040 Build Alternative 1 UE SB
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

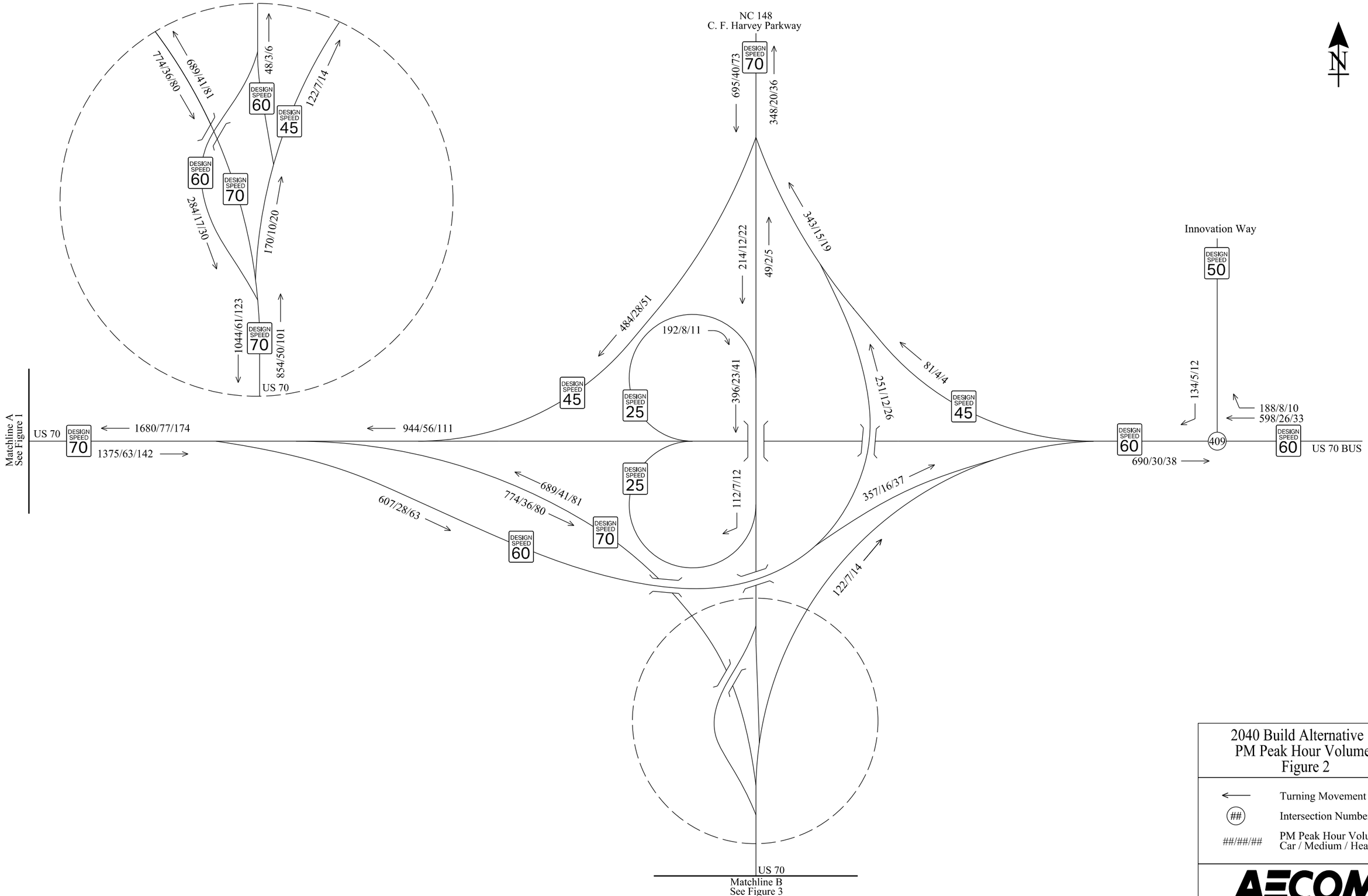
AECOM



2040 Build Alternative 11
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

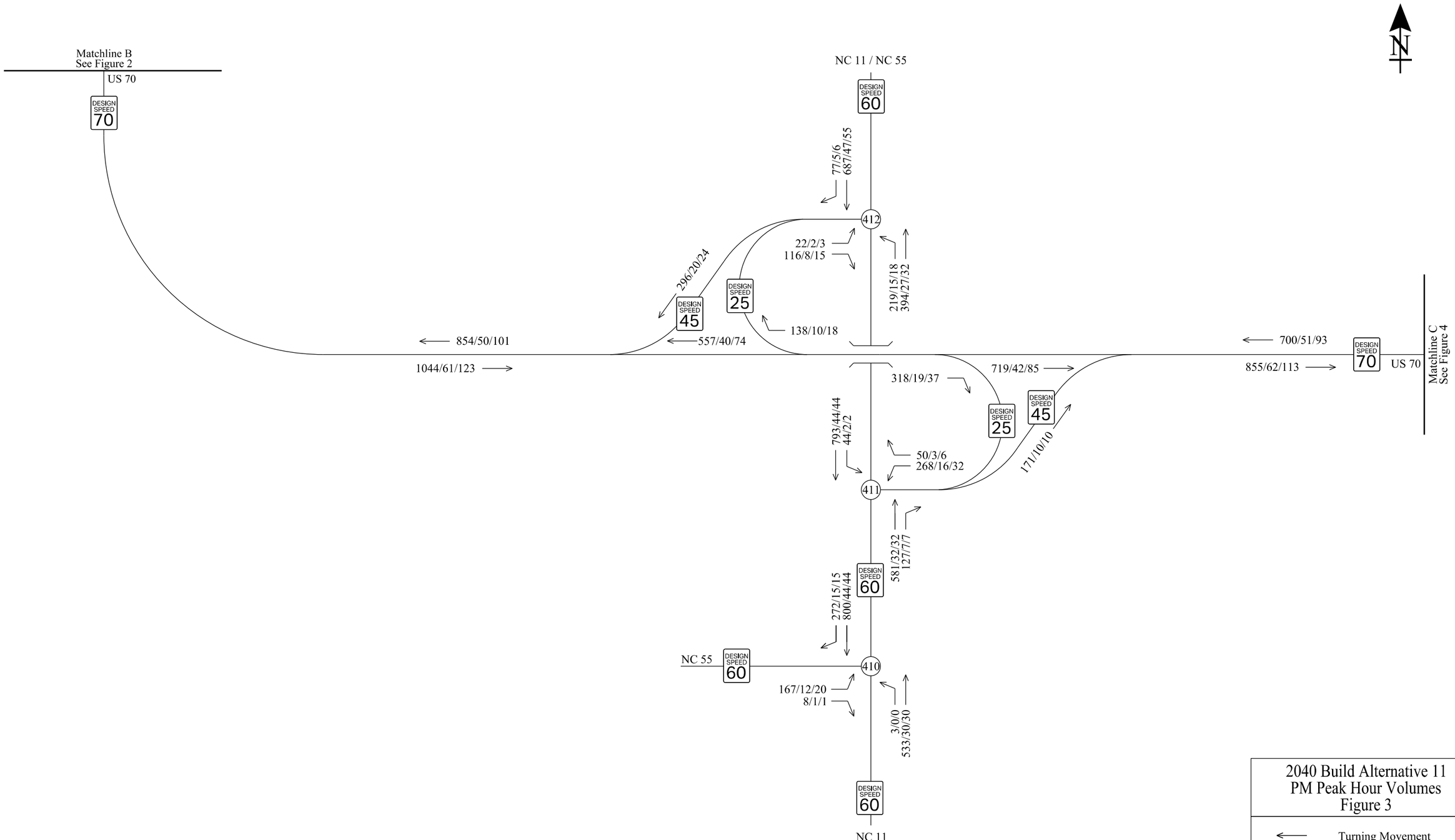
AECOM



2040 Build Alternative 11
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

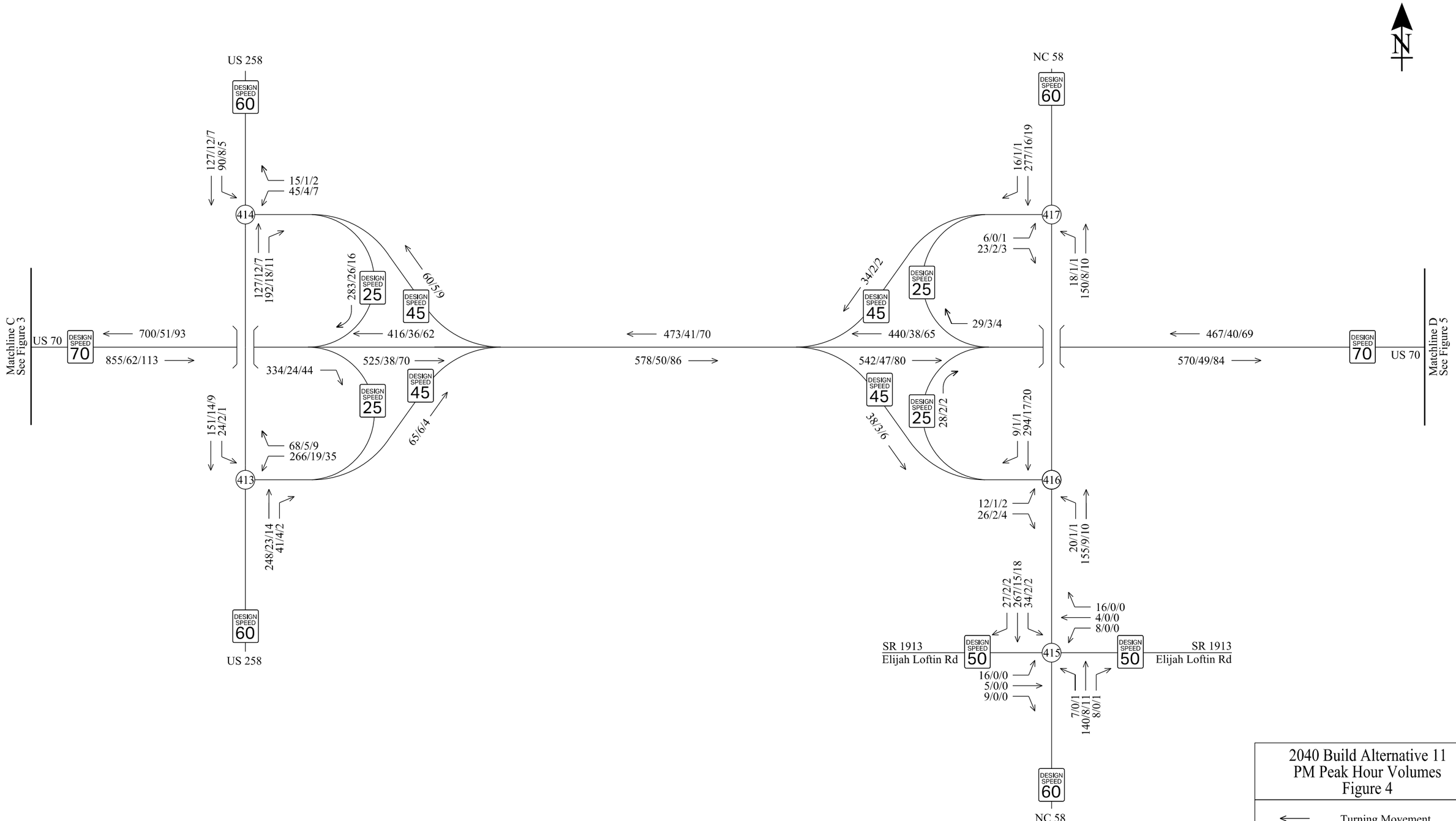
AECOM



2040 Build Alternative 11
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

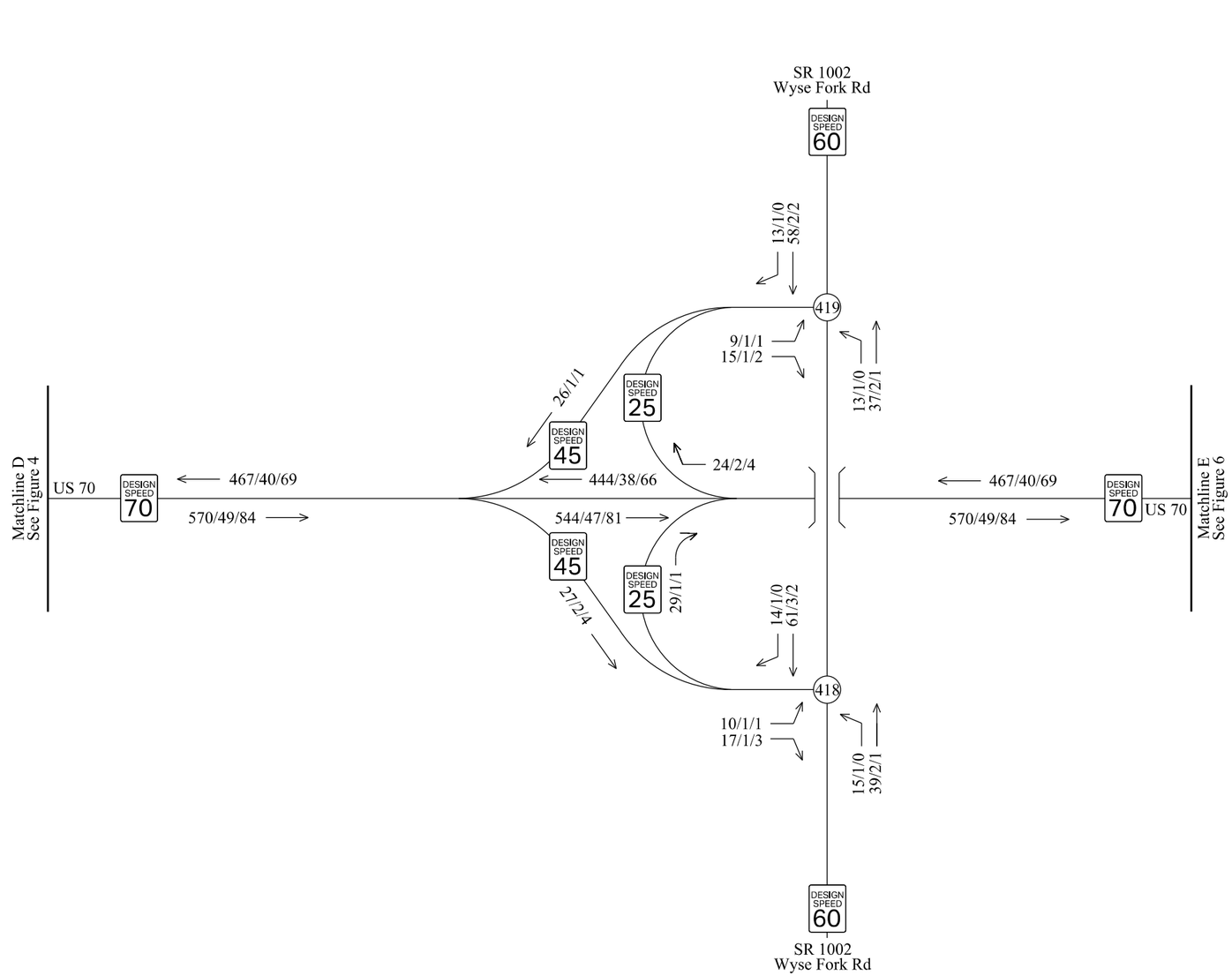
AECOM



2040 Build Alternative 11
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

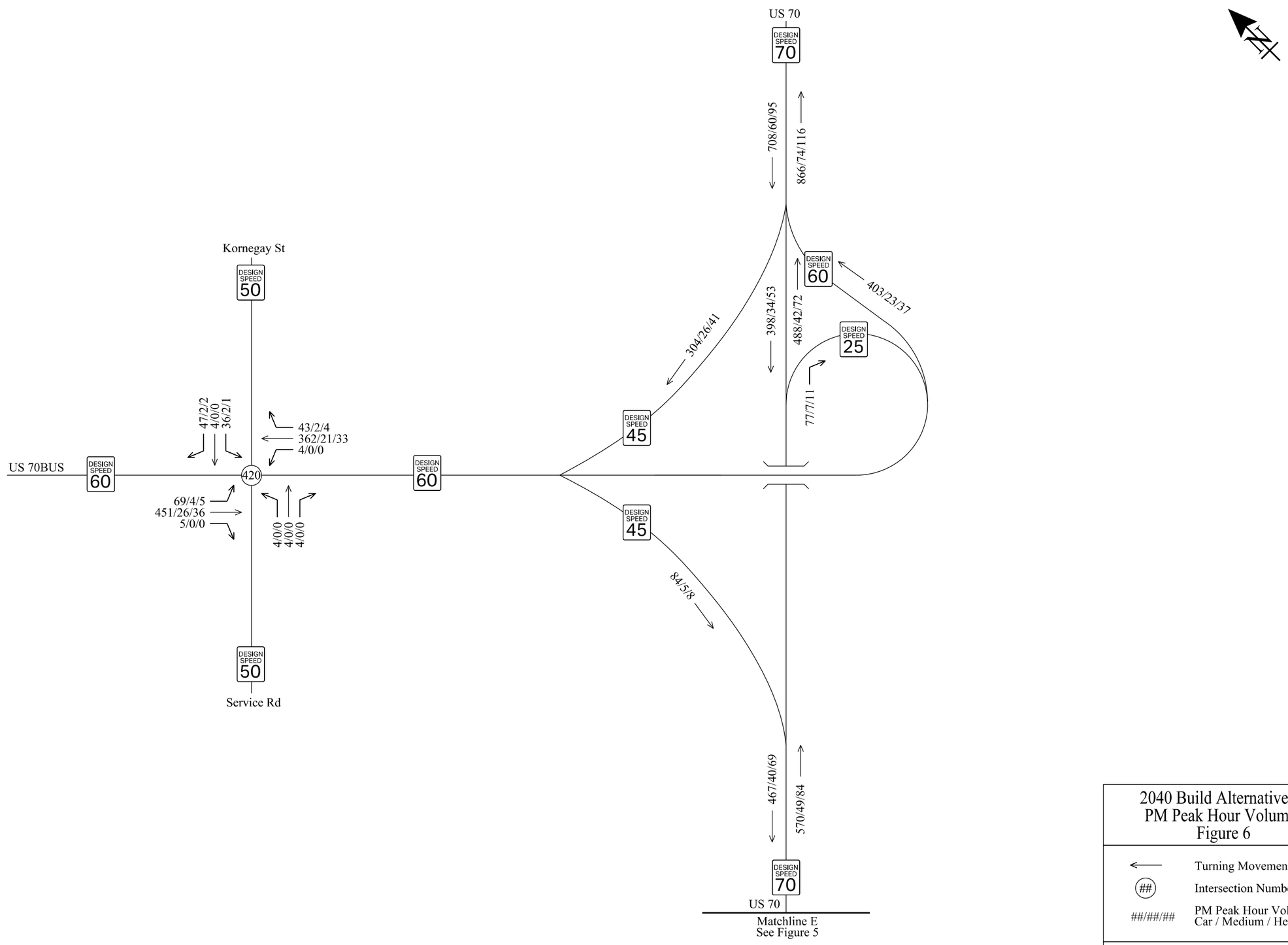
AECOM



2040 Build Alternative 11
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

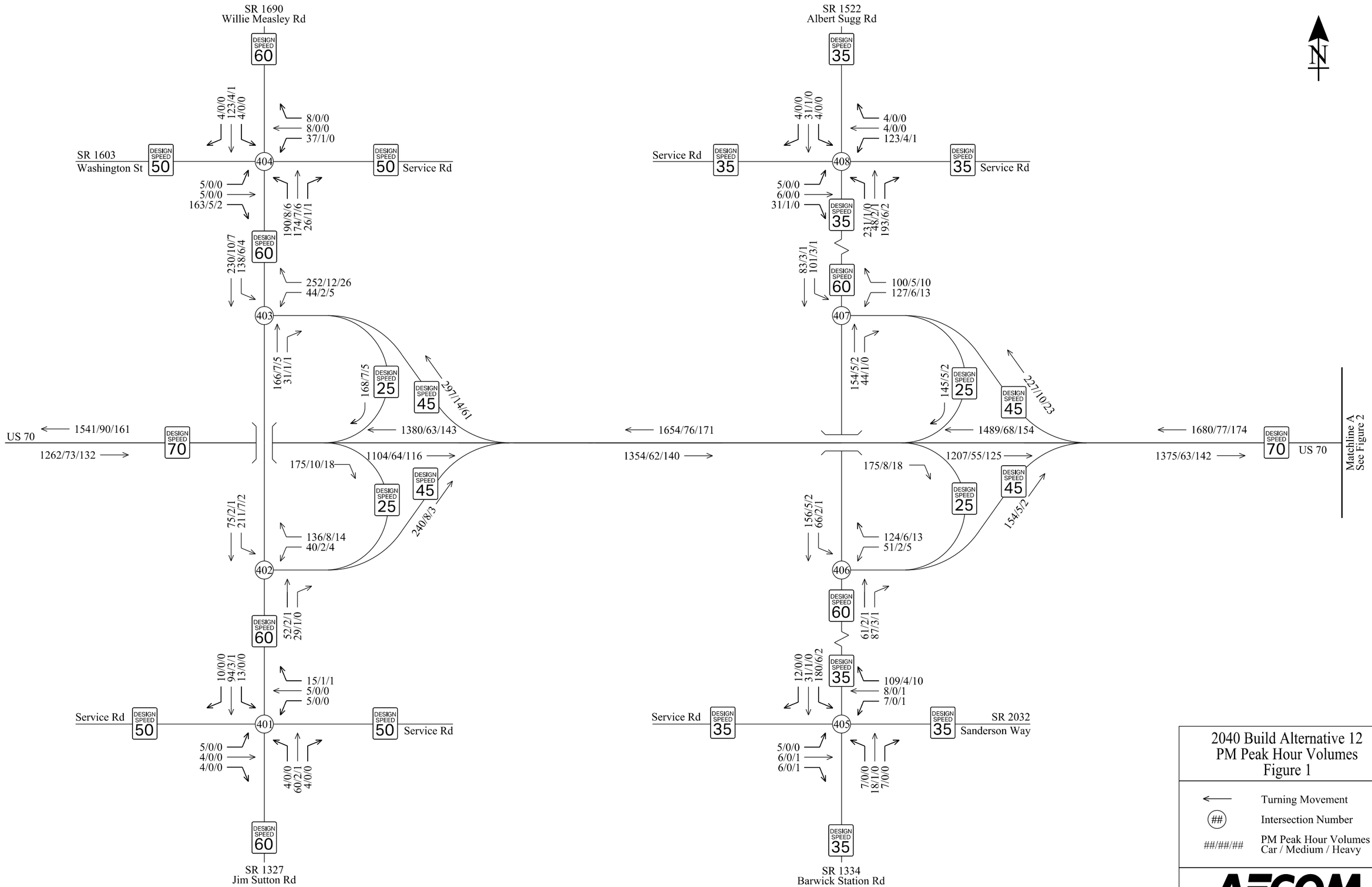
AECOM



2040 Build Alternative 11
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

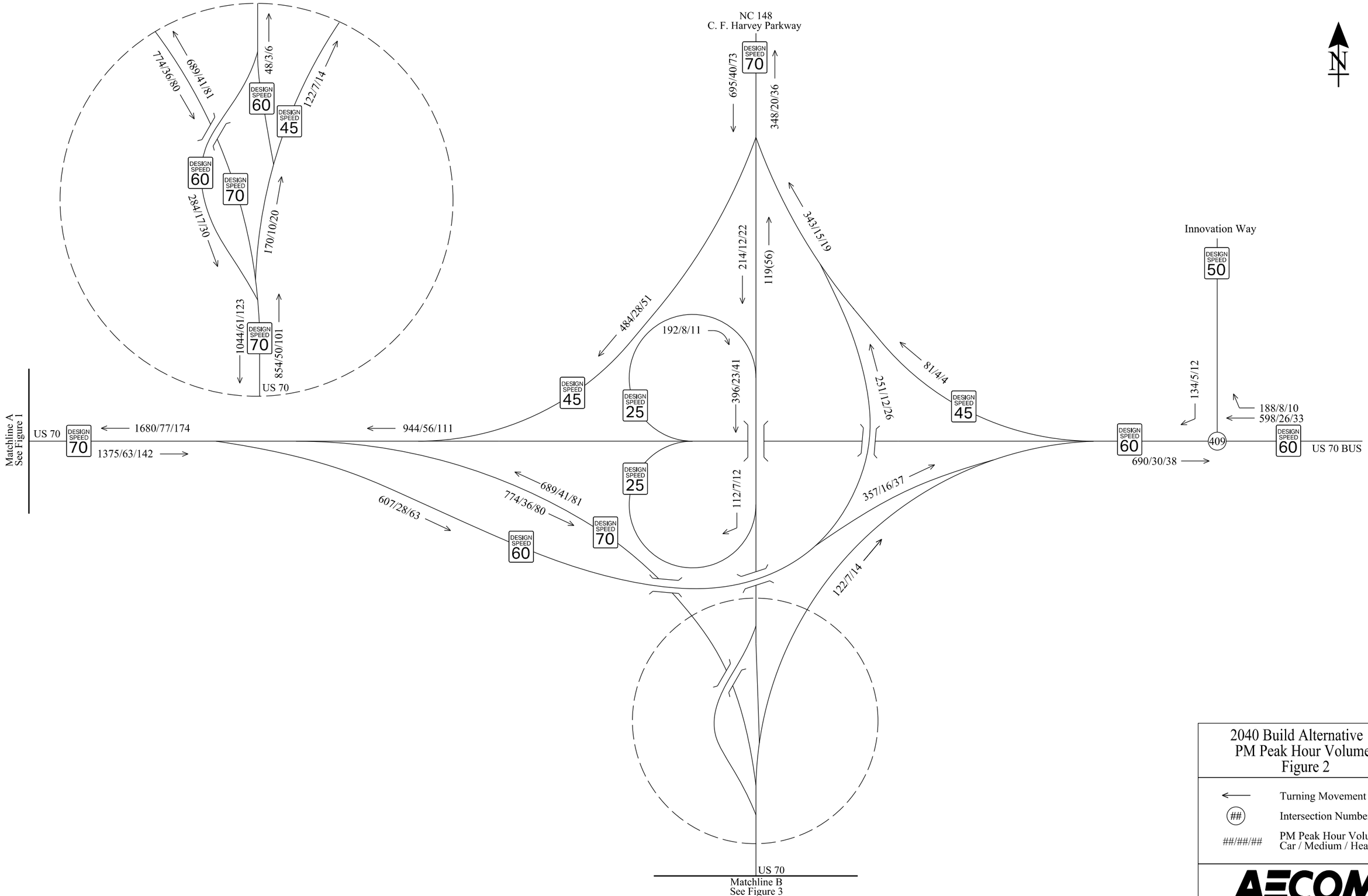
AECOM



2040 Build Alternative 12
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

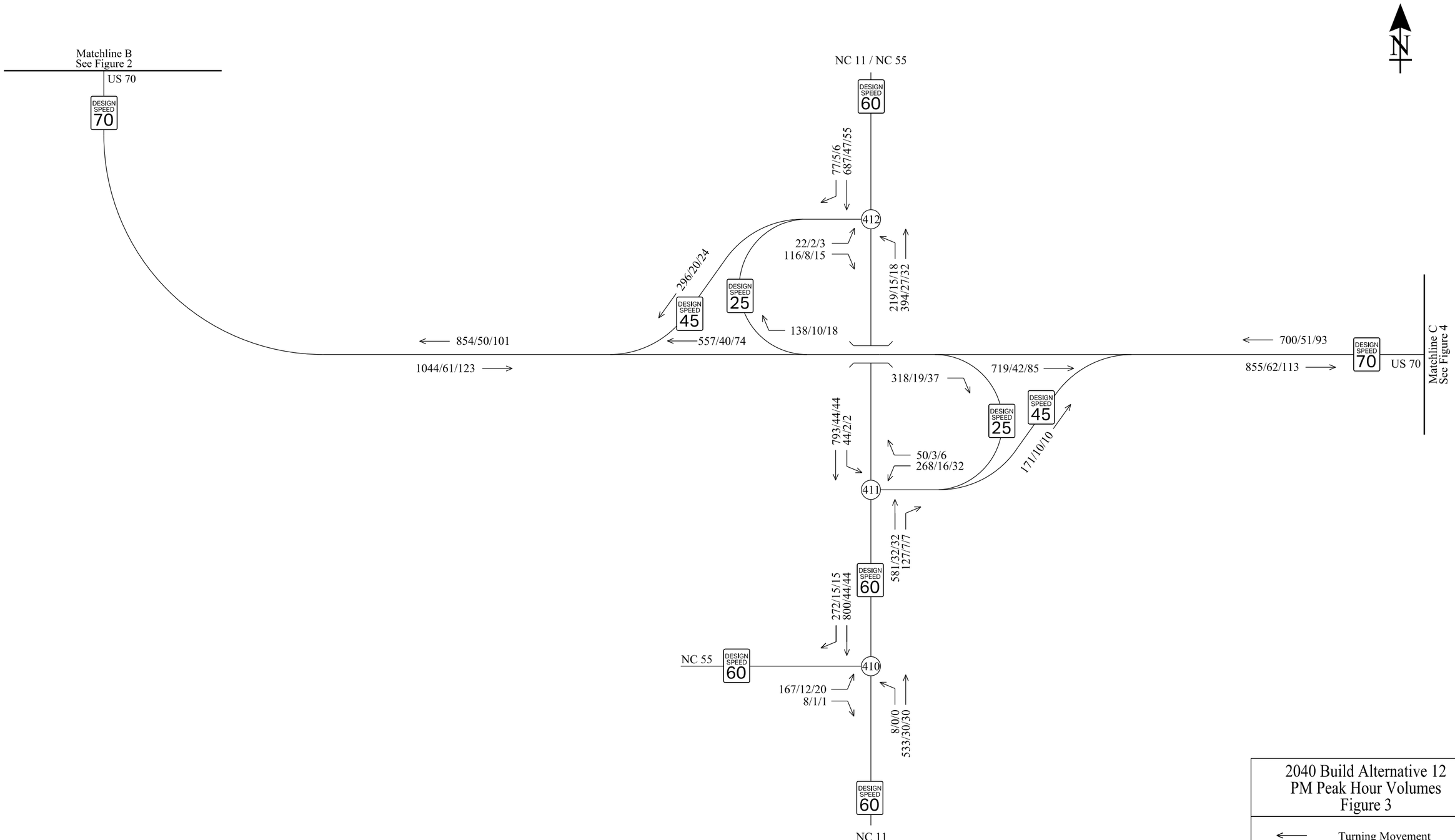
AECOM



2040 Build Alternative 12
