

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Hyland_Croy_Rd_&_McKitrick_Rd_348351_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 2

	Hyland Croy Rd Southbound				McKitrick Rd Westbound				Hyland Croy Rd Northbound				McKitrick Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	54	0	55	13	9	3	25	2	37	5	44	0	8	2	10	134
07:30 AM	2	148	1	151	37	13	2	52	2	27	20	49	0	8	1	9	261
07:45 AM	3	55	1	59	15	19	0	34	3	50	22	75	0	7	3	10	178
08:00 AM	1	45	1	47	4	7	0	11	0	38	8	46	3	9	3	15	119
Total Volume	7	302	3	312	69	48	5	122	7	152	55	214	3	32	9	44	692
% App. Total	2.2	96.8	1		56.6	39.3	4.1		3.3	71	25.7		6.8	72.7	20.5		
PHF	.583	.510	.750	.517	.466	.632	.417	.587	.583	.760	.625	.713	.250	.889	.750	.733	.663

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	3	29	4	36	14	17	0	31	5	47	22	74	1	16	1	18	159
05:00 PM	1	34	0	35	14	15	0	29	2	71	26	99	2	22	4	28	191
05:15 PM	2	23	1	26	17	18	3	38	2	61	18	81	2	19	1	22	167
05:30 PM	1	45	1	47	14	14	1	29	2	53	28	83	0	16	1	17	176
Total Volume	7	131	6	144	59	64	4	127	11	232	94	337	5	73	7	85	693
% App. Total	4.9	91	4.2		46.5	50.4	3.1		3.3	68.8	27.9		5.9	85.9	8.2		
PHF	.583	.728	.375	.766	.868	.889	.333	.836	.550	.817	.839	.851	.625	.830	.438	.759	.907

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : McKitrick Road east of Mitchell Dewitt Road

Site Code : 349230

Start Date : 9/29/2016

Page No : 1

Groups Printed- All Vehicles

	McKitrick Road east of Mitchell Dewitt Road Westbound	McKitrick Road east of Mitchell Dewitt Road Eastbound	
Start Time	Thru	Thru	Int. Total
12:00 AM	0	0	0
12:15 AM	0	0	0
12:30 AM	1	0	1
12:45 AM	0	0	0
Total	1	0	1
01:00 AM	0	0	0
01:15 AM	0	0	0
01:30 AM	0	0	0
01:45 AM	0	0	0
Total	0	0	0
02:00 AM	0	0	0
02:15 AM	0	0	0
02:30 AM	0	0	0
02:45 AM	0	0	0
Total	0	0	0
03:00 AM	0	0	0
03:15 AM	0	0	0
03:30 AM	0	0	0
03:45 AM	1	0	1
Total	1	0	1
04:00 AM	0	0	0
04:15 AM	0	0	0
04:30 AM	2	1	3
04:45 AM	3	0	3
Total	5	1	6
05:00 AM	2	0	2
05:15 AM	5	0	5
05:30 AM	4	0	4
05:45 AM	1	4	5
Total	12	4	16
06:00 AM	6	2	8
06:15 AM	5	0	5
06:30 AM	10	2	12
06:45 AM	9	9	18
Total	30	13	43
07:00 AM	14	7	21
07:15 AM	15	8	23
07:30 AM	22	15	37
07:45 AM	25	13	38
Total	76	43	119
08:00 AM	16	8	24
08:15 AM	23	5	28
08:30 AM	17	4	21
08:45 AM	20	13	33
Total	76	30	106

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
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File Name : McKitrick Road east of Mitchell Dewitt Road
Site Code : 349230
Start Date : 9/29/2016
Page No : 2

Groups Printed- All Vehicles

	McKitrick Road east of Mitchell Dewitt Road Westbound	McKitrick Road east of Mitchell Dewitt Road Eastbound	
Start Time	Thru	Thru	Int. Total
09:00 AM	13	13	26
09:15 AM	18	12	30
09:30 AM	12	9	21
09:45 AM	8	7	15
Total	51	41	92
10:00 AM	11	8	19
10:15 AM	10	5	15
10:30 AM	5	7	12
10:45 AM	9	4	13
Total	35	24	59
11:00 AM	6	9	15
11:15 AM	6	9	15
11:30 AM	7	9	16
11:45 AM	11	8	19
Total	30	35	65
12:00 PM	5	14	19
12:15 PM	10	9	19
12:30 PM	14	9	23
12:45 PM	12	10	22
Total	41	42	83
01:00 PM	11	9	20
01:15 PM	9	9	18
01:30 PM	10	7	17
01:45 PM	4	4	8
Total	34	29	63
02:00 PM	8	7	15
02:15 PM	7	11	18
02:30 PM	16	14	30
02:45 PM	15	10	25
Total	46	42	88
03:00 PM	15	13	28
03:15 PM	7	21	28
03:30 PM	19	16	35
03:45 PM	13	19	32
Total	54	69	123
04:00 PM	16	12	28
04:15 PM	22	16	38
04:30 PM	13	34	47
04:45 PM	25	36	61
Total	76	98	174
05:00 PM	17	29	46
05:15 PM	18	22	40
05:30 PM	16	30	46
05:45 PM	17	18	35
Total	68	99	167

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File Name : McKitrick Road east of Mitchell Dewitt Road
Site Code : 349230
Start Date : 9/29/2016
Page No : 3

Groups Printed- All Vehicles

	McKitrick Road east of Mitchell Dewitt Road Westbound	McKitrick Road east of Mitchell Dewitt Road Eastbound	
Start Time	Thru	Thru	Int. Total
06:00 PM	9	23	32
06:15 PM	15	7	22
06:30 PM	9	13	22
06:45 PM	15	18	33
Total	48	61	109
07:00 PM	14	11	25
07:15 PM	10	13	23
07:30 PM	10	17	27
07:45 PM	10	8	18
Total	44	49	93
08:00 PM	13	15	28
08:15 PM	5	5	10
08:30 PM	0	15	15
08:45 PM	3	4	7
Total	21	39	60
09:00 PM	6	8	14
09:15 PM	4	3	7
09:30 PM	2	2	4
09:45 PM	0	3	3
Total	12	16	28
10:00 PM	2	2	4
10:15 PM	1	3	4
10:30 PM	0	0	0
10:45 PM	3	0	3
Total	6	5	11
11:00 PM	0	0	0
11:15 PM	0	1	1
11:30 PM	0	2	2
11:45 PM	1	1	2
Total	1	4	5
Grand Total	768	744	1512
Apprch %	100	100	
Total %	50.8	49.2	

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88 W. Church Street
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(740) 345-4700

File Name : McKitrick Road east of Mitchell Dewitt Road
Site Code : 349230
Start Date : 9/29/2016
Page No : 4

	McKitrick Road east of Mitchell Dewitt Road Westbound		McKitrick Road east of Mitchell Dewitt Road Eastbound		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 11:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:30 AM					
07:30 AM	22	22	15	15	37
07:45 AM	25	25	13	13	38
08:00 AM	16	16	8	8	24
08:15 AM	23	23	5	5	28
Total Volume	86	86	41	41	127
% App. Total	100		100		
PHF	.860	.860	.683	.683	.836

Peak Hour Analysis From 12:00 PM to 11:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	13	13	34	34	47
04:45 PM	25	25	36	36	61
05:00 PM	17	17	29	29	46
05:15 PM	18	18	22	22	40
Total Volume	73	73	121	121	194
% App. Total	100		100		
PHF	.730	.730	.840	.840	.795

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_&_Industrial_Pkwy_348337_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 1

Groups Printed- Trucks

	Industrial Pkwy Southbound				Mitchell Dewitt Rd Westbound				Industrial Pkwy Northbound				Mitchell Dewitt Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	6	0	6	0	0	0	0	7
07:15 AM	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	1	1	0	2	0	0	0	0	0	6	0	6	0	0	0	0	8
07:45 AM	2	2	0	4	0	0	1	1	0	6	2	8	0	0	0	0	13
Total	4	5	1	10	0	0	1	1	0	18	2	20	0	0	0	0	31
08:00 AM	0	2	1	3	0	0	0	0	0	3	1	4	0	0	1	1	8
08:15 AM	0	1	0	1	0	0	1	1	0	5	0	5	0	0	0	0	7
08:30 AM	0	2	0	2	1	0	2	3	0	9	1	10	0	0	0	0	15
08:45 AM	0	3	0	3	0	0	0	0	0	3	1	4	0	0	0	0	7
Total	0	8	1	9	1	0	3	4	0	20	3	23	0	0	1	1	37
03:30 PM	0	3	0	3	0	0	1	1	0	2	0	2	0	0	0	0	6
03:45 PM	0	2	0	2	0	0	1	1	0	1	0	1	0	0	1	1	5
Total	0	5	0	5	0	0	2	2	0	3	0	3	0	0	1	1	11
04:00 PM	1	6	0	7	0	0	0	0	0	2	0	2	0	0	0	0	9
04:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
04:30 PM	3	1	0	4	2	0	0	2	0	2	1	3	0	0	0	0	9
04:45 PM	1	1	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
Total	5	10	0	15	3	0	0	3	0	5	1	6	0	0	0	0	24
05:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
05:15 PM	0	1	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
05:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	1	6	0	7	0	0	0	0	0	8	0	8	0	0	0	0	15
Grand Total	10	34	2	46	4	0	6	10	0	54	6	60	0	0	2	2	118
Apprch %	21.7	73.9	4.3		40	0	60		0	90	10		0	0	100		
Total %	8.5	28.8	1.7	39	3.4	0	5.1	8.5	0	45.8	5.1	50.8	0	0	1.7	1.7	

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_&_Industrial_Pkwy_348337_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 1

Groups Printed- Cars - Trucks

	Industrial Pkwy Southbound				Mitchell Dewitt Rd Westbound				Industrial Pkwy Northbound				Mitchell Dewitt Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	17	80	3	100	7	1	19	27	1	26	0	27	0	1	3	4	158
07:15 AM	18	99	1	118	6	1	17	24	0	23	3	26	2	0	0	2	170
07:30 AM	21	110	0	131	15	3	26	44	0	34	3	37	3	3	3	9	221
07:45 AM	15	96	1	112	17	5	19	41	1	44	3	48	0	1	4	5	206
Total	71	385	5	461	45	10	81	136	2	127	9	138	5	5	10	20	755
08:00 AM	14	68	4	86	12	3	8	23	0	29	3	32	1	0	2	3	144
08:15 AM	6	57	1	64	21	3	15	39	0	18	2	20	0	1	0	1	124
08:30 AM	14	55	1	70	14	2	10	26	0	32	6	38	2	1	0	3	137
08:45 AM	10	55	0	65	13	0	9	22	0	20	4	24	0	3	0	3	114
Total	44	235	6	285	60	8	42	110	0	99	15	114	3	5	2	10	519
03:30 PM	12	40	1	53	5	0	12	17	1	81	7	89	3	2	2	7	166
03:45 PM	10	29	1	40	15	5	9	29	1	52	9	62	2	3	2	7	138
Total	22	69	2	93	20	5	21	46	2	133	16	151	5	5	4	14	304
04:00 PM	12	43	3	58	7	3	12	22	1	79	12	92	0	1	0	1	173
04:15 PM	15	32	2	49	15	3	15	33	1	49	21	71	3	3	1	7	160
04:30 PM	31	45	0	76	19	7	11	37	6	112	14	132	2	4	2	8	253
04:45 PM	25	41	1	67	21	5	12	38	1	79	22	102	1	4	0	5	212
Total	83	161	6	250	62	18	50	130	9	319	69	397	6	12	3	21	798
05:00 PM	22	37	2	61	10	2	14	26	4	115	44	163	1	0	1	2	252
05:15 PM	25	38	2	65	11	6	18	35	0	119	24	143	0	0	1	1	244
05:30 PM	33	36	0	69	12	3	18	33	4	61	17	82	1	2	0	3	187
05:45 PM	12	33	0	45	20	3	14	37	1	50	20	71	1	1	0	2	155
Total	92	144	4	240	53	14	64	131	9	345	105	459	3	3	2	8	838
Grand Total	312	994	23	1329	240	55	258	553	22	1023	214	1259	22	30	21	73	3214
Apprch %	23.5	74.8	1.7		43.4	9.9	46.7		1.7	81.3	17		30.1	41.1	28.8		
Total %	9.7	30.9	0.7	41.4	7.5	1.7	8	17.2	0.7	31.8	6.7	39.2	0.7	0.9	0.7	2.3	
Cars	302	960	21	1283	236	55	252	543	22	969	208	1199	22	30	19	71	3096
% Cars	96.8	96.6	91.3	96.5	98.3	100	97.7	98.2	100	94.7	97.2	95.2	100	100	90.5	97.3	96.3
Trucks	10	34	2	46	4	0	6	10	0	54	6	60	0	0	2	2	118
% Trucks	3.2	3.4	8.7	3.5	1.7	0	2.3	1.8	0	5.3	2.8	4.8	0	0	9.5	2.7	3.7

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_&_Industrial_Pkwy_348337_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 2

	Industrial Pkwy Southbound				Mitchell Dewitt Rd Westbound				Industrial Pkwy Northbound				Mitchell Dewitt Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	17	80	3	100	7	1	19	27	1	26	0	27	0	1	3	4	158
07:15 AM	18	99	1	118	6	1	17	24	0	23	3	26	2	0	0	2	170
07:30 AM	21	110	0	131	15	3	26	44	0	34	3	37	3	3	3	9	221
07:45 AM	15	96	1	112	17	5	19	41	1	44	3	48	0	1	4	5	206
Total Volume	71	385	5	461	45	10	81	136	2	127	9	138	5	5	10	20	755
% App. Total	15.4	83.5	1.1		33.1	7.4	59.6		1.4	92	6.5		25	25	50		
PHF	.845	.875	.417	.880	.662	.500	.779	.773	.500	.722	.750	.719	.417	.417	.625	.556	.854

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	31	45	0	76	19	7	11	37	6	112	14	132	2	4	2	8	253
04:45 PM	25	41	1	67	21	5	12	38	1	79	22	102	1	4	0	5	212
05:00 PM	22	37	2	61	10	2	14	26	4	115	44	163	1	0	1	2	252
05:15 PM	25	38	2	65	11	6	18	35	0	119	24	143	0	0	1	1	244
Total Volume	103	161	5	269	61	20	55	136	11	425	104	540	4	8	4	16	961
% App. Total	38.3	59.9	1.9		44.9	14.7	40.4		2	78.7	19.3		25	50	25		
PHF	.831	.894	.625	.885	.726	.714	.764	.895	.458	.893	.591	.828	.500	.500	.500	.500	.950

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_&_McKitrick_Rd_348344_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 1

Groups Printed- Trucks

	Mitchell Dewitt Rd Southbound			McKitrick Rd Westbound			Mitchell Dewitt Rd Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	1	1	1
07:15 AM	1	0	1	1	0	1	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	2	2	0	0	0	1	1	2	4
Total	1	2	3	1	0	1	1	2	3	7
08:00 AM	1	0	1	1	0	1	0	0	0	2
08:15 AM	0	0	0	0	0	0	1	0	1	1
08:30 AM	0	1	1	0	2	2	1	0	1	4
08:45 AM	1	0	1	1	0	1	0	1	1	3
Total	2	1	3	2	2	4	2	1	3	10
Grand Total	3	3	6	3	2	5	3	3	6	17
Apprch %	50	50		60	40		50	50		
Total %	17.6	17.6	35.3	17.6	11.8	29.4	17.6	17.6	35.3	

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : mitchell_dewitt_rd_&_mckitrick_rd_348344_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 1

Groups Printed- Trucks

	Mitchell Dewitt Rd Southbound			McKitrick Rd Westbound			Mitchell Dewitt Rd Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
03:30 PM	0	0	0	1	0	1	1	0	1	2
03:45 PM	0	0	0	1	1	2	0	0	0	2
Total	0	0	0	2	1	3	1	0	1	4
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	1	0	0	0	0	1	1	2
04:30 PM	0	2	2	1	1	2	1	0	1	5
04:45 PM	1	1	2	0	1	1	0	0	0	3
Total	2	3	5	1	2	3	1	1	2	10
05:00 PM	0	0	0	0	2	2	0	1	1	3
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	2	3	0	1	1	4
Grand Total	2	3	5	4	5	9	2	2	4	18
Apprch %	40	60		44.4	55.6		50	50		
Total %	11.1	16.7	27.8	22.2	27.8	50	11.1	11.1	22.2	

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_&_McKitrick_Rd_348344_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 1