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

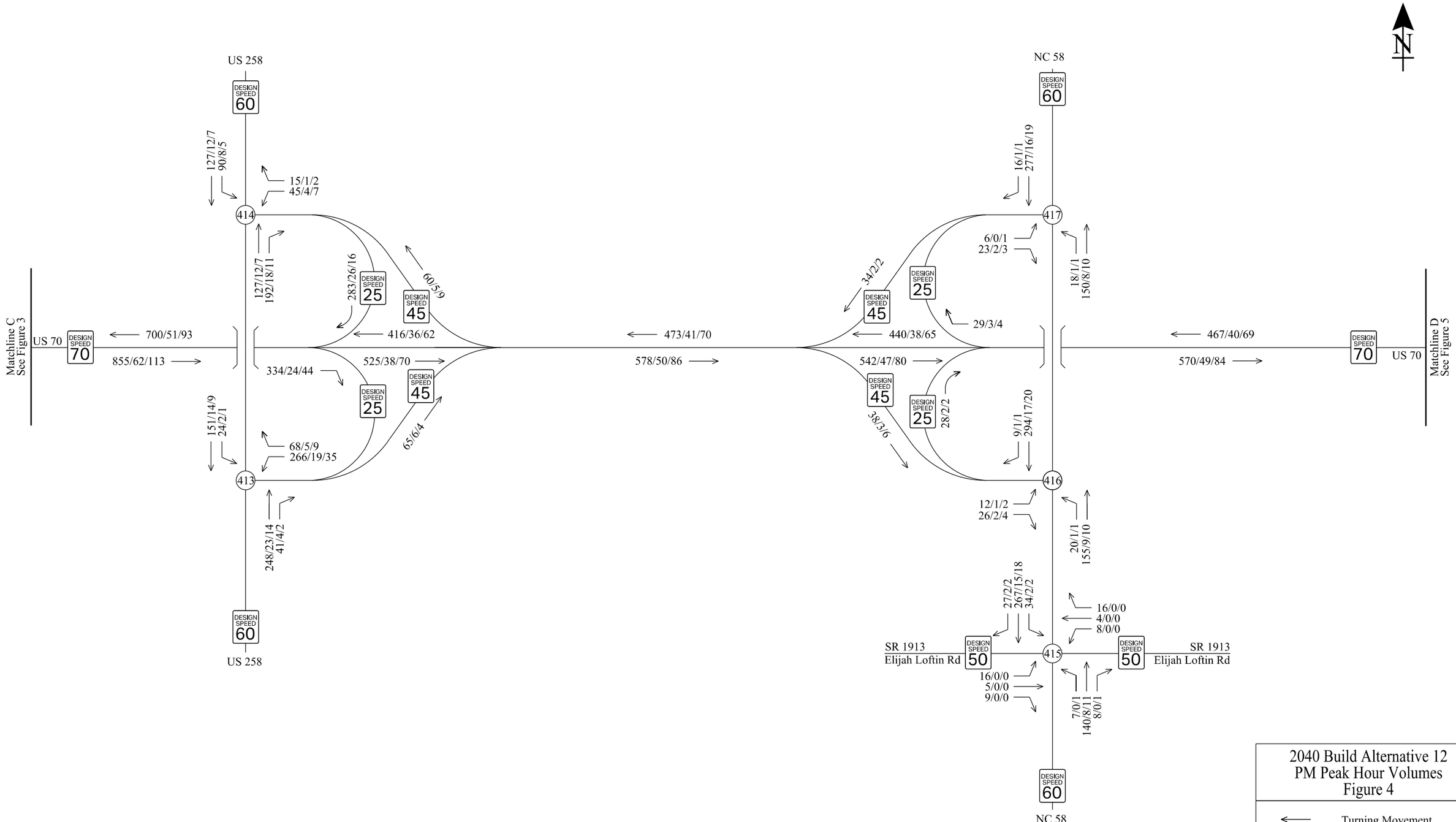
AECOM



2040 Build Alternative 12
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

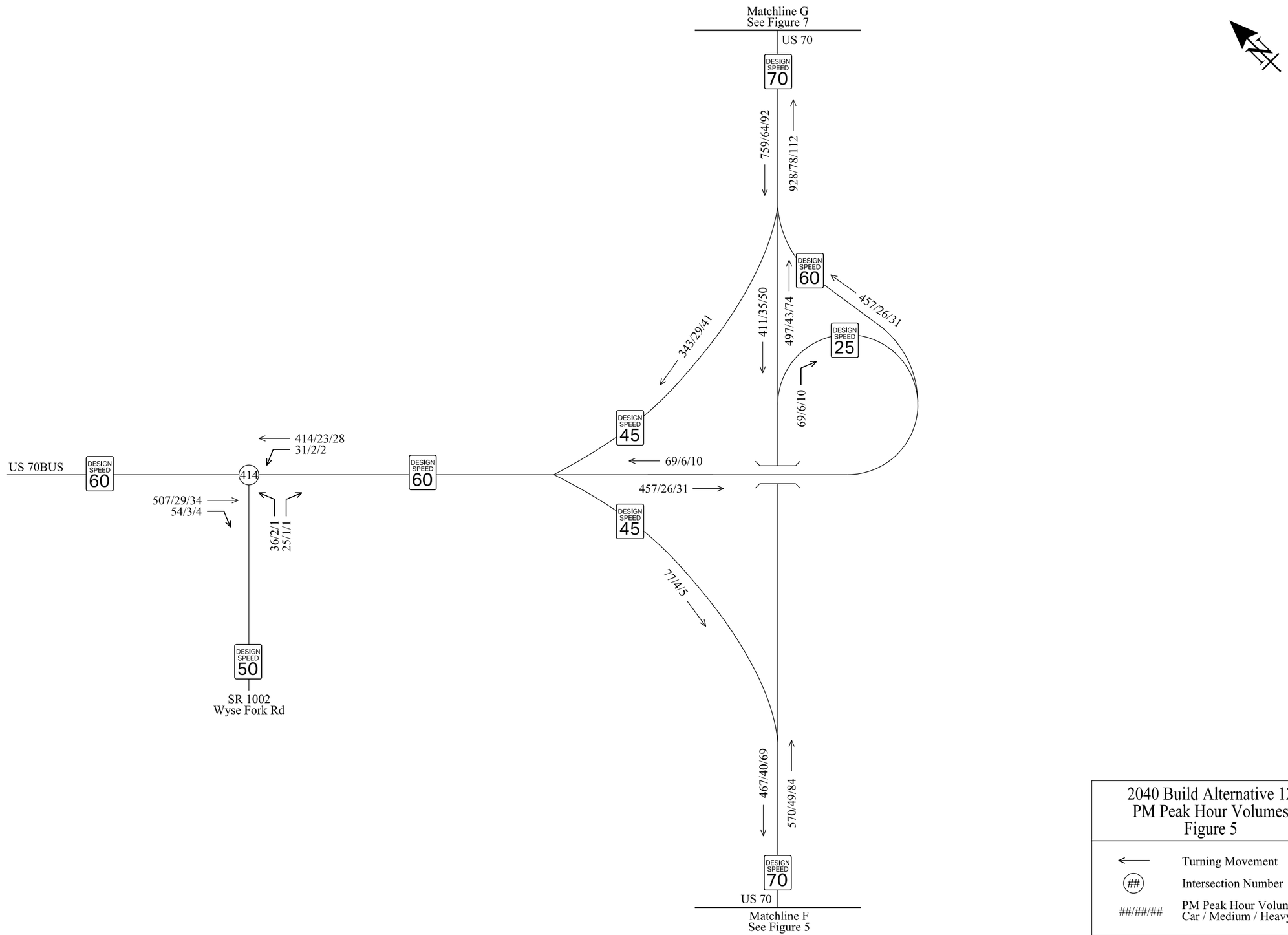
AECOM



2040 Build Alternative 12
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

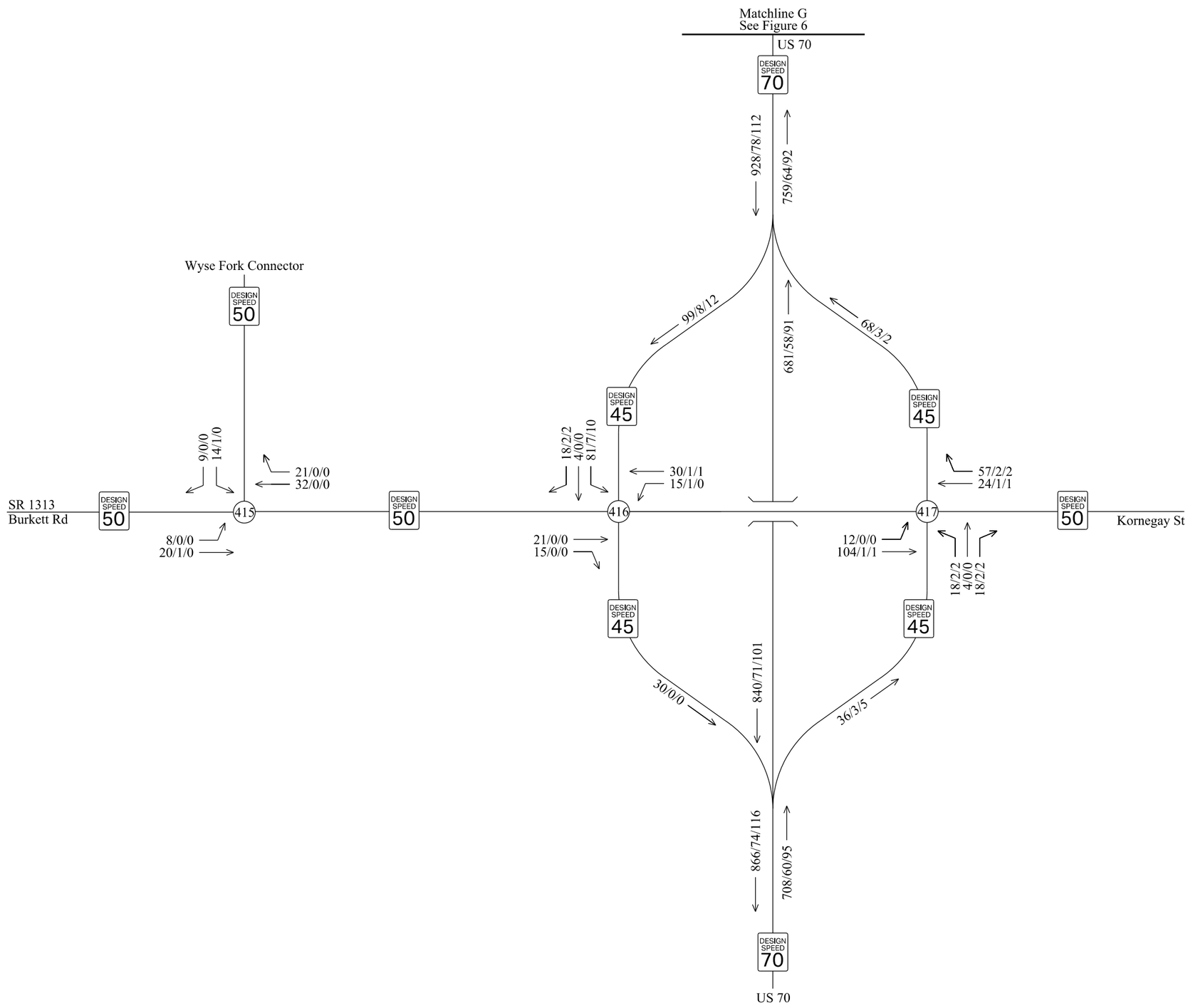
AECOM



2040 Build Alternative 12
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

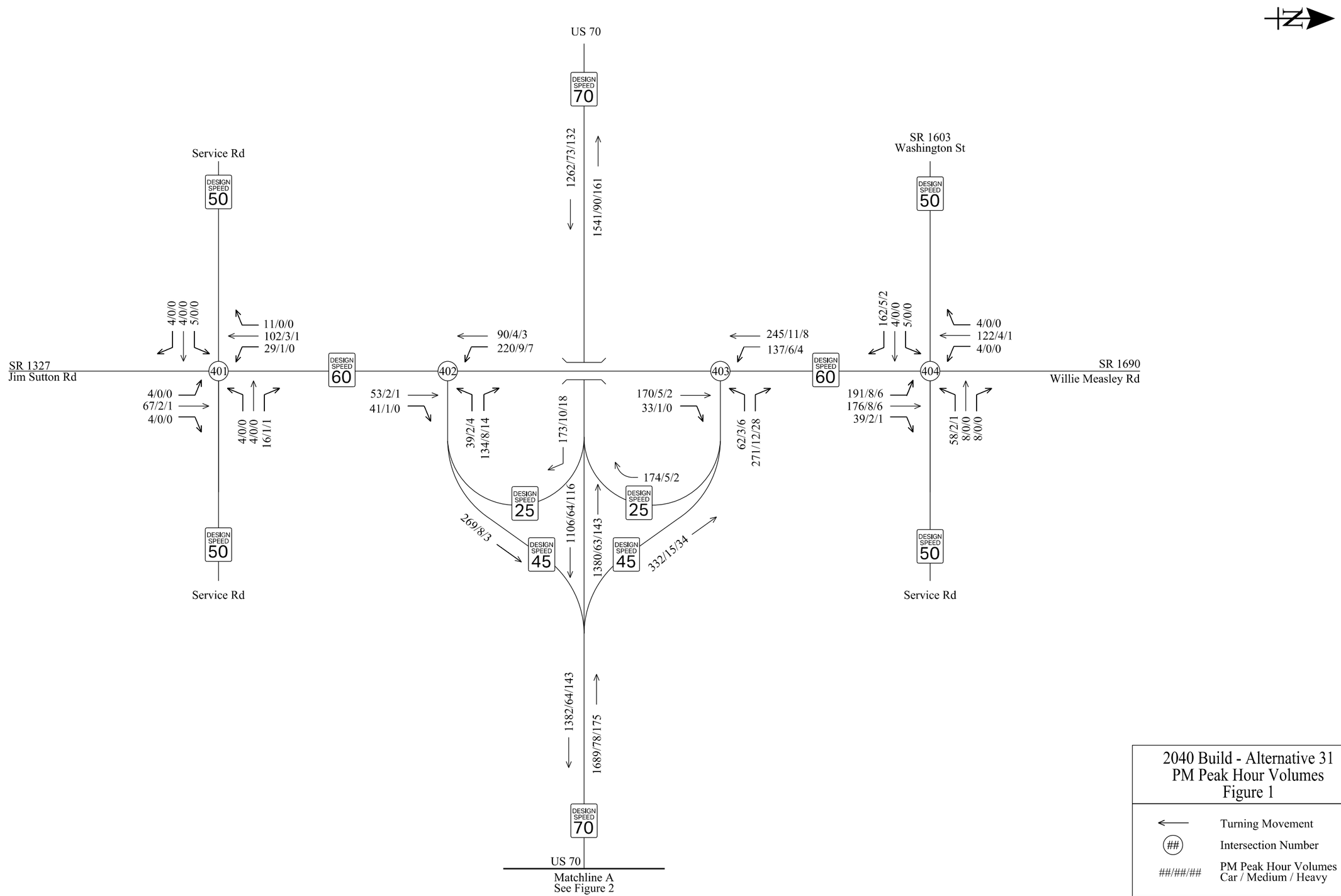
AECOM



2040 Build Alternative 12
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

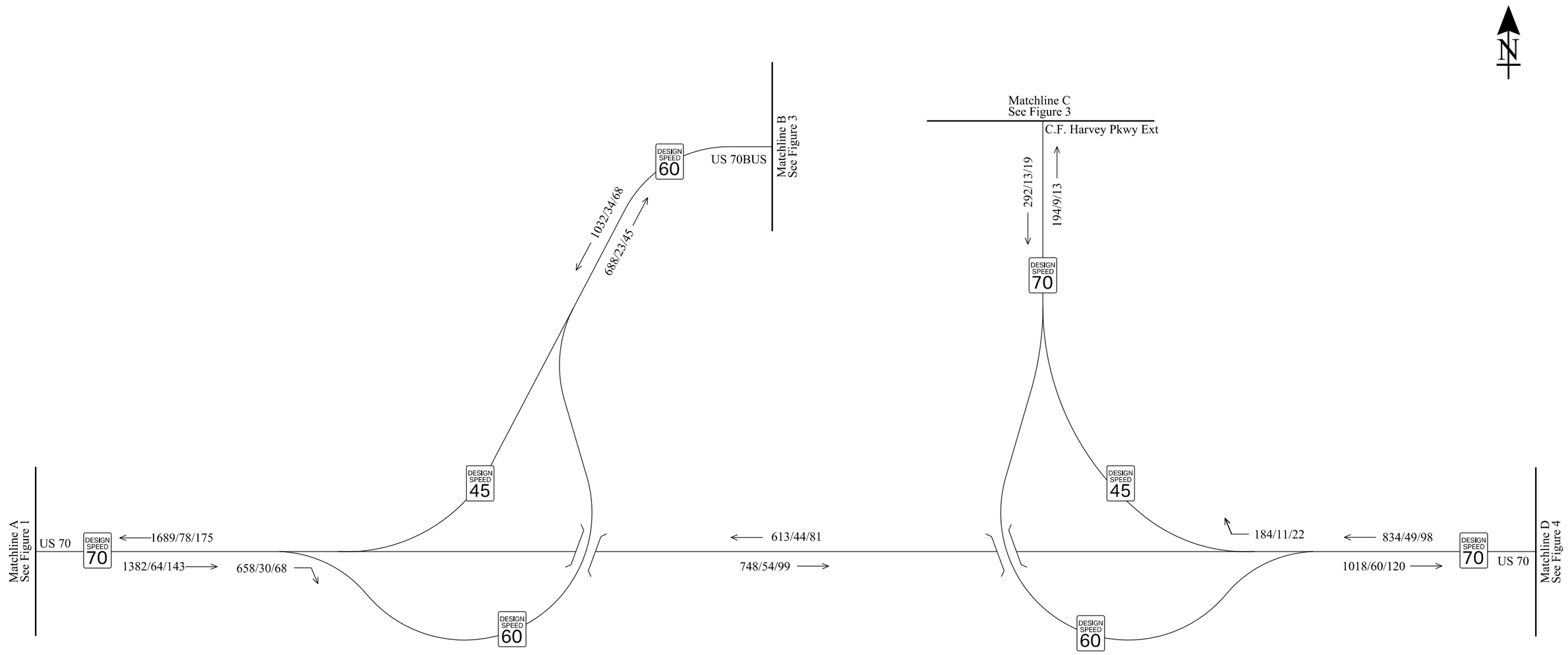
AECOM



2040 Build - Alternative 31
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

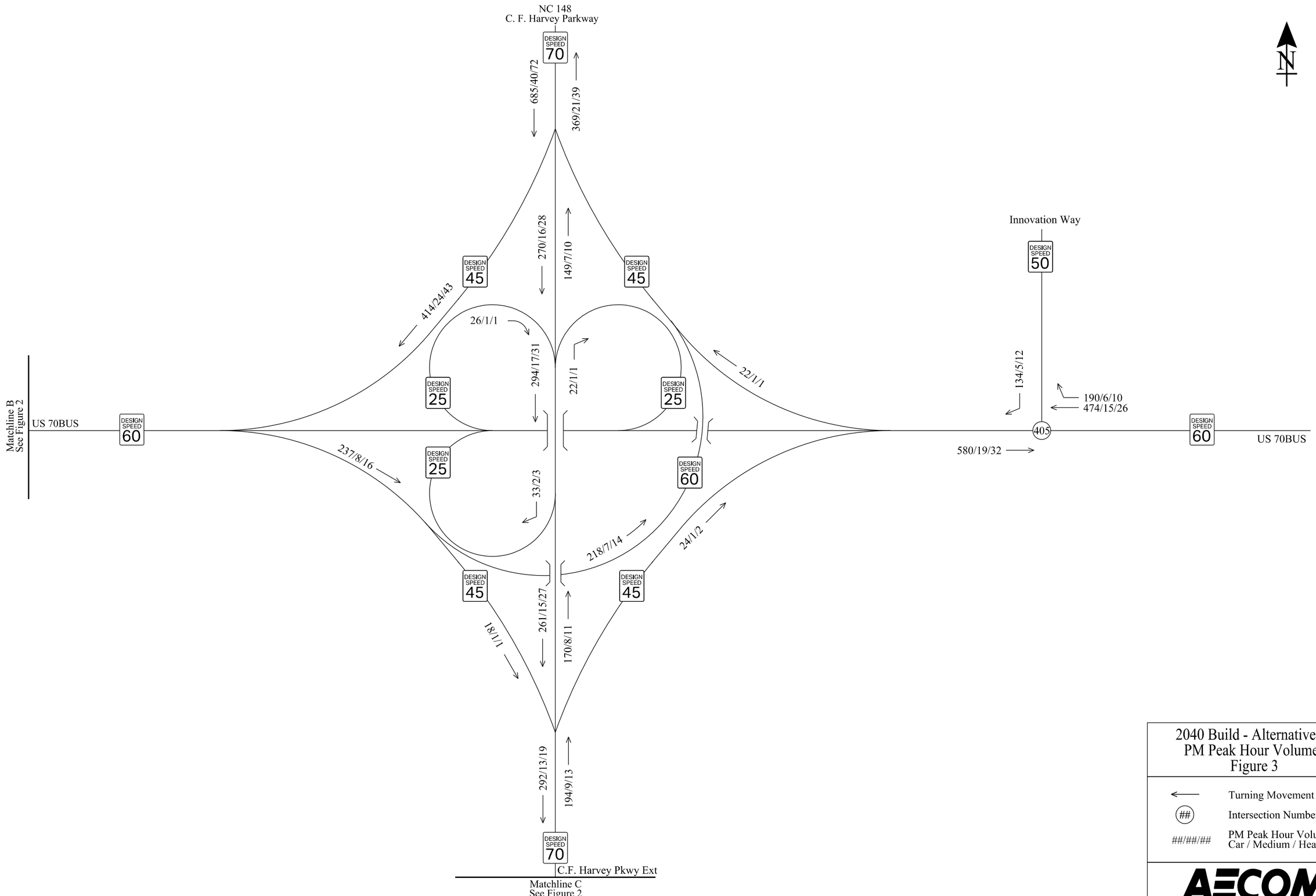
AECOM



2040 Build - Alternative 31
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

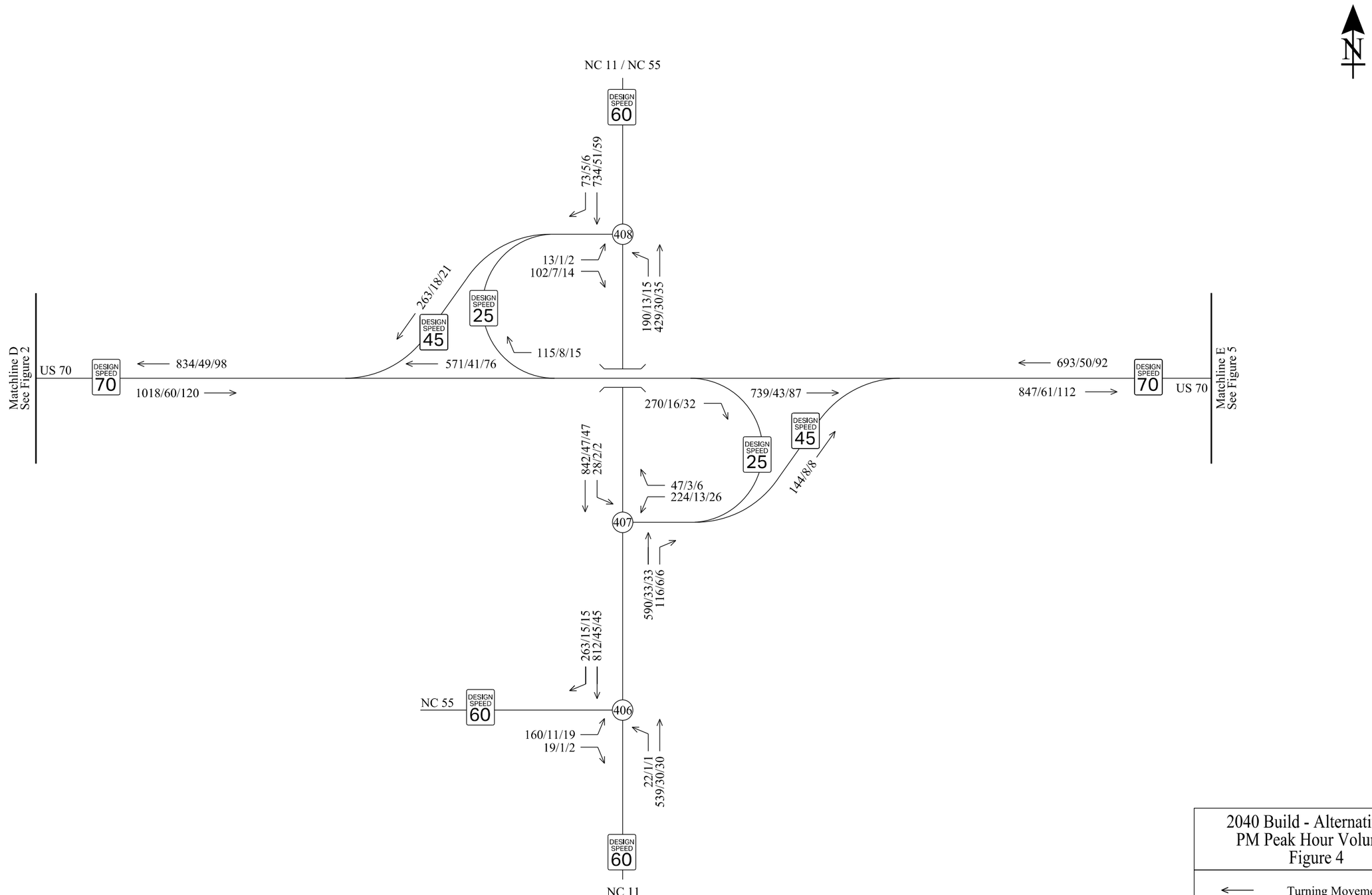
AECOM



2040 Build - Alternative 31
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

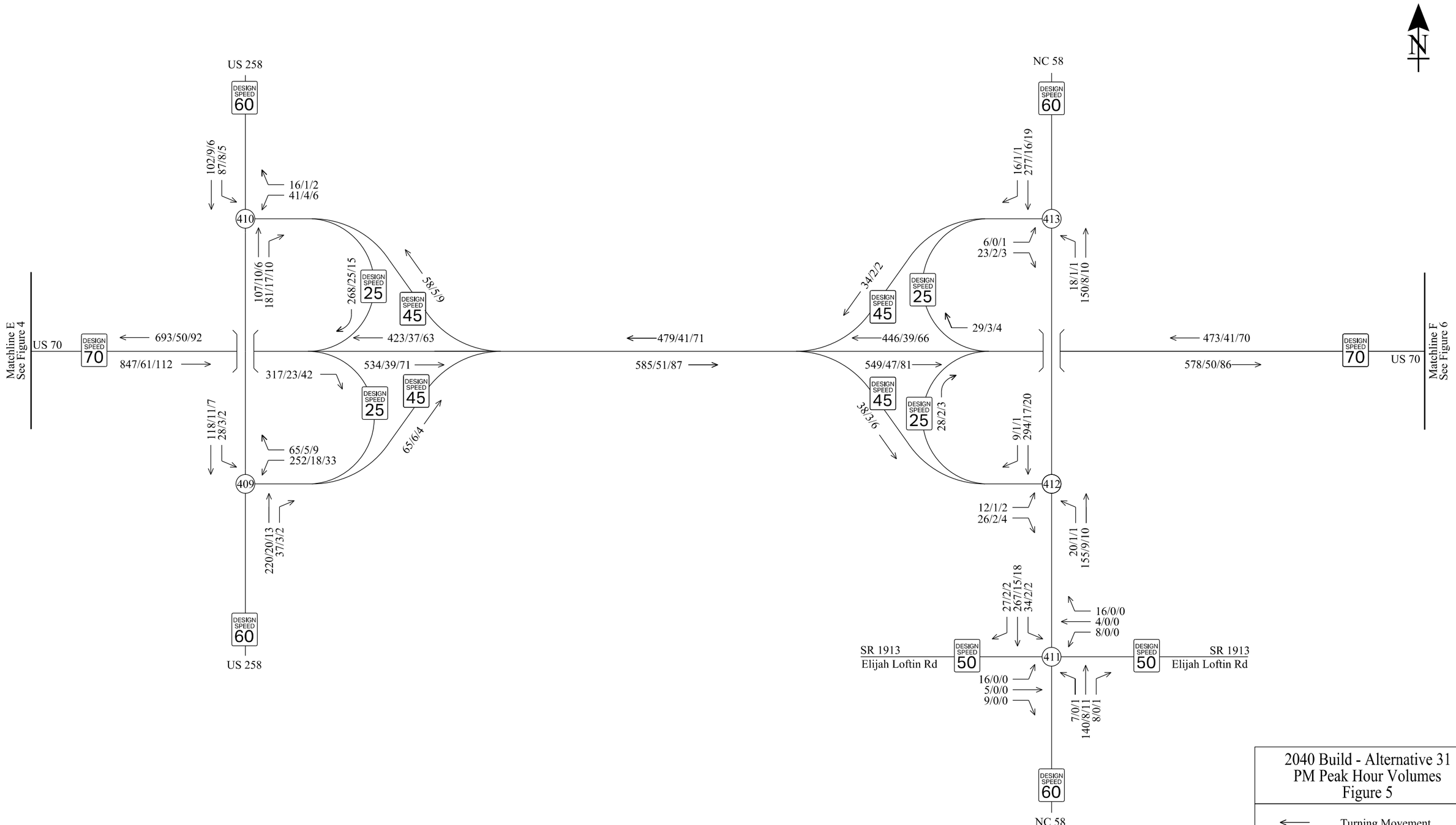
AECOM



2040 Build - Alternative 31
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

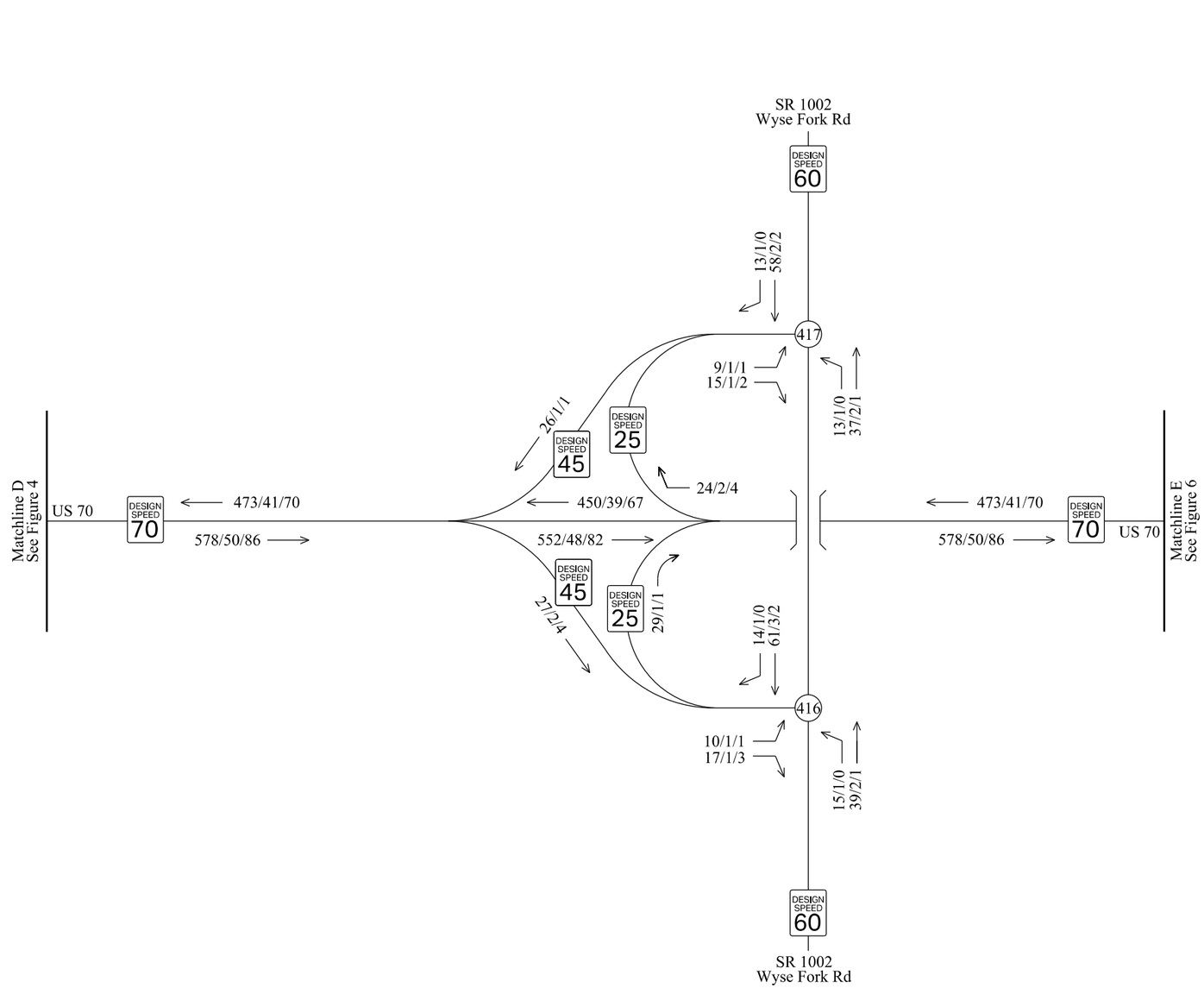
AECOM



2040 Build - Alternative 31
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

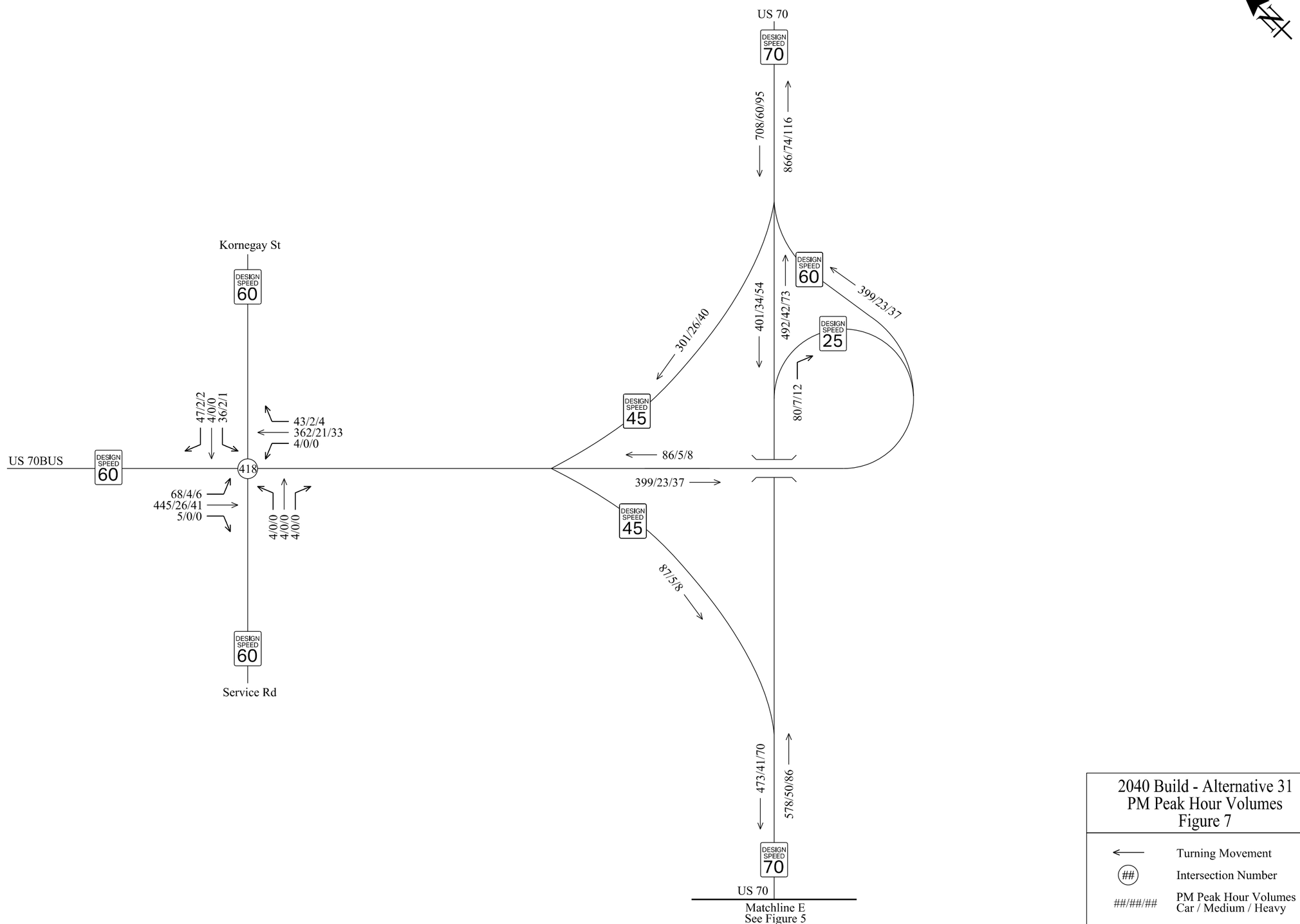
AECOM



2040 Build - Alternative 31
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

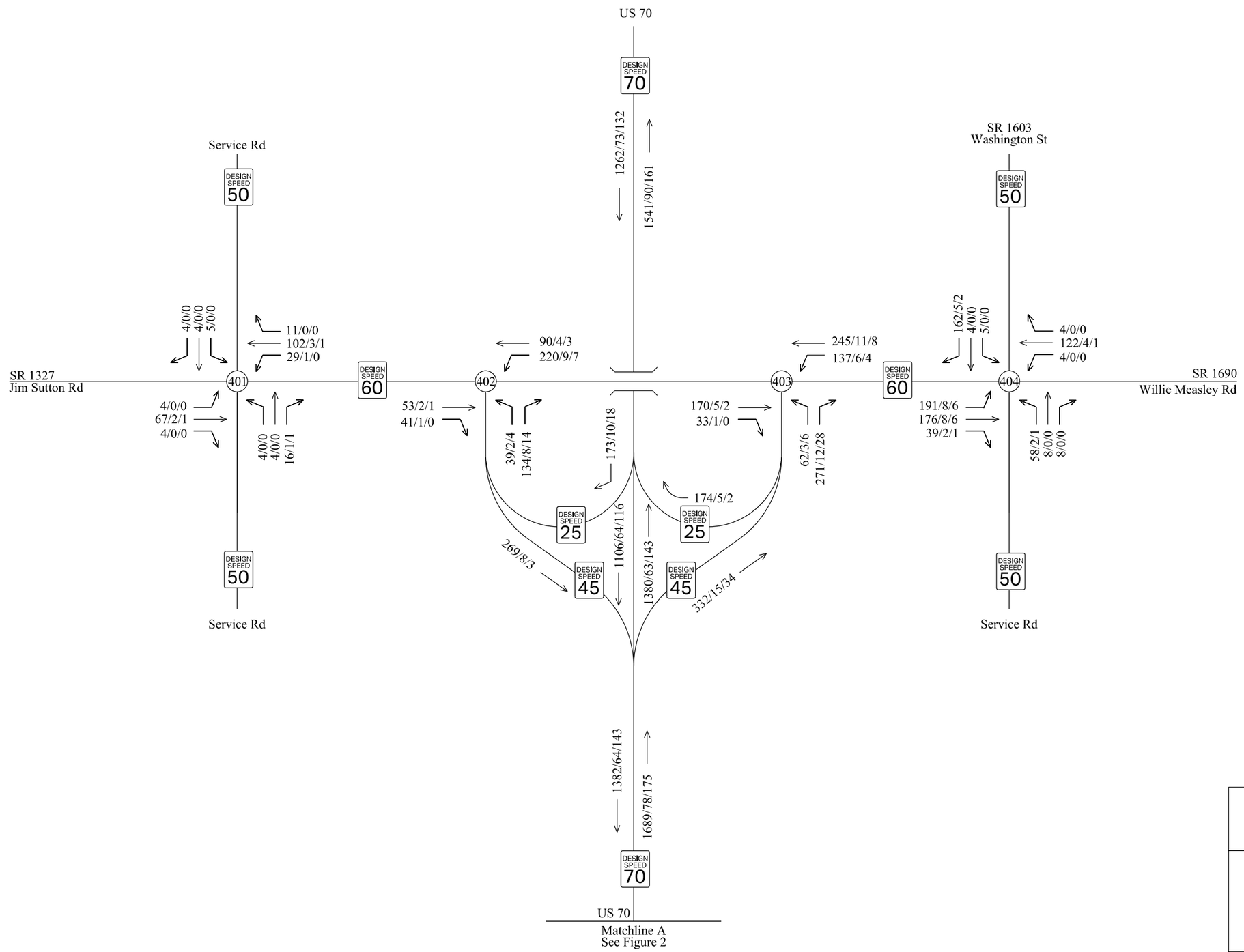
AECOM



2040 Build - Alternative 31
PM Peak Hour Volumes
Figure 7

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

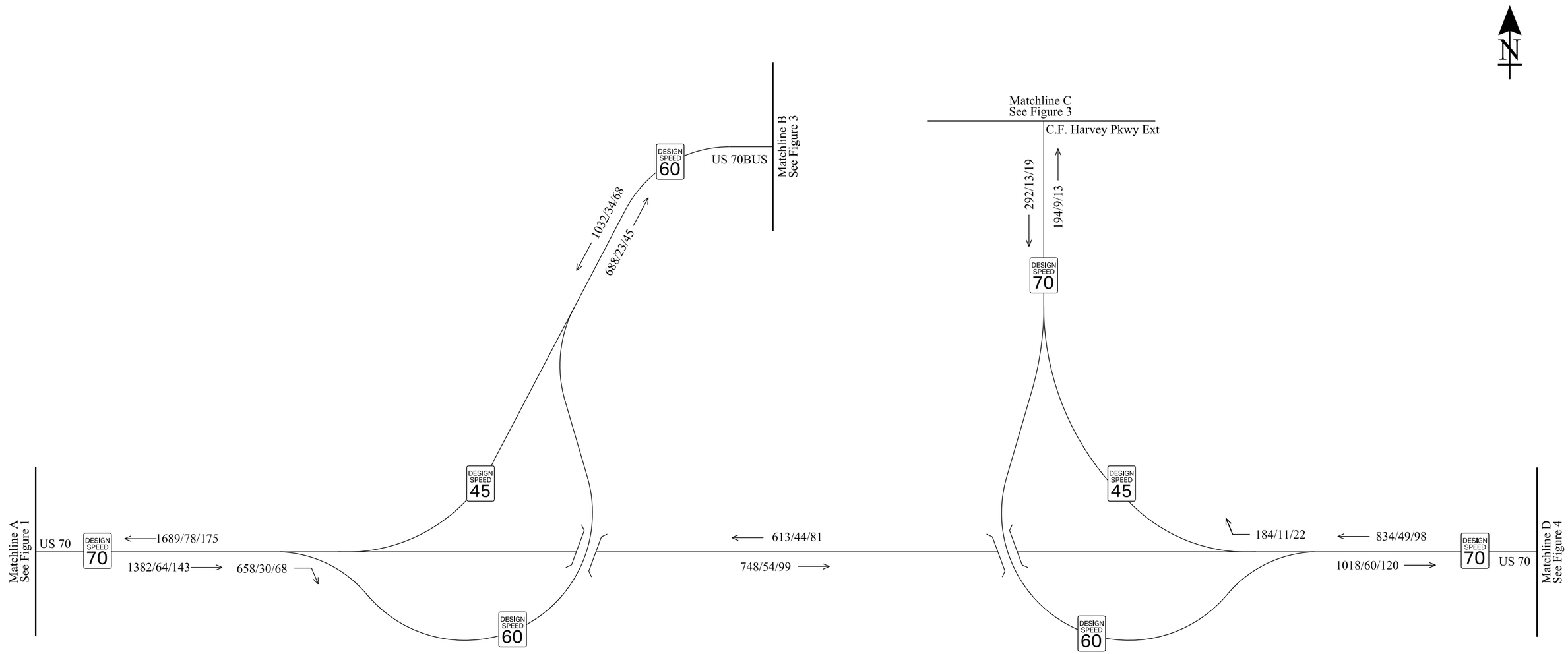
AECOM



2040 Build - Alternative 32
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

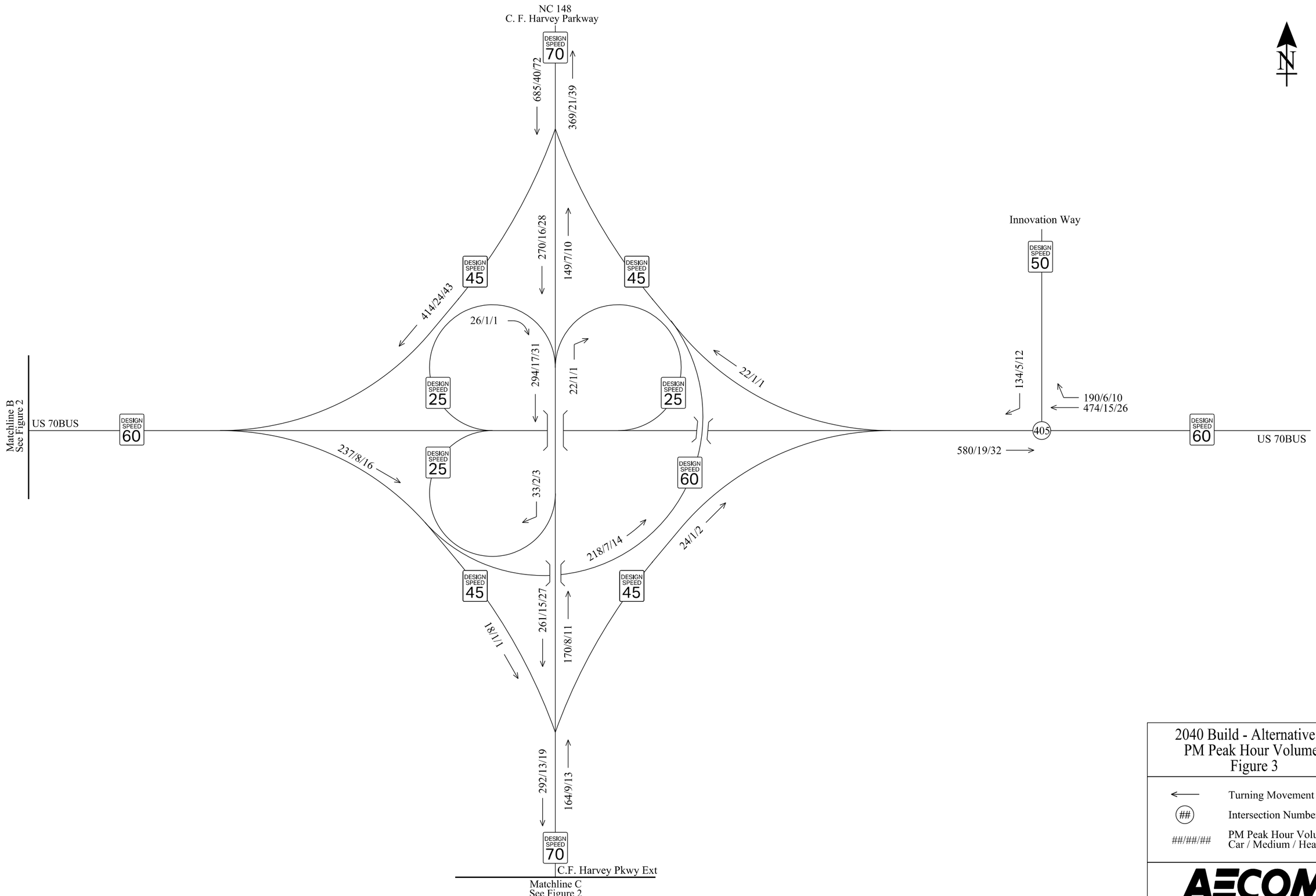
AECOM



2040 Build - Alternative 32
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

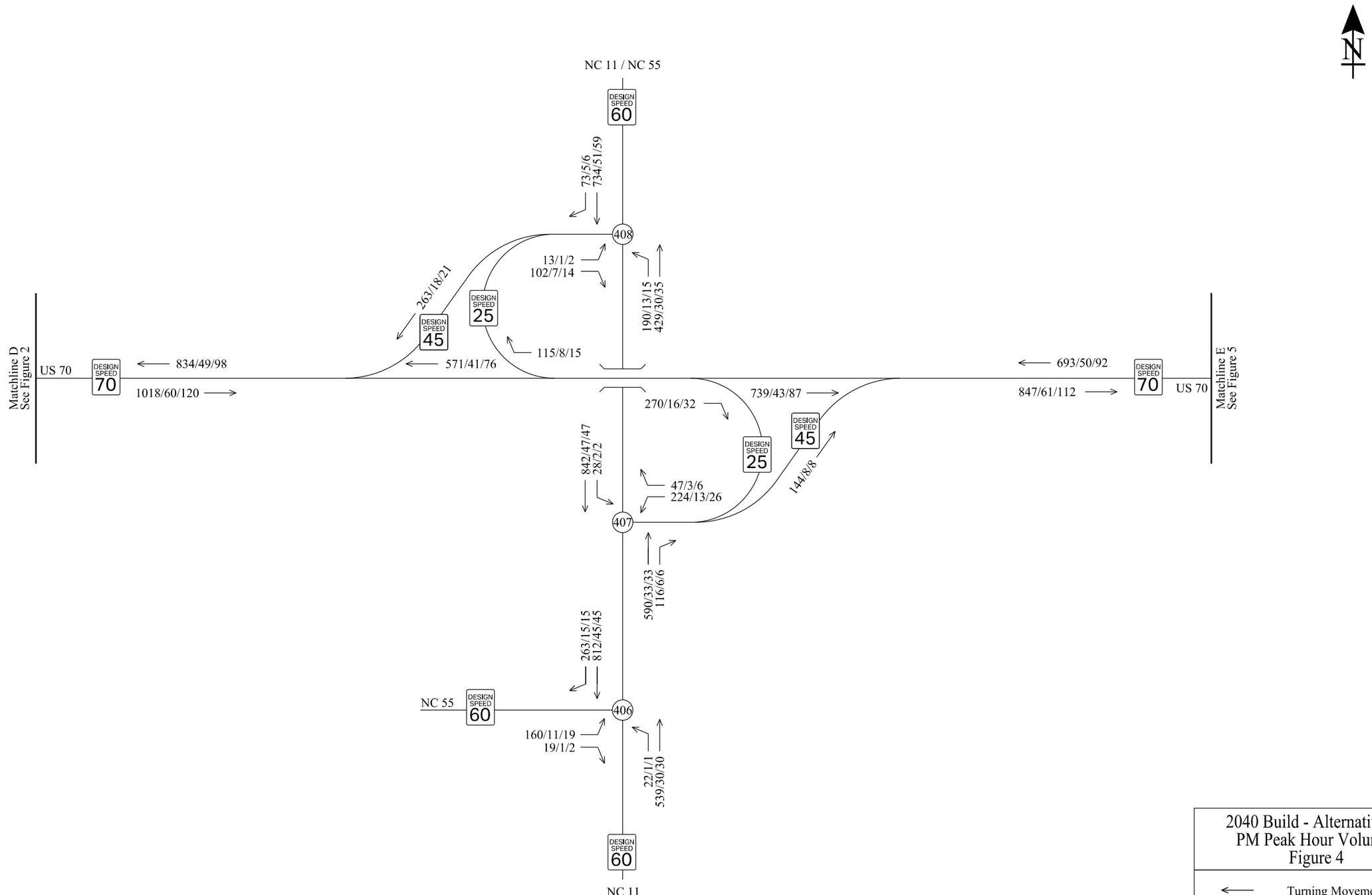
AECOM



2040 Build - Alternative 32
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

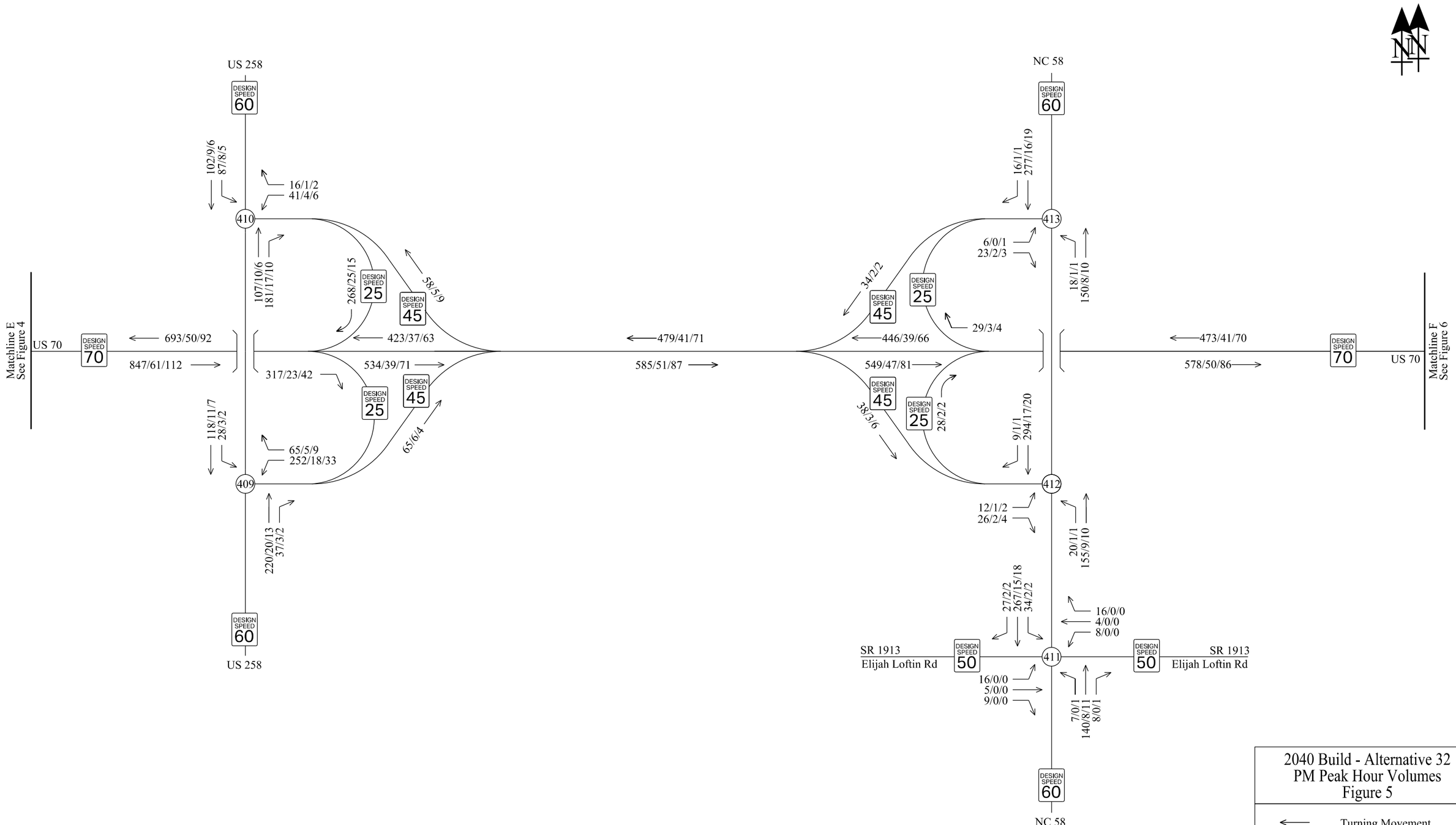
AECOM



2040 Build - Alternative 32
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

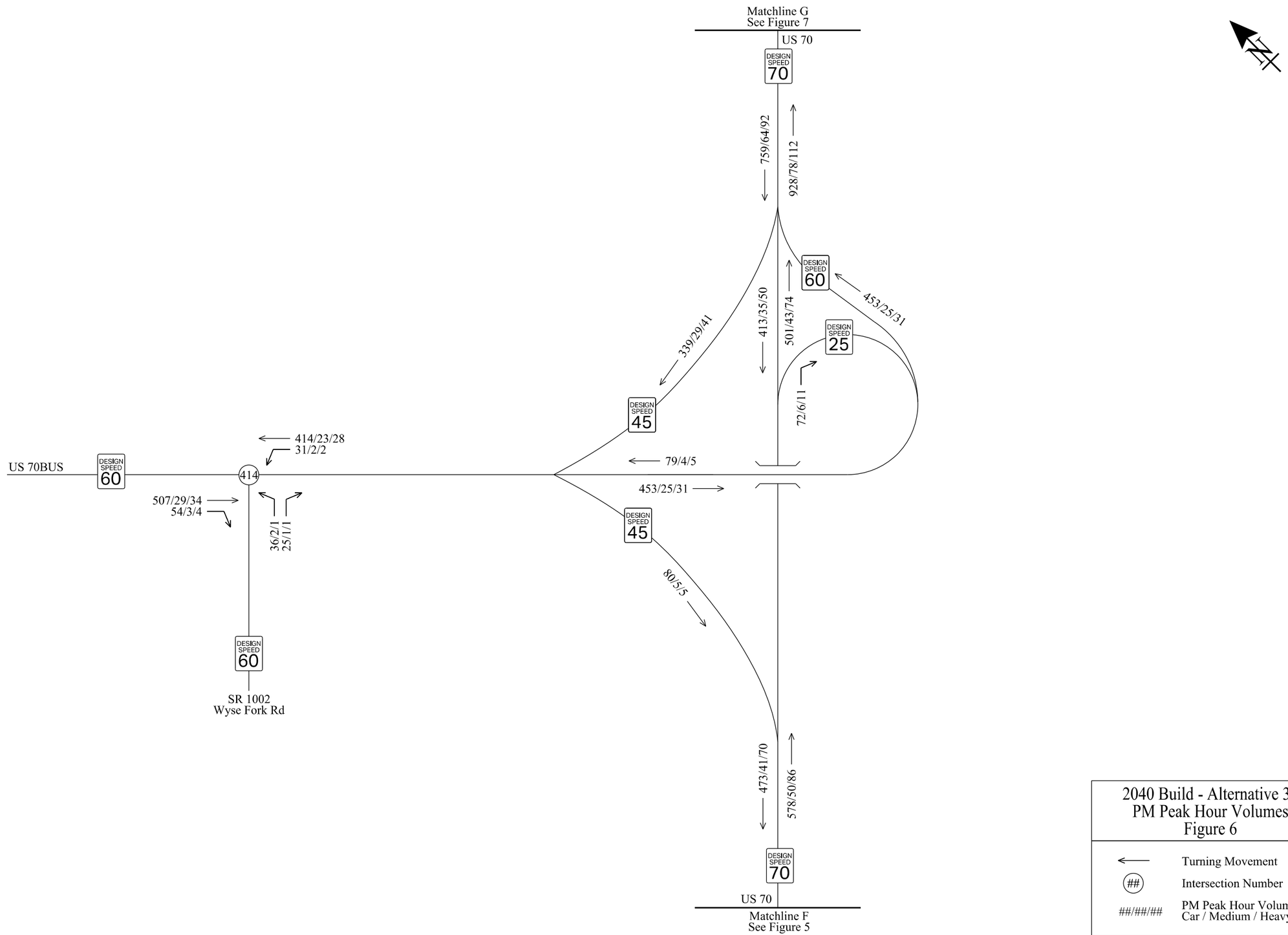
AECOM



2040 Build - Alternative 32