Groups Printed- Cars - Trucks

	Mitchell Dewitt Rd Southbound			McKitrick Rd Westbound			Mitchell Dewitt Rd Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	3	12	15	6	10	16	18	1	19	50
07:15 AM	10	13	23	6	9	15	15	3	18	56
07:30 AM	9	19	28	12	16	28	25	2	27	83
07:45 AM	8	12	20	8	22	30	18	5	23	73
Total	30	56	86	32	57	89	76	11	87	262
08:00 AM	6	10	16	6	11	17	16	1	17	50
08:15 AM	5	8	13	6	17	23	20	1	21	57
08:30 AM	6	13	19	0	23	23	6	0	6	48
08:45 AM	7	12	19	5	12	17	10	1	11	47
Total	24	43	67	17	63	80	52	3	55	202
03:30 PM	9	12	21	3	11	14	9	4	13	48
03:45 PM	12	12	24	1	13	14	17	2	19	57
Total	21	24	45	4	24	28	26	6	32	105
04:00 PM	11	14	25	1	10	11	7	2	9	45
04:15 PM	14	15	29	2	15	17	21	5	26	72
04:30 PM	23	28	51	1	20	21	17	2	19	91
04:45 PM	22	24	46	3	15	18	22	4	26	90
Total	70	81	151	7	60	67	67	13	80	298
05:00 PM	30	32	62	4	13	17	14	5	19	98
05:15 PM	21	33	54	3	20	23	19	11	30	107
05:30 PM	17	36	53	3	19	22	13	4	17	92
05:45 PM	15	18	33	4	17	21	18	3	21	75
Total	83	119	202	14	69	83	64	23	87	372
Grand Total	228	323	551	74	273	347	285	56	341	1239
Apprch %	41.4	58.6		21.3	78.7		83.6	16.4		
Total %	18.4	26.1	44.5	6	22	28	23	4.5	27.5	
Cars	223	317	540	67	266	333	280	51	331	1204
% Cars	97.8	98.1	98	90.5	97.4	96	98.2	91.1	97.1	97.2
Trucks	5	6	11	7	7	14	5	5	10	35
% Trucks	2.2	1.9	2	9.5	2.6	4	1.8	8.9	2.9	2.8

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

	Mitchell Dewitt Rd Southbound			McKittrick Rd Westbound			Mitchell Dewitt Rd Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	9	19	28	12	16	28	25	2	27	83
07:45 AM	8	12	20	8	22	30	18	5	23	73
08:00 AM	6	10	16	6	11	17	16	1	17	50
08:15 AM	5	8	13	6	17	23	20	1	21	57
Total Volume	28	49	77	32	66	98	79	9	88	263
% App. Total	36.4	63.6		32.7	67.3		89.8	10.2		
PHF	.778	.645	.688	.667	.750	.817	.790	.450	.815	.792

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	22	24	46	3	15	18	22	4	26	90
05:00 PM	30	32	62	4	13	17	14	5	19	98
05:15 PM	21	33	54	3	20	23	19	11	30	107
05:30 PM	17	36	53	3	19	22	13	4	17	92
Total Volume	90	125	215	13	67	80	68	24	92	387
% App. Total	41.9	58.1		16.2	83.8		73.9	26.1		
PHF	.750	.868	.867	.813	.838	.870	.773	.545	.767	.904

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_Brand_&_Hyland_Croy_Rd_348650_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 1

Groups Printed- Trucks

	Hyland Croy Rd Southbound				Brand Rd Westbound				Hyland Croy Rd Northbound				Mitchell Dewitt Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	0	1	0	0	1	1	0	1	0	1	0	0	0	0	3
07:15 AM	2	1	1	4	3	0	2	5	0	3	4	7	1	0	0	1	17
07:30 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
07:45 AM	1	0	0	1	0	2	1	3	1	1	1	3	0	1	1	2	9
Total	4	1	1	6	3	2	4	9	1	5	7	13	1	1	1	3	31
08:00 AM	0	2	0	2	1	0	0	1	1	4	1	6	0	1	0	1	10
08:15 AM	0	1	0	1	1	0	1	2	1	2	0	3	0	0	0	0	6
08:30 AM	0	0	1	1	1	0	0	1	0	2	3	5	0	0	0	0	7
08:45 AM	0	0	0	0	0	0	1	1	1	10	0	11	1	0	1	2	14
Total	0	3	1	4	3	0	2	5	3	18	4	25	1	1	1	3	37
Grand Total	4	4	2	10	6	2	6	14	4	23	11	38	2	2	2	6	68
Apprch %	40	40	20		42.9	14.3	42.9		10.5	60.5	28.9		33.3	33.3	33.3		
Total %	5.9	5.9	2.9	14.7	8.8	2.9	8.8	20.6	5.9	33.8	16.2	55.9	2.9	2.9	2.9	8.8	

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_Brand_&_Hyland_Croy_Rd_348650_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 1

Groups Printed- Trucks

	Hyland Croy Rd Southbound				Brand Rd Westbound				Hyland Croy Rd Northbound				Mitchell Dewitt Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:30 PM	0	1	0	1	0	0	0	0	1	0	1	2	2	0	0	2	5
03:45 PM	3	5	1	9	1	0	0	1	0	1	2	3	0	0	0	0	13
Total	3	6	1	10	1	0	0	1	1	1	3	5	2	0	0	2	18
04:00 PM	2	8	0	10	0	0	0	0	0	0	1	1	0	0	0	0	11
04:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	4	1	0	5	1	2	1	4	0	2	1	3	2	0	0	2	14
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	6	11	0	17	2	2	1	5	0	2	2	4	2	0	0	2	28
05:00 PM	0	1	0	1	1	0	0	1	0	0	1	1	0	0	0	0	3
05:15 PM	0	1	0	1	0	0	0	0	0	2	1	3	0	0	0	0	4
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
Total	0	4	0	4	2	0	0	2	0	2	2	4	0	0	0	0	10
Grand Total	9	21	1	31	5	2	1	8	1	5	7	13	4	0	0	4	56
Apprch %	29	67.7	3.2		62.5	25	12.5		7.7	38.5	53.8		100	0	0		
Total %	16.1	37.5	1.8	55.4	8.9	3.6	1.8	14.3	1.8	8.9	12.5	23.2	7.1	0	0	7.1	

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_Brand_&_Hyland_Croy_Rd_348650_09-27-2016

Site Code :

Start Date : 9/27/2016

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Groups Printed- Cars - Trucks

	Hyland Croy Rd Southbound				Brand Rd Westbound				Hyland Croy Rd Northbound				Mitchell Dewitt Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	9	46	0	55	13	14	7	34	4	32	20	56	1	8	4	13	158
07:15 AM	23	42	1	66	18	13	14	45	5	53	44	102	3	18	5	26	239
07:30 AM	56	71	2	129	47	13	22	82	10	42	82	134	7	16	14	37	382
07:45 AM	75	83	3	161	61	19	23	103	5	70	50	125	6	17	5	28	417
Total	163	242	6	411	139	59	66	264	24	197	196	417	17	59	28	104	1196
08:00 AM	9	69	1	79	17	14	5	36	5	46	11	62	1	11	5	17	194
08:15 AM	10	47	1	58	14	14	7	35	3	25	14	42	0	10	5	15	150
08:30 AM	15	52	1	68	11	4	5	20	4	34	16	54	0	13	4	17	159
08:45 AM	9	56	0	65	12	5	3	20	2	41	11	54	3	16	6	25	164
Total	43	224	3	270	54	37	20	111	14	146	52	212	4	50	20	74	667
03:30 PM	8	33	0	41	15	8	14	37	8	40	13	61	5	11	5	21	160
03:45 PM	15	62	4	81	18	10	16	44	4	50	21	75	0	10	3	13	213
Total	23	95	4	122	33	18	30	81	12	90	34	136	5	21	8	34	373
04:00 PM	16	45	1	62	19	8	10	37	4	58	18	80	2	12	4	18	197
04:15 PM	10	38	1	49	15	18	15	48	7	53	20	80	0	10	4	14	191
04:30 PM	15	39	1	55	26	17	18	61	4	70	15	89	8	20	0	28	233
04:45 PM	18	52	1	71	24	12	30	66	12	78	30	120	2	19	6	27	284
Total	59	174	4	237	84	55	73	212	27	259	83	369	12	61	14	87	905
05:00 PM	23	63	0	86	16	8	23	47	7	108	44	159	6	24	10	40	332
05:15 PM	18	45	1	64	26	11	44	81	19	107	35	161	0	29	5	34	340
05:30 PM	34	44	4	82	44	12	21	77	9	96	34	139	1	29	7	37	335
05:45 PM	15	49	2	66	33	13	13	59	11	99	21	131	0	18	13	31	287
Total	90	201	7	298	119	44	101	264	46	410	134	590	7	100	35	142	1294
Grand Total	378	936	24	1338	429	213	290	932	123	1102	499	1724	45	291	105	441	4435
Apprch %	28.3	70	1.8		46	22.9	31.1		7.1	63.9	28.9		10.2	66	23.8		
Total %	8.5	21.1	0.5	30.2	9.7	4.8	6.5	21	2.8	24.8	11.3	38.9	1	6.6	2.4	9.9	
Cars	365	911	21	1297	418	209	283	910	118	1074	481	1673	39	289	103	431	4311
% Cars	96.6	97.3	87.5	96.9	97.4	98.1	97.6	97.6	95.9	97.5	96.4	97	86.7	99.3	98.1	97.7	97.2
Trucks	13	25	3	41	11	4	7	22	5	28	18	51	6	2	2	10	124
% Trucks	3.4	2.7	12.5	3.1	2.6	1.9	2.4	2.4	4.1	2.5	3.6	3	13.3	0.7	1.9	2.3	2.8

Smart Services Inc.

88 W. Church Street
Newark, OH 43055

File Name : Mitchell_Dewitt_Rd_Brand_&_Hyland_Croy_Rd_348650_09-27-2016

Site Code :

Start Date : 9/27/2016

Page No : 2

	Hyland Croy Rd Southbound				Brand Rd Westbound				Hyland Croy Rd Northbound				Mitchell Dewitt Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	23	42	1	66	18	13	14	45	5	53	44	102	3	18	5	26	239
07:30 AM	56	71	2	129	47	13	22	82	10	42	82	134	7	16	14	37	382
07:45 AM	75	83	3	161	61	19	23	103	5	70	50	125	6	17	5	28	417
08:00 AM	9	69	1	79	17	14	5	36	5	46	11	62	1	11	5	17	194
Total Volume	163	265	7	435	143	59	64	266	25	211	187	423	17	62	29	108	1232
% App. Total	37.5	60.9	1.6		53.8	22.2	24.1		5.9	49.9	44.2		15.7	57.4	26.9		
PHF	.543	.798	.583	.675	.586	.776	.696	.646	.625	.754	.570	.789	.607	.861	.518	.730	.739

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	23	63	0	86	16	8	23	47	7	108	44	159	6	24	10	40	332
05:15 PM	18	45	1	64	26	11	44	81	19	107	35	161	0	29	5	34	340
05:30 PM	34	44	4	82	44	12	21	77	9	96	34	139	1	29	7	37	335
05:45 PM	15	49	2	66	33	13	13	59	11	99	21	131	0	18	13	31	287
Total Volume	90	201	7	298	119	44	101	264	46	410	134	590	7	100	35	142	1294
% App. Total	30.2	67.4	2.3		45.1	16.7	38.3		7.8	69.5	22.7		4.9	70.4	24.6		
PHF	.662	.798	.438	.866	.676	.846	.574	.815	.605	.949	.761	.916	.292	.862	.673	.888	.951

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Mitchell Dewitt Road north of McKittrick Road

Site Code : 349226

Start Date : 9/29/2016

Page No : 1

Groups Printed- All Vehicles

	Mitchell Dewitt Road north of McKittrick Road Southbound	Mitchell Dewitt Road north of McKittrick Road Northbound	
Start Time	Thru	Thru	Int. Total
12:00 AM	0	0	0
12:15 AM	0	1	1
12:30 AM	0	0	0
12:45 AM	1	0	1
Total	1	1	2
01:00 AM	0	0	0
01:15 AM	0	0	0
01:30 AM	0	0	0
01:45 AM	0	0	0
Total	0	0	0
02:00 AM	0	0	0
02:15 AM	0	0	0
02:30 AM	1	0	1
02:45 AM	0	0	0
Total	1	0	1
03:00 AM	0	0	0
03:15 AM	0	0	0
03:30 AM	0	1	1
03:45 AM	0	1	1
Total	0	2	2
04:00 AM	0	0	0
04:15 AM	0	1	1
04:30 AM	2	2	4
04:45 AM	0	3	3
Total	2	6	8
05:00 AM	0	3	3
05:15 AM	0	9	9
05:30 AM	0	19	19
05:45 AM	5	3	8
Total	5	34	39
06:00 AM	4	10	14
06:15 AM	5	9	14
06:30 AM	6	12	18
06:45 AM	21	20	41
Total	36	51	87
07:00 AM	19	19	38
07:15 AM	22	26	48
07:30 AM	29	31	60
07:45 AM	24	47	71
Total	94	123	217
08:00 AM	17	24	41
08:15 AM	14	30	44
08:30 AM	15	34	49
08:45 AM	22	21	43
Total	68	109	177

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Mitchell Dewitt Road north of McKitrick Road

Site Code : 349226

Start Date : 9/29/2016

Page No : 2

Groups Printed- All Vehicles

	Mitchell Dewitt Road north of McKitrick Road Southbound	Mitchell Dewitt Road north of McKitrick Road Northbound	
Start Time	Thru	Thru	Int. Total
09:00 AM	24	19	43
09:15 AM	23	22	45
09:30 AM	11	13	24
09:45 AM	12	12	24
Total	70	66	136
10:00 AM	11	12	23
10:15 AM	6	17	23
10:30 AM	13	9	22
10:45 AM	4	6	10
Total	34	44	78
11:00 AM	10	13	23
11:15 AM	15	14	29
11:30 AM	15	11	26
11:45 AM	10	12	22
Total	50	50	100
12:00 PM	22	17	39
12:15 PM	10	14	24
12:30 PM	13	16	29
12:45 PM	13	17	30
Total	58	64	122
01:00 PM	10	14	24
01:15 PM	10	14	24
01:30 PM	8	15	23
01:45 PM	5	9	14
Total	33	52	85
02:00 PM	13	13	26
02:15 PM	20	10	30
02:30 PM	19	19	38
02:45 PM	22	36	58
Total	74	78	152
03:00 PM	20	28	48
03:15 PM	30	16	46
03:30 PM	30	29	59
03:45 PM	25	21	46
Total	105	94	199
04:00 PM	19	30	49
04:15 PM	21	35	56
04:30 PM	59	29	88
04:45 PM	54	39	93
Total	153	133	286
05:00 PM	53	25	78
05:15 PM	46	35	81
05:30 PM	59	20	79
05:45 PM	26	27	53
Total	184	107	291

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Mitchell Dewitt Road north of McKittrick Road

Site Code : 349226

Start Date : 9/29/2016

Page No : 3

Groups Printed- All Vehicles

	Mitchell Dewitt Road north of McKittrick Road Southbound	Mitchell Dewitt Road north of McKittrick Road Northbound	
Start Time	Thru	Thru	Int. Total
06:00 PM	32	23	55
06:15 PM	21	25	46
06:30 PM	17	19	36
06:45 PM	24	25	49
Total	94	92	186
07:00 PM	20	13	33
07:15 PM	19	15	34
07:30 PM	25	15	40
07:45 PM	12	15	27
Total	76	58	134
08:00 PM	20	18	38
08:15 PM	8	11	19
08:30 PM	25	6	31
08:45 PM	6	4	10
Total	59	39	98
09:00 PM	14	8	22
09:15 PM	4	4	8
09:30 PM	3	2	5
09:45 PM	7	0	7
Total	28	14	42
10:00 PM	6	3	9
10:15 PM	7	1	8
10:30 PM	2	1	3
10:45 PM	7	1	8
Total	22	6	28
11:00 PM	2	1	3
11:15 PM	1	0	1
11:30 PM	1	2	3
11:45 PM	1	1	2
Total	5	4	9
Grand Total	1252	1227	2479
Apprch %	100	100	
Total %	50.5	49.5	

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Mitchell Dewitt Road north of McKitrick Road
Site Code : 349226
Start Date : 9/29/2016
Page No : 4

	Mitchell Dewitt Road north of McKitrick Road Southbound		Mitchell Dewitt Road north of McKitrick Road Northbound		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 12:00 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:15 AM					
07:15 AM	22	22	26	26	48
07:30 AM	29	29	31	31	60
07:45 AM	24	24	47	47	71
08:00 AM	17	17	24	24	41
Total Volume	92	92	128	128	220
% App. Total	100		100		
PHF	.793	.793	.681	.681	.775

Peak Hour Analysis From 12:15 PM to 11:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM	59	59	29	29	88
04:45 PM	54	54	39	39	93
05:00 PM	53	53	25	25	78
05:15 PM	46	46	35	35	81
Total Volume	212	212	128	128	340
% App. Total	100		100		
PHF	.898	.898	.821	.821	.914

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Mitchell Dewitt Road south of McKittrick Road

Site Code : 349228

Start Date : 9/29/2016

Page No : 1

Groups Printed- All Vehicles

	Mitchell Dewitt Road south of McKittrick Road Southbound	Mitchell Dewitt Road south of McKittrick Road Northbound	
Start Time	Thru	Thru	Int. Total
12:00 AM	0	0	0
12:15 AM	0	1	1
12:30 AM	1	0	1
12:45 AM	1	0	1
Total	2	1	3
01:00 AM	0	0	0
01:15 AM	0	0	0
01:30 AM	0	0	0
01:45 AM	0	0	0
Total	0	0	0
02:00 AM	0	0	0
02:15 AM	0	0	0
02:30 AM	0	0	0
02:45 AM	0	0	0
Total	0	0	0
03:00 AM	0	0	0
03:15 AM	0	0	0
03:30 AM	0	1	1
03:45 AM	0	0	0
Total	0	1	1
04:00 AM	0	0	0
04:15 AM	0	1	1
04:30 AM	1	0	1
04:45 AM	0	0	0
Total	1	1	2
05:00 AM	1	2	3
05:15 AM	2	6	8
05:30 AM	1	16	17
05:45 AM	3	4	7
Total	7	28	35
06:00 AM	3	5	8
06:15 AM	6	7	13
06:30 AM	9	6	15
06:45 AM	16	11	27
Total	34	29	63
07:00 AM	20	14	34
07:15 AM	18	15	33
07:30 AM	27	21	48
07:45 AM	20	31	51
Total	85	81	166
08:00 AM	14	13	27
08:15 AM	15	12	27
08:30 AM	14	19	33
08:45 AM	19	12	31
Total	62	56	118