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

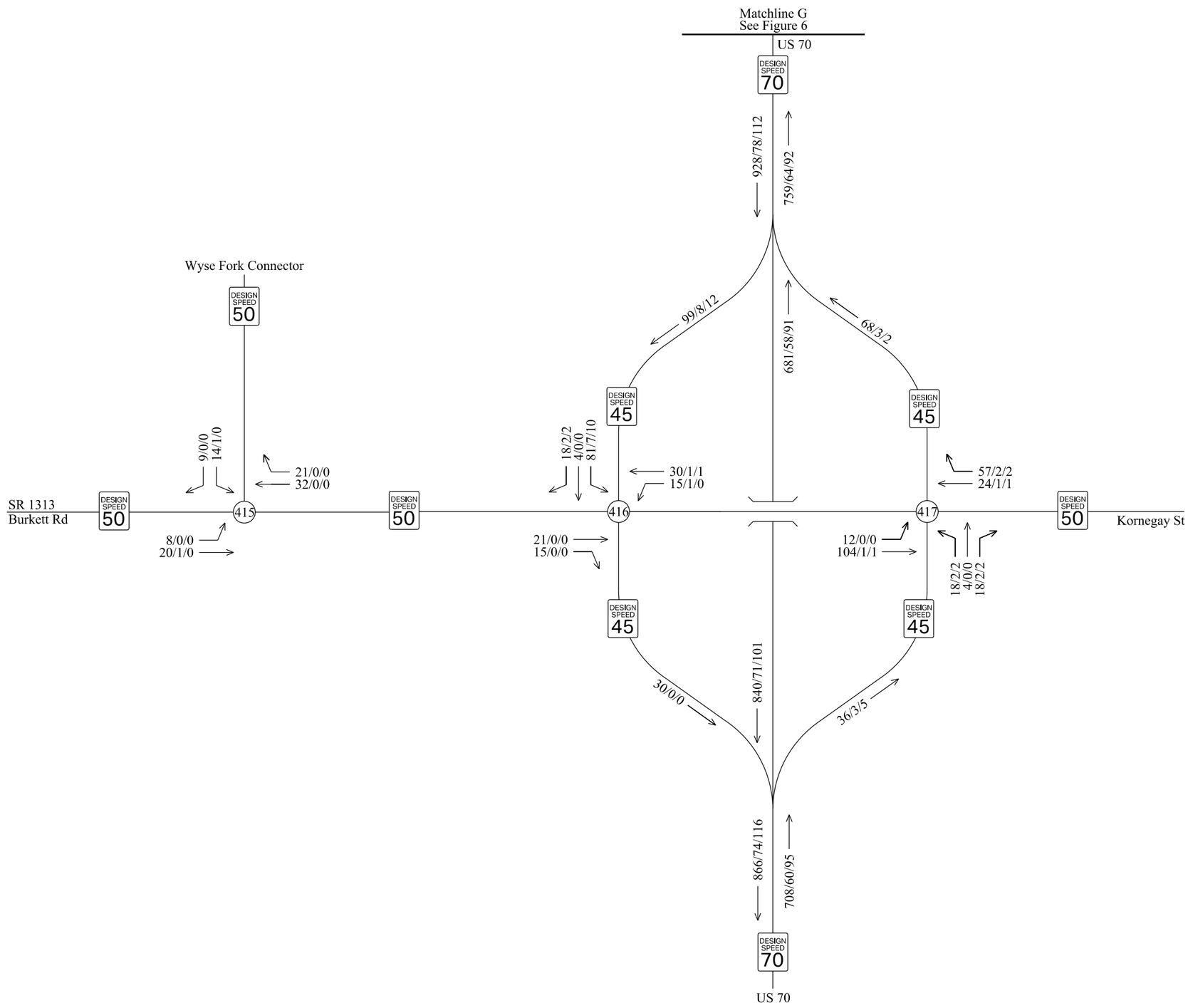
AECOM



2040 Build - Alternative 32
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

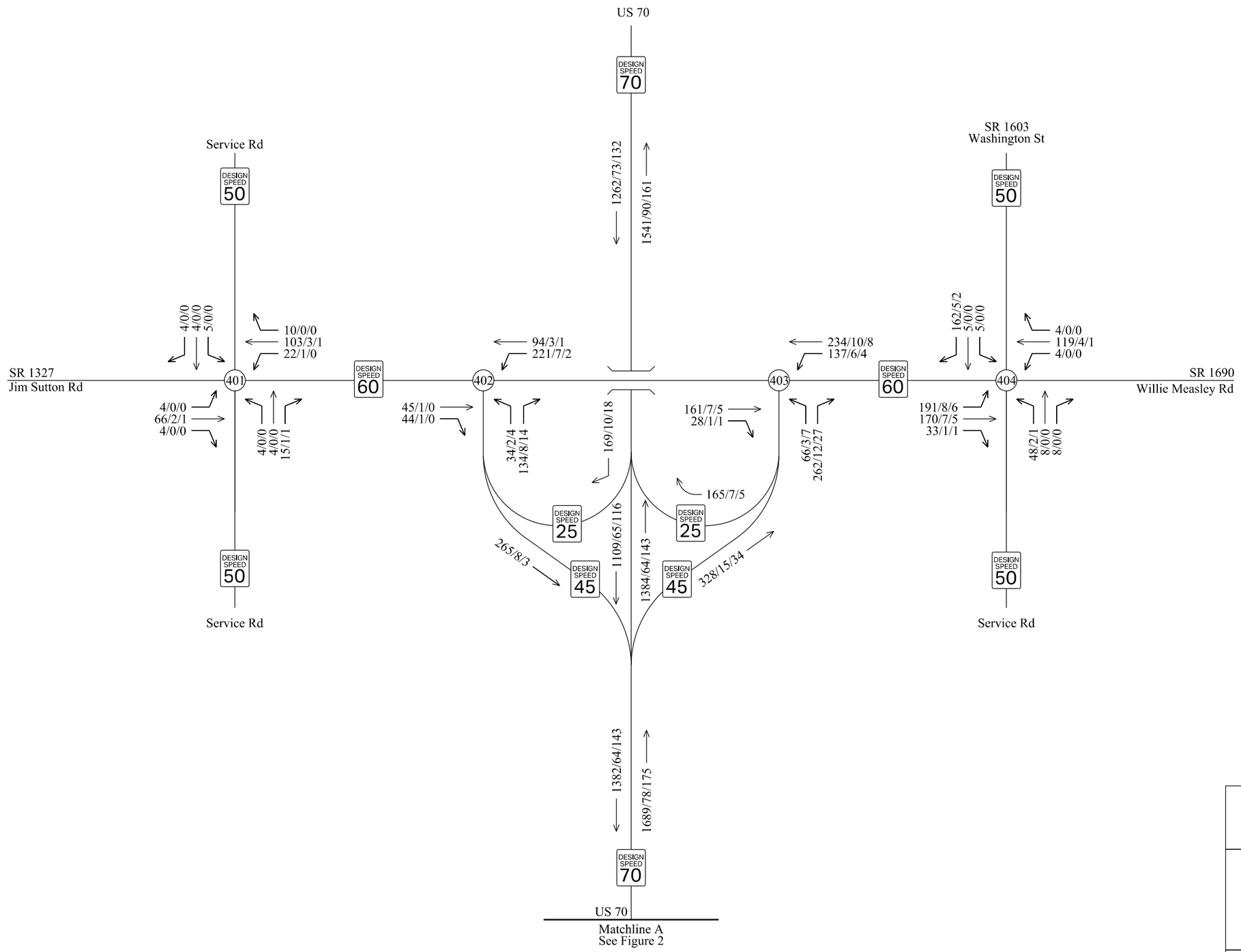
AECOM



2040 Build - Alternative 32
PM Peak Hour Volumes
Figure 7

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

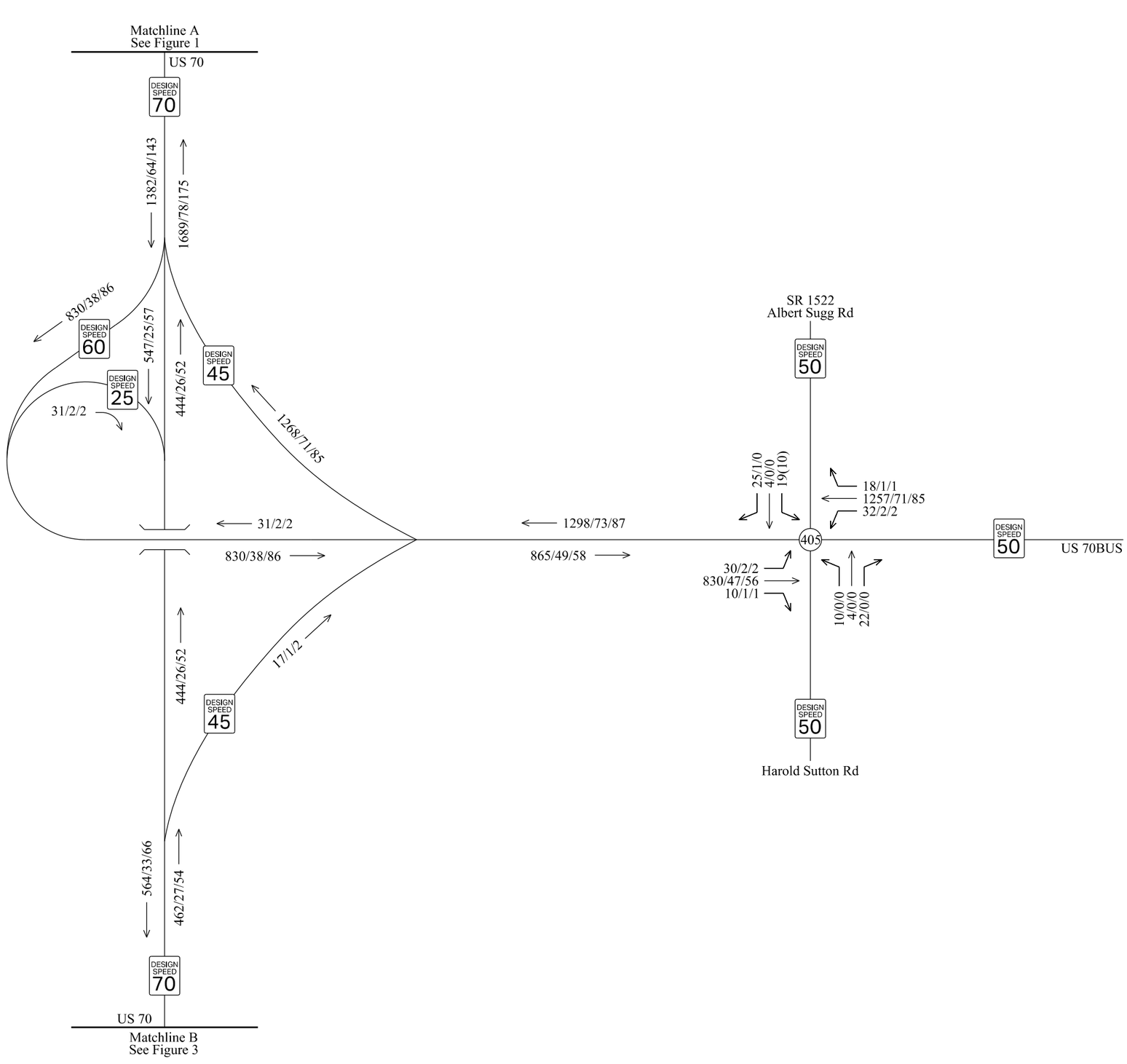
AECOM



2040 Build - Alternative 35
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

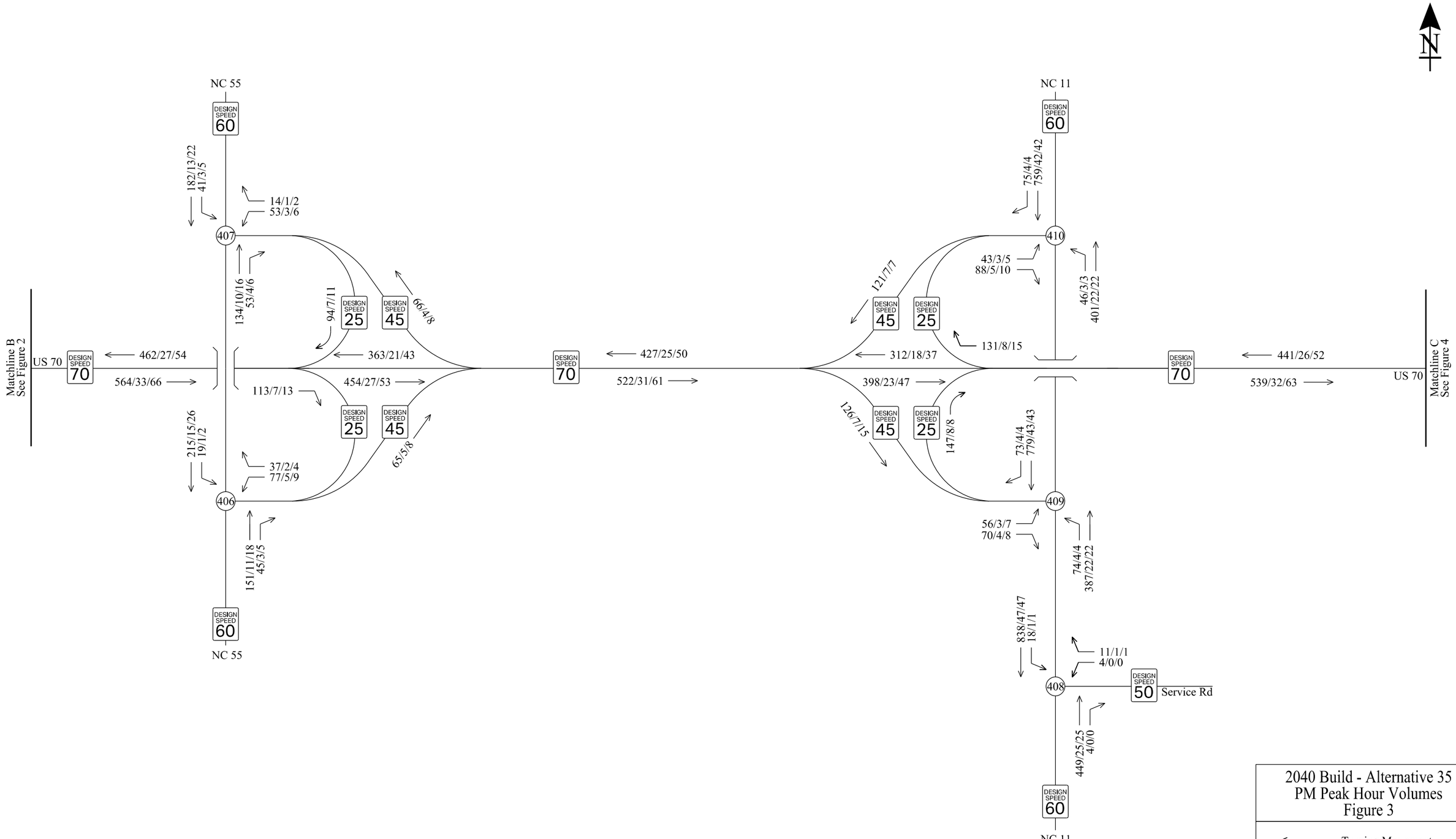
AECOM



2040 Build - Alternative 35
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

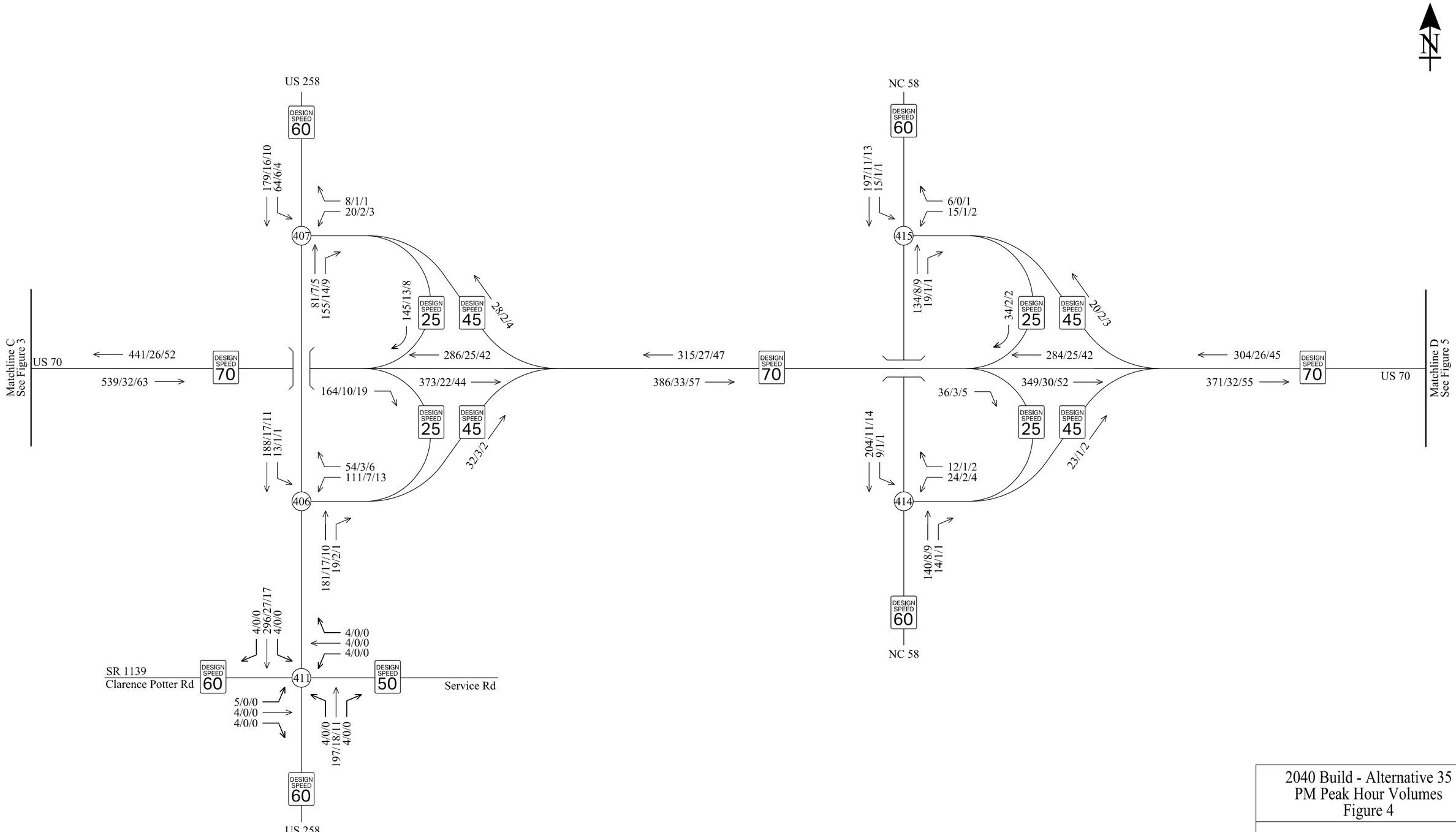
AECOM



2040 Build - Alternative 35
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

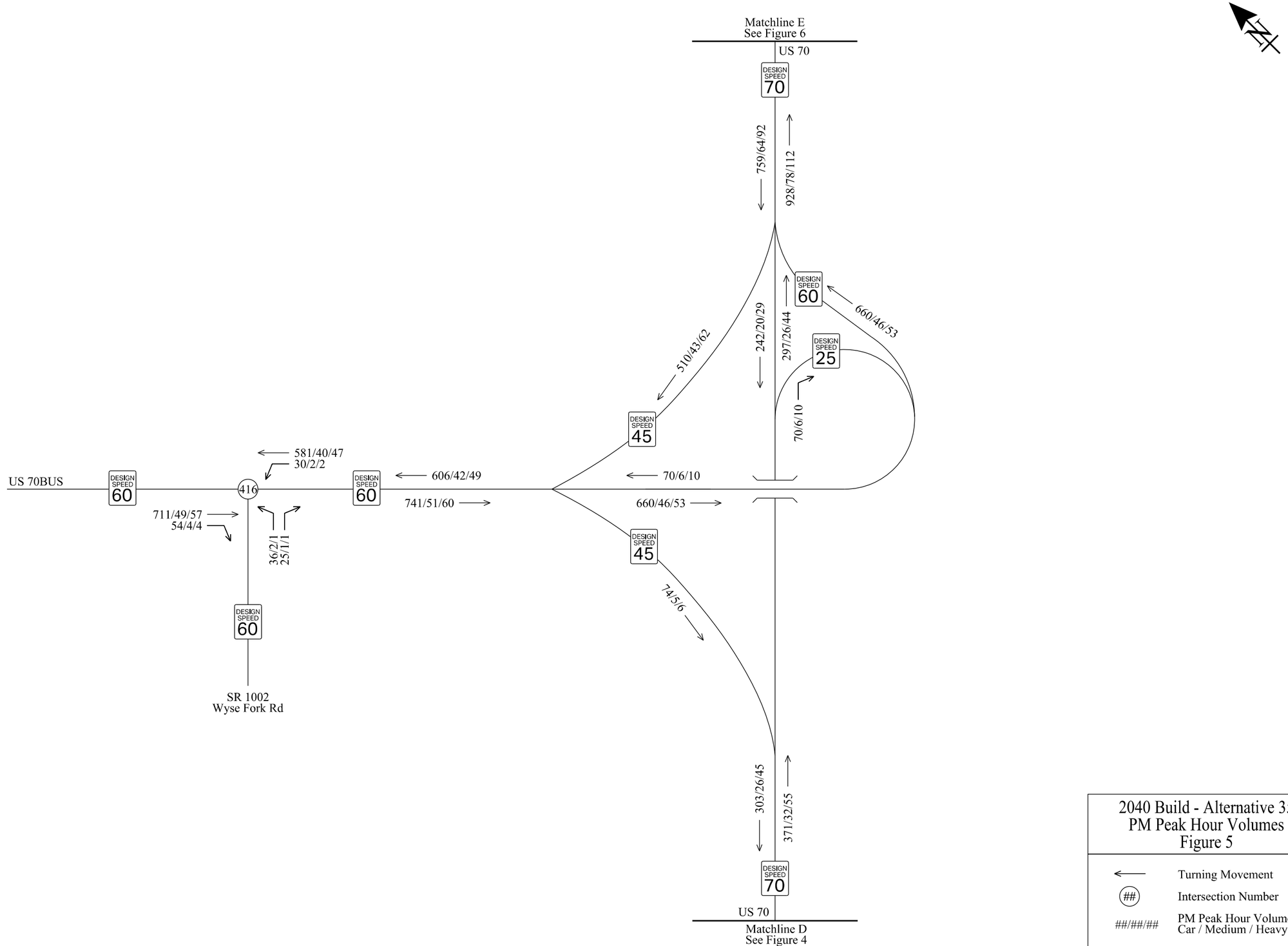
AECOM



2040 Build - Alternative 35
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

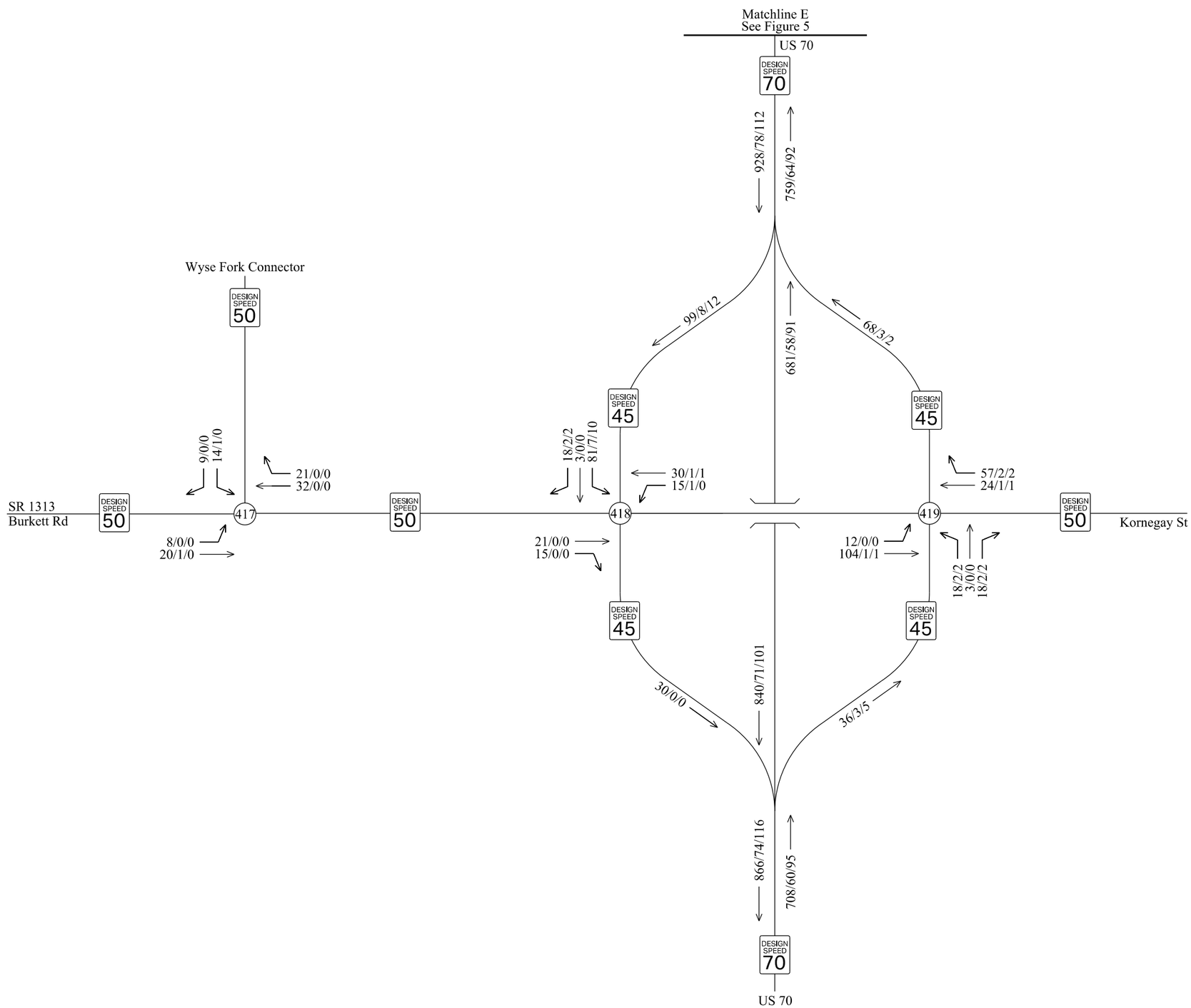
AECOM



2040 Build - Alternative 35
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

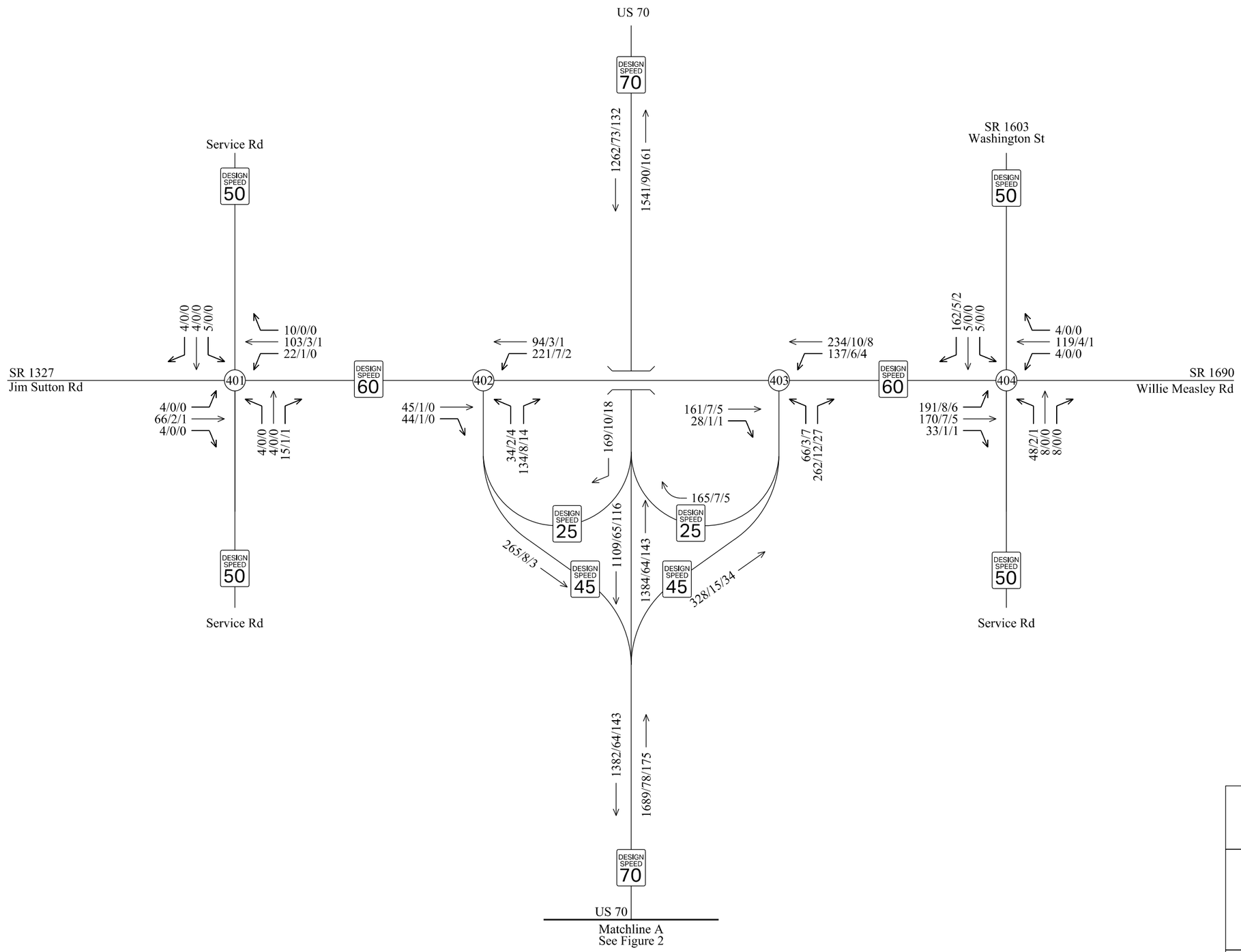
AECOM



2040 Build - Alternative 35