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Mitchell Dewitt Road south of McKittrick Road

Site Code : 349228

Start Date : 9/29/2016

Page No : 2

Groups Printed- All Vehicles

	Mitchell Dewitt Road south of McKittrick Road Southbound	Mitchell Dewitt Road south of McKittrick Road Northbound	
Start Time	Thru	Thru	Int. Total
09:00 AM	16	11	27
09:15 AM	13	7	20
09:30 AM	10	8	18
09:45 AM	6	6	12
Total	45	32	77
10:00 AM	9	7	16
10:15 AM	3	8	11
10:30 AM	8	6	14
10:45 AM	6	3	9
Total	26	24	50
11:00 AM	2	9	11
11:15 AM	8	8	16
11:30 AM	7	5	12
11:45 AM	4	4	8
Total	21	26	47
12:00 PM	9	12	21
12:15 PM	3	6	9
12:30 PM	10	8	18
12:45 PM	7	9	16
Total	29	35	64
01:00 PM	4	6	10
01:15 PM	6	11	17
01:30 PM	3	7	10
01:45 PM	4	7	11
Total	17	31	48
02:00 PM	9	8	17
02:15 PM	11	4	15
02:30 PM	17	14	31
02:45 PM	17	25	42
Total	54	51	105
03:00 PM	18	21	39
03:15 PM	14	13	27
03:30 PM	23	20	43
03:45 PM	11	12	23
Total	66	66	132
04:00 PM	14	20	34
04:15 PM	11	20	31
04:30 PM	30	22	52
04:45 PM	32	26	58
Total	87	88	175
05:00 PM	33	19	52
05:15 PM	30	21	51
05:30 PM	42	17	59
05:45 PM	17	19	36
Total	122	76	198

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Mitchell Dewitt Road south of McKitrick Road

Site Code : 349228

Start Date : 9/29/2016

Page No : 3

Groups Printed- All Vehicles

	Mitchell Dewitt Road south of McKitrick Road Southbound	Mitchell Dewitt Road south of McKitrick Road Northbound	
Start Time	Thru	Thru	Int. Total
06:00 PM	16	22	38
06:15 PM	19	13	32
06:30 PM	9	12	21
06:45 PM	16	18	34
Total	60	65	125
07:00 PM	14	5	19
07:15 PM	14	14	28
07:30 PM	14	10	24
07:45 PM	11	11	22
Total	53	40	93
08:00 PM	12	11	23
08:15 PM	5	8	13
08:30 PM	12	9	21
08:45 PM	6	5	11
Total	35	33	68
09:00 PM	7	3	10
09:15 PM	5	4	9
09:30 PM	3	2	5
09:45 PM	6	2	8
Total	21	11	32
10:00 PM	5	3	8
10:15 PM	5	1	6
10:30 PM	2	1	3
10:45 PM	8	0	8
Total	20	5	25
11:00 PM	2	1	3
11:15 PM	1	1	2
11:30 PM	1	4	5
11:45 PM	1	1	2
Total	5	7	12
Grand Total	852	787	1639
Apprch %	100	100	
Total %	52	48	

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Mitchell Dewitt Road south of McKitrick Road
Site Code : 349228
Start Date : 9/29/2016
Page No : 4

	Mitchell Dewitt Road south of McKitrick Road Southbound		Mitchell Dewitt Road south of McKitrick Road Northbound		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 AM to 12:00 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:00 AM					
07:00 AM	20	20	14	14	34
07:15 AM	18	18	15	15	33
07:30 AM	27	27	21	21	48
07:45 AM	20	20	31	31	51
Total Volume	85	85	81	81	166
% App. Total	100		100		
PHF	.787	.787	.653	.653	.814

Peak Hour Analysis From 12:15 PM to 11:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	32	32	26	26	58
05:00 PM	33	33	19	19	52
05:15 PM	30	30	21	21	51
05:30 PM	42	42	17	17	59
Total Volume	137	137	83	83	220
% App. Total	100		100		
PHF	.815	.815	.798	.798	.932

Appendix D. Back Ground Growth Rate Data

Mark Mann

From: Bender, Douglas <dbender@emht.com>
Sent: Friday, October 14, 2016 1:19 PM
To: Mark Mann
Subject: FW: Request traffic growth rate

Mark,

See below for the growth rate information from MORPC. I believe the last line in this chart is supposed to read 'Industrial pkwy south of Estates Pkwy' but I can't be sure.

Good to hear from you. Good luck at CT.

Sincerely,
Doug

Douglas A. Bender, PE, PTOE
Senior Traffic Engineer



Engineers, Surveyors, Planners, Scientists
5500 New Albany Road, Columbus, OH 43054
v. 614.775.4650 | c. 614.519.5860 | dbender@emht.com
emht.com

From: Nathan Shay [<mailto:nshay@morpc.org>]
Sent: Monday, July 18, 2016 4:51 PM
To: Wu, Charles <cwu@emht.com>
Cc: Nick Gill <NGILL@morpc.org>; Zhuojun Jiang <zjiang@morpc.org>
Subject: RE: Request traffic growth rate

Charles,

We have completed processing your growth rate request for the intersection of Industrial Parkway and Estates Parkway. Please see the table below for the appropriate linear annual growth rate for each leg of the intersection. Let me know if you have any questions.

Location	Linear Annual Growth Rate
Estates Pkwy E/o Industrial Pkwy	1.0%
Industrial Pkwy N/o Estates Pkwy	6.3%
Estates Pkwy W/o Industrial Pkwy	3.0%
Industrial Pkwy S/o Industrial Pkwy	6.7%

Note: This is planning level analysis based on MORPC regional travel demand model.

Thank you,

Nathan Shay

Associate Engineer/Planner/Modeler | Mid-Ohio Regional Planning Commission

T: 614.233.4152 | nshay@morpc.org

111 Liberty Street, Suite 100 | Columbus, OH 43215



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February 23, 2016

Ms. Tina Wawszkiewicz, P.E.
City of Dublin
5800 Shier Rings Rd
Dublin, OH 43016

Re: Autumn Rose Traffic Study MOU
City of Dublin, Union County, Ohio

Dear Tina:

Please consider this letter as a Memo of Understanding (MOU) for the subject Traffic Study. The site is proposed to be developed with 73 single family homes on property fronting Hyland-Croy Road between Tullymore Drive and Park Mill Drive. A full access is proposed on Hyland-Croy Road. There is also one connection to the subdivision to the north (via Mill Springs Drive) and one connection to the subdivision to the south (via Barrister Drive).

The City of Dublin is requiring a traffic study for the site. The study area includes intersections in the jurisdiction of the Union County Engineer's Office (UCEO) so the UCEO will be reviewing the study as well. A pre meeting was held August 31, 2015 at the City of Dublin. An initial MOU dated September 18, 2015 was submitted to the City of Dublin and the UCEO. Comments on the MOU were received from both agencies. The comments have been incorporated into this submission.

The following is our understanding of the City's requirements for the scope of the access study:

- The study area is the proposed site access on Hyland-Croy Road and the following off-site intersections:
 - Hyland-Croy Road & Mitchell Dewitt Road/Brand Road
 - Hyland-Croy Road & Tullymore Drive
 - Hyland-Croy Road & Park Mill Drive
 - Post Road & Hyland-Croy Road

Several of the study area intersections are in the jurisdiction of the Union County Engineer's Office (UCEO). At the direction of the City, ODOT was contacted regarding whether analysis of the US 33 & Post Road ramps would be needed. ODOT indicated that they will not require analysis at the US 33 & Post Road ramps. The correspondence is attached to the letter.

- Data Collection – Existing 2015 Peak hour turning movement counts (7-9 am & 4-6 pm) are available and will be the basis of the study at the intersections of Hyland-Croy & Tullymore Drive and Hyland-Croy Road & Park Mill Drive. These existing counts will be used as the basis of the through movement on Hyland-Croy Road so a link count will not be taken on Hyland-Croy Road at the proposed site access. Peak hour turning movement counts will be performed as part of the project at the following intersections:
 - Hyland-Croy Road & Mitchell Dewitt Road/Brand Road
 - Post Road & Hyland-Croy Road

The actual peak hours of each intersection will be used as the base traffic.

- Trip Generation - Site traffic will be computed using *Trip Generation Manual, 9th Edition* published by ITE. The land use will be Single Family Detached Housing (ITE Code #210).
- The general trip distribution is based on the existing AM counts in the peak direction (away from the site) of the site and is proposed as follows:

◦ 43% to/from north

-20% to/from Hyland-Croy Rd. north of Mitchell-Dewitt Rd./Brand Road Rd.

-20% to/from Brand Rd. east of Hyland-Croy Rd.

-3% to/from Mitchell-Dewitt Rd. west of Hyland-Croy Rd

◦ 57% to/from south

-37% to/from Post Rd. west of Hyland-Croy Rd.

-20% to/from Post Rd. east of Hyland-Croy Rd.

Please provide a discussion regarding site traffic and the adjoining neighborhood streets in the TIS.

The counts reports are attached.

- Design Year Traffic Development - A 10 year design horizon is required for this development. Opening day is anticipated to be 2016 which makes the design year 2026. Traffic from the following developments is required to be considered and added to the background traffic.
 - Riviera
 - with Hyland-Croy Site Drive
 - Oak Park (Estimate Remaining Commercial)
 - Tartan Ridge
 - Celtic Crossing
 - Full Access on Hyland Croy
 - Jerome Village

Beyond including these developments, a 1% linear annual per year growth rate is proposed on Post Road, Hyland-Croy Road, Mitchell Dewitt Road, and Brand Road.



Figures A through D show the proposed background traffic. To assist with review of this information, we have attached preliminary development of the background traffic which includes relevant sections of the study and an in progress Appendix.

- Analyses
 - A left turn lane will be required at the site access. Right turn lane warrants will be performed at the site access. **Turn lane lengths will be caluclated.**
 - Capacity analyses will be performed for all study area intersections. The City of Dublin ~~does not allow~~ LOS E or F on any movement. The Union County Engineer's Office requires a LOS C overall. In an unsignalized condition, the overall is interpreted as the "worst" approach. If mitigation is necessary at Post Road & Highland-Croy Road, both a roundabout and traffic signal will be considered. If mitigation is needed for an existing Two-Way Stop control, a roundabout will be considered. All capacity analyses will be performed with the *HCS* software. **Hyland (misspelled)**
 - A sight distance exhibit for 50 mph will be prepared by the site civil engineer and included in the study.

requires mitigation strategies for...

Both agencies' criteria must be met at all study intersections.

If this MOU is acceptable to you, please indicate your approval in the space provided below. If not, please let us know what items need to be changed.

If you have any questions, please contact me. Thank you!

Sincerely,
SMART SERVICES, INC.



Todd J. Stanhope, PE, PTOE
Director of Traffic Engineering

Submitted: One electronic copy (PDF format) via e-mail

cc: B. Narducci – Union County Engineer's Office
M. Reeves – Civil & Environmental Consultants, Inc.

City of Dublin

Accepted as noted on pages 2 and 3, and Figure 4 (page 12), and dependent on Union County acceptance:

Tina Wawszkiewicz, PE

Approved: _____ Date: April 4, 2016

Union County Engineer's Office

Approved conditionally based on comments on page 10 and page 62:

Bill Narducci, PE

Approved: _____ Date: _____



From: David.Carlin@dot.ohio.gov
To: [Todd Stanhope](#)
Subject: RE: Autumn Rose Traffic Study
Date: Tuesday, September 22, 2015 11:13:15 AM

District 6 will not require that the Autumn Rose Traffic Study include the US-33/Post Road Ramp terminals in its analysis.

Thanks

David Carlin, P. E.
400 East William Street
Delaware, Ohio 43015
740-833-8267 (office)
740-815-6015 (cell)

From: Todd Stanhope [mailto:tstanhope@smartservices-inc.com]
Sent: Friday, September 04, 2015 9:22 AM
To: Carlin, David <David.Carlin@dot.ohio.gov>
Subject: Autumn Rose Traffic Study

David

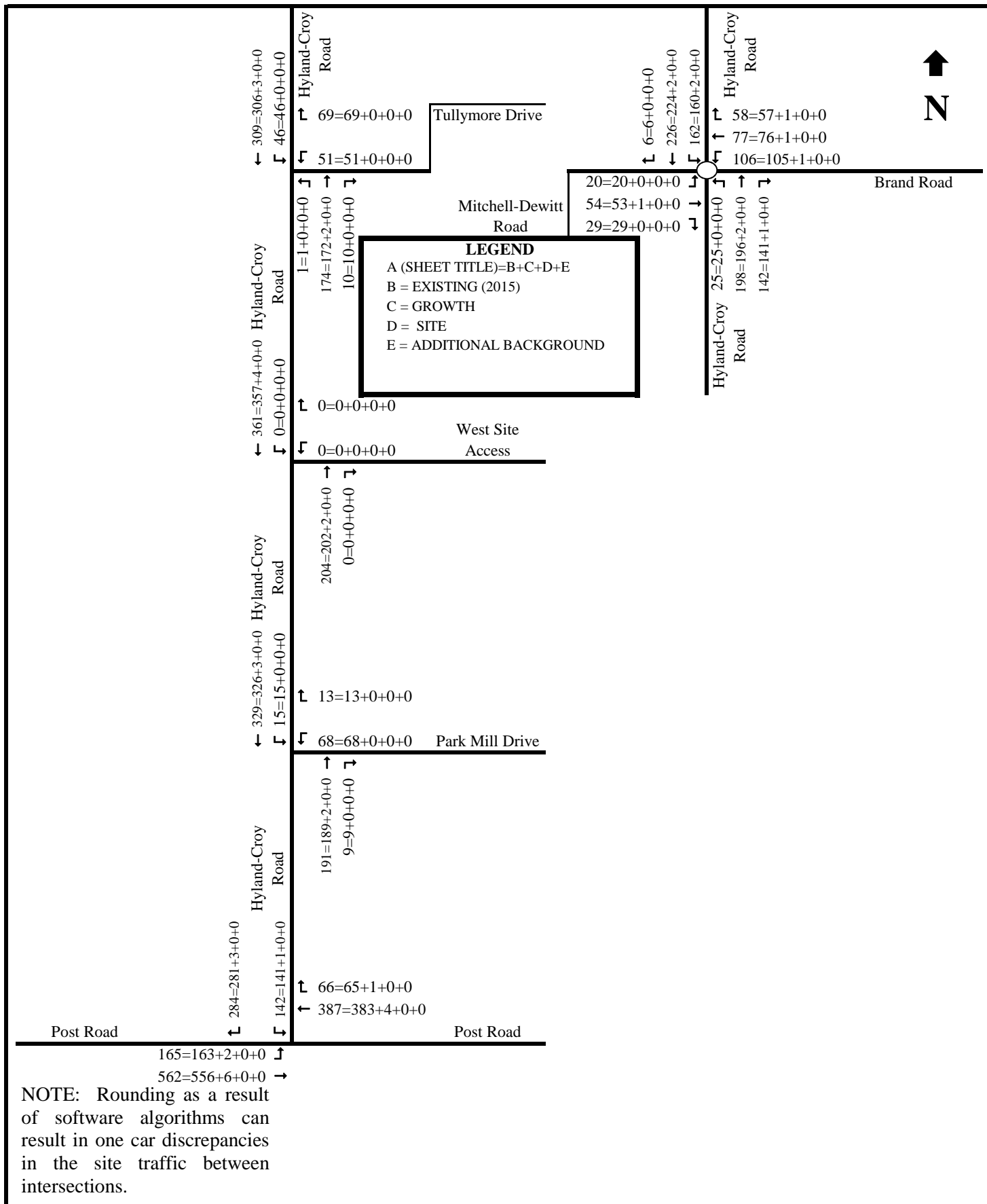
We are preparing a traffic study MOU for a 73 lot single family development on Hyland Croy Road north of Park Mill Drive in the City of Dublin. The City of Dublin is not asking us to include the US 33 & Post Road ramps in the study area. However, the City has asked us to verify that ODOT would not require the US 33 & Post Road Ramps included in the study area. Please let me know.

Thank you.

Todd J. Stanhope, PE, PTOE
Project Engineer

-
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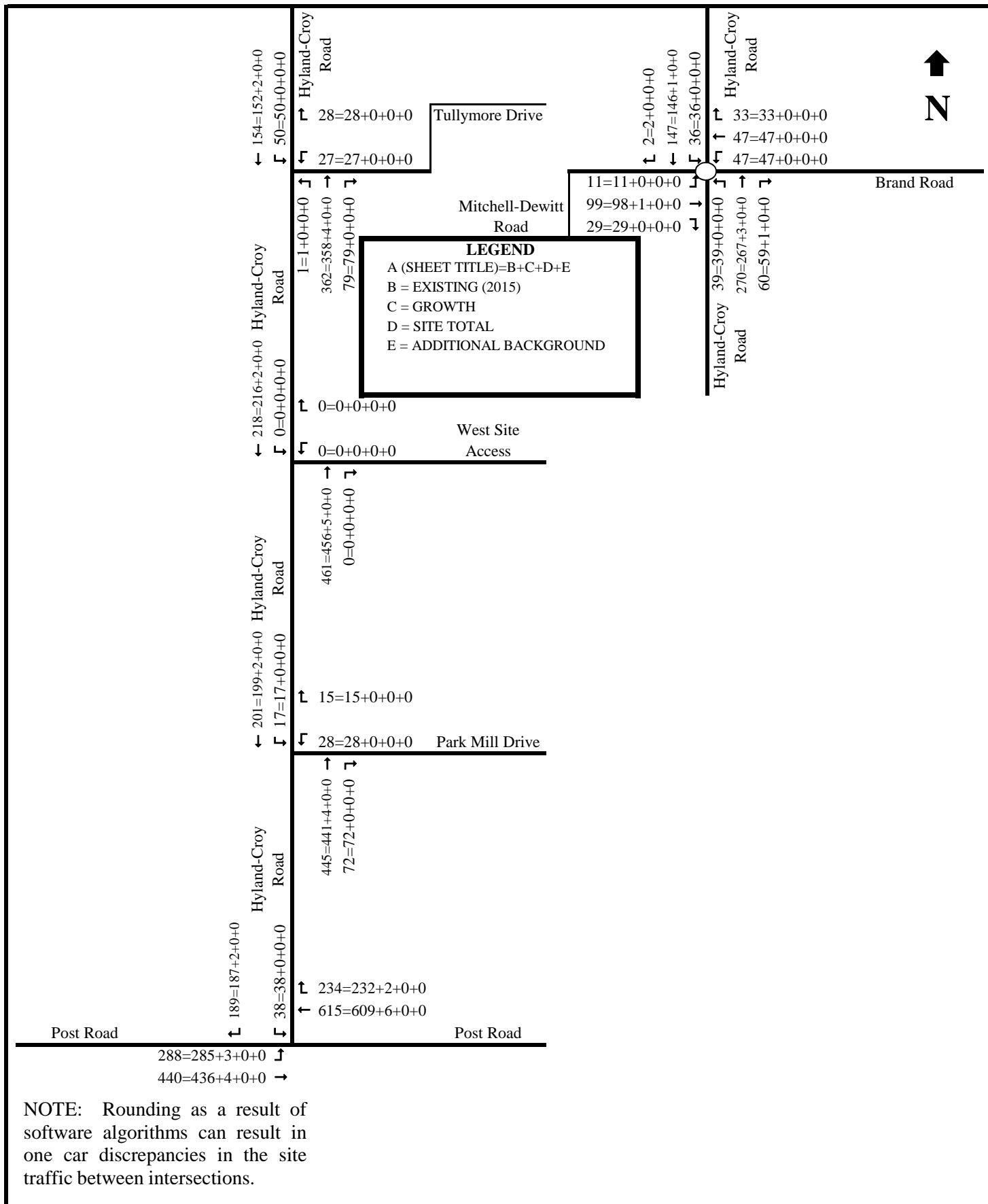


AUTUMN ROSE TRAFFIC STUDY

PREPARED BY: **SMART SERVICES, INC.** 2/2016

FIGURE A

2016 'NO BUILD' - AM PEAK

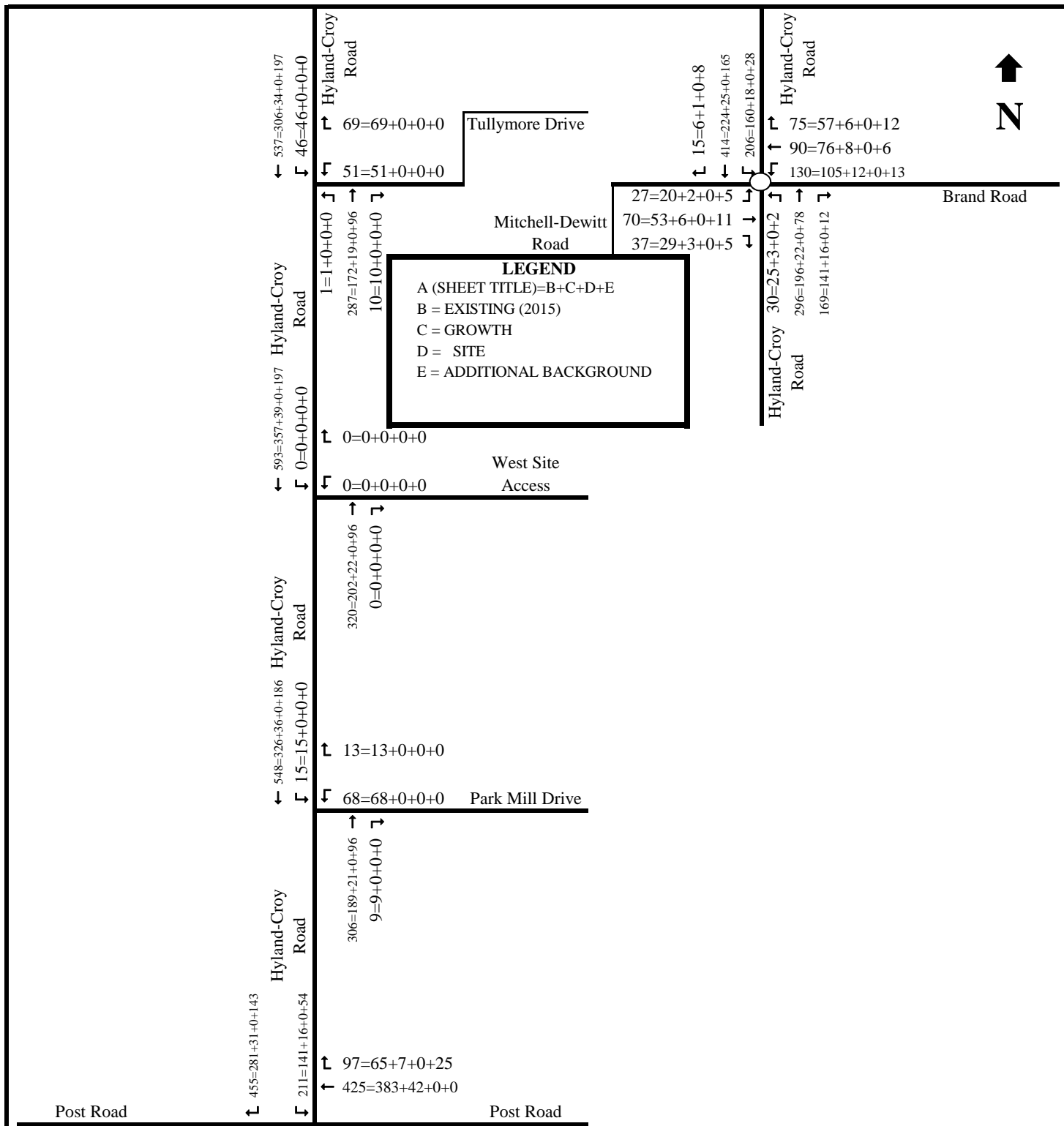


AUTUMN ROSE TRAFFIC STUDY

PREPARED BY: **SMART SERVICES, INC.** 2/2016

FIGURE B

2016 'NO BUILD' - PM PEAK



NOTE: Rounding as a result of software algorithms can result in one car discrepancies in the site traffic between intersections.

AUTUMN ROSE TRAFFIC STUDY

PREPARED BY:  2/2016

FIGURE C

2026 'NO BUILD' - AM PEAK

EXISTING CONDITIONS

The speed limit on Hyland-Croy Road is 45 mph. The intersection of Hyland-Croy Road & Mitchell Dewitt Road/Brand Road is a roundabout. The intersections of Hyland-Croy Road & Tullymore Drive and Hyland-Croy Road & Park Mill Drive are controlled by “Stop” signs on the existing east and/or west approaches. The intersection of Post Road & Hyland-Croy Road is controlled by a “Stop” sign on Hyland-Croy Road.

As part of the project, turning movement counts were taken at the intersections of Hyland-Croy Road & Mitchell Dewitt Road/Brand Road and Post Road & Hyland-Croy Road. The count reports for these counts are also in the Appendix. Existing 2015 peak hour turning movement counts (7-9 am & 4-6 pm) are available and will be the basis of the study at the intersections of Hyland-Croy & Tullymore Drive and Hyland-Croy Road & Park Mill Drive. The peak hour of each study area intersection was used in the study and is as follows:

- Hyland-Croy Road & Mitchell Dewitt Road/Brand Road (7:15-8:15 am; 5:00-6:00 pm)
- Hyland-Croy Road & Tullymore Drive (7:15-8:15 am; 5:00-6:00 pm)
- Hyland-Croy Road & Park Mill Drive (7:45-8:45 am; 5:00-6:00 pm)
- Post Road & Hyland-Croy Road (7:30-8:30 am; 5:00-6:00 pm)

AREA DEVELOPMENT BACKGROUND TRAFFIC

Per the MOU, background traffic for Riviera, Oak Park, Tartan Ridge, Celtic Crossing, and Jerome Village is to be considered. Some of these developments are partially developed and therefore traffic from the developed portion would be included in the existing counts. Table 2 shows the existing development assumed in the study.

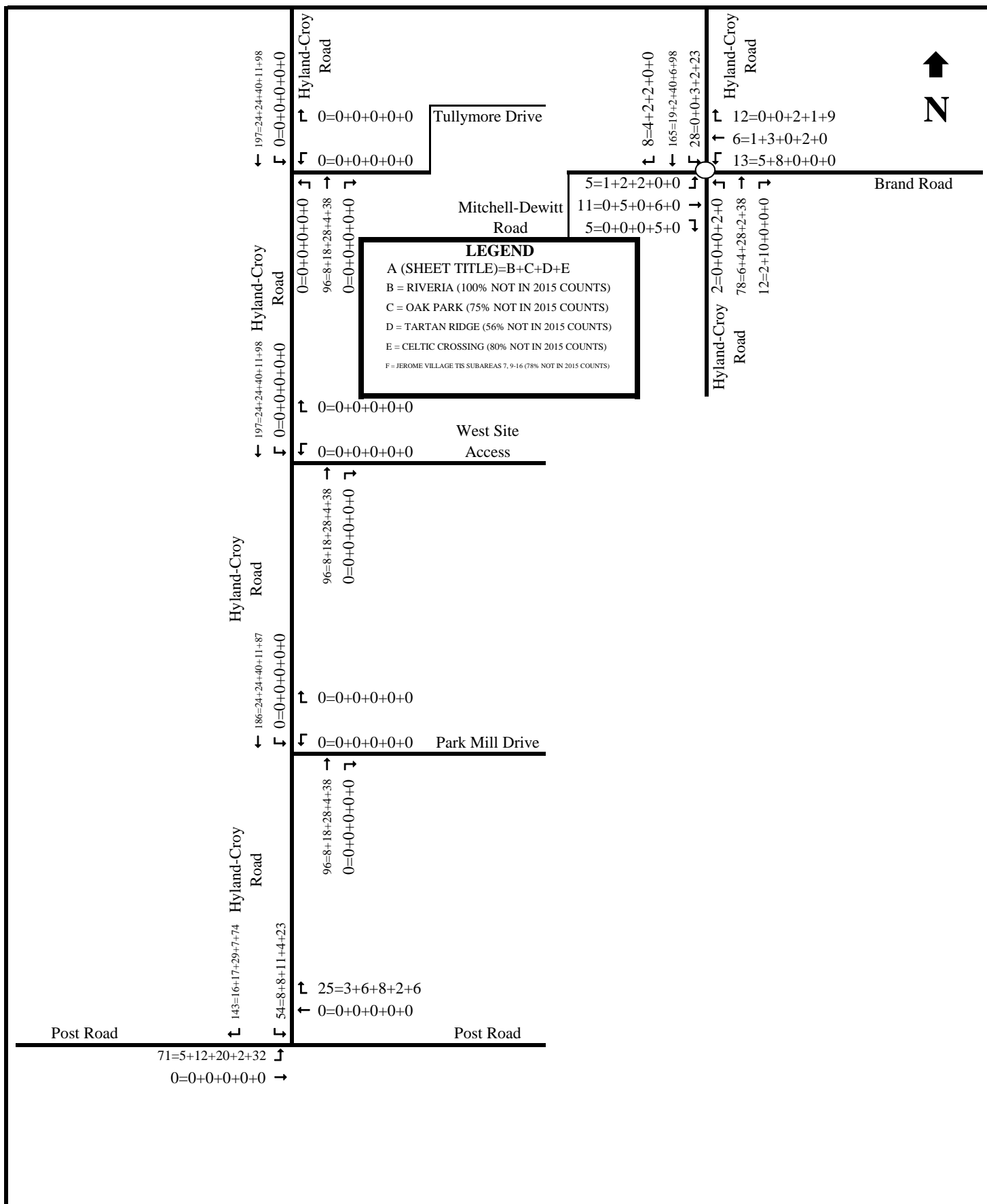
Development	Existing (captured in counts)	Year 2016 Projection	Year 2026 Projection
Riviera	0%	Assumed same as existing	100%
Oak Park	40% residential only	Assumed same as existing	100% (residential and commercial)
Tartan Ridge	75% residential only	Assumed same as existing	100% (residential and commercial)
Celtic Crossing	20%	Assumed same as existing	100%
Jerome Village	22% (284/1306 units) of Subareas 7,9-16 <i>Jerome Village TIS</i> REV. 1 2/2007	Assumed same as existing	100% of *Subareas 7,9- 16 <i>Jerome Village TIS</i> REV. 1 2/2007

TABLE 2 – Development Assumptions

Note that the Union County Engineer's Office provided an assumption for the development level of Jerome Village as approximately 100 units a year. In the *Jerome Village TIS* REV. 1 2/2007, development of subareas 7 and 9-16 would result in a total of 1306 units. When what has been developed is subtracted, it results in 1022 units developed within the horizon of the study.

Figures 3 and 4 show the undeveloped traffic from the other developments in 2026. Calculations for percentage of undeveloped trips for the multiuse developments (Oak Park & Tartan Ridge) are in the Appendix. Calculations to adjust the Jerome Village site traffic at study area intersections that are assumed to be development beyond the horizon year of this study are in the Appendix.

The Jerome Village Development Traffic Impact Study contained a "Near Term" scenario that was established to represent full buildout of the development in 2022. This falls well within the time frame of this study, and can certainly be assumed by the horizon date of this study (2026). Please add subareas 1-6 and 8 from the Jerome Village Development Traffic Impact Study to the background traffic for this study.

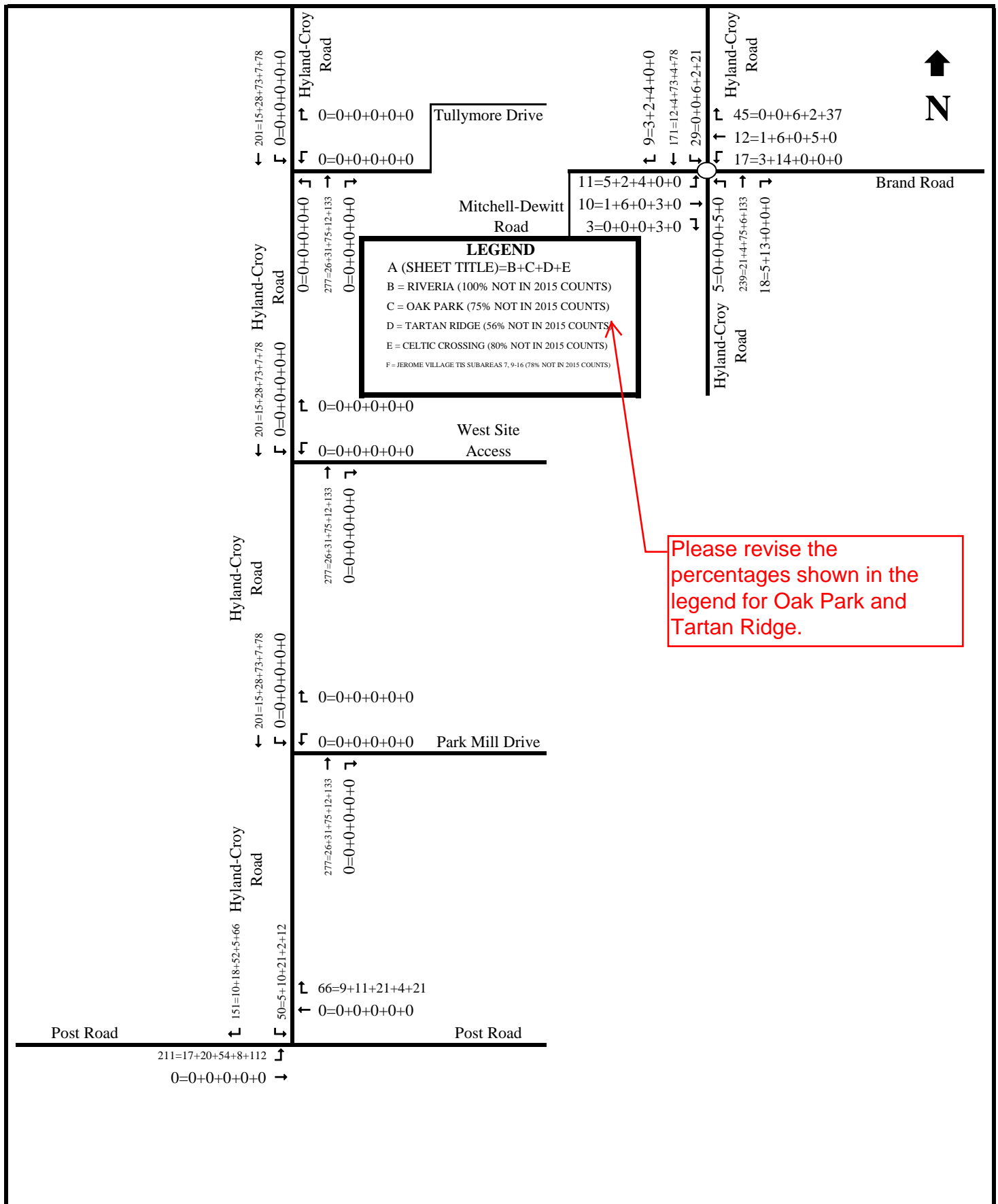


AUTUMN ROSE TRAFFIC STUDY

PREPARED BY: 2/2016

FIGURE 3

ADDITIONAL 'NO BUILD' TRAFFIC (2026) - AM PEAK



AUTUMN ROSE TRAFFIC STUDY

PREPARED BY: **SMART SERVICES, INC.** 2/2016

FIGURE 4

**ADDITIONAL 'NO BUILD' TRAFFIC (2026) - PM
PEAK**

APPENDIX A

CORRESPONDENCE

From: [Tina C. Wawzkiewicz](#)
To: [Todd Stanhope](#)
Cc: [Aaron Stanford](#); [Narducci, Bill](#); [Marie K. Downie](#)
Subject: RE: Autumn Rose Traffic Study MOU
Date: Thursday, October 01, 2015 1:18:01 PM

Hi Todd,

Thanks for the follow up on the Autumn Rose MOU. We have a few comments we'd like you to address before accepting the MOU. Of course, you will need Union County to weigh in as well.