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

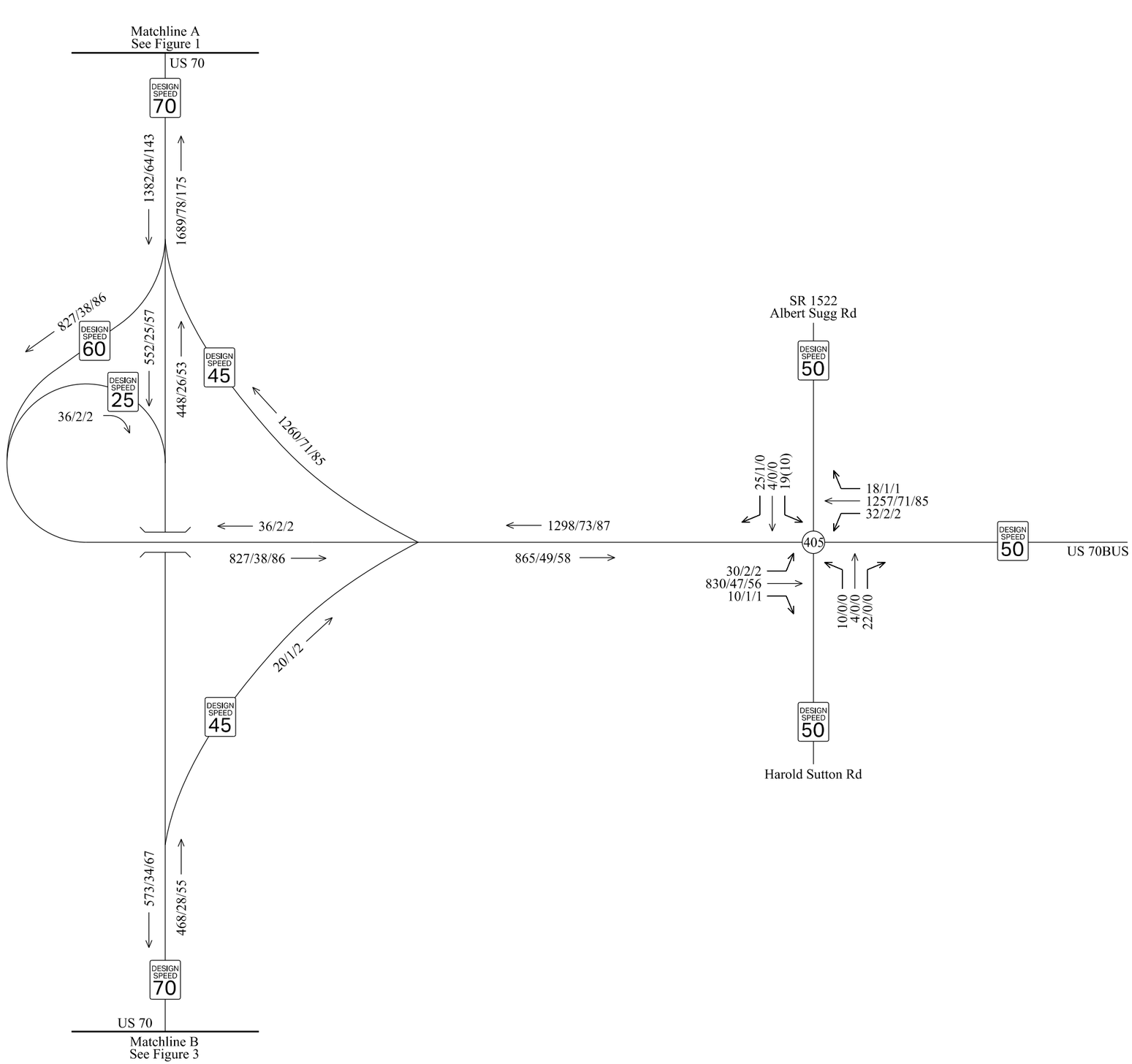
AECOM



2040 Build - Alternative 36
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

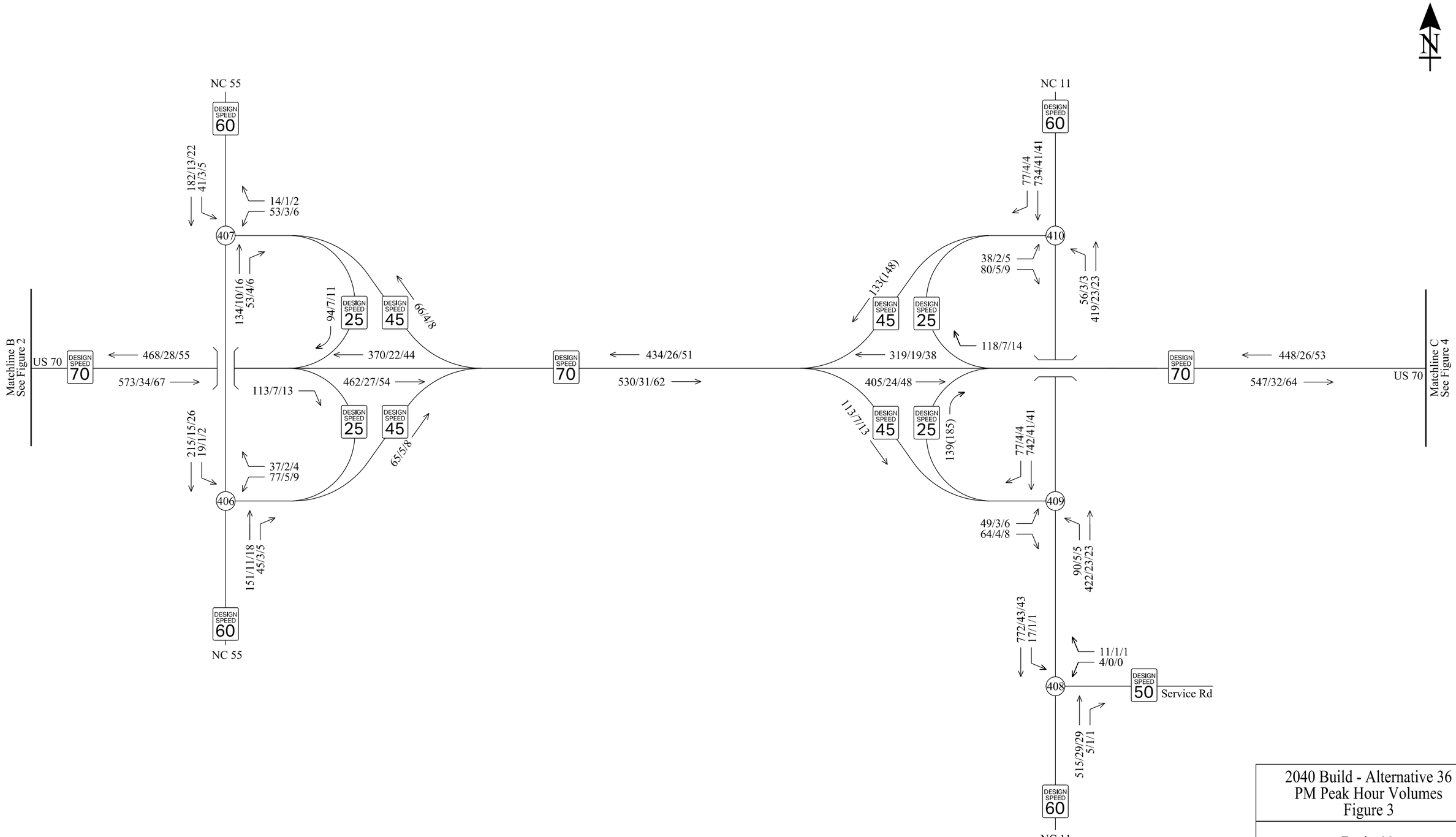
AECOM



2040 Build - Alternative 36
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

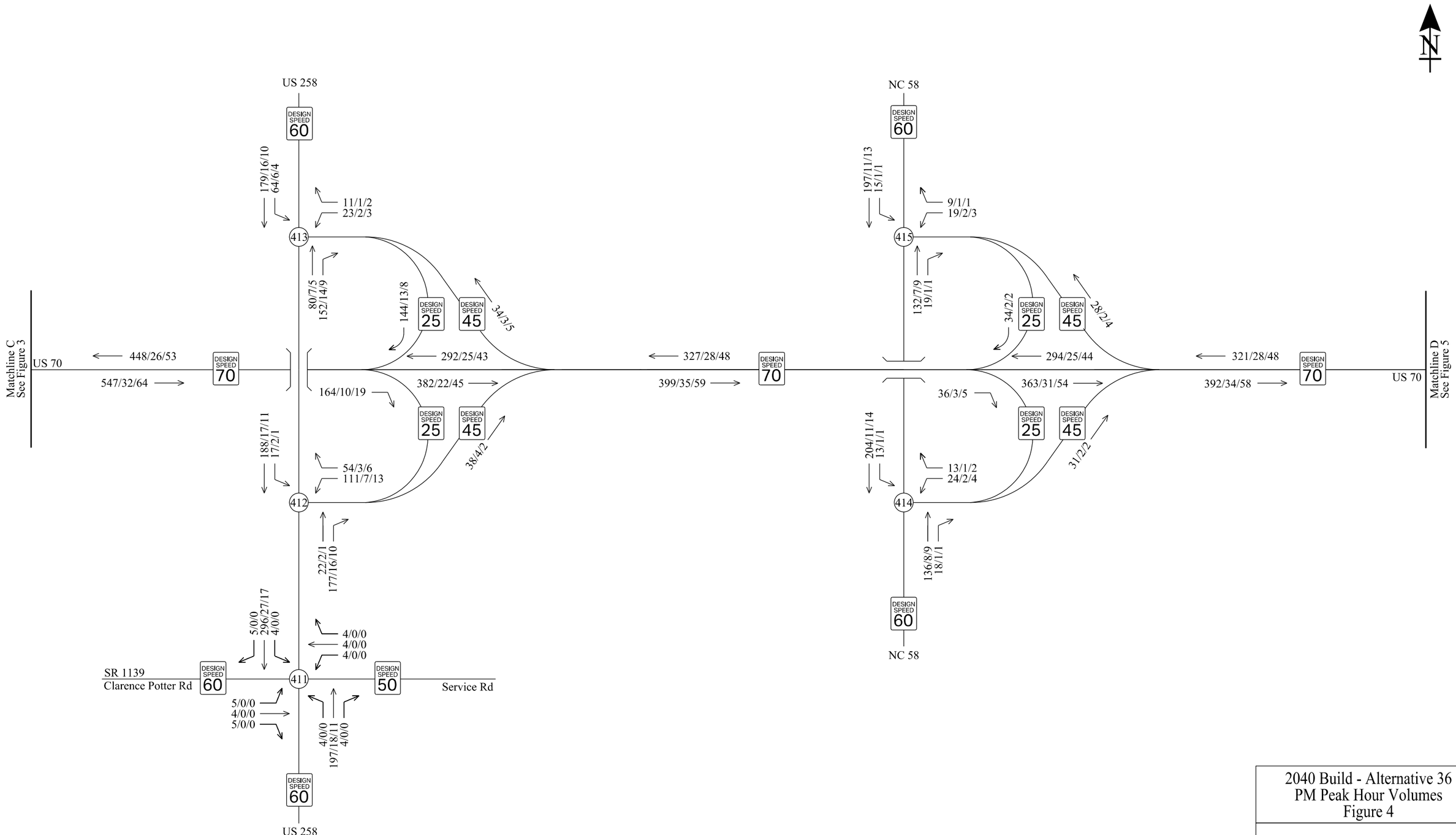
AECOM



2040 Build - Alternative 36
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

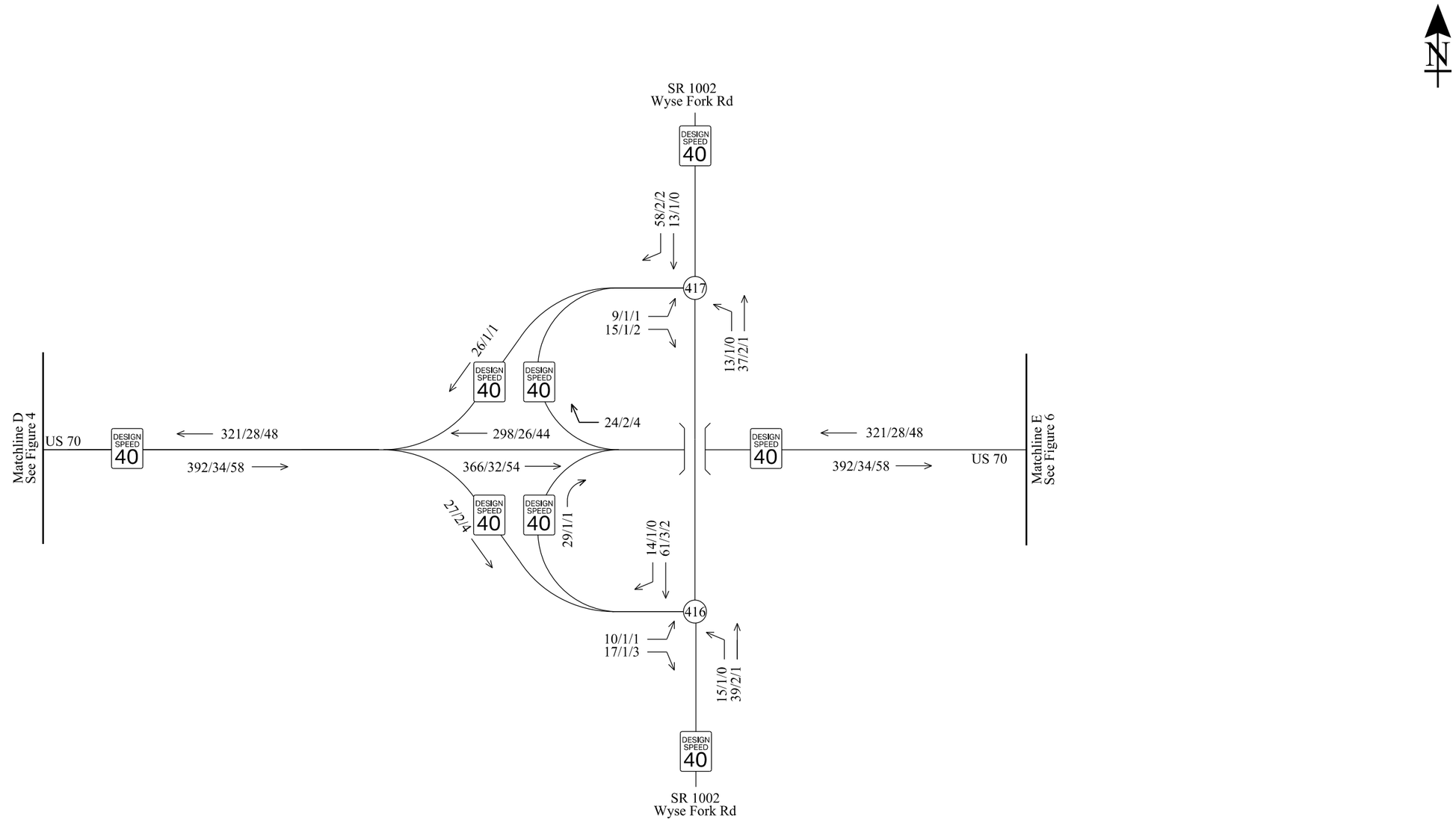
AECOM



2040 Build - Alternative 36
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

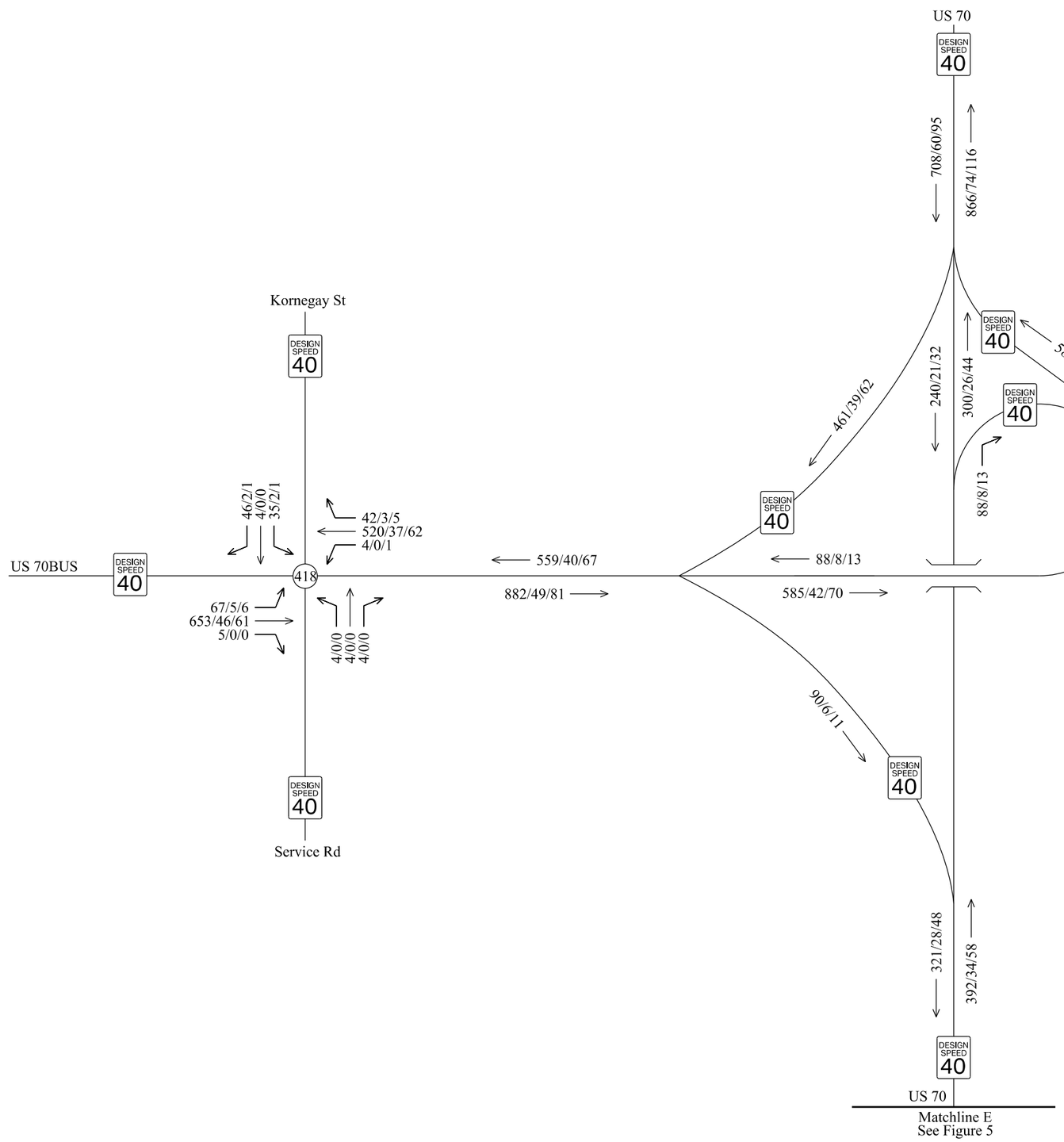
AECOM



2040 Build - Alternative 36
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

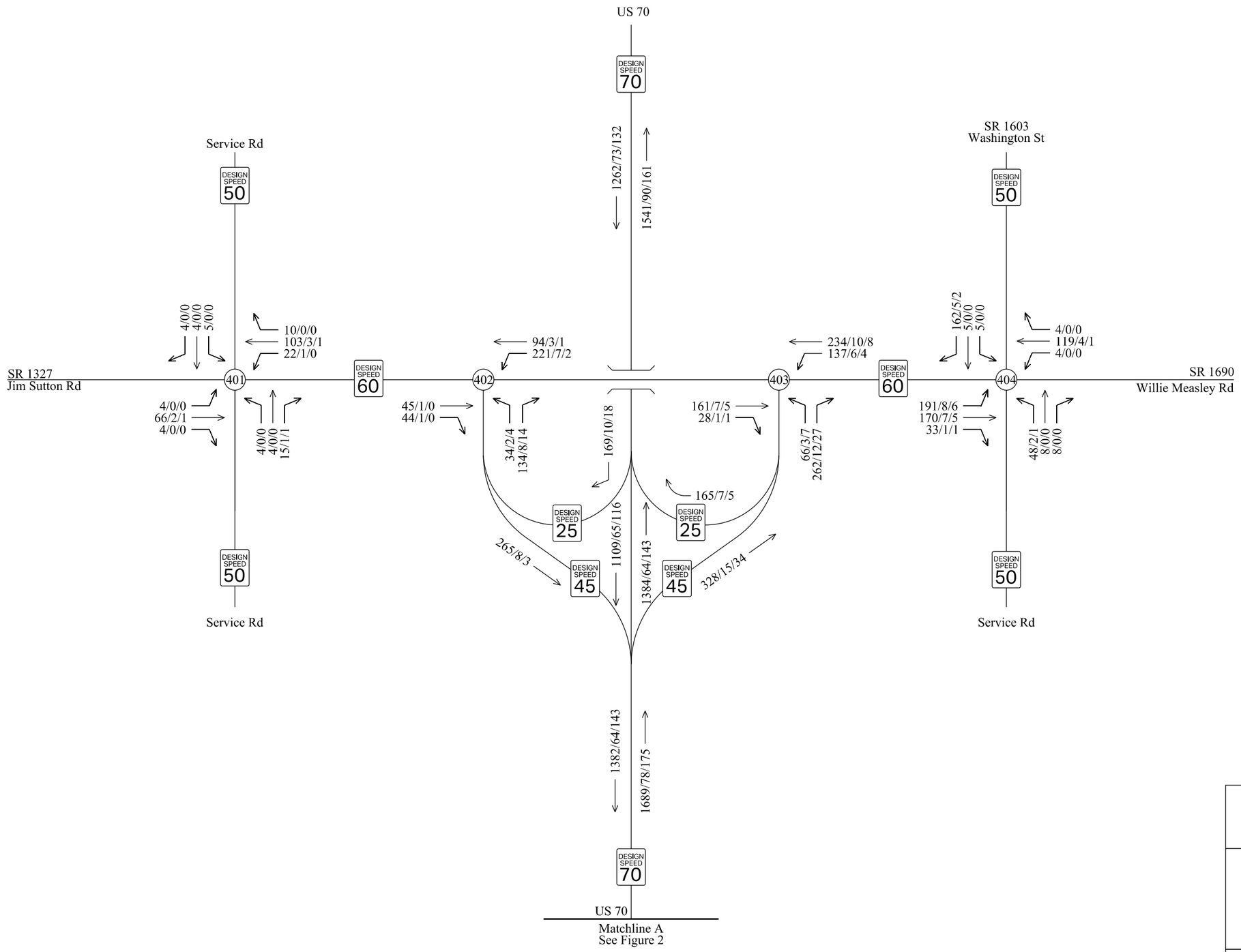
AECOM



2040 Build - Alternative 36
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

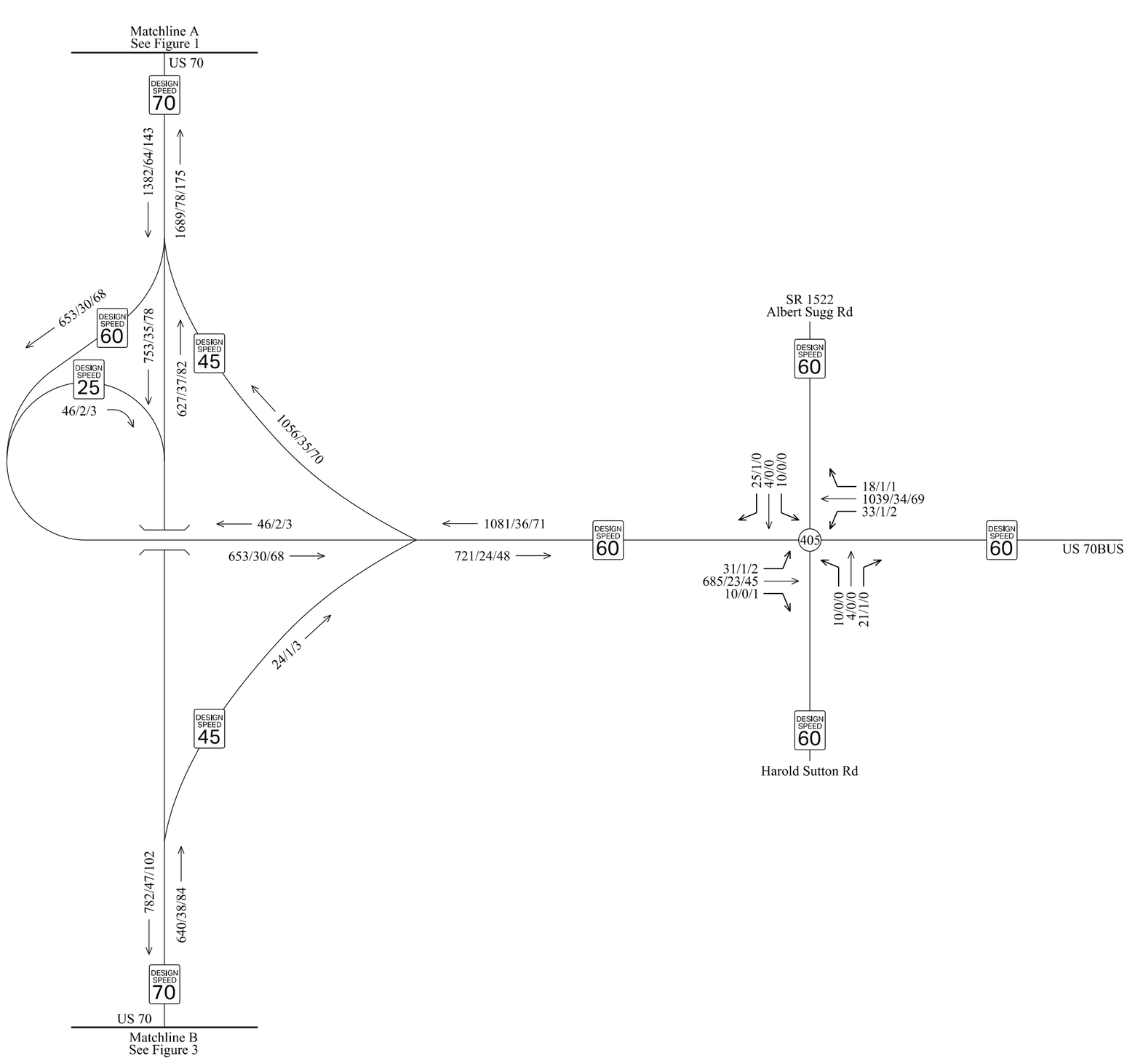
AECOM



2040 Build - Alternative 51
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

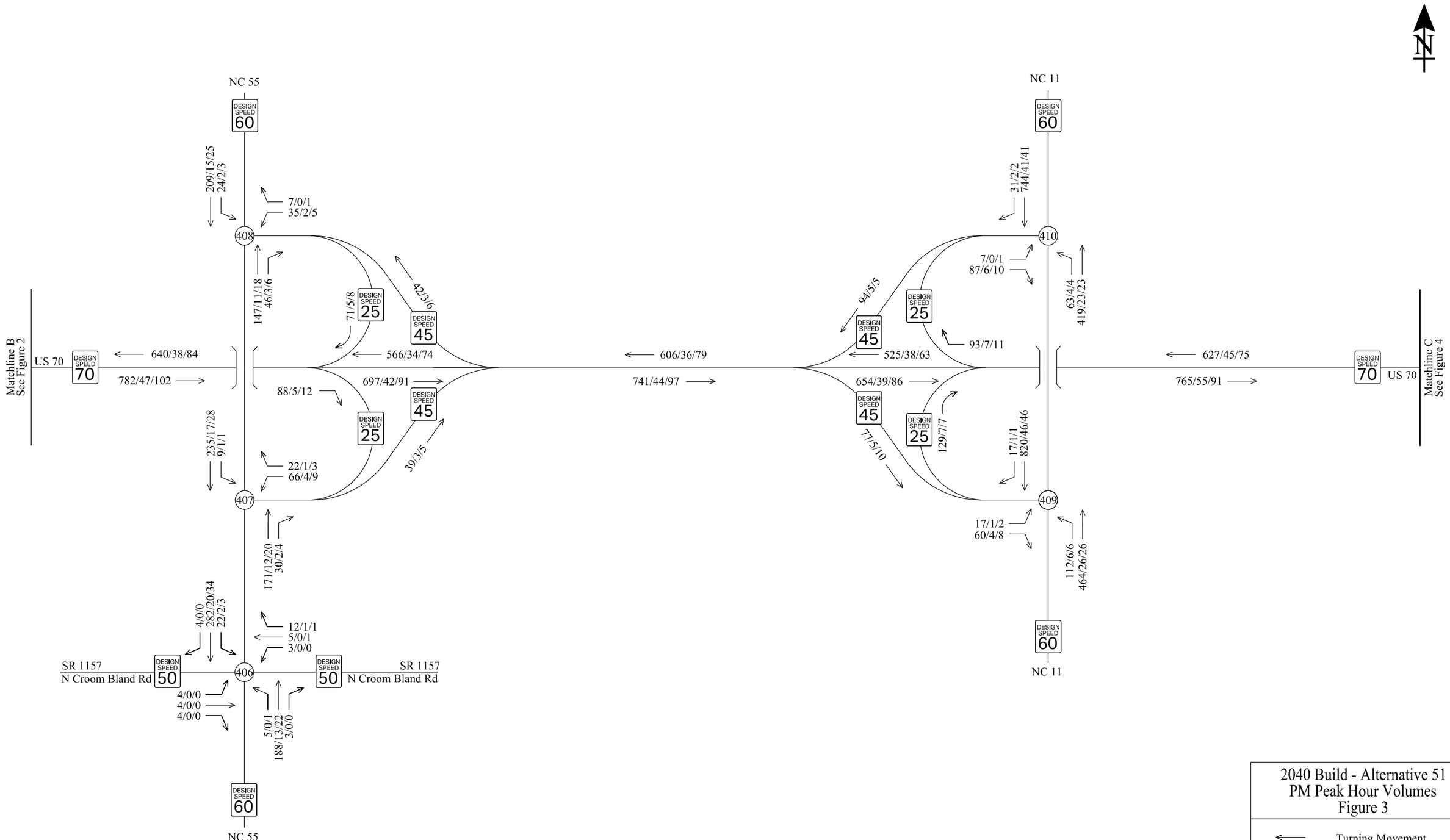
AECOM



2040 Build - Alternative 51
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