Dublin's comments on the MOU are as follows:

1. We'd like you to propose the growth rate in the MOU. This will be a critical aspect of this study. Having it calculated going into the TIS phase will likely result in less rework in the long run.
2. Please include Celtic Crossing as a background development. Let me know if you need a copy of the TIS for the site.
3. Please describe how Jerome Village background traffic will be estimated.
4. In the data collection description, please describe in more detail the basis of the interaction between the proposed site and the adjacent residential streets. I don't understand the initial description.
5. Please include the direction from ODOT you recently forwarded to me (ramps don't need to be analyzed).
6. Please note the east leg of Hyland-Croy Road and Mitchell-Dewitt Road is Brand Road.
7. Please note the spelling of Tullymore Drive.

Please let me know if you have any questions.

Thanks!

Tina

Tina Wawzkiewicz, PE
Civil Engineer II

City of Dublin
Engineering
5800 Shier Rings Road
Dublin, Ohio 43016
phone 614.410.4636
cell 614.668.1705

twawzkiewicz@dublin.oh.us
www.dublinohiousa.gov

www.twitter.com/dublinohio
www.facebook.com/dublinohio

From: Todd Stanhope [mailto:tstanhope@smartservices-inc.com]
Sent: Thursday, October 01, 2015 7:33 AM
To: Tina C. Wawzkiewicz
Subject: FW: Autumn Rose Traffic Study MOU

Tina

For planning purposes, can you let me know when you anticipate having comments/approval of the attached MOU? Thank you.

Todd J. Stanhope, PE, PTOE
Project Engineer

-
Smart Services, Inc. (Columbus Office)
*An **EDGE** Certified Business*

1900 Crown Park Court, Suite E
Columbus, Ohio 43235
Ph: 614-914-5543
www.SmartServices-Inc.com

From: Todd Stanhope [<mailto:tstanhope@smartservices-inc.com>]
Sent: Friday, September 18, 2015 9:32 AM
To: 'Tina C. Wawszkiewicz' <twawszkiewicz@dublin.oh.us>
Cc: Bill Narducci <bnarducci@co.union.oh.us>; 'Aaron Stanford' <astanford@dublin.oh.us>; Chris Lescody (<clescody@cecinc.com>) <clescody@cecinc.com>
Subject: Autumn Rose Traffic Study MOU

Tina

See attached for the MOU of the subject traffic study.

Todd J. Stanhope, PE, PTOE
Project Engineer

-
Smart Services, Inc. (Columbus Office)
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1900 Crown Park Court, Suite E
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September 18, 2015

Ms. Tina Wawszkiewicz, P.E.
City of Dublin
5800 Shier Rings Rd
Dublin, OH 43016

Re: Autumn Rose Traffic Study MOU
City of Dublin, Union County, Ohio

Dear Tina:

Please consider this letter as a Memo of Understanding (MOU) for the subject Traffic Study. The site is proposed to be developed with 73 single family homes on property fronting Hyland-Croy between Tulleymore Drive and Park Mill Drive. A full access is proposed on Hyland-Croy Road. There is also one connection to the subdivision to the north (via Mill Springs Drive) and one connection to the subdivision to the south (via Barrister Drive).

The City of Dublin is requiring a traffic study for the site. A pre meeting was held August 31, 2015 at the City of Dublin. The following is our understanding of the City's requirements for the scope of the access study:

- The study area is the proposed site access on Hyland-Croy Road and the following off-site intersections:
 - Hyland-Croy & Mitchell Dewitt Road
 - Hyland-Croy & Tulleymore Drive
 - Hyland-Croy & Park Mill Drive
 - Post Road & Hyland-Croy

Several of the study area intersections are in the jurisdiction of the Union County Engineer's Office (UCEO). ODOT will be contacted to confirm that analysis will not be required at the US 33 & Post Road ramps.

- Data Collection – Existing 2015 Peak hour turning movement counts (7-9 am & 4-6 pm) are available and will be the basis of the study at the intersections of Hyland-Croy & Tulleymore Drive and Hyland-Croy & Park Mill Drive. The relevant leg of the intersections will be used as the basis of the through movements at the proposed site access. Peak hour turning movement counts will be performed at the following intersections:
 - Hyland-Croy & Mitchell Dewitt Road
 - Post Road & Hyland-Croy

- Trip Generation - Site traffic will be computed using *Trip Generation Manual, 9th Edition* published by ITE. The land use will be Single Family Detached Housing (ITE Code #210).
- Trip Distribution
- Design Year Traffic Development – A 10 year design horizon is required for this development. Opening day is anticipated to be 2016 which makes the design year 2026. Annual growth rate(s) will be proposed after review of all current information. Traffic from the following developments will be added to the background traffic.
 - Riviera
 - Oak Park (Estimate Remaining Commercial)
 - Tartan Ridge
- Analyses
 - A left turn lane will be required at the site access. Right turn lane warrants will be performed at the site access.
 - Capacity analyses will be performed for all study area intersections. The City of Dublin does not allow LOS E or F on any movement. The Union County Engineer's Office requires a LOS C overall. In an unsignalized condition, the overall is interpreted as the "worst" approach. If mitigation is necessary at Post Road & Highland-Croy Road, both a roundabout and traffic signal will be considered. If mitigation is needed for an existing Two-Way Stop control, a roundabout will be considered. All capacity analyses will be performed with the *HCS* software.
 - A sight distance exhibit for 50 mph will be prepared by the site civil engineer and included in the study.

If this MOU is acceptable to you, please indicate your approval in the space provided below.
If not, please let us know what items need to be changed.

If you have any questions, please contact me. Thank you!

Sincerely,
SMART SERVICES, INC.



Todd J. Stanhope, PE, PTOE
Project Engineer

Submitted: One electronic copy (PDF format) via e-mail

cc: B. Narducci – Union County Engineer's Office
C. Lescody – Civil & Environmental Consultants, Inc.



City of Dublin

Approved:_____ Date:_____

Union County Engineer's Office

Approved:_____ Date:_____



APPENDIX B

TRAFFIC COUNTS

CM Transportation

7007 Discovery Blvd.
Dublin, OH, 43017

File Name : 03032015 Tullymore and Hyland Croy - AM Peak Count
Site Code :
Start Date : 3/3/2015
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Hyland Croy Road From North				Tullymore Road From East				Hyland Croy Road From South				Tullymore Drive From West			
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
07:00 AM	0	58	0	58	9	0	12	21	0	49	0	49	0	0	0	0
07:15 AM	1	59	7	67	15	0	11	26	0	47	0	47	0	0	0	0
07:30 AM	1	81	11	93	28	0	8	36	1	51	1	53	0	0	0	0
07:45 AM	0	102	24	126	18	0	8	26	4	38	0	42	1	0	0	1
Total	2	300	42	344	70	0	39	109	5	185	1	191	1	0	0	1
08:00 AM	0	64	4	68	8	0	24	32	5	36	0	41	1	0	1	2
08:15 AM	1	60	6	67	7	0	13	20	1	47	0	48	0	0	0	0
08:30 AM	1	52	2	55	6	0	21	27	3	39	0	42	0	1	0	1
08:45 AM	0	69	2	71	10	0	28	38	2	44	0	46	0	1	0	1
Total	2	245	14	261	31	0	86	117	11	166	0	177	1	2	1	4
Grand Total	4	545	56	605	101	0	125	226	16	351	1	368	2	2	1	5
Apprch %	0.7	90.1	9.3		44.7	0	55.3		4.3	95.4	0.3		40	40	20	
Total %	0.3	45.3	4.7	50.2	8.4	0	10.4	18.8	1.3	29.2	0.1	30.6	0.2	0.2	0.1	0.4
Cars	4	545	56	605	100	0	125	225	15	343	1	359	2	2	1	5
% Cars	100	100	100	100	99	0	100	99.6	93.8	97.7	100	97.6	100	100	100	100
Trucks	0	0	0	0	1	0	0	1	1	8	0	9	0	0	0	0
% Trucks	0	0	0	0	1	0	0	0.4	6.2	2.3	0	2.4	0	0	0	0

Page B4 Of 9

Start Time	Hyland Croy Road From North				Tullymore Road From East				Hyland Croy Road From South				Tullymore Drive From West			
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
07:15 AM	1	59	7	67	15	0	11	26	0	47	0	47	0	0	0	0
07:30 AM	1	81	11	93	28	0	8	36	1	51	1	53	0	0	0	0
07:45 AM	0	102	24	126	18	0	8	26	4	38	0	42	1	0	0	1
08:00 AM	0	64	4	68	8	0	24	32	5	36	0	41	1	0	1	2
Total Volume	2	306	46	354	69	0	51	120	10	172	1	183	2	0	1	3
% App. Total	0.6	86.4	13		57.5	0	42.5		5.5	94	0.5		66.7	0	33.3	
PHF	.500	.750	.479	.702	.616	.000	.531	.833	.500	.843	.250	.863	.500	.000	.250	.375

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

07:15 AM	1	59	7	67	15	0	11	26	0	47	0	47	0	0	0	0
07:30 AM	1	81	11	93	28	0	8	36	1	51	1	53	0	0	0	0
07:45 AM	0	102	24	126	18	0	8	26	4	38	0	42	1	0	0	1
08:00 AM	0	64	4	68	8	0	24	32	5	36	0	41	1	0	1	2
Total Volume	2	306	46	354	69	0	51	120	10	172	1	183	2	0	1	3
% App. Total	0.6	86.4	13		57.5	0	42.5		5.5	94	0.5		66.7	0	33.3	
PHF	.500	.750	.479	.702	.616	.000	.531	.833	.500	.843	.250	.863	.500	.000	.250	.375

CM Transportation

7007 Discovery Blvd.
Dublin, OH, 43017

File Name : 03032015 Hyland Croy and Tullymore - PM Peak
Site Code :
Start Date : 3/3/2015
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Hyland Croy Road From North				Tullymore Road From East				Hyland Croy Road From South				Tullymore Road From West			
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
04:00 PM	0	59	9	68	2	2	7	11	13	70	0	83	0	4	0	4
04:15 PM	0	44	7	51	6	0	9	15	13	53	0	66	0	0	0	0
04:30 PM	0	46	10	56	7	0	6	13	10	68	0	78	0	0	1	1
04:45 PM	0	53	9	62	4	0	7	11	16	64	0	80	0	0	0	153
Total	0	202	35	237	19	2	29	50	52	255	0	307	0	4	1	5
05:00 PM	0	39	12	51	14	0	8	22	15	80	1	96	0	0	0	0
05:15 PM	0	36	8	44	7	0	8	15	21	89	0	110	0	0	0	169
05:30 PM	0	35	14	49	6	0	9	15	25	101	0	126	0	0	0	190
05:45 PM	0	42	16	58	1	0	2	3	18	88	0	106	0	0	0	167
Total	0	152	50	202	28	0	27	55	79	358	1	438	0	0	0	695
Grand Total	0	354	85	439	47	2	56	105	131	613	1	745	0	4	1	5
Apprch %	0	80.6	19.4		44.8	1.9	53.3		17.6	82.3	0.1		0	80	20	
Total %	0	27.4	6.6	33.9	3.6	0.2	4.3	8.1	10.1	47.4	0.1	57.6	0	0.3	0.1	0.4
Cars	0	354	85	439	47	2	56	105	131	613	1	745	0	4	1	5
% Cars	0	100	100	100	100	100	100	100	100	100	100	100	0	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Page B5 Of 9

Start Time	Hyland Croy Road From North				Tullymore Road From East				Hyland Croy Road From South				Tullymore Road From West			
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
05:00 PM	0	39	12	51	14	0	8	22	15	80	1	96	0	0	0	0
05:15 PM	0	36	8	44	7	0	8	15	21	89	0	110	0	0	0	169
05:30 PM	0	35	14	49	6	0	9	15	25	101	0	126	0	0	0	190
05:45 PM	0	42	16	58	1	0	2	3	18	88	0	106	0	0	0	167
Total Volume	0	152	50	202	28	0	27	55	79	358	1	438	0	0	0	695
% App. Total	0	75.2	24.8		50.9	0	49.1		18	81.7	0.2		0	0	0	
PHF	.000	.905	.781	.871	.500	.000	.750	.625	.790	.886	.250	.869	.000	.000	.000	.914

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 05:00 PM

CM Transportation

7007 Discovery Blvd.
Dublin, OH, 43017

File Name : 03042015 Hyland Croy and Park Mill - AM Peak
Site Code : 00000000
Start Date : 3/4/2015
Page No : 1

Groups Printed- Cars - Trucks											
Hyland Croy Road						Park Mill Drive					
From North						From East					
Start Time	Thru	Left	App. Total	Right	Left	Right	Left	App. Total	Right	Thru	Int. Total
07:00 AM	80	1	81	1	12	1	12	13	4	46	144
07:15 AM	67	2	69	5	17	5	17	22	2	54	147
07:30 AM	82	2	84	9	19	9	19	28	2	29	143
07:45 AM	96	9	105	9	12	9	12	21	3	51	180
Total	325	14	339	24	60	24	60	84	11	180	614
08:00 AM	69	3	72	1	19	1	19	20	1	55	148
08:15 AM	60	1	61	2	19	2	19	21	4	36	122
08:30 AM	101	2	103	1	18	1	18	19	1	47	170
08:45 AM	84	0	84	7	13	7	13	20	7	44	155
Total	314	6	320	11	69	11	69	80	13	182	595
Grand Total	639	20	659	35	129	35	129	164	24	362	1209
Apprch %	97	3		21.3	78.7	21.3	78.7		6.2	93.8	
Total %	52.9	1.7	54.5	2.9	10.7	2.9	10.7	13.6	2	29.9	31.9
Cars	634	20	654	35	129	35	129	164	24	346	1188
% Cars	99.2	100	99.2	100	100	100	100	100	100	95.6	98.3
Trucks	5	0	5	0	0	0	0	0	0	16	21
% Trucks	0.8	0	0.8	0	0	0	0	0	0	4.4	1.7

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1											
Hyland Croy Road						Park Mill Drive					
From North						From East					
Start Time	Thru	Left	App. Total	Right	Left	Right	Left	App. Total	Right	Thru	Int. Total
07:45 AM	96	9	105	9	12	9	12	21	3	51	180
08:00 AM	69	3	72	1	19	1	19	20	1	55	148
08:15 AM	60	1	61	2	19	2	19	21	4	36	122
08:30 AM	101	2	103	1	18	1	18	19	1	47	170
Total Volume	326	15	341	13	68	13	68	81	9	189	620
% App. Total	95.6	4.4		16	84	16	84		4.5	95.5	
PHF	.807	.417	.812	.361	.895	.361	.895	.964	.563	.859	.861

CM Transportation

7007 Discovery Blvd.
Dublin, OH, 43017

File Name : 03042015 Hyland Croy and Park Mill - PM Peak
Site Code : 00000000
Start Date : 3/4/2015
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Hyland Croy Road From North				Park Mill Drive From East				Hyland Croy Road From South			
	Thru	Left	App. Total	Right	Left	Right	App. Total	Right	Thru	App. Total	Right	Int. Total
04:00 PM	60	5	65	3	7	3	10	2	67	69	2	144
04:15 PM	79	0	79	1	4	1	5	6	86	92	6	176
04:30 PM	41	7	48	4	2	4	6	10	93	103	10	157
04:45 PM	45	2	47	1	4	1	5	21	97	118	21	170
Total	225	14	239	9	17	9	26	39	343	382	39	647
05:00 PM	43	7	50	5	5	5	10	17	102	119	17	179
05:15 PM	44	6	50	3	4	3	7	19	118	137	19	194
05:30 PM	60	2	62	2	8	2	10	18	116	134	18	206
05:45 PM	52	2	54	5	11	5	16	18	105	123	18	193
Total	199	17	216	15	28	15	43	72	441	513	72	772
Grand Total	424	31	455	24	45	24	69	111	784	895	111	1419
Apprch %	93.2	6.8		34.8	65.2	34.8		12.4	87.6		12.4	
Total %	29.9	2.2	32.1	1.7	3.2	1.7	4.9	7.8	55.3	63.1	7.8	
Cars	420	31	451	24	45	24	69	111	779	890	111	1410
% Cars	99.1	100	99.1	100	100	100	100	100	99.4	99.4	100	99.4
Trucks	4	0	4	0	0	0	0	0	5	5	0	9
% Trucks	0.9	0	0.9	0	0	0	0	0	0.6	0.6	0	0.6