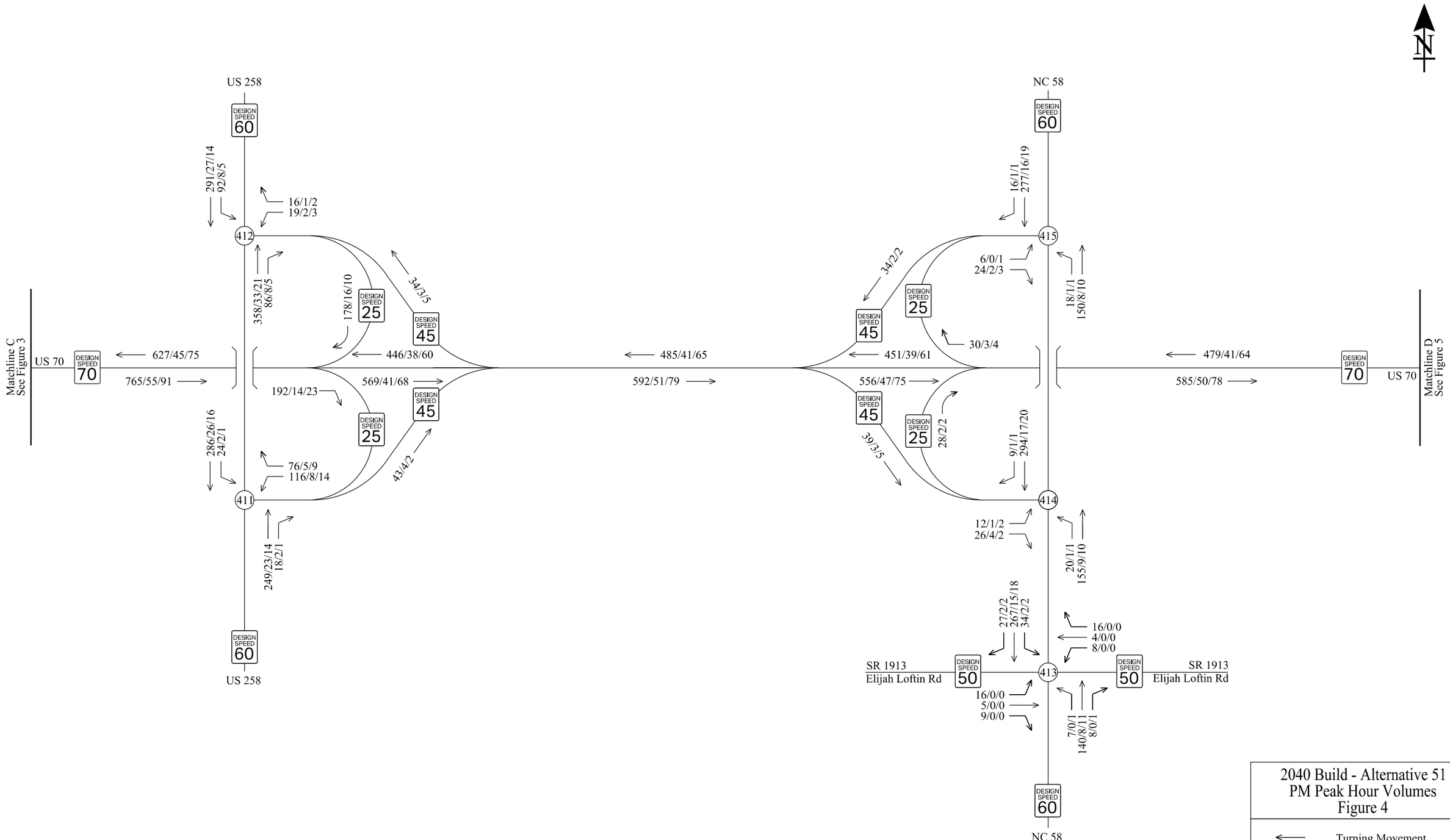
AECOM



2040 Build - Alternative 51
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

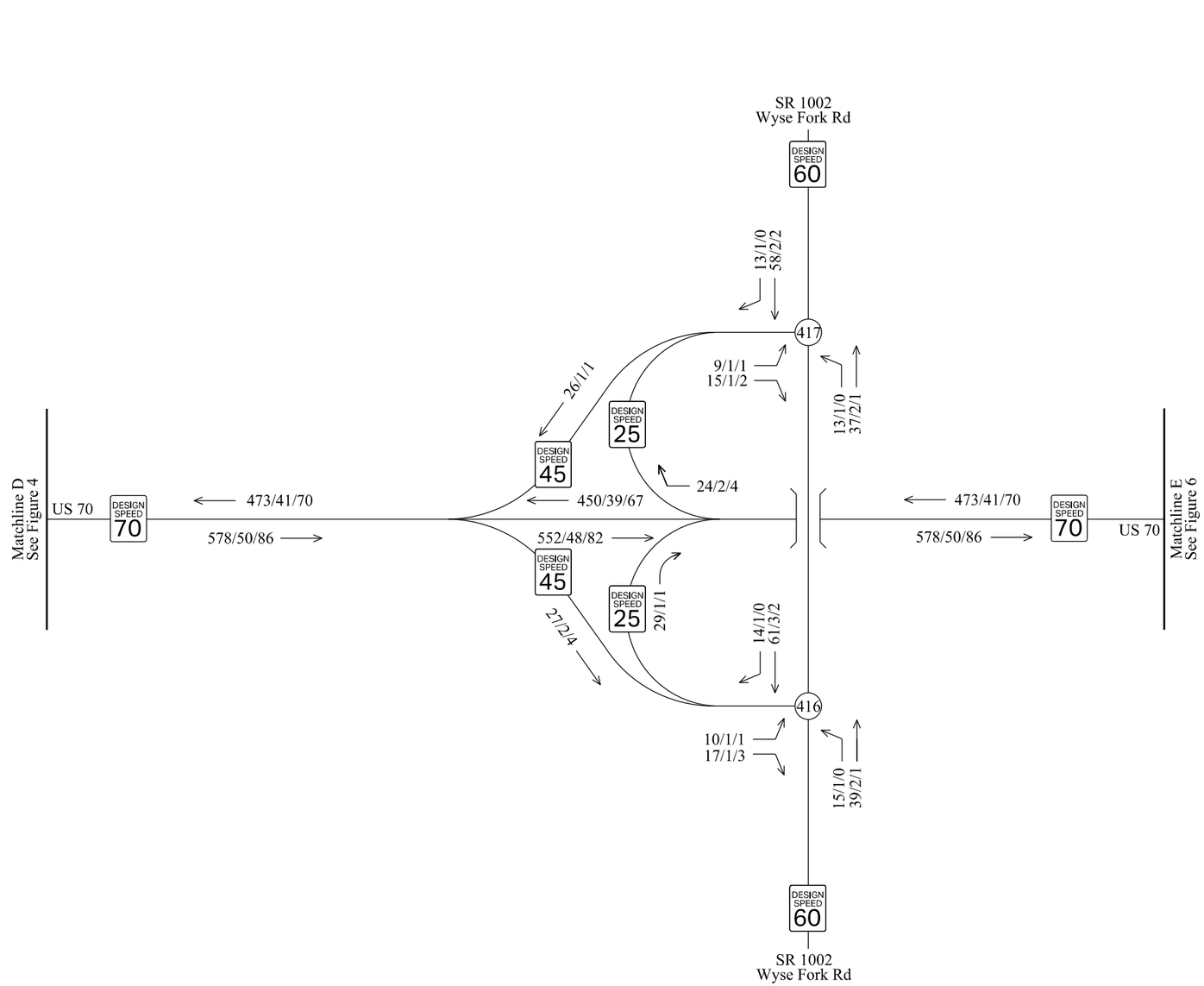
AECOM



2040 Build - Alternative 51
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

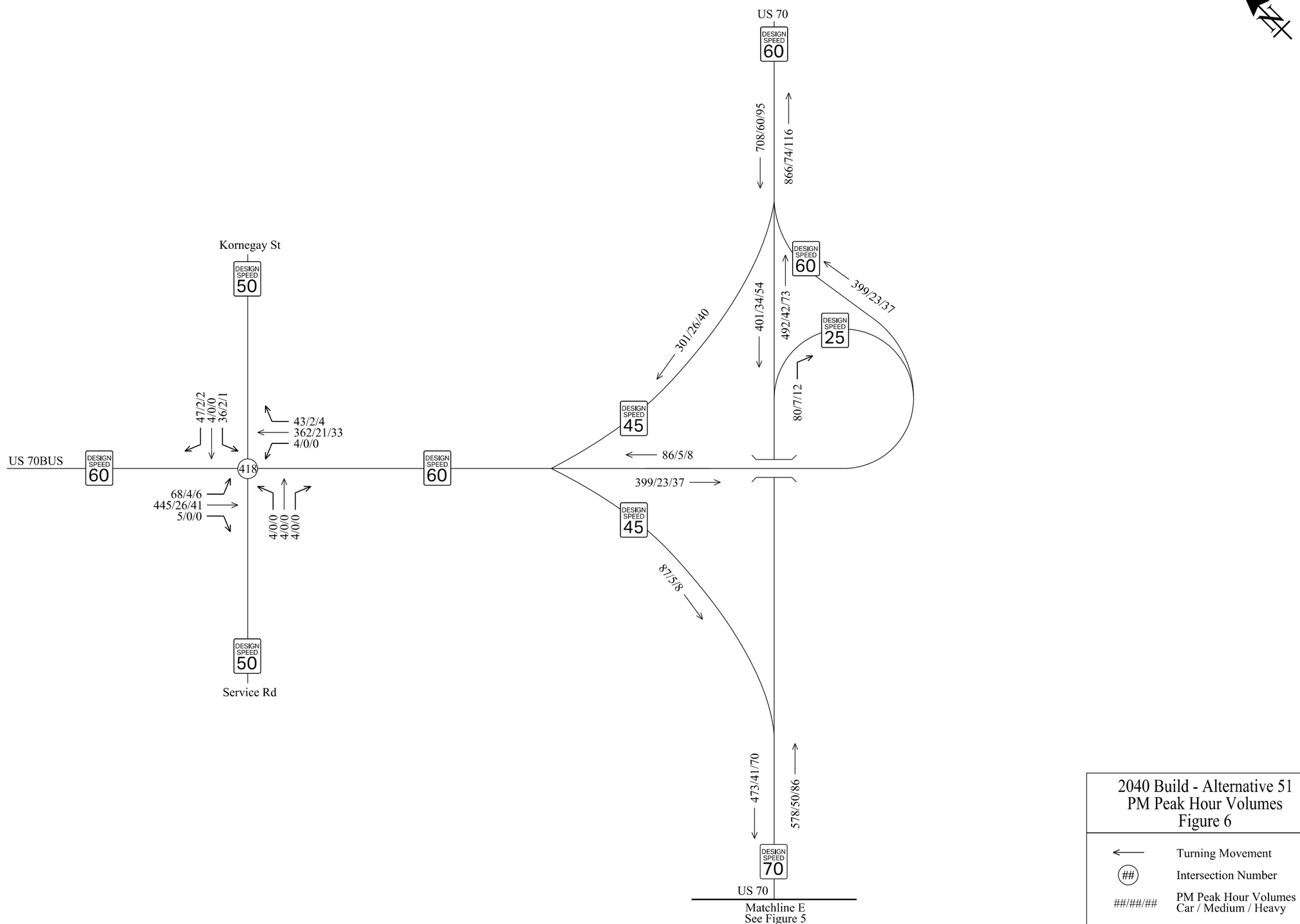
AECOM



2040 Build - Alternative 51
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

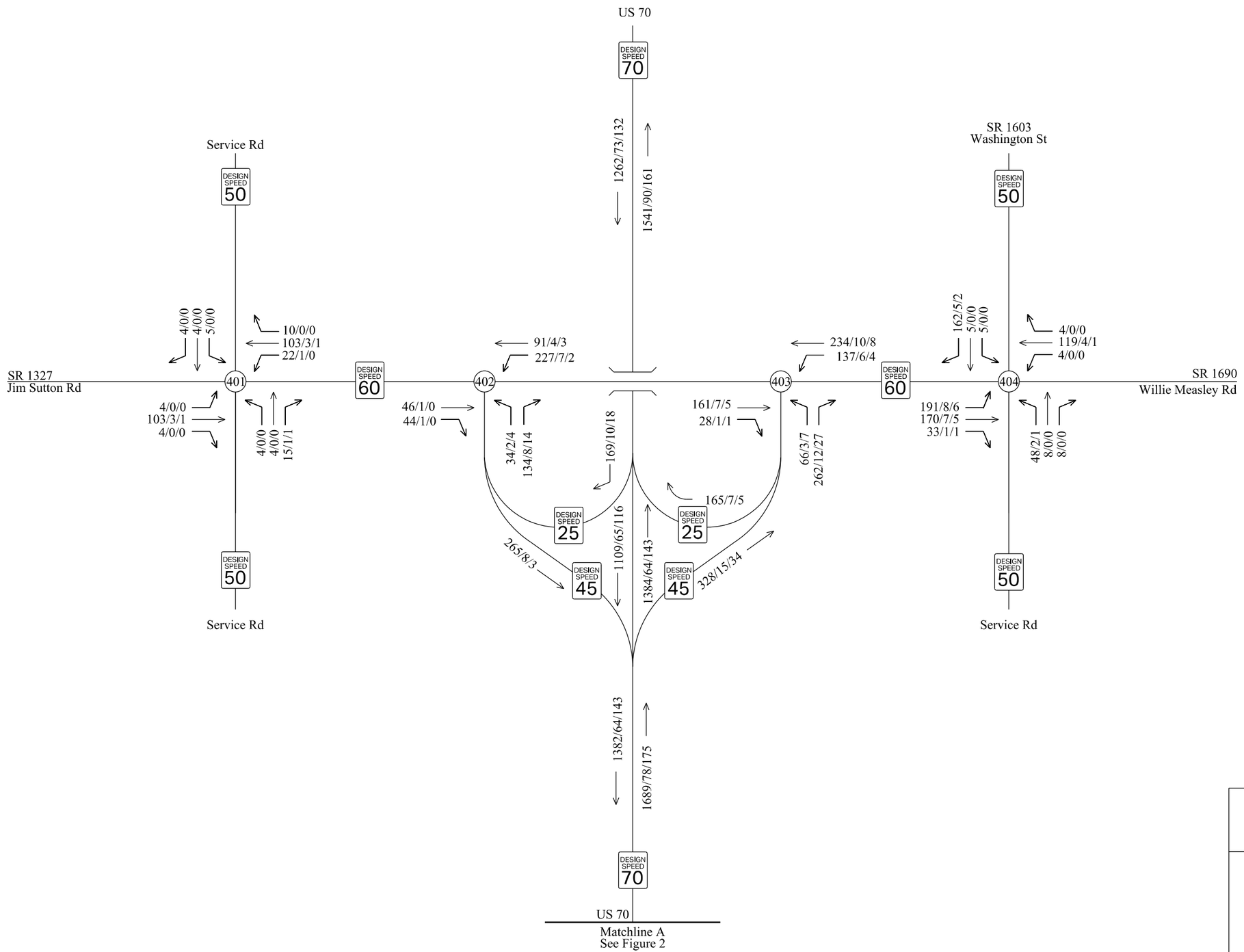
AECOM



2040 Build - Alternative 51
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

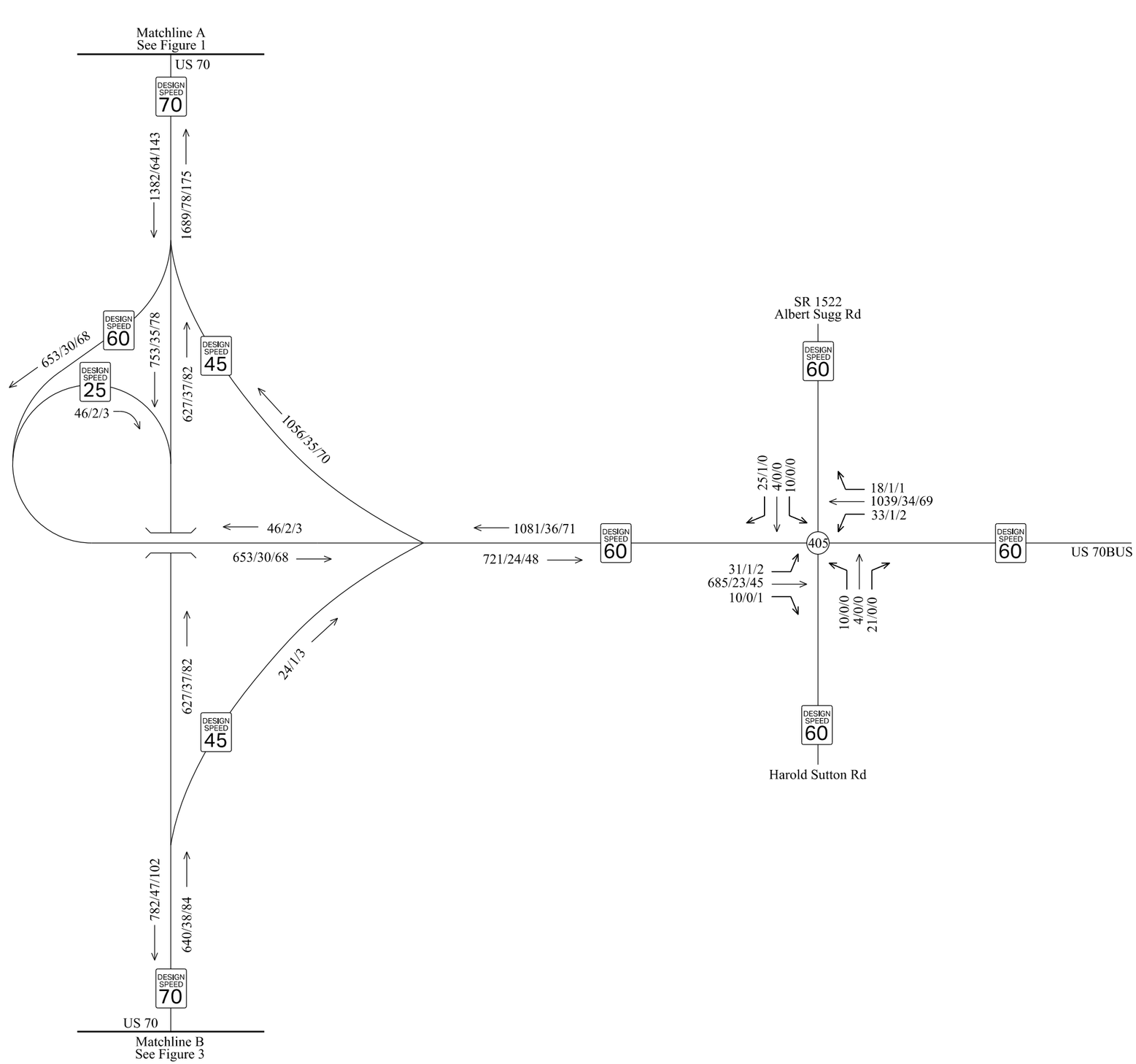
AECOM



2040 Build - Alternative 52
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

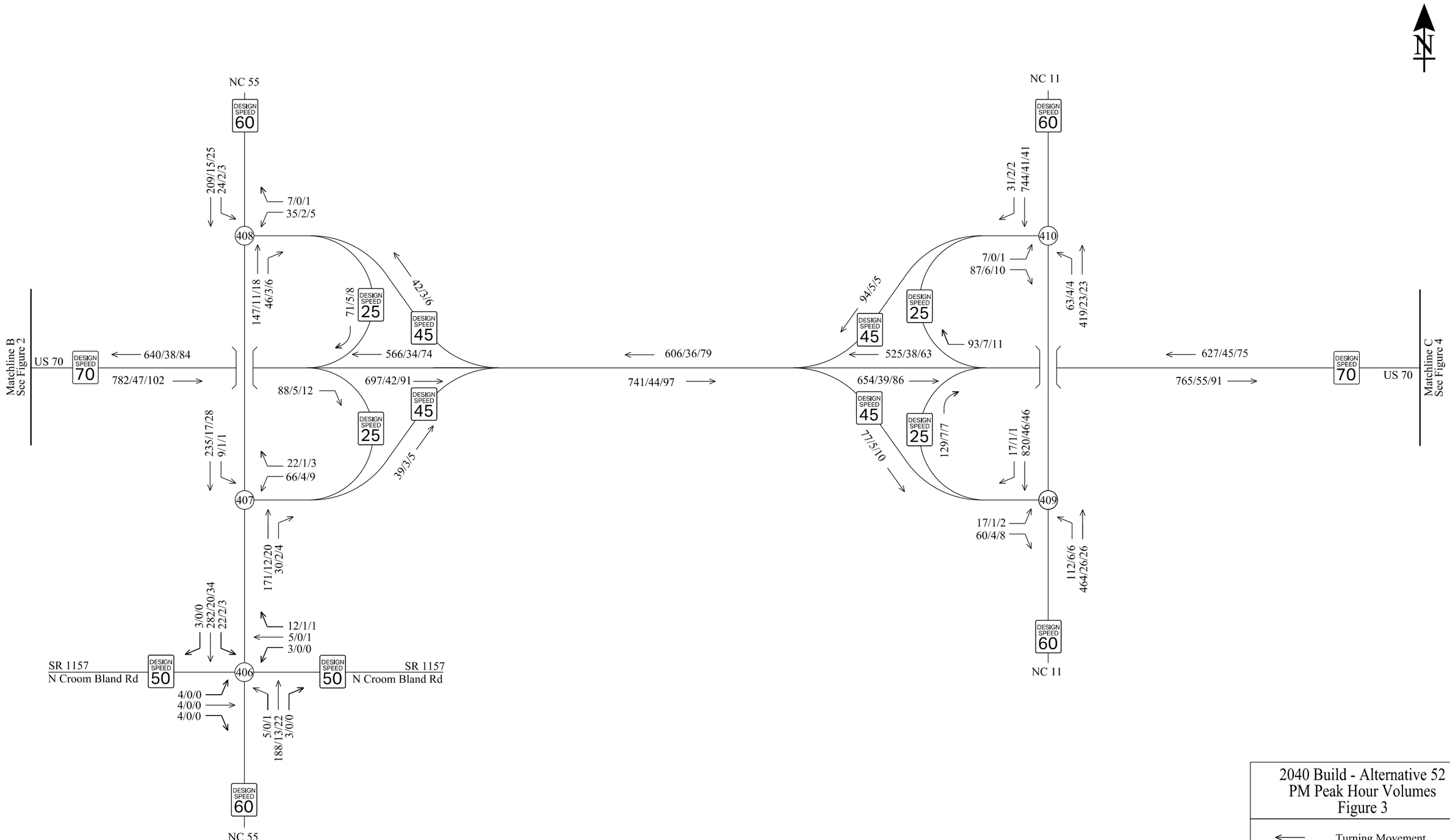
AECOM



2040 Build - Alternative 52
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

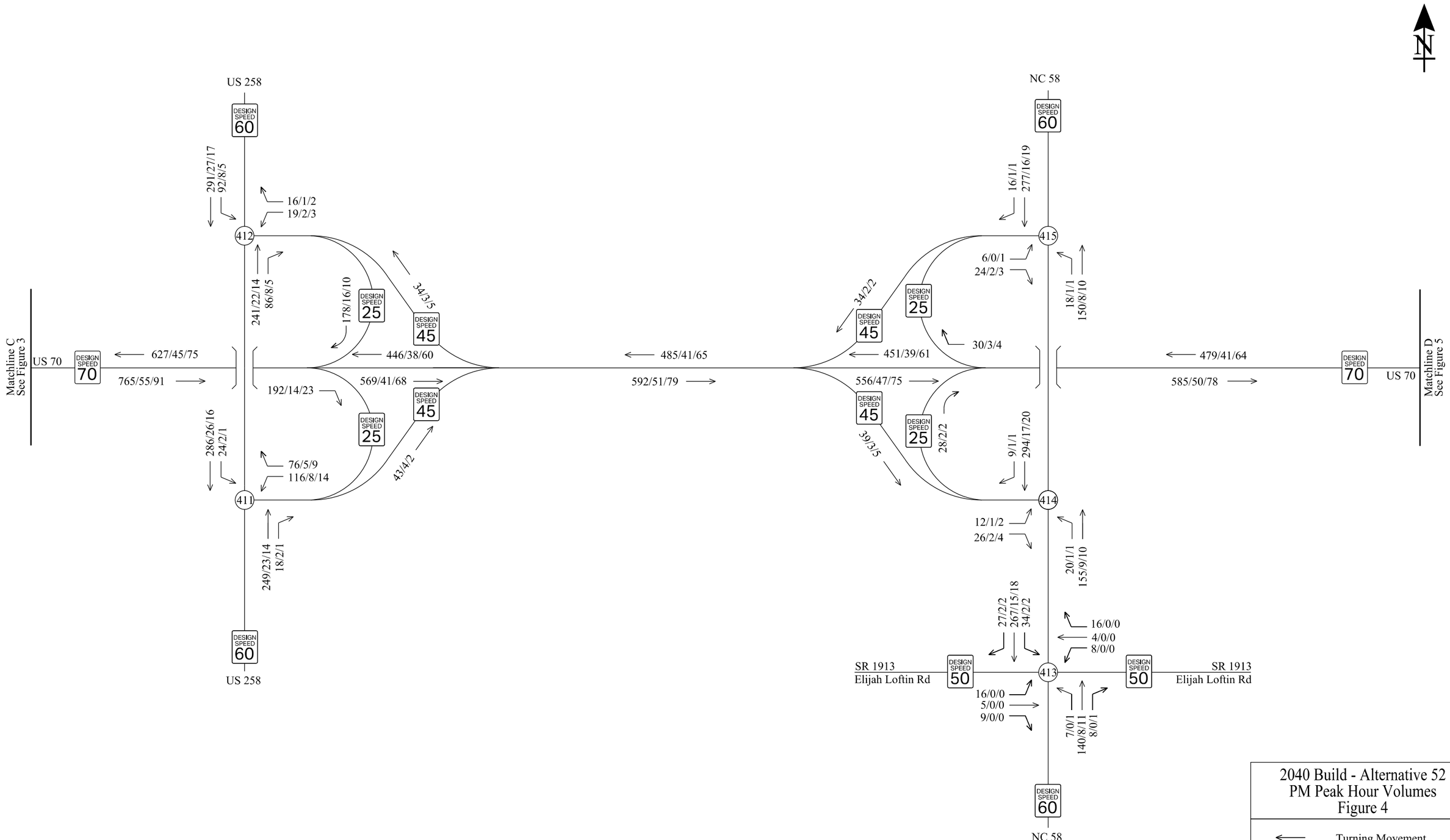
AECOM



2040 Build - Alternative 52
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

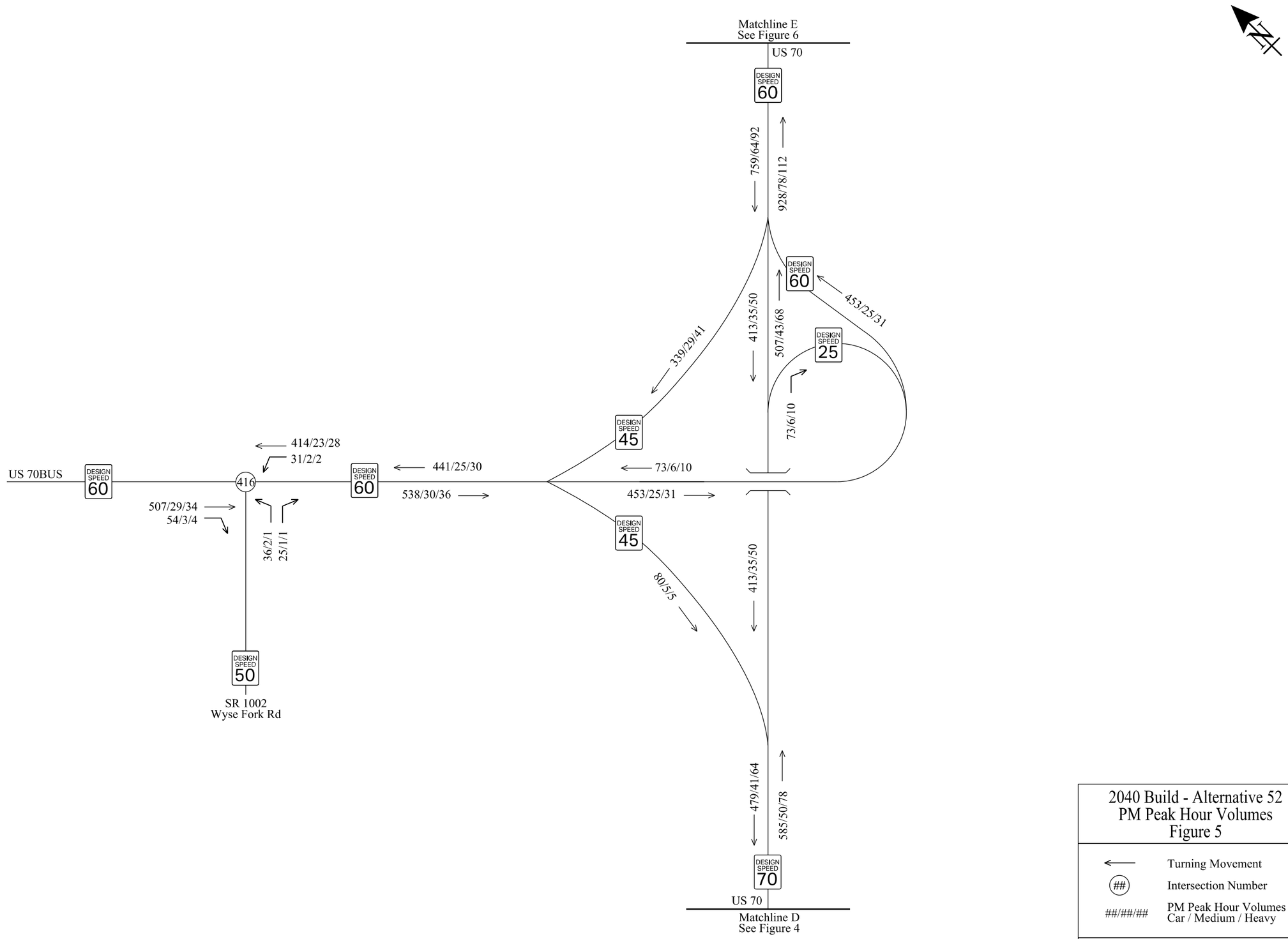
AECOM



2040 Build - Alternative 52
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