Start Time	Hyland Croy Road From North				Park Mill Drive From East				Hyland Croy Road From South			
	Thru	Left	App. Total	Right	Left	Right	App. Total	Right	Thru	App. Total	Right	Int. Total
05:00 PM	43	7	50	5	5	5	10	17	102	119	17	179
05:15 PM	44	6	50	3	4	3	7	19	118	137	19	194
05:30 PM	60	2	62	2	8	2	10	18	116	134	18	206
05:45 PM	52	2	54	5	11	5	16	18	105	123	18	193
Total Volume	199	17	216	15	28	15	43	72	441	513	72	772
% App. Total	92.1	7.9		34.9	65.1	34.9		14	86		14	
PHF	.829	.607	.871	.750	.636	.750	.672	.947	.934	.936	.947	.937

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 05:00 PM



Smart Services, Inc.
88 W. Church Street

Newark, Ohio, United States 43035
(740) 345 4700
www.smartservices-inc.com

Count Name: Hyland-Croy Rd & Post Rd
Site Code:
Start Date: 12/15/2015
Page No: 1

Turning Movement Data

Start Time	Hyland-Croy Rd Southbound			Post Rd Westbound			Post Rd Eastbound		
	Left	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
7:00 AM	26	79	86	20	106	41	64	105	290
7:15 AM	27	77	89	14	103	40	110	150	330
7:30 AM	35	113	104	22	126	39	148	187	426
7:45 AM	41	114	95	16	111	43	169	212	437
Hourly Total	129	383	374	72	446	163	491	654	1483
8:00 AM	27	96	97	16	113	42	120	162	371
8:15 AM	38	99	87	11	98	39	119	158	355
8:30 AM	30	102	80	20	100	31	96	127	329
8:45 AM	34	93	68	12	80	29	108	137	310
Hourly Total	129	390	332	59	391	141	443	584	1365
*** BREAK ***	-	-	-	-	-	-	-	-	-
4:00 PM	12	57	139	40	179	33	98	131	367
4:15 PM	16	62	166	31	197	36	123	123	382
4:30 PM	14	51	148	40	188	60	106	166	405
4:45 PM	15	46	136	46	182	65	123	188	416
Hourly Total	57	216	589	157	746	194	414	608	1570
5:00 PM	6	42	183	44	227	70	115	185	454
5:15 PM	9	66	160	57	217	79	126	205	488
5:30 PM	12	54	127	74	201	62	95	157	412
5:45 PM	11	63	139	57	196	74	100	174	433
Hourly Total	38	225	609	232	841	285	436	721	1787
Grand Total	353	1214	1904	520	2424	783	1784	2567	6205
Approach %	29.1	-	78.5	21.5	-	30.5	69.5	-	-
Total %	5.7	19.6	30.7	8.4	39.1	12.6	28.8	41.4	-
Lights	350	1175	1882	512	2394	753	1765	2518	6087
% Lights	99.2	96.8	98.8	98.5	98.8	96.2	98.9	98.1	98.1
Other Vehicles	3	39	22	8	30	30	19	49	118
% Other Vehicles	0.8	3.2	1.2	1.5	1.2	3.8	1.1	1.9	1.9



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Count Name: Hyland-Croy Rd & Post Rd
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Start Date: 12/15/2015
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

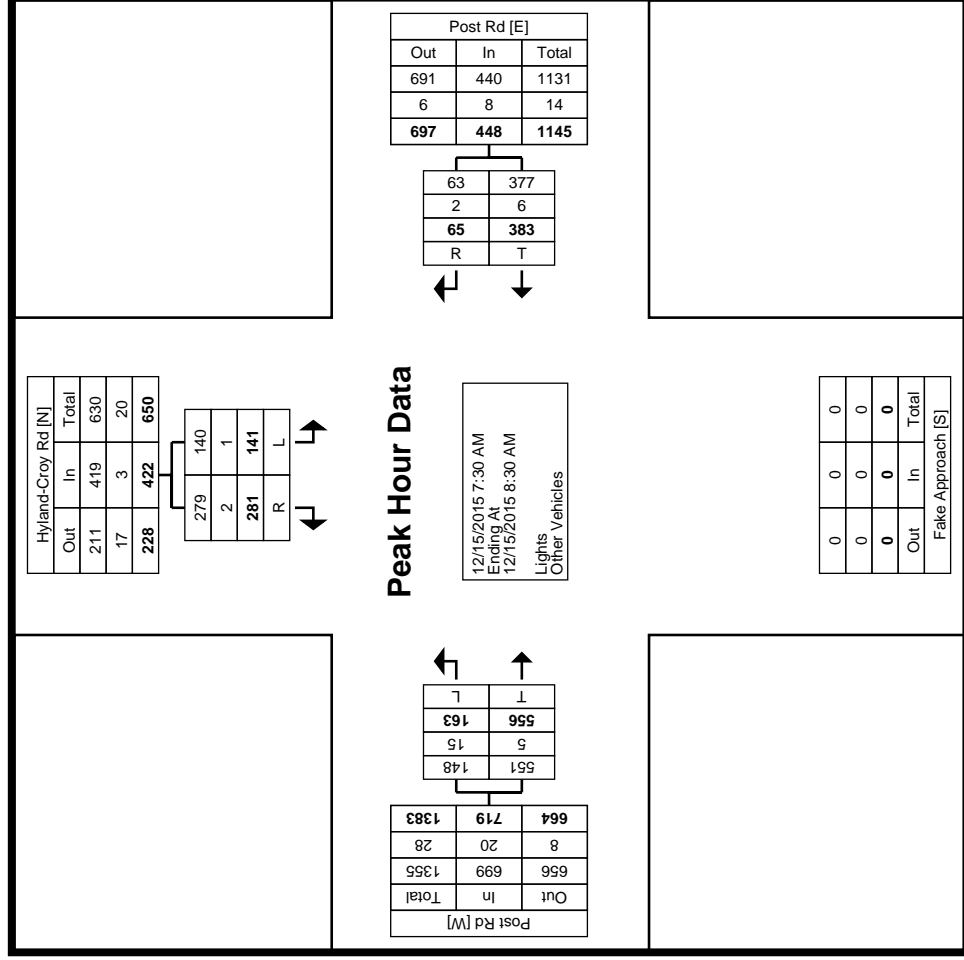
Start Time	Hyland-Croy Rd Southbound			Post Rd Westbound			Post Rd Eastbound		
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	Int. Total
7:30 AM	35	78	113	104	22	126	39	148	187
7:45 AM	41	73	114	95	16	111	43	169	212
8:00 AM	27	69	96	97	16	113	42	120	162
8:15 AM	38	61	99	87	11	98	39	119	158
Total	141	281	422	383	65	448	163	556	719
Approach %	33.4	66.6	-	85.5	14.5	-	22.7	77.3	-
Total %	8.9	17.7	26.6	24.1	4.1	28.2	10.3	35.0	45.2
PHF	0.860	0.901	0.925	0.921	0.739	0.889	0.948	0.822	0.848
Lights	140	279	419	377	63	440	148	551	699
% Lights	99.3	99.3	99.3	98.4	96.9	98.2	90.8	99.1	97.2
Other Vehicles	1	2	3	6	2	8	15	5	20
% Other Vehicles	0.7	0.7	0.7	1.6	3.1	1.8	9.2	0.9	2.8



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Count Name: Hyland-Croy Rd & Post Rd
Site Code:
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Turning Movement Peak Hour Data Plot (7:30 AM)



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Count Name: Hyland-Croy Rd & Post Rd
Site Code:
Start Date: 12/15/2015
Page No: 5

Turning Movement Peak Hour Data (5:00 PM)

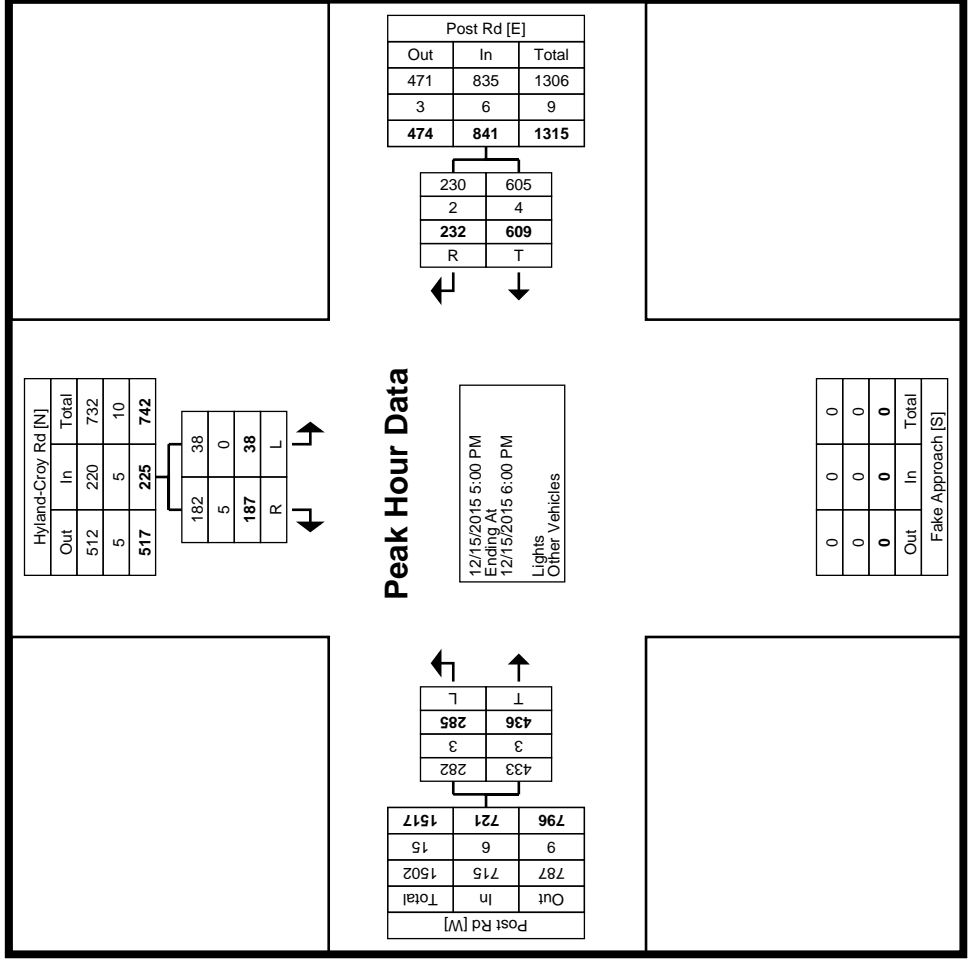
Start Time	Hyland-Croy Rd Southbound			Post Rd Westbound			Post Rd Eastbound		
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	Int. Total
5:00 PM	6	36	42	183	44	227	70	115	185
5:15 PM	9	57	66	160	57	217	79	126	205
5:30 PM	12	42	54	127	74	201	62	95	157
5:45 PM	11	52	63	139	57	196	74	100	174
Total	38	187	225	609	232	841	285	436	721
Approach %	16.9	83.1	-	72.4	27.6	-	39.5	60.5	-
Total %	2.1	10.5	12.6	34.1	13.0	47.1	15.9	24.4	40.3
PHF	0.792	0.820	0.852	0.832	0.784	0.926	0.902	0.865	0.879
Lights	38	182	220	605	230	835	282	433	715
% Lights	100.0	97.3	97.8	99.3	99.1	99.3	98.9	99.3	99.2
Other Vehicles	0	5	5	4	2	6	3	3	6
% Other Vehicles	0.0	2.7	2.2	0.7	0.9	0.7	1.1	0.7	0.8



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Count Name: Hyland-Croy Rd & Post Rd
Site Code:
Start Date: 12/15/2015
Page No: 6



Turning Movement Peak Hour Data Plot (5:00 PM)



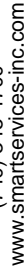
Smart Services, Inc.
88 W. Church Street

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Count Name: Mitchell Dewitt Rd & Hyland-Croy Rd
Site Code:
Start Date: 12/15/2015
Page No: 1

Turning Movement Data

Start Time	Hyland-Croy Rd Southbound					Mitchell Dewitt Rd Westbound					Hyland-Croy Rd Northbound					Mitchell Dewitt Rd Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	9	45	0	0	54	9	6	9	0	24	3	41	19	0	63	2	6	2	0	10	151
7:15 AM	18	42	0	0	60	12	23	19	0	54	4	38	24	0	66	5	16	7	0	28	208
7:30 AM	58	56	1	0	115	37	18	15	0	70	7	48	64	0	119	5	16	2	0	23	327
7:45 AM	73	77	4	0	154	50	24	20	1	94	8	69	43	0	120	6	14	12	0	32	400
Hourly Total	158	220	5	0	383	108	71	63	1	242	22	196	150	0	368	18	52	23	0	93	1086
8:00 AM	11	49	1	0	61	6	11	3	0	20	6	41	10	0	57	4	7	8	0	19	157
8:15 AM	7	47	0	0	54	17	12	3	0	32	7	31	11	0	49	5	10	5	0	20	155
8:30 AM	16	46	0	0	62	10	14	7	0	31	5	28	18	0	51	0	7	7	0	14	158
8:45 AM	9	43	2	0	54	9	12	9	0	30	1	49	10	0	60	2	11	3	0	16	160
Hourly Total	43	185	3	0	231	42	49	22	0	113	19	149	49	0	217	11	35	23	0	69	630
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	7	37	2	0	46	12	6	14	0	32	5	42	12	0	59	1	7	7	0	15	152
4:15 PM	13	31	1	0	45	6	23	11	0	40	6	42	8	1	56	1	17	2	0	20	161
4:30 PM	7	38	0	0	45	11	10	17	0	38	5	57	14	0	76	1	14	9	0	24	183
4:45 PM	15	31	0	0	46	15	15	6	0	36	6	63	22	1	91	3	25	8	0	36	209
Hourly Total	42	137	3	0	182	44	54	48	0	146	22	204	56	2	282	6	63	26	0	95	705
5:00 PM	13	26	0	0	39	12	7	8	0	27	6	62	11	0	79	0	26	6	0	32	177
5:15 PM	11	41	0	0	52	7	19	10	1	36	8	67	18	0	93	1	26	5	0	32	213
5:30 PM	5	29	1	0	35	16	15	4	0	35	9	76	17	0	102	4	23	8	0	35	207
5:45 PM	7	50	1	0	58	12	6	11	0	29	16	62	13	0	91	6	23	10	0	39	217
Hourly Total	36	146	2	0	184	47	47	33	1	127	39	267	59	0	365	11	98	29	0	138	814
Grand Total	279	688	13	0	980	241	221	166	2	628	102	816	314	2	1232	46	248	101	0	395	3235
Approach %	28.5	70.2	1.3	-	-	38.4	35.2	26.4	-	-	8.3	66.2	25.5	-	-	11.6	62.8	25.6	-	-	-
Total %	8.6	21.3	0.4	-	30.3	7.4	6.8	5.1	-	19.4	3.2	25.2	9.7	-	38.1	1.4	7.7	3.1	-	12.2	-
Lights	274	670	9	-	953	229	219	164	-	612	94	786	304	-	1184	43	243	94	-	380	3129
% Lights	98.2	97.4	69.2	-	97.2	95.0	99.1	98.8	-	97.5	92.2	96.3	96.8	-	96.1	93.5	98.0	93.1	-	96.2	96.7
Other Vehicles	5	18	4	-	27	12	2	2	-	16	8	30	10	-	48	3	5	7	-	15	106
% Other Vehicles	1.8	2.6	30.8	-	2.8	5.0	0.9	1.2	-	2.5	7.8	3.7	3.2	-	3.9	6.5	2.0	6.9	-	3.8	3.3
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	2	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-



Turning Movement Peak Hour Data (7:15 AM)

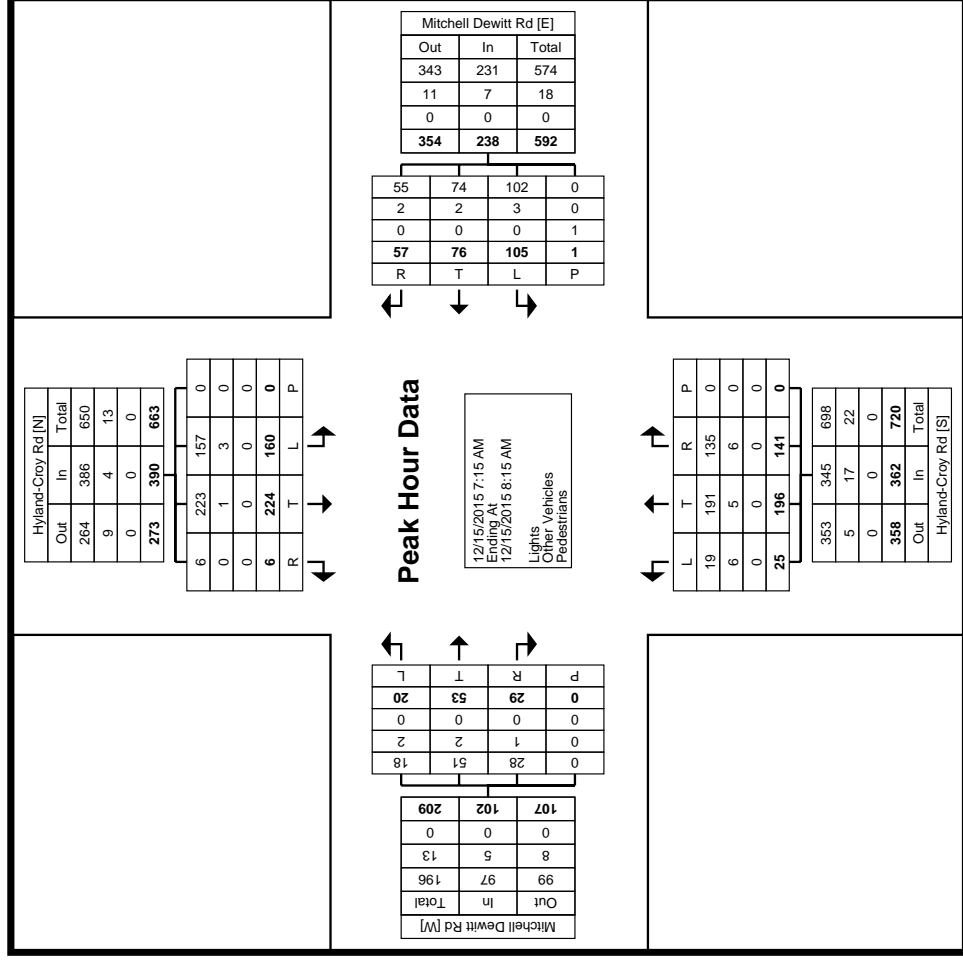
[illegible]