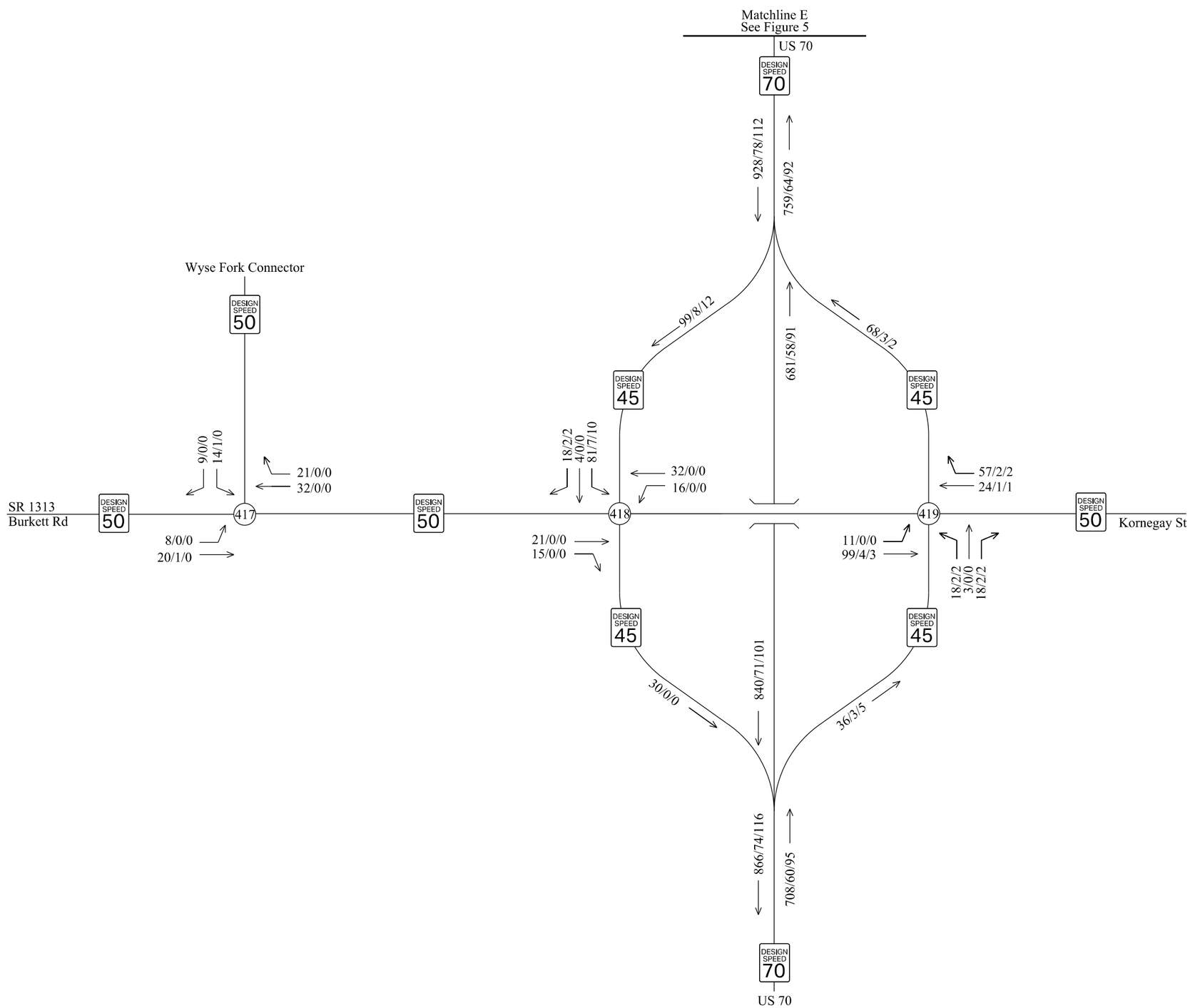
AECOM



2040 Build - Alternative 52
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

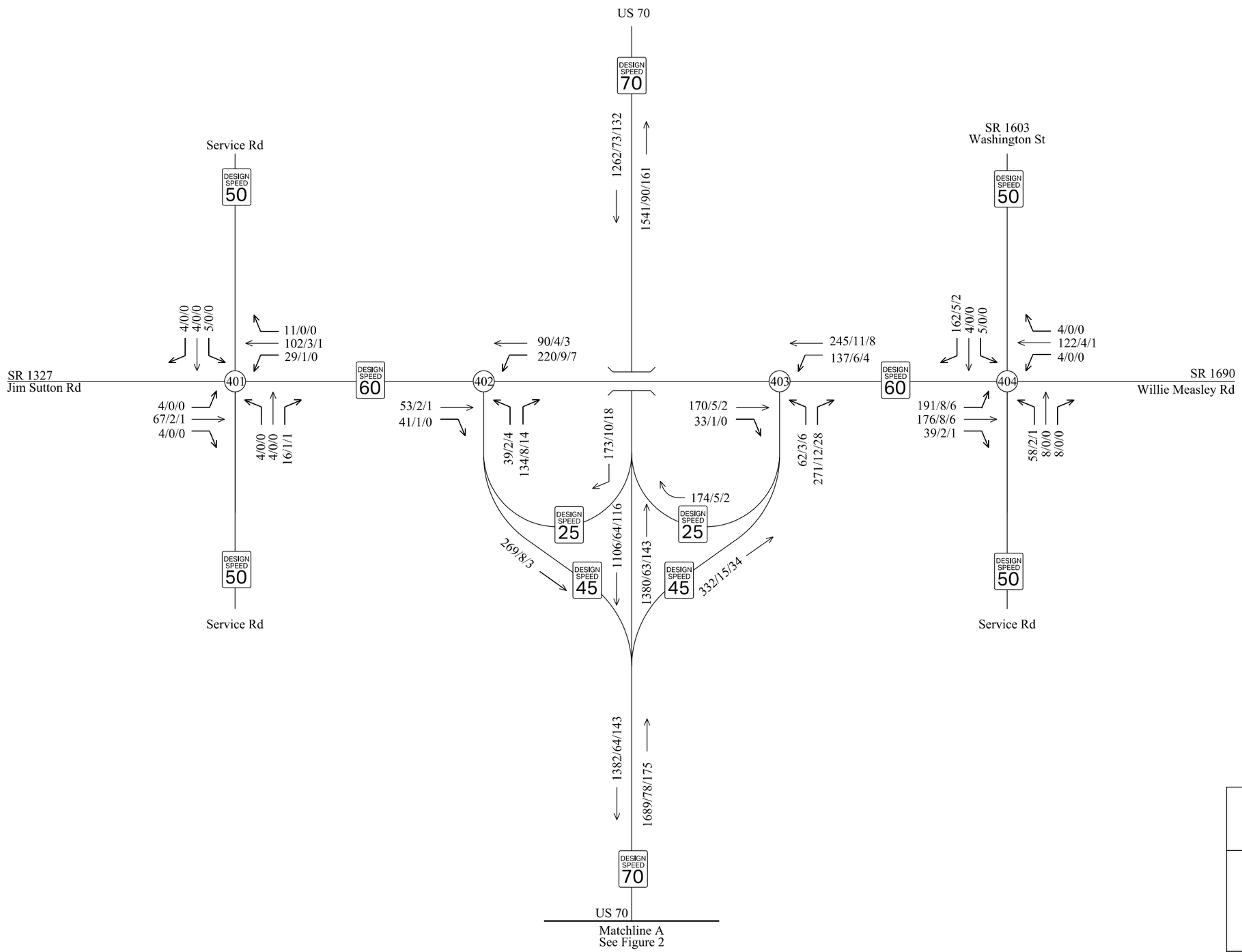
AECOM



2040 Build - Alternative 52
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

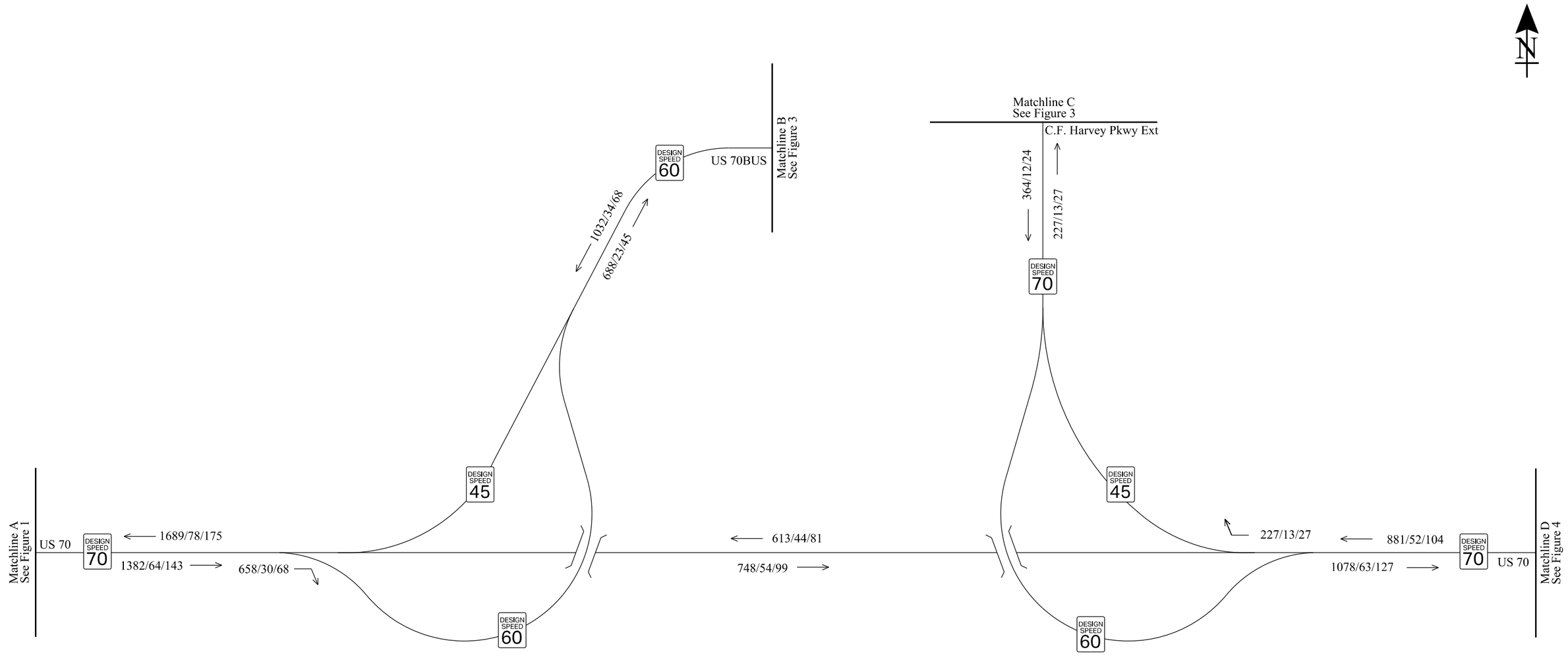
AECOM



2040 Build - Alternative 63
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

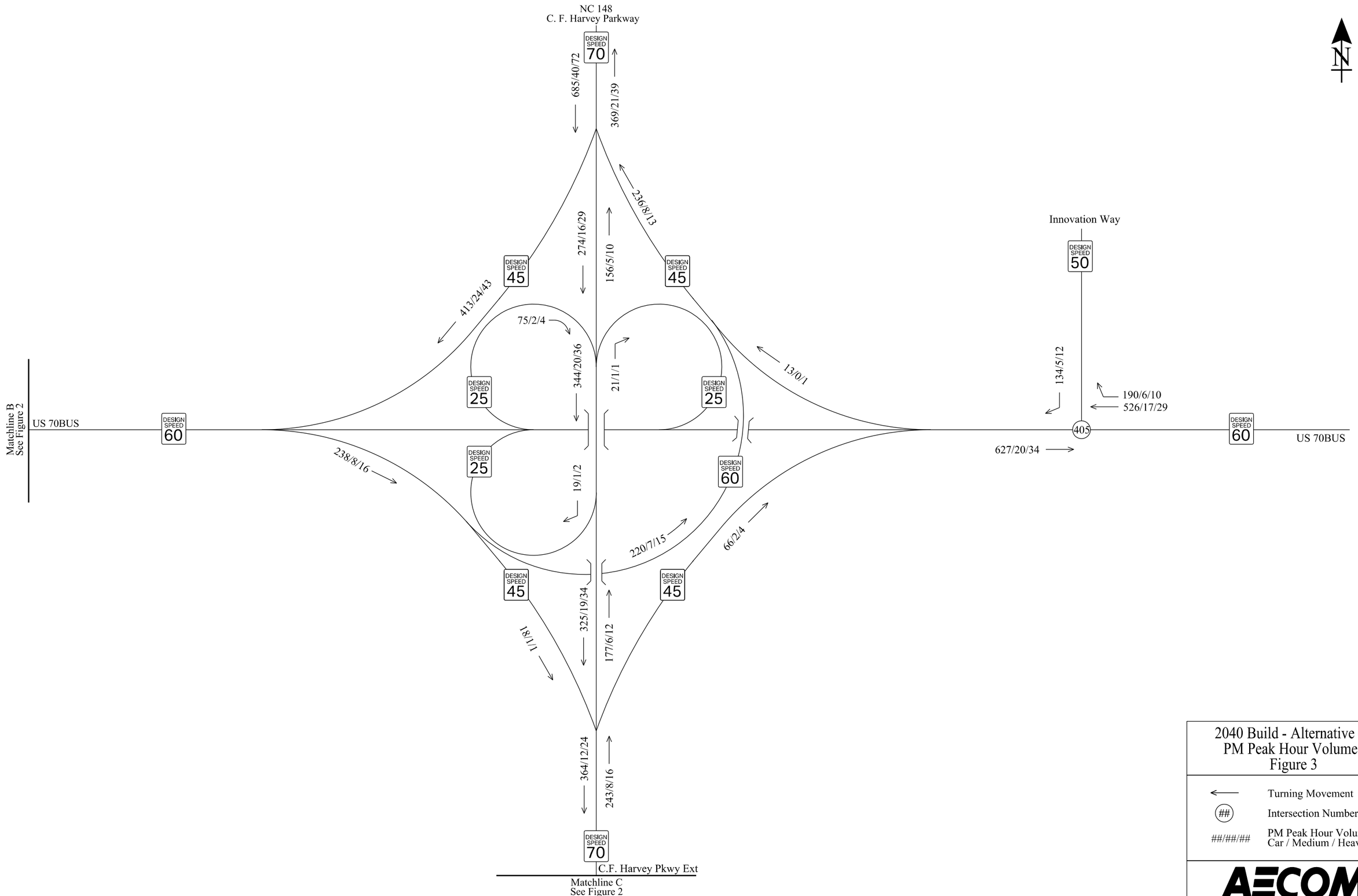
AECOM



2040 Build - Alternative 63
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

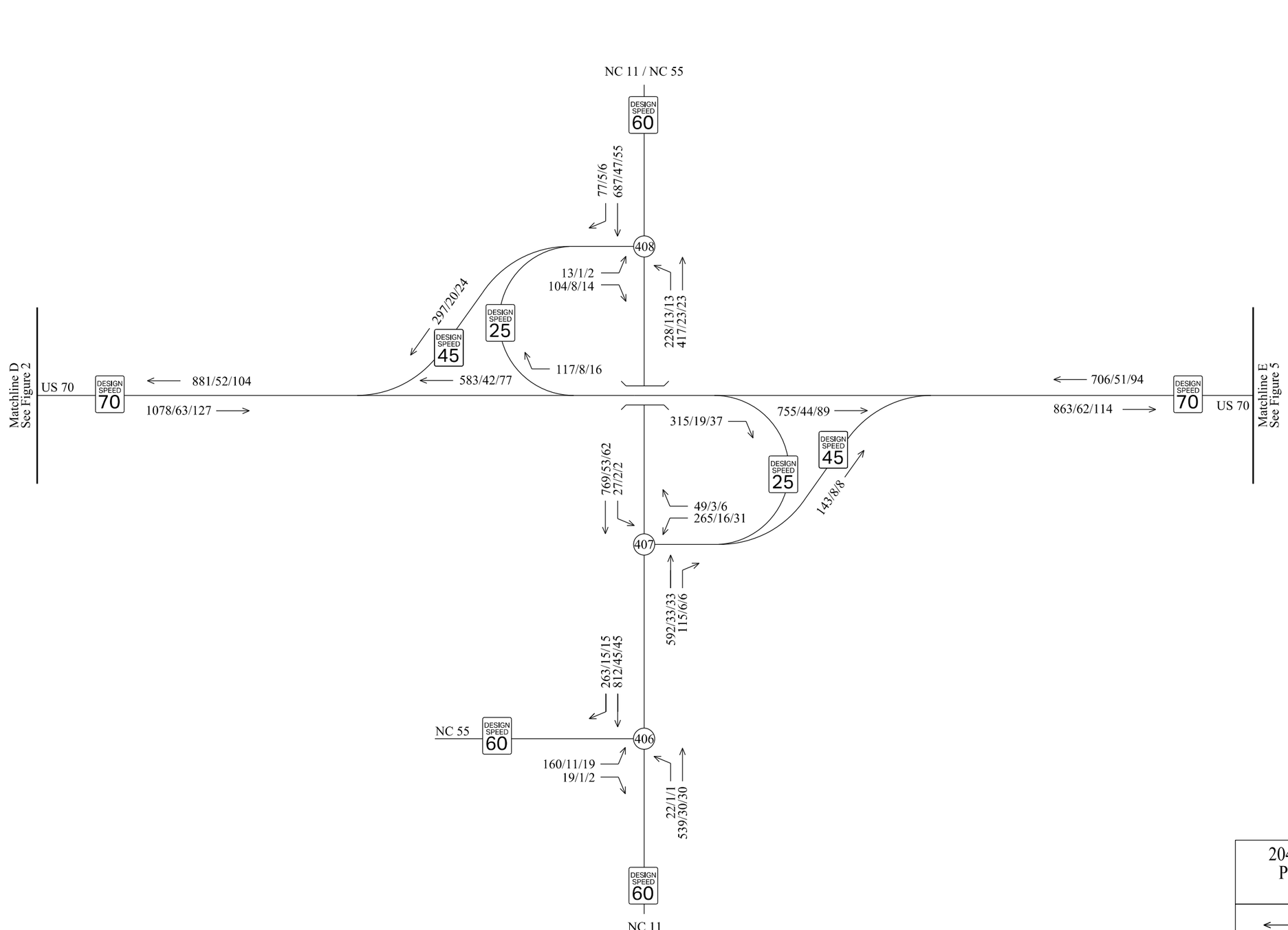
AECOM



2040 Build - Alternative 63
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

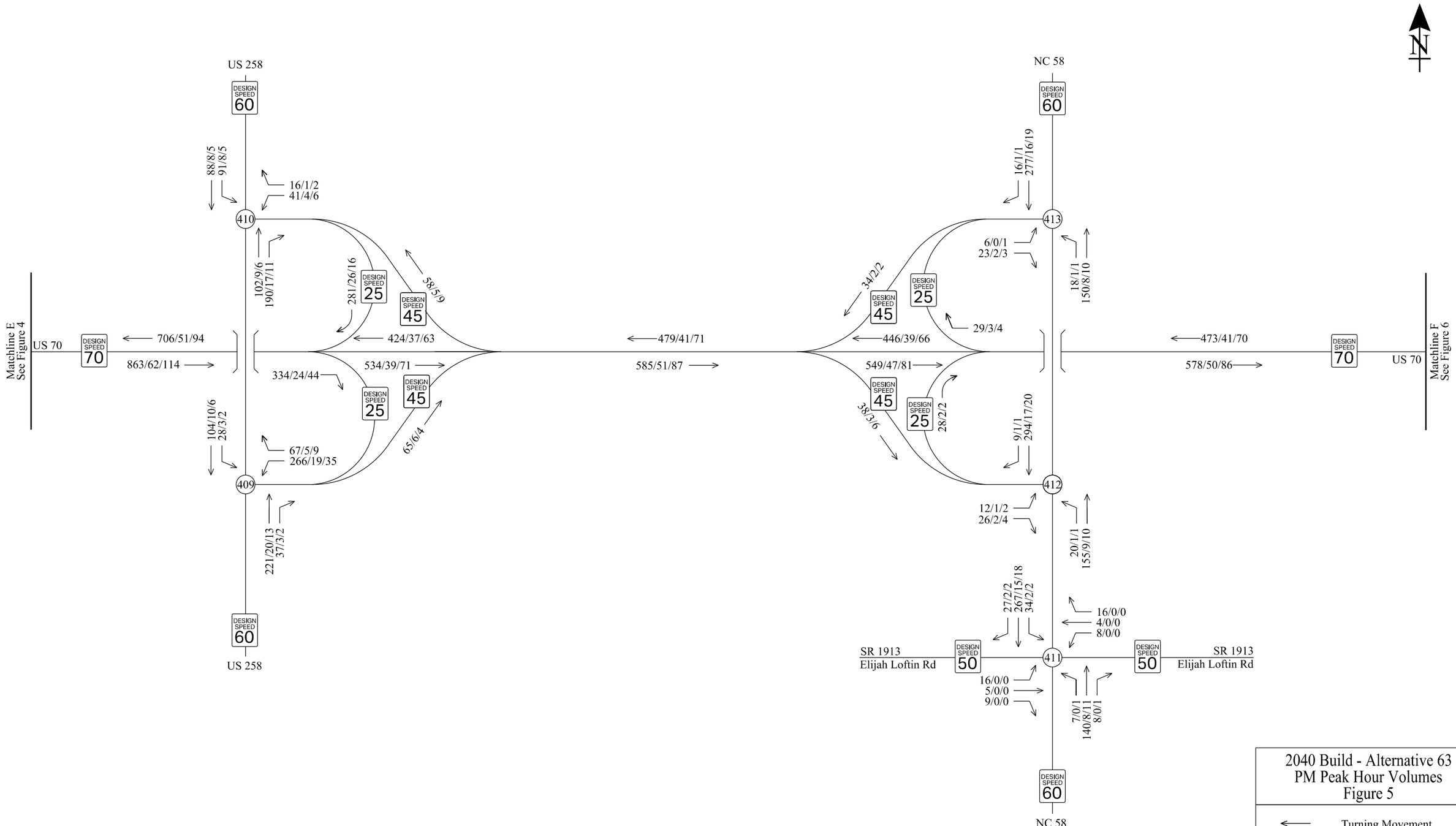
AECOM



2040 Build - Alternative 63
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

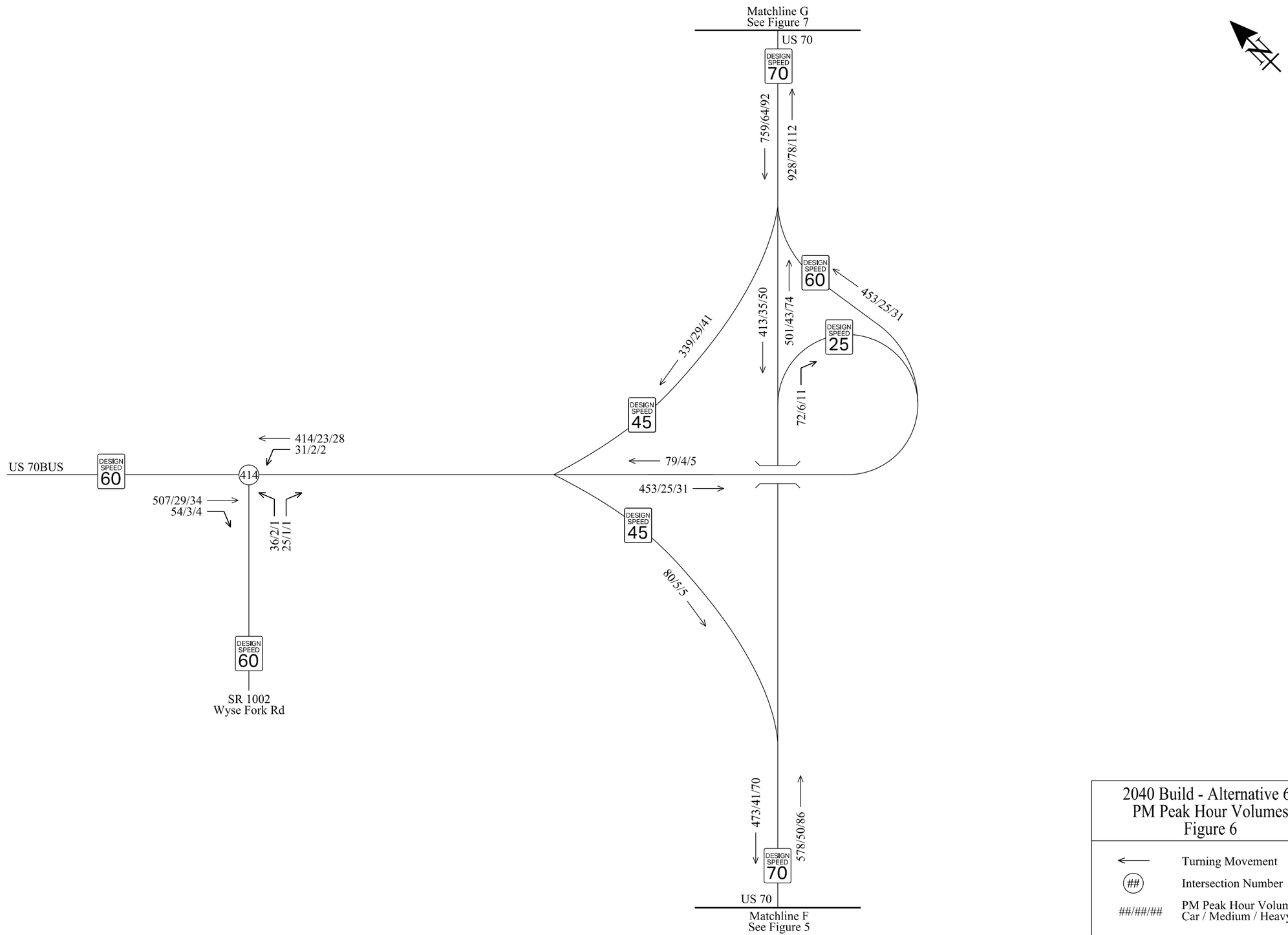
AECOM



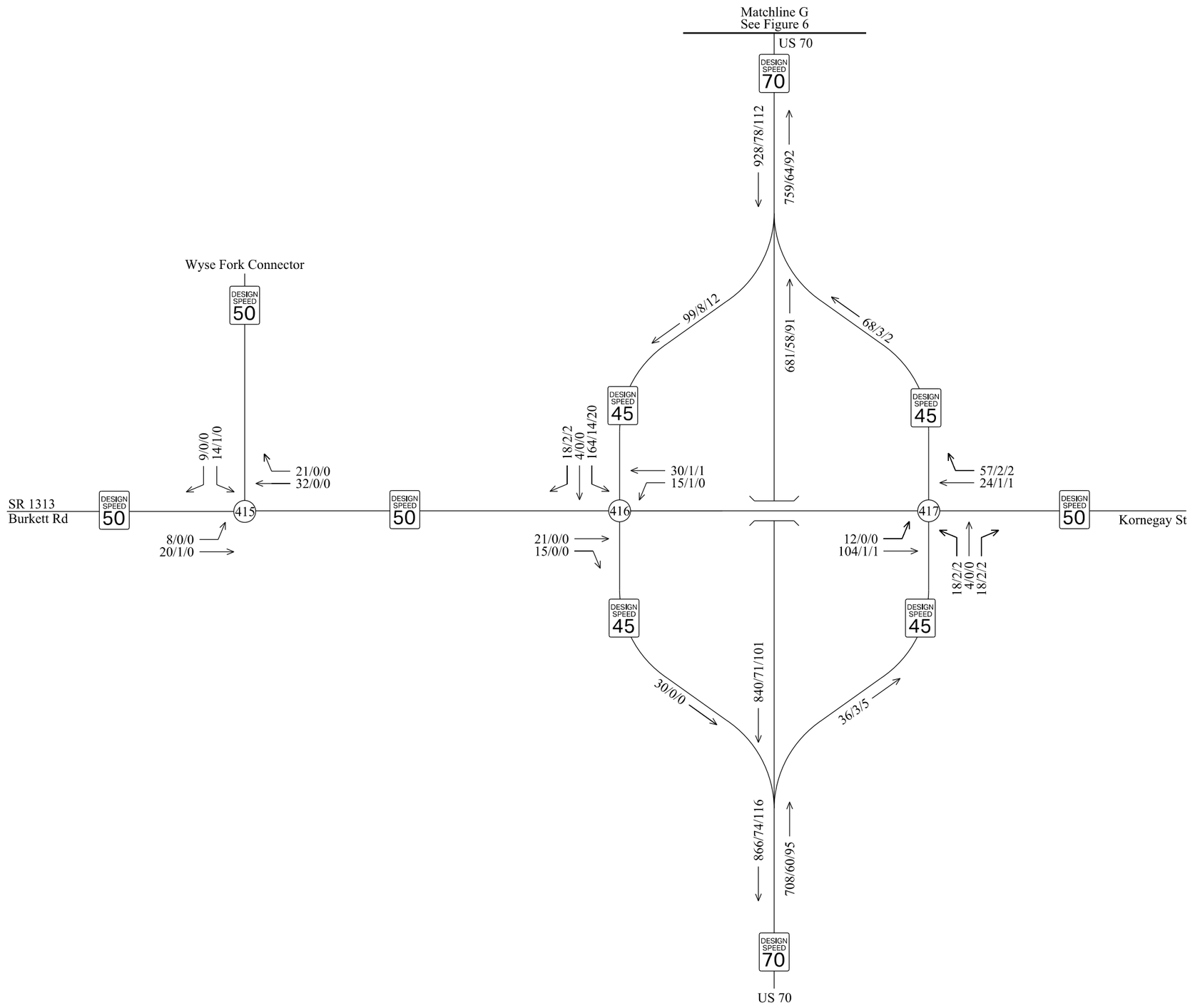
2040 Build - Alternative 63
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

AECOM



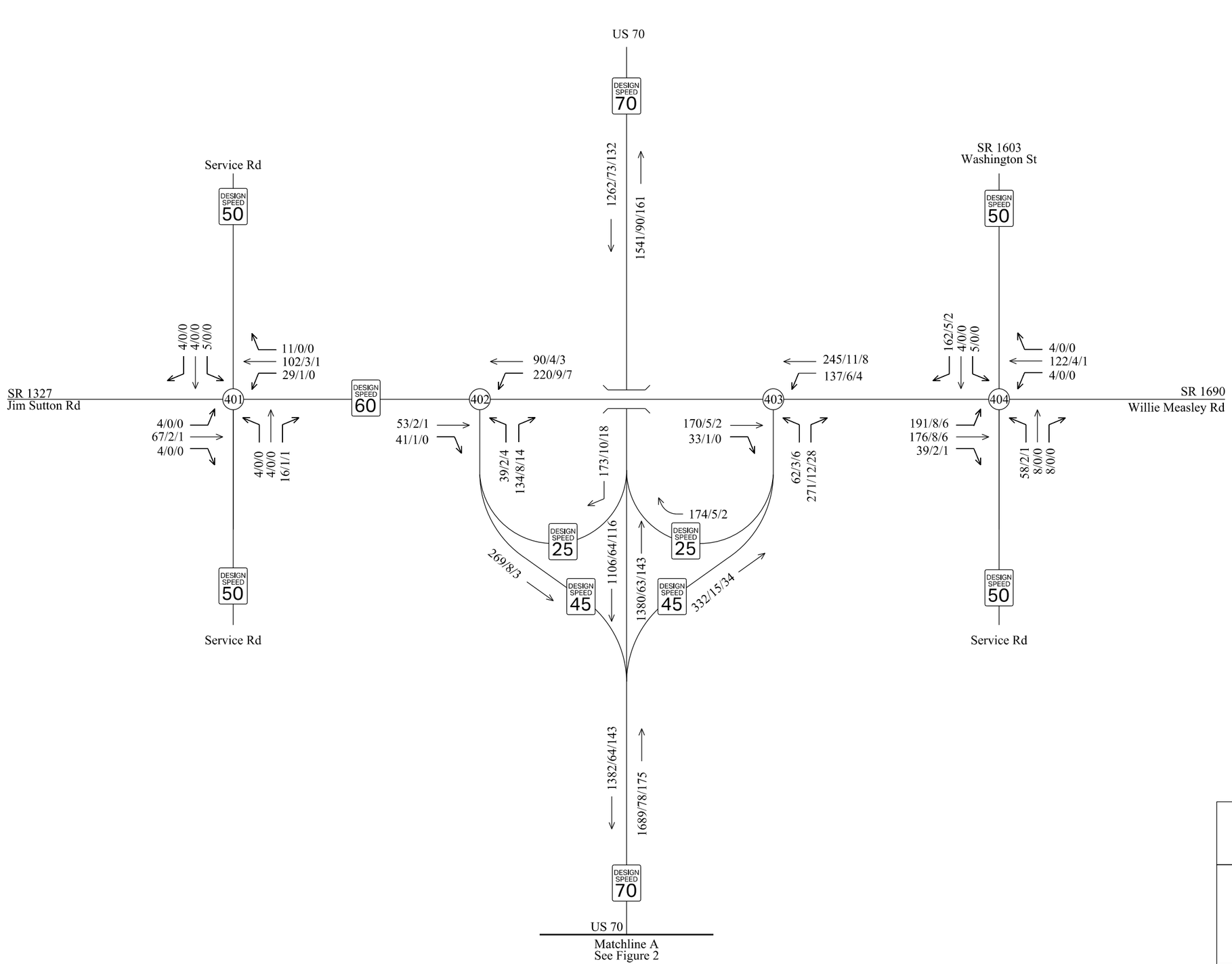
2040 Build - Alternative 63
PM Peak Hour Volumes
Figure 6