Smart Services, Inc.
88 W. Church Street

Newark, Ohio, United States 43035
(740) 345 4700
www.smartservices-inc.com

Count Name: Mitchell Dewitt Rd & Hyland-Croy
Rd
Site Code:
Start Date: 12/15/2015
Page No: 5





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88 W. Church Street

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Count Name: Mitchell Dewitt Rd & Hyland-Croy
Rd
Site Code:
Start Date: 12/15/2015
Page No: 7

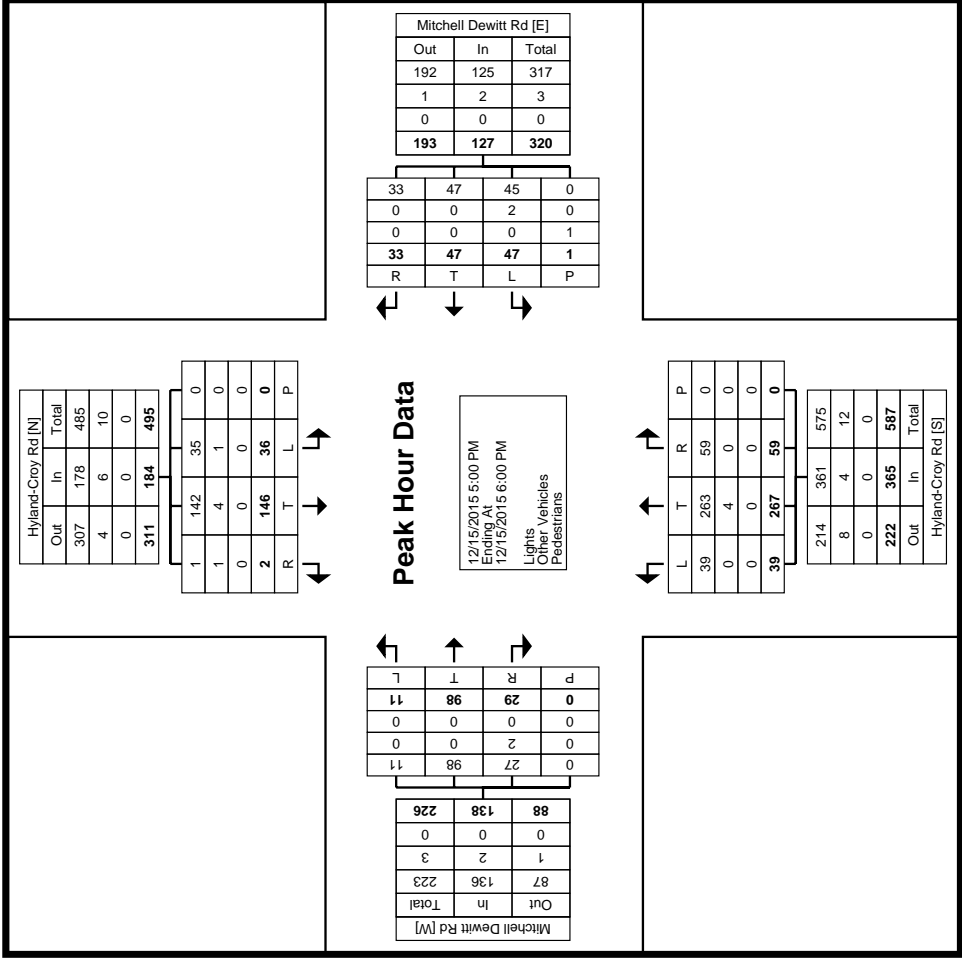


FIGURE 1
Site Location Map

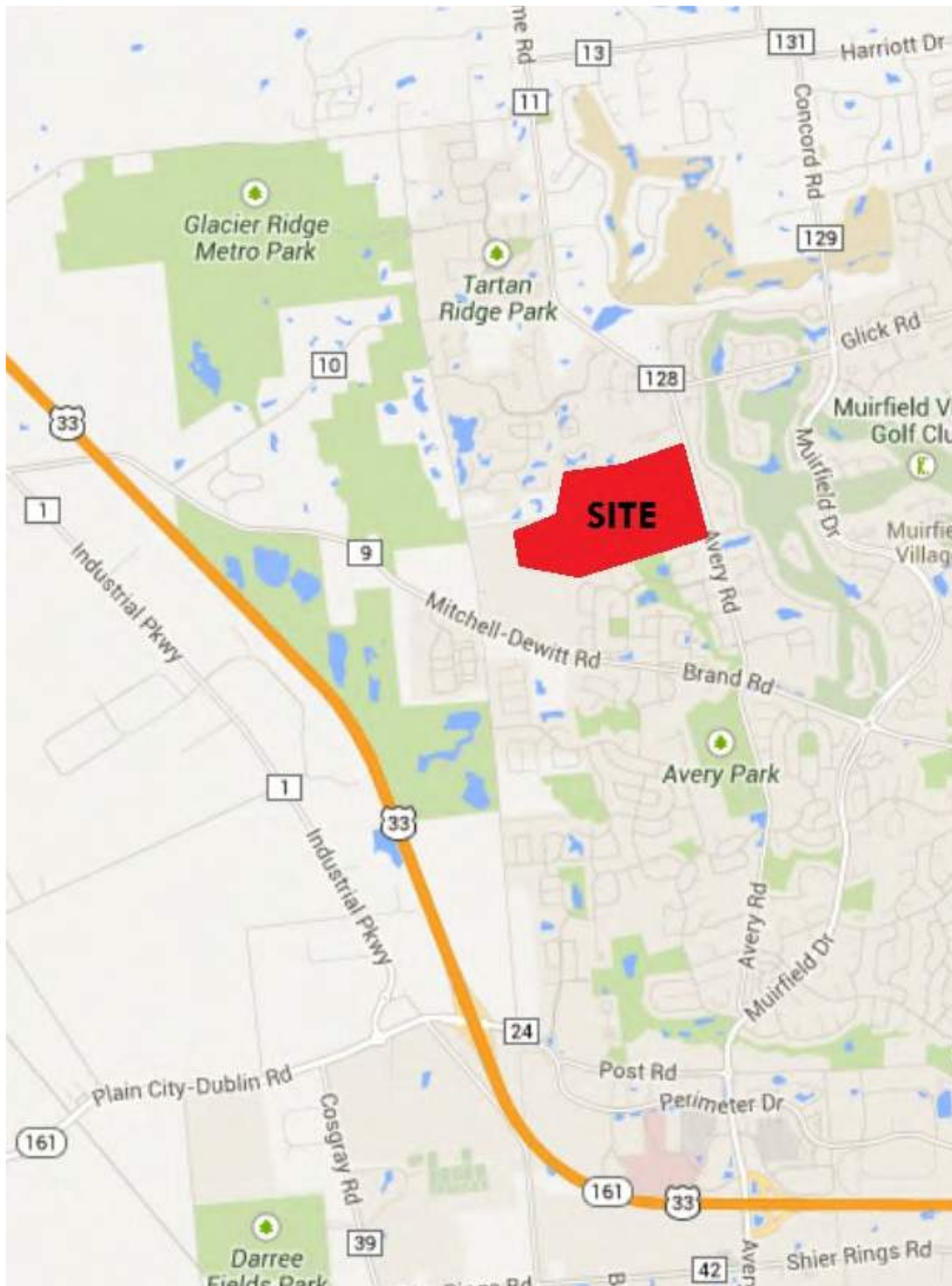


FIGURE 2 Site Plan

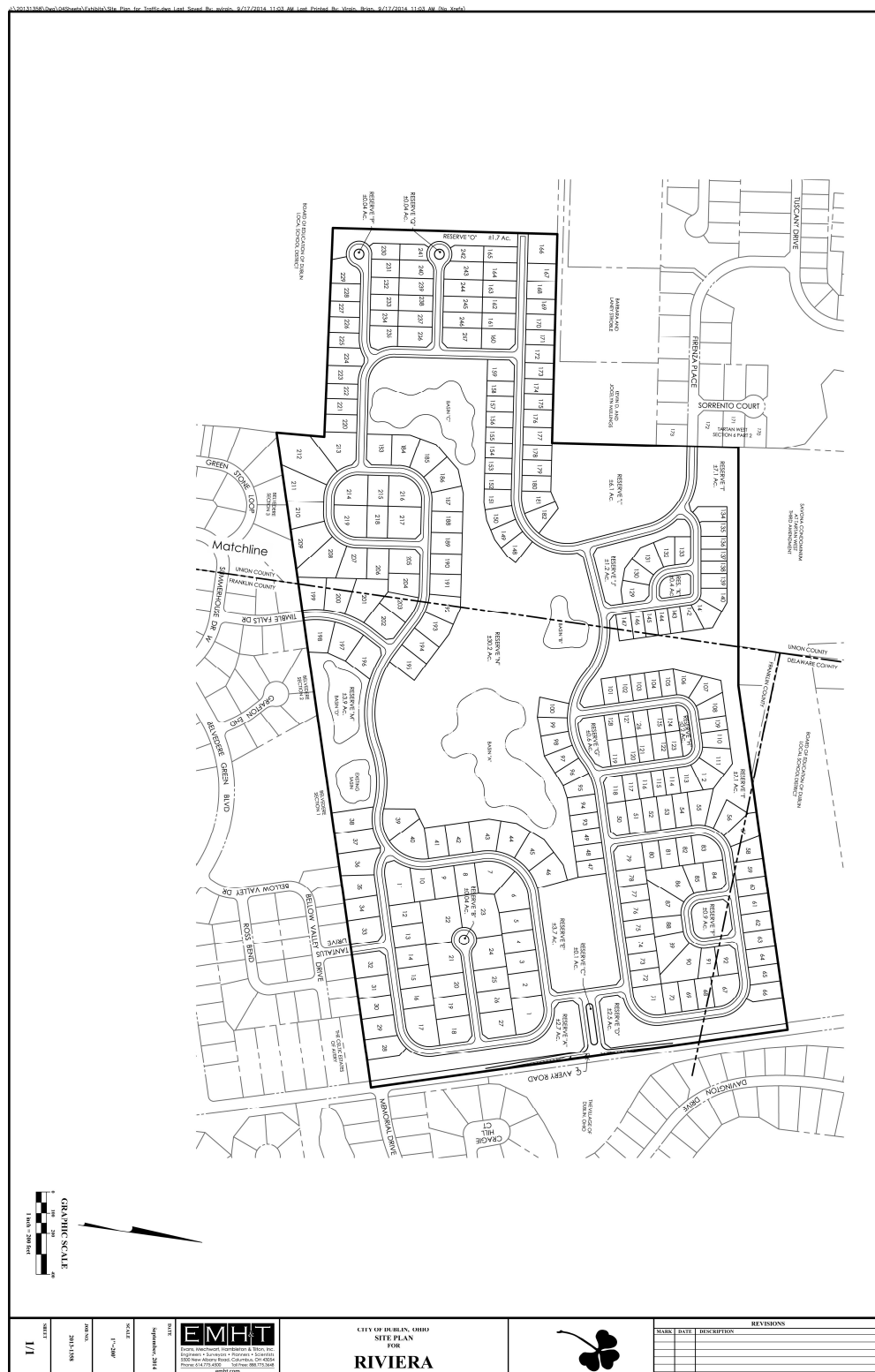


FIGURE 7
2024 Traffic Volumes – AM Peak Hour – Full Build (w/ Hyland-Croy Site Drive)

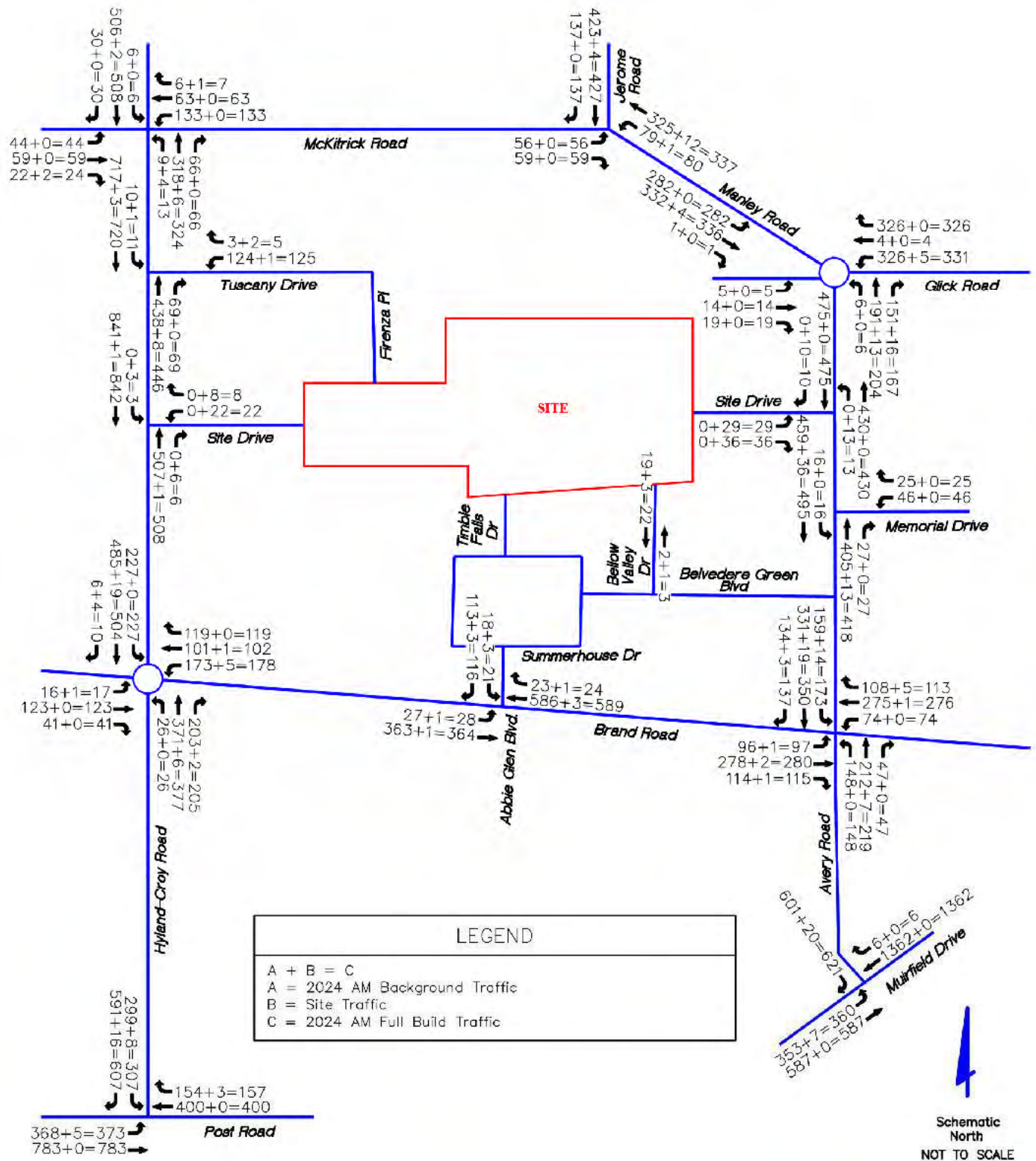


FIGURE 8
2024 Traffic Volumes – PM Peak Hour – Full Build (w/ Hyland-Croy Site Drive)

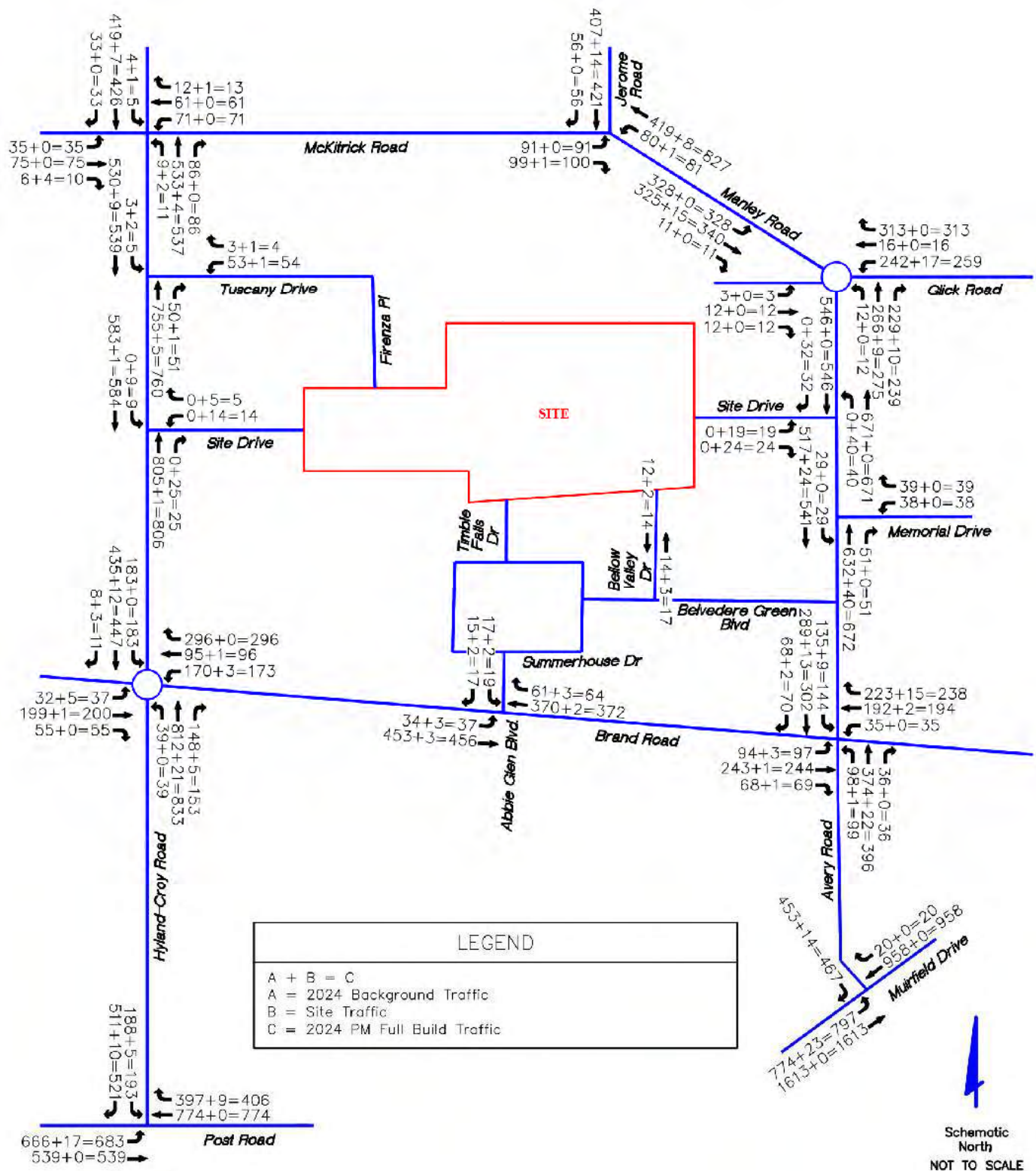


FIGURE 11
2024 Traffic Volumes – AM Peak Hour – Full Build (w/o Hyland-Croy Site Drive)

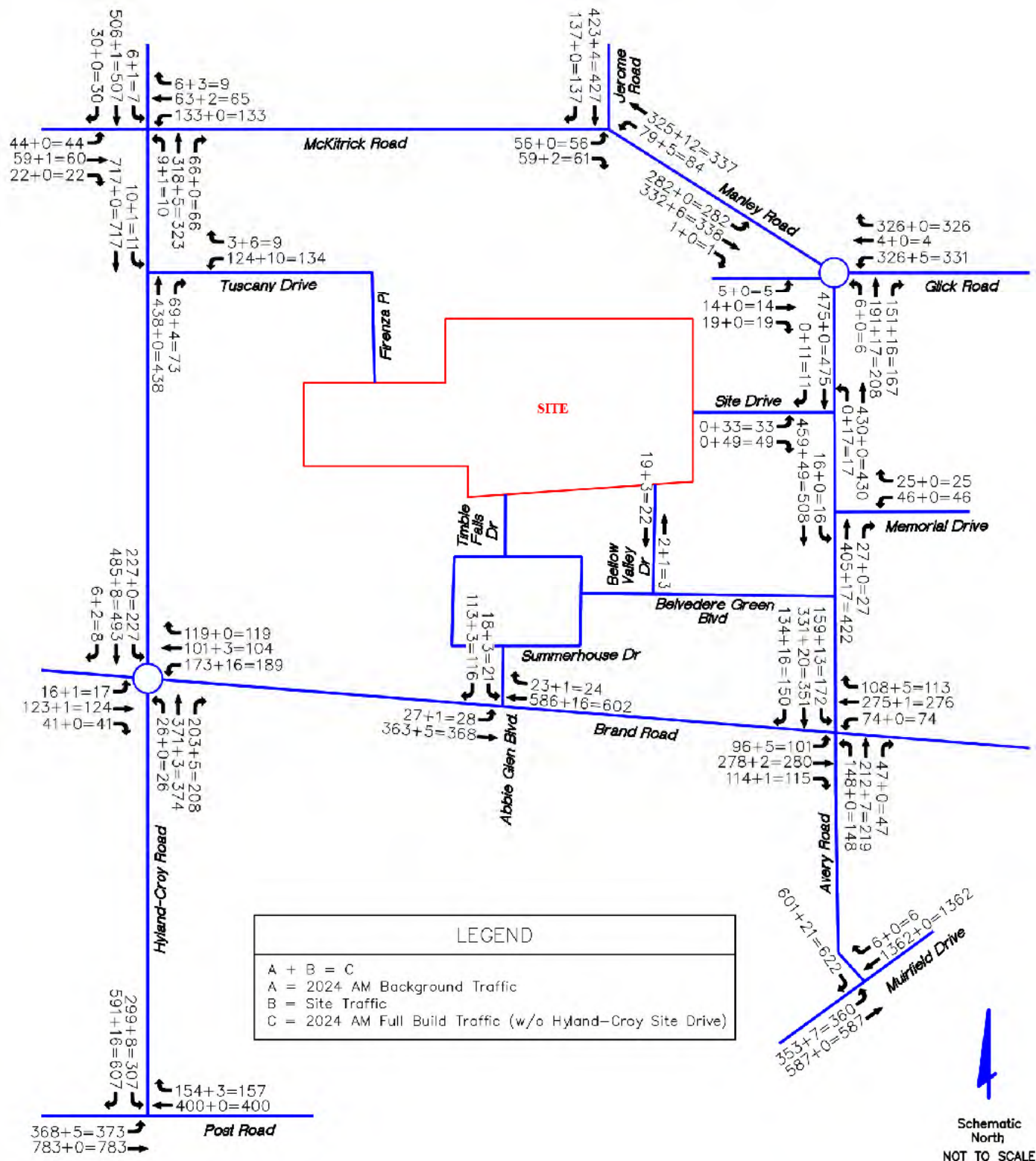
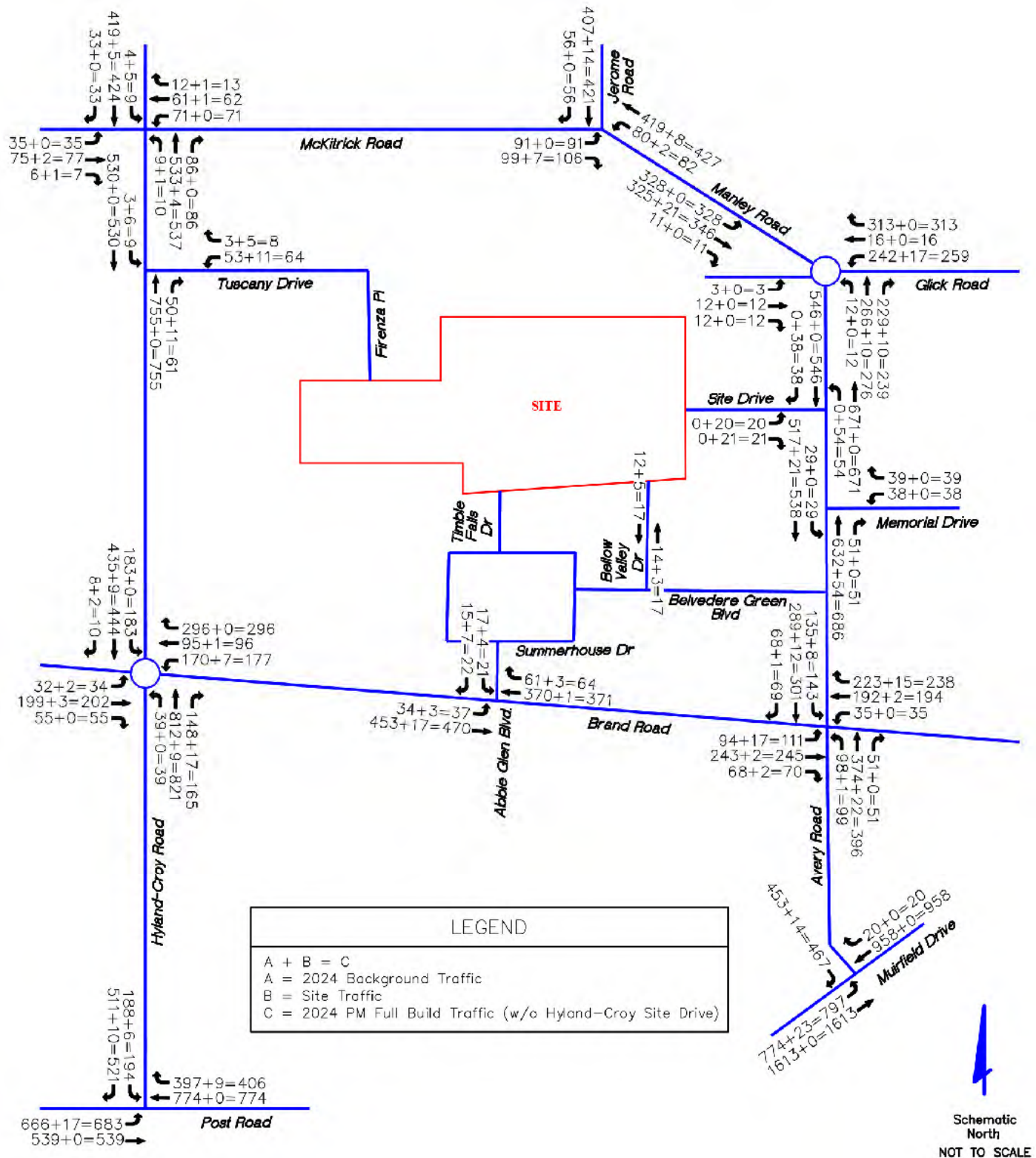
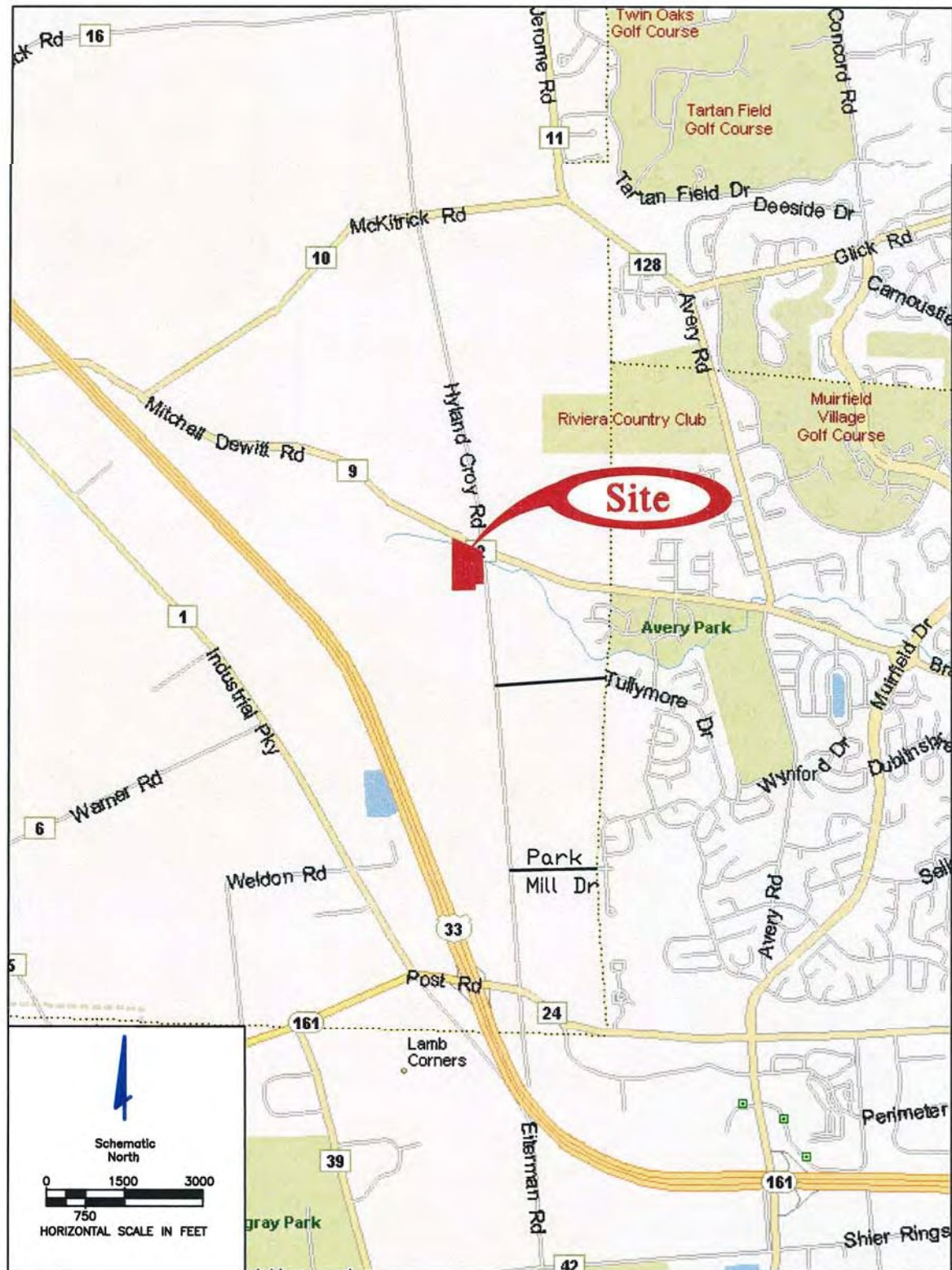


FIGURE 12
2024 Traffic Volumes – PM Peak Hour – Full Build (w/o Hyland-Croy Site Drive)



Oak Park

**FIGURE 1
SITE LOCATION MAP**



**FIGURE 2
SITE PLAN**

Oak Park



Oak Park - 09.06.06 UPDATE
Traffic Impact Study
Trip Generation Rates
Institute of Transportation Engineer, 7th Edition

Oak Park

Land Use	Square Feet or Units	Time Period	ITE Code	ITE Formula	Trips	In	Out
Single Family- Detached Housing	33 units	ADT	210	$\ln(T)=0.92\ln(x)+2.71$	376	183	188
		AM Peak	210	$T=0.70(x)+9.43$	33	8	25
		PM Peak	210	$\ln(T)=0.90\ln(x)+0.53$	40	25	15
Condo/Townhouse	75 units	ADT	230	$\ln(T)=0.85\ln(x)+2.55$	504	252	252
		AM Peak	230	$\ln(T)=0.80\ln(x)+0.26$	41	i	34
		PM Peak	230	$\ln(T)=0.82\ln(x)+0.32$	47	31	16
RESIDENTIAL TOTAL					ADT	880	440
					AM Primary Trips	74	59
					PM Primary Trips	87	31
Office	18,000 sf	ADT	710	Average Rate = 11.01	198	99	99
		AM Peak	710	Average Rate = 1.55	28	25	3
		PM Peak	710	Average Rate = 1.49	27	5	22
Shopping Center	21,700 sf	ADT	820	Average Rate = 42.94	932	466	466
		AM Peak	820	Average Rate = 1.03	22	See Below	
		PM Peak	820	Average Rate = 3.75	81	See Below	
			76%	AM Primary Trips	16	10	6
			24%	AM Pass-By Trips	6	3	3
			66%	PM Primary Trips	53	25	28
					PM Pass-By Trips	28	14
COMMERCIAL TOTAL					ADT	1,130	565
					AM Primary Trips	44	9
					AM Pass-By Trips	6	3
					AM TOTAL	50	12
					PM Primary Trips	80	50
					PM Pass-By Trips	28	14
					PM TOTAL	108	64

TOTAL SITE					ADT	2,010	1,005
					AM Primary Trips	118	68
					AM Pass-By Trips	6	3
					AM TOTAL	124	71
					PM Primary Trips	167	81
					PM Pass-By Trips	28	14
					PM TOTAL	195	95

PREFERRED GROWTH SCENARIO

Single Family- Detached Housing (1.0 DU/AC)	61 units	ADT	210	$\ln(T)=0.92\ln(x)+2.71$	660	330	330
		AM Peak	210	$T=0.70(x)+9.43$	52	13	39
		PM Peak	210	$\ln(T)=0.90\ln(x)+0.53$	69	43	26

PREFERRED GROWTH SCENARIO COMPARISON

Proposed Oak Park Development - Preferred Growth Scenario =					ADT	1,350	675
					AM Peak	72	32
					PM Peak	126	69

Background Development

Single Family- Detached Housing