2040 Build - Alternative 63
PM Peak Hour Volumes
Figure 7

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

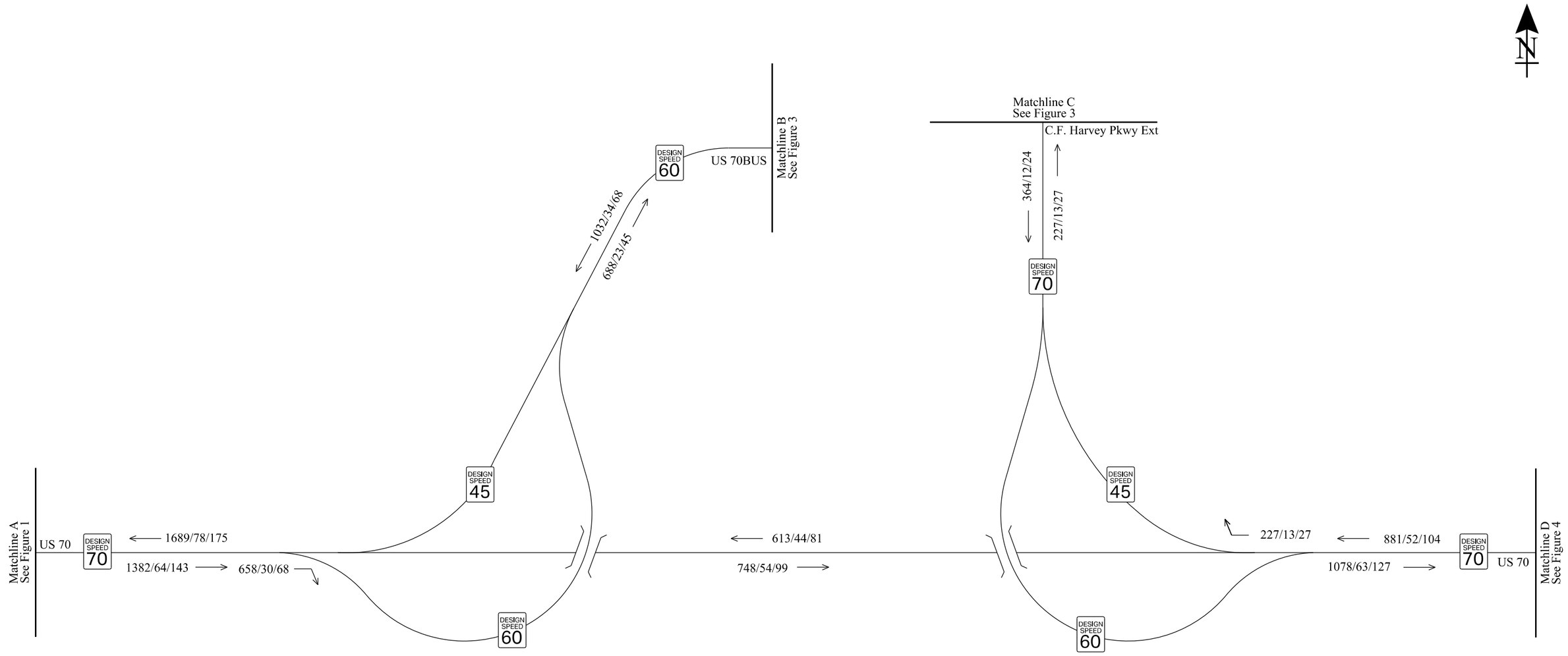
AECOM



2040 Build - Alternative 65
PM Peak Hour Volumes
Figure 1

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

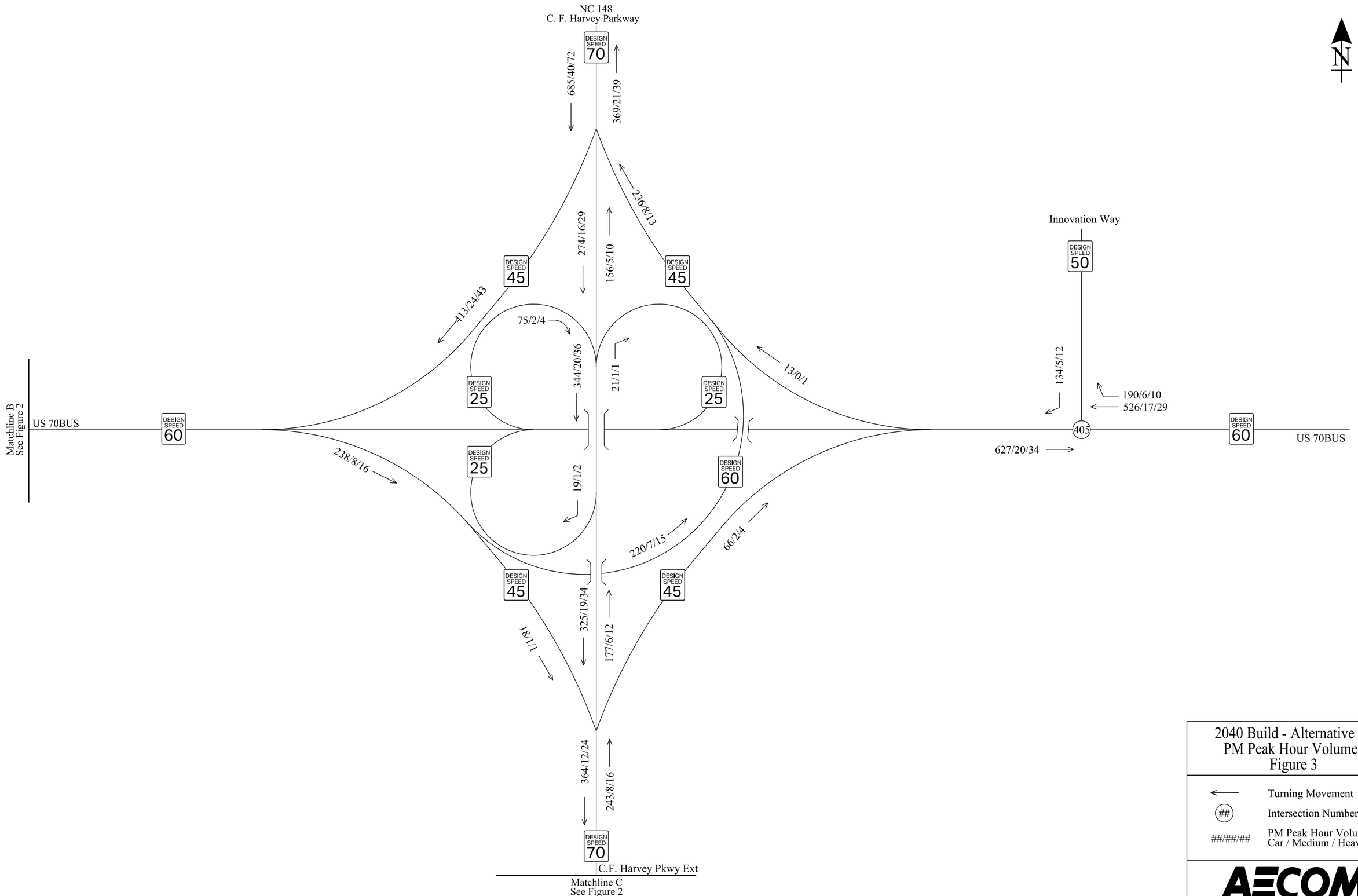
AECOM



2040 Build - Alternative 65
PM Peak Hour Volumes
Figure 2

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

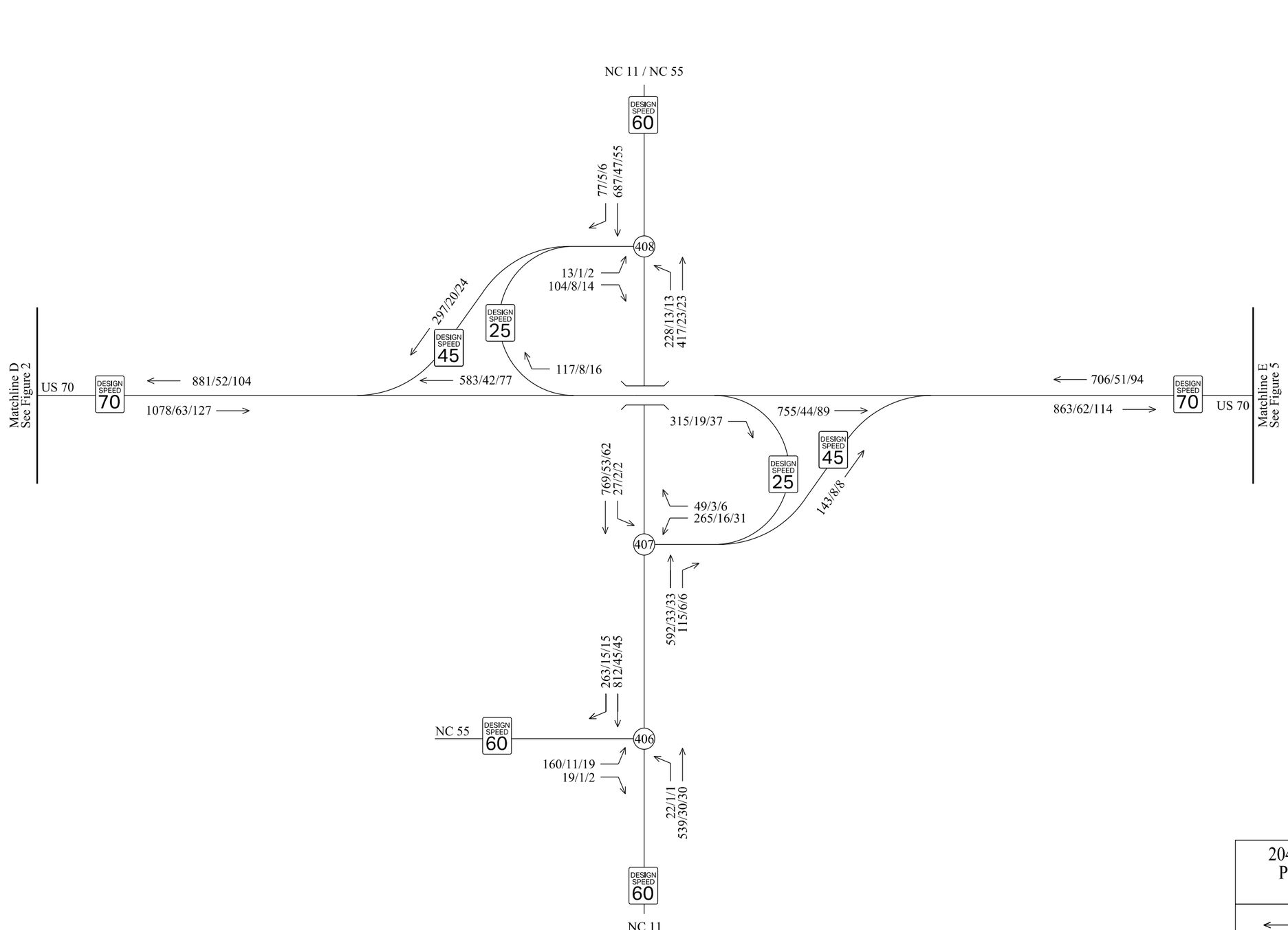
AECOM



2040 Build - Alternative 65
PM Peak Hour Volumes
Figure 3

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

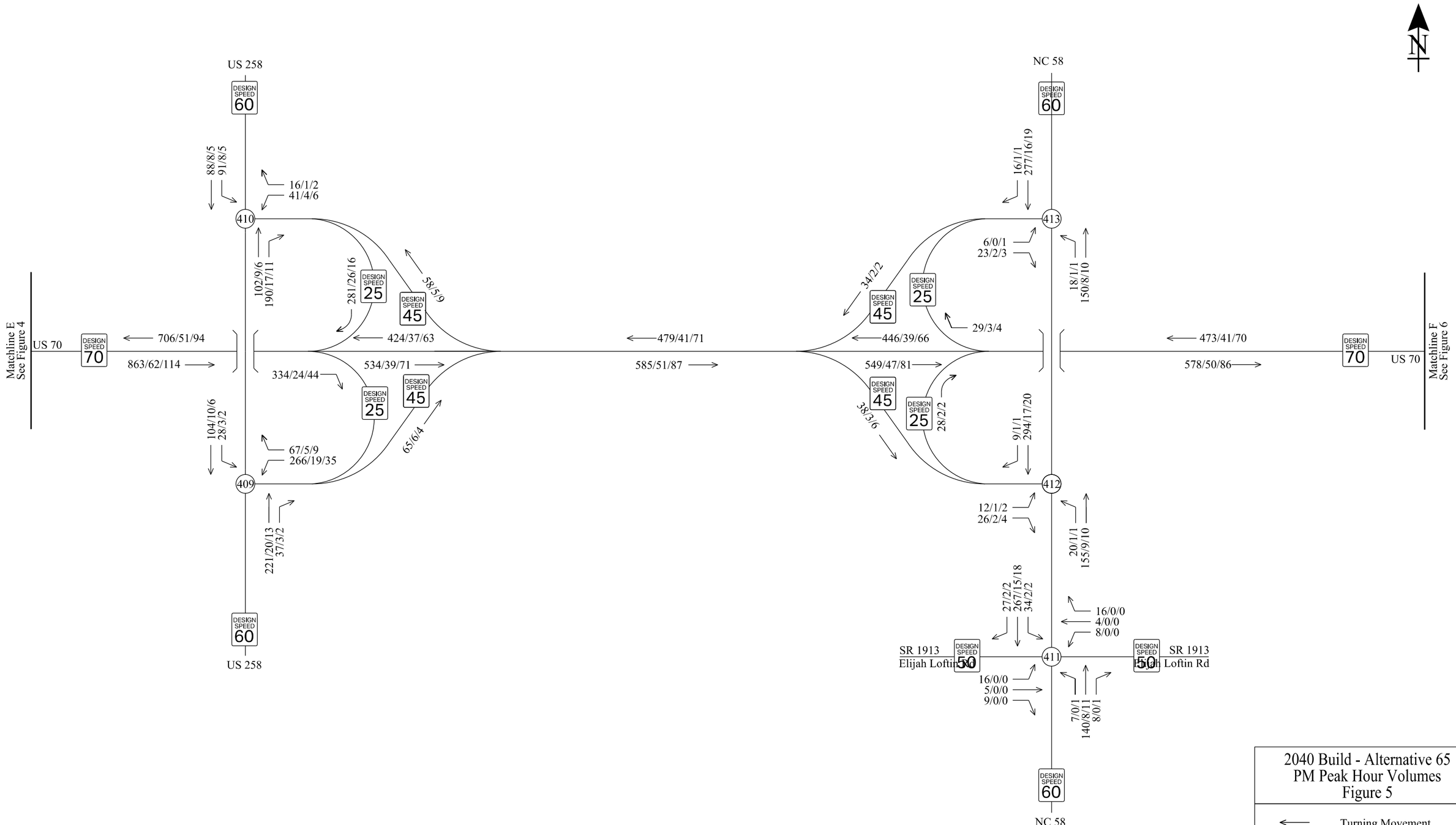
AECOM



2040 Build - Alternative 65
PM Peak Hour Volumes
Figure 4

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

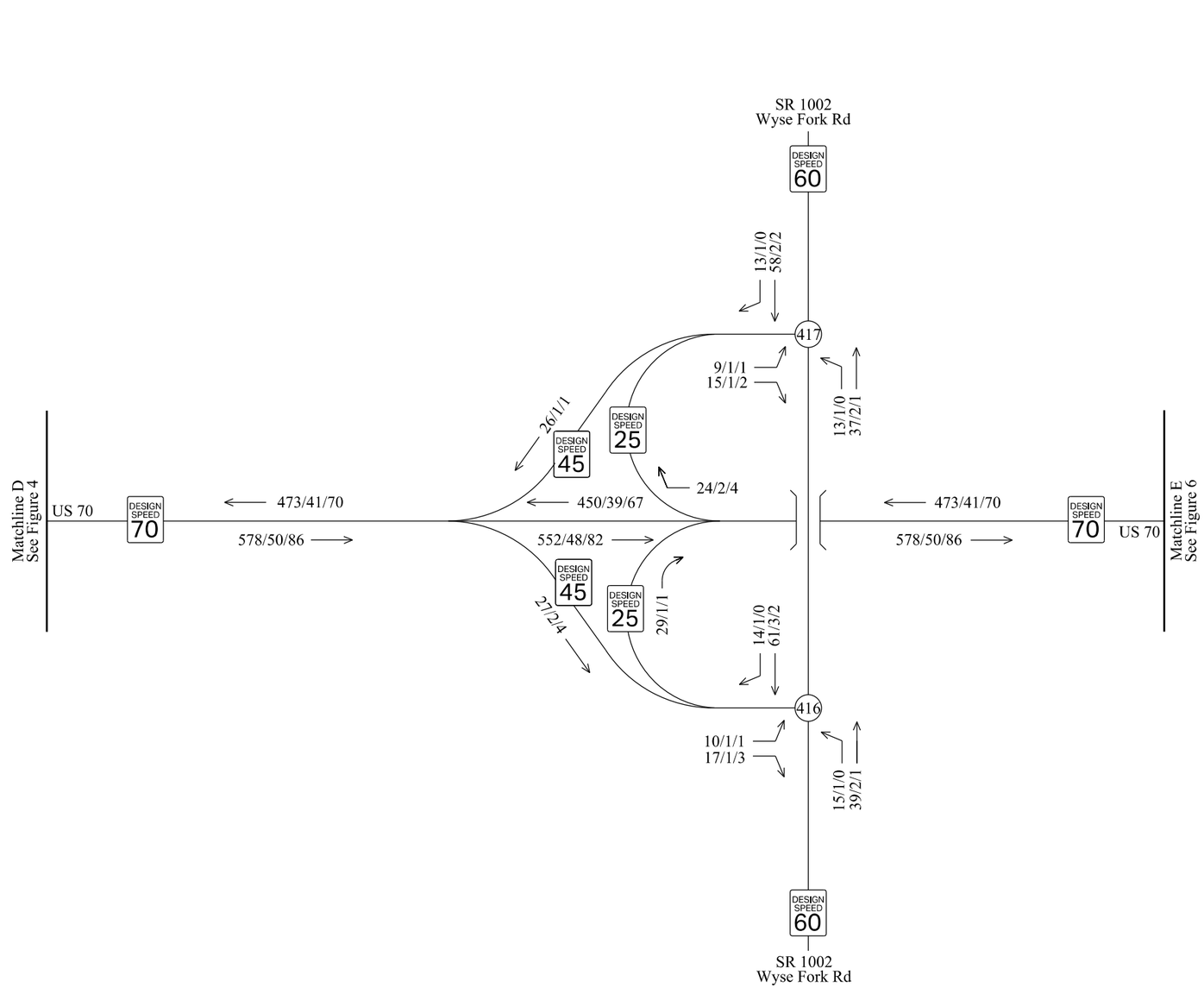
AECOM



2040 Build - Alternative 65
PM Peak Hour Volumes
Figure 5

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

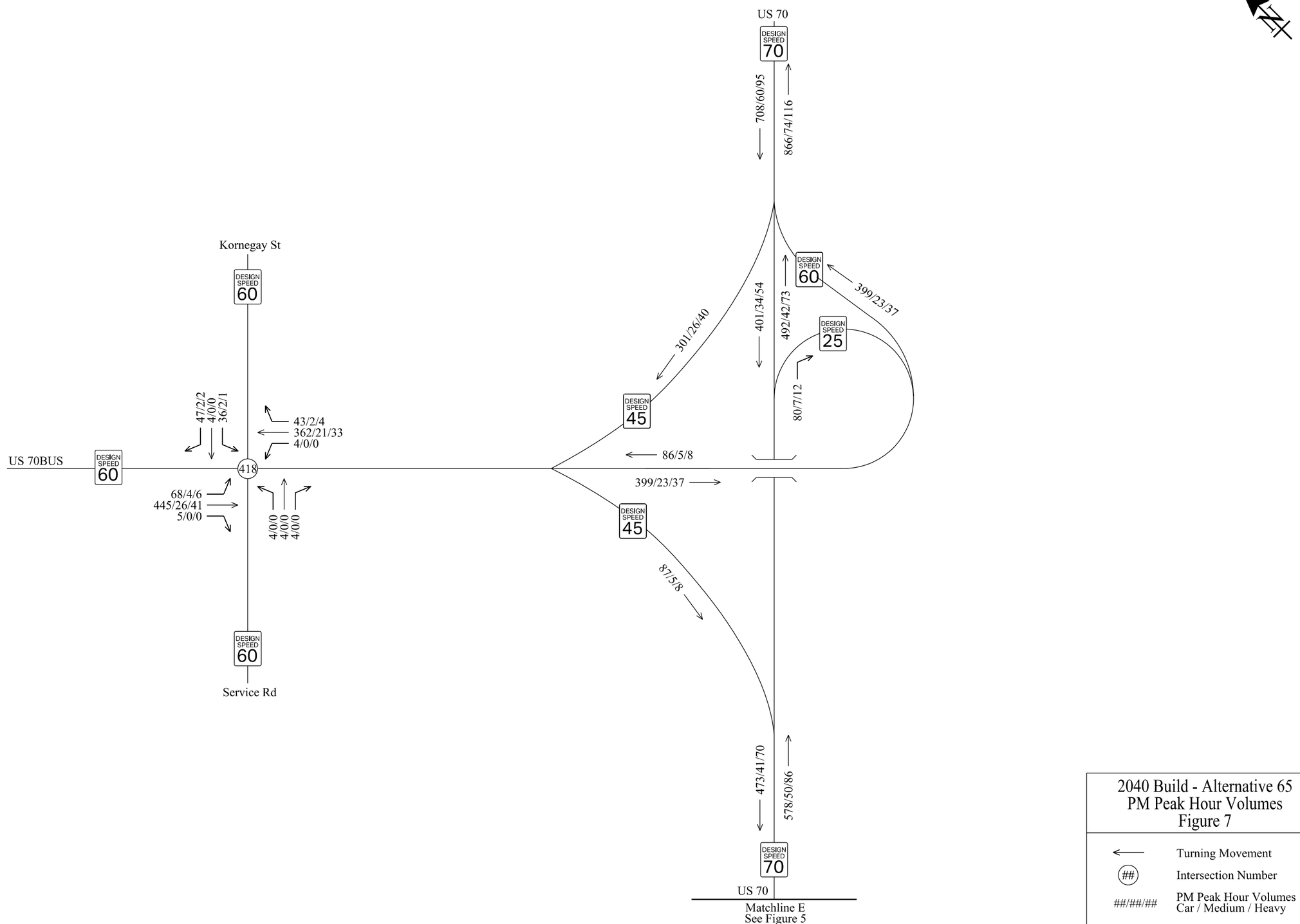
AECOM



2040 Build - Alternative 65
PM Peak Hour Volumes
Figure 6

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

AECOM



2040 Build - Alternative 65
PM Peak Hour Volumes
Figure 7

←	Turning Movement
(##)	Intersection Number
##/##/##	PM Peak Hour Volumes Car / Medium / Heavy

AECOM

Appendix F

North Carolina Department of Transportation

Traffic Noise Policy

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TRAFFIC NOISE POLICY

Effective Date: October 6, 2016

Noise Policy Committee:

Glenn Mumford, PE .....Roadway Design Unit
Drew Joyner, PE.....Human Environment Section
Brian Hanks, PE.....Structures Management Unit
Daniel Keel, PE.....Division of Highways
Mike Mills, PE.....Division Engineer
Pat Ivey, PE.....Division Engineer
Greg Smith, PE.....Human Environment Section

Sponsors:

Clarence Coleman, PE .....Federal Highway Administration
Felix Davila, PE.....Federal Highway Administration
Edward L. Curran.....Board of Transportation

APPROVED BY:

10-6-16
Date of Approval

John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

10.6.16
Date of Approval

Nicholas J. Tennyson
Secretary of Transportation

10-5-16
Date of Approval

Edward L. Curran, Chairman
Board of Transportation

Person Responsible
for Policy:

Traffic Noise & Air Quality Supervisor
Human Environment Section
1598 Mail Service Center
Raleigh, North Carolina 27699-1598
(919) 707-6087

DEFINITIONS

a) Decibel (dB) - The logarithmic unit for measuring sound pressure levels. For traffic noise measurements, decibels are most commonly reported in terms of the A-weighing frequency scale, which best includes the frequencies to which human hearing is typically most sensitive and is denoted by the abbreviation dB(A).

b) Leq – The equivalent steady -state sound level which, in a defined period of time, contains the same amount of acoustic energy as a time-varying sound level during the same period of time.

c) Receptor – Any location that receives traffic noise.

d) Impacted Receptor – A receptor for which the predicted hourly equivalent traffic noise level 1) meets or exceeds the approach criteria value found in Table 1 of this policy or 2) exceeds the existing ambient noise level by 10 dB(A) or more.

e) Benefited Receptor - All receptors, both impacted and non-impacted, that receive a noise level reduction of 5 dB(A) or more through placement of a noise abatement measure.

f) Noise Abatement Measure – Any method used to reduce traffic noise levels, such as noise walls and earthen berms.

g) Worst Noise Hour – The hour within a day in which the highest magnitude hourly equivalent sound level occurs. The worst traffic noise hour typically occurs when traffic is flowing freely at a high volume relative to the peak traffic hour volume, with a high percentage of trucks.

h) Practicable – Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

INTRODUCTION

This document represents the North Carolina Department of Transportation (hereinafter NCDOT) policy on highway traffic noise and construction noise and describes the implementation of the requirements of the Federal Highway Administration (hereinafter FHWA) Noise Standard at 23 Code of Federal Regulations Part 772 (23 CFR 772) as they relate to federal-aid and select state-funded highway construction in North Carolina. This policy was developed by the NCDOT and reviewed and approved by the FHWA.

The North Carolina Department of Transportation Traffic Noise Manual and 23 CFR 772 are intended to be companion documents to this policy.

PURPOSE

This policy describes the NCDOT process that is used in determining traffic noise impacts and abatement measures and the equitable and cost-effective expenditure of public funds for noise abatement. Where the FHWA has given highway agencies flexibility in implementing the 23 CFR 772 standards, this policy describes the NCDOT approach to implementation.

APPLICABILITY

Projects with a Date of Public Knowledge on or after the effective date of this policy shall comply with the criteria of this policy.

Federal–Aid Projects

This policy applies to all "Type I" federal or federal-aid highway projects in the State of North Carolina, including federal projects that are administered by local public agencies. Therefore, this policy applies to any highway project that is funded with federal-aid highway funds or requires FHWA approval regardless of funding sources. NCDOT does not participate in nor fund Type II (retrofit) projects along existing transportation facilities. Noise analyses are not required for Type III projects. Each of these project types are defined below. This policy shall be applied uniformly and consistently to all Type I federal projects throughout North Carolina.

Type I Project

(a) The construction of a highway on new location; or,

(b) The physical alteration of an existing highway where there is either:
   (i) Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,
   (ii) Substantial Vertical Alteration. A project that removes shielding, therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,

(c) The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,

(d) The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,

(e) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,

(f) Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,

(g) The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.

(h) If a project is determined to be a Type I project under this definition then the entire project area as defined in the environmental document is a Type I project.

Type II Project.

A Federal or Federal-aid highway project for noise abatement on an existing highway. For a Type II project to be eligible for Federal-aid funding, the highway agency must develop and implement a Type II program in accordance with 23 CFR 772.7(e).

Type III Project

A Federal or Federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

The highway traffic noise prediction requirements, noise analyses, noise abatement criteria, and requirements for informing local officials in 23 CFR 772 and this policy constitute the noise standards mandated by 23 U.S.C. 109(1). All federally-funded highway projects which are developed in conformance with this policy shall be deemed to be in accordance with the FHWA noise standards.

State-Funded Projects

Projects that are State funded do not use the federal project type designation for applicability.

This policy will apply to State funded projects located on a US or Interstate route that is full control of access where the project involves adding a through-traffic lane.

All other State-funded projects for which a State Environmental Assessment (EA) or State Environmental Impact Statement (EIS) is prepared will comply with the North Carolina Environmental Policy Act (SEPA) and the North Carolina Administrative Code. For these projects, noise barriers will be considered where practicable.

DATE OF PUBLIC KNOWLEDGE

The Date of Public Knowledge of the location and potential noise impacts of a proposed highway project is the approval date of the final environmental document, e.g., Categorical Exclusion (CE), State or Federal Finding of No Significant Impact (FONSI) or State or Federal Record of Decision (ROD).

NCDOT is not responsible for evaluating or implementing any noise barriers to protect developed lands that were not permitted before the Date of Public Knowledge.

The criterion for determining when undeveloped land is permitted for development is the approval date of a building permit for an individual lot or site. Approval of a development plat or any other development plan does not meet the permitted criteria.

NCDOT advocates use of local government authority to regulate land development, planning, design and construction in such a way that noise impacts are minimized.

TRAFFIC NOISE PREDICTION

All traffic noise analyses performed by or for NCDOT must utilize the most current version of the FHWA Traffic Noise Model (TNM®) or any other model determined by the FHWA to be consistent with the methodology of the TNM® model, pursuant to 23 CFR 772.9.

Average pavement type shall be used in the FHWA TNM® for future noise level prediction.

Noise contour lines may be used only for project alternative screening or for providing information to local officials for their land use planning efforts associated with undeveloped lands as per 23 CFR 772.17. Noise contours shall not be used for determining highway traffic noise impacts or assessing noise barriers.

Traffic characteristics that yield the worst noise hour equivalent traffic noise levels, expressed in Leq(h), for the Design Year shall be used in predicting noise levels and assessing noise impacts.

Traffic noise prediction must adhere to all direction contained in the NCDOT Traffic Noise Manual.

NOISE IMPACT DETERMINATION

Noise abatement measures for NCDOT highway projects must be considered when traffic noise impacts are created by either of the following two conditions:

(a) The predicted worst noise hour Leq(h) traffic noise levels for the Design Year approach (reach one decibel less than) or exceed the Noise Abatement Criteria (NAC) contained in 23 CFR 772 and in Table 1, found on page 4 of this policy, OR

(b) The predicted worst noise hour Leq(h) traffic noise levels for the Design Year substantially exceed existing noise by 10 dB(A) or more.

A receptor is a discrete or representative location within a noise sensitive area(s) for any of the land uses listed in Table 1. For multifamily dwellings, each residence shall be counted as one receptor when determining impacted and benefited receptors. Non-residential receptors shall be represented by Equivalent Receptors calculated according to direction contained in the NCDOT Traffic Noise Manual.

Primary consideration shall be given to exterior areas where frequent human use occurs in the determination of traffic noise impacts.

A traffic noise analysis shall be completed for each project alternative under detailed study and for all receptors and Equivalent Receptors defined to represent land use activities A, B, C, D, and E listed in Table 1 that are present in the study area. FHWA approval is required for designating a Category A Activity on federally-funded projects. Traffic noise analyses are not required for Activity Category F land uses. Noise predictions are required for Activity Category G land uses to the extent needed to develop estimated noise levels to provide to local officials for planning purposes.

Table 1

Noise Abatement Criteria

Hourly Equivalent A-Weighted Sound Level (decibels (dB(A))

Activity Category	Activity Criteria[1] Leq(h)[2]	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B [3]	67	Exterior	Residential
C [3]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E [3]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	Undeveloped lands that are not permitted

[1] The Leq(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

[2] The equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period, with Leq(h) being the hourly value of Leq.

[3] Includes undeveloped lands permitted for this activity category.

ANALYSIS OF NOISE ABATEMENT MEASURES

When traffic noise impacts are identified, noise abatement measures shall be considered and evaluated for feasibility for all impacted receptors and reasonableness for all benefited receptors. All of the following conditions must be met in order for noise abatement measures to be justified and incorporated into project design, as applicable. Failure to achieve any single element of feasibility or reasonableness will result in the noise abatement measure being deemed not feasible or not reasonable, whichever applies.

NCDOT will provide noise barriers for all possible impacted receptors that meet the feasibility and reasonableness criteria found in this policy. Noise barriers will not be extended solely to provide noise reduction for non-impacted receptors. Benefits for non-impacted receptors will only occur when they are incidental in noise barriers designed for impacted receptors.

Feasibility

The combination of acoustical and engineering factors considered in the evaluation of a noise barrier.

(a) Any receptor that receives a minimum noise level reduction of five dB(A) due to a noise barrier shall be considered a benefited receptor. Noise reduction of five dB(A) must be achieved for at least two impacted receptors.

(b) Engineering feasibility of noise barriers shall consider adverse impacts created by or upon property access, drainage, topography, utilities, safety, and maintenance requirements.

Reasonableness

The combination of social, economic, and environmental factors considered in the evaluation of a noise barrier.

(a) Property owners and tenants of all benefited receptors shall be solicited to obtain their preferences for or against a proposed noise barrier. No tenant ballots are distributed for vacant rental property. Points per ballot shall be distributed in the following weighted manner:

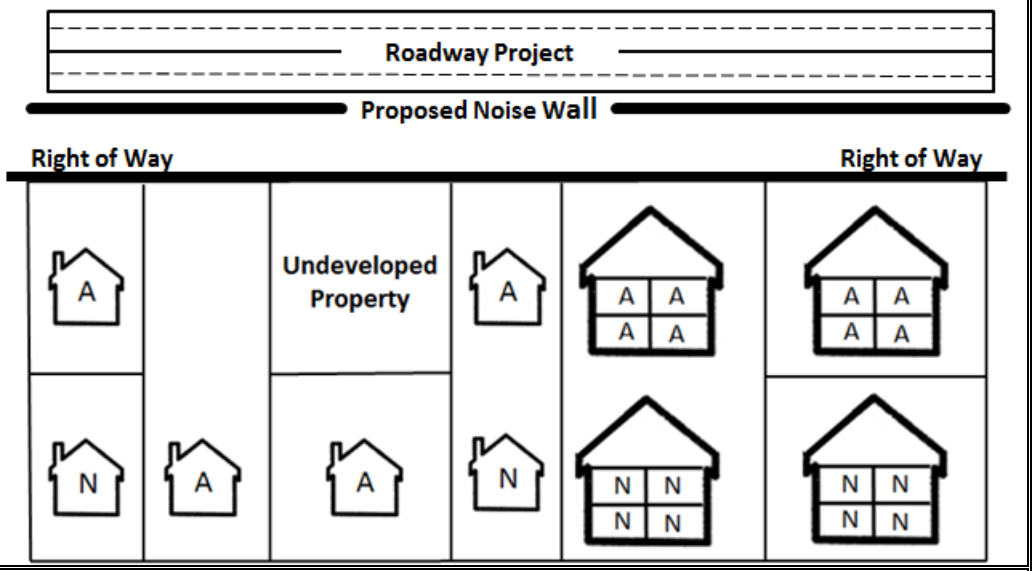
- 5 points/ballot for adjacent property owners who reside at property
- 4 points/ballot for adjacent property owners who rent property to others
- 3 points/ballot for all non-adjacent property owners who reside at property
- 2 points/ballot for all non-adjacent property owners who rent property to others
- 1 point/ballot vote for all tenants of rental property

Adjacent Receptor is a benefited receptor that 1) represents a property that abuts the highway right of way or 2) has no benefited receptor between it and the highway. Where multiple buildings containing benefited receptors are on the same property, such as an apartment or condominium complex, only the building closest to the highway is an adjacent receptor. Adjacent receptors will most often, but not always, be part of the front row of benefited receptors. Figure 1 provides graphic examples of Adjacent Receptors.

Owners of multi-unit rental locations will receive the applicable number of owner points for each individual benefited receptor (rental unit) owned.

Figure 1

Examples of Adjacent Receptors



A = Adjacent Receptor N = Non-Adjacent Receptor
Undeveloped Property = Vacant property for which no building permit has been issued and is not a park or recreation area

If 50% or greater of all possible voting points from benefited receptors for each noise barrier are received on the first solicitation, a simple majority of voting points cast will be used to determine if the proposed noise barrier will be constructed.

If less than 50% of all possible points for each noise barrier are received on the first solicitation, a second solicitation will be sent to benefited receptors who did not respond to the first solicitation.

If a second solicitation is conducted and 50% or greater of all possible voting points for each noise barrier are received after the second solicitation, a simple majority of voting points cast will be used to determine whether or not the proposed noise barrier will be constructed.

If less than 50% of total possible points for a noise barrier are received after the second solicitation, the noise barrier will not be constructed.

Noise barriers will be constructed in the case of a tie (equal number of points for and against a noise barrier).

All balloting soliciting the viewpoints of benefited property owners and applicable residents/tenants that occurs after the effective date of this policy, regardless of the Date of Public Knowledge, shall comply with the criteria of this policy.

(b) The allowable quantities for noise barriers per benefited receptor, with allowances for incremental increases based upon existing and predicted noise levels of all impacted receptors within each noise study area, are shown in Table 2.

For the purpose of calculating the incremental increase, the Noise Abatement Criteria (NAC) values for Activity Categories A, B, C, D, and E, as shown in Table 1, are to be used and not the NCDOT "approach" values used in traffic noise impact determinations.

Table 2

Allowable Noise Barrier Base Quantities

Maximum Allowable Base Quantity	Noise Level Consideration	Noise Wall	Earthen Berm
		1,500 ft^2	4,200 yd^3
Average dB(A) Increase Between Existing and Future Build for All Impacted Receptors	< 5 dB(A)	+ 0 ft^2	+ 0 yd^3
	5-10 dB(A)	+ 500 ft^2	+ 1,400 yd^3
	> 10 dB(A)	+ 1,000 ft^2	+ 2,800 yd^3
Average Exposure to Absolute Noise Levels for All Impacted Receptors	< 5 dB(A) Over NAC Activity Category	+ 0 ft2	+ 0 yd^3
	5-10 dB(A) Over NAC Activity Category	+ 500 ft^2	+ 1,400 yd^3
	> 10 dB(A) Over NAC Activity Category	+ 1,000 ft^2	+ 2,800 yd^3

(c) A noise reduction design goal of at least 7 dB(A) must be evaluated for all benefited receptors. At least one benefited receptor must achieve the noise reduction design goal of 7 dB(A) to indicate the proposed noise barrier effectively reduces traffic noise.

Other Considerations

Prior to CE approval or issuance of a FONSI or ROD, NCDOT shall identify in all applicable environmental documents:

(a) Noise barriers that are feasible and reasonable,

(b) Noise impacts for which no noise barrier appears to be feasible and reasonable;

(c) Locations where noise impacts will occur, where noise barriers are feasible and reasonable, and the locations that have no feasible and reasonable noise barriers.

(d) Whether it is “likely” or “unlikely” that noise barriers will be installed for each noise sensitive area identified. "Likely" does not mean a firm commitment. The final decision on the installation of noise barriers shall be made upon completion of the project design, the public involvement process, compliance with the NCDOT Policy, and FHWA approval.

Third Party Participation

(a) Third party funding of noise barriers cannot be used to make up the difference between the reasonable quantity allowance and the actual quantity of noise barriers. Third party funding is allowed only by local, state and federal government agencies, and can only be used to pay for additional features such as landscaping and aesthetic treatments for noise barriers that meet all feasible and reasonable criteria previously detailed in this policy. Private parties may freely enter into agreements with government agencies to develop noise barrier enhancements; however, all funding for enhancements paid to NCDOT must come from government agencies

(b) Traditional highway construction resources pay for required noise barriers. Should a local government request that materials be used that are more costly than the standard materials proposed by NCDOT, the requesting entity must assume 100% of the actual additional construction cost.

(c) If a local government insists on the provision of a noise barrier deemed not reasonable by NCDOT, a noise barrier may be installed provided the local government assumes 100% of the costs and obtains an encroachment permit from NCDOT to perform the work. These costs include, but are not limited to, preliminary and final engineering, actual construction and all related maintenance. In addition, local governments must ensure that NCDOT's material, design and construction specifications are met. The local government must also assume 100% of the liability associated with the measure and hold harmless the NCDOT.

(d) For (b) and (c) above, the settlement agreement shall be signed before third party noise barrier design begins and payment shall be made to NCDOT in accordance with N.C.G.S. 136-66.3(e).

ARCHITECTURAL TREATMENT OF NOISE WALLS

The standard noise wall architectural treatment consists of:

(a) Concrete columns; Steel piles may be used when necessary to address site conditions adverse to the use of concrete columns;

(b) Precast concrete panels textured on both sides;

(c) No texture on the uppermost foot of each wall segment;

(d) A single color of stain in brown or gray tones applied to both sides of textured panels;

(e) No stain applied to the uppermost foot of each wall segment and the concrete columns.

All enhancements to this standard noise wall must be paid for in accordance with Third Party Participation provisions in this policy.

NCDOT Division Engineers are responsible for determining noise wall textures and colors in their respective Divisions.

PUBLIC INVOLVEMENT

Communication with the community regarding noise impacts and possible noise abatement shall occur at the start of the noise study process and continue throughout the development of the project. NCDOT will communicate with citizens to present information on the nature of highway traffic noise and discuss the effects of noise abatement and how public preferences for noise abatement is solicited via a balloting process.

Noise study areas showing "likely" noise barriers and/or proposed locations of any "recommended" noise barriers will be presented and discussed when holding Public Hearings and Public Meetings. Likely noise barriers are based on preliminary design traffic noise analyses and are described in environmental documents. Recommended noise barriers are based on final design noise analyses and are usually identified after the environmental document is completed. Property owners and tenants who are being balloted for a recommended noise barrier will be provided a visual of the noise barrier location prior to their casting a ballot.

COORDINATION WITH LOCAL OFFICIALS

NCDOT will provide all traffic noise analyses to local government officials within whose jurisdiction a highway project is proposed as early in the project planning process as possible to protect future development from becoming incompatible with traffic noise levels. Specifically, environmental documents and design noise reports will contain information identifying areas that may be impacted by traffic noise, predicted noise level contour information, the best estimation of future noise levels for developed and undeveloped lands or properties in the immediate vicinity of the project and other appropriate design information. If requested, NCDOT will assist local officials with coordination and distribution of this information to residents, property owners and developers. NCDOT will provide information to assist local jurisdictions in the development of local noise controls, when requested. NCDOT strongly advocates the planning, design and construction of noise-compatible development and encourage its practice among planners, building officials, developers and others.

CONSTRUCTION NOISE

To minimize the impacts of construction noise on the public, NCDOT shall:

(a) Identify land uses or activities that may be affected by noise from construction of the project.

(b) Determine the measures that are needed in the plans and specifications to minimize or eliminate adverse construction noise impacts to the community. This determination shall consider the benefits achieved and the overall adverse social, economic, and environmental effects and costs of the abatement measures.

(c) Consider construction techniques and scheduling to reduce construction noise impacts to nearby receptors and incorporate the needed abatement measures in the project plans and specifications.

FEDERAL PARTICIPATION

The costs of noise barriers may be included in federal-aid participating project costs with the federal share being the same as that for the system on which the project is located when:

(a) Traffic noise impacts have been identified; and

(b) Noise barriers have been determined to be feasible and reasonable pursuant to 23 CFR 772 and this policy.

REVIEW OF POLICY

This policy shall be reviewed by the NCDOT Board of Transportation at least every five years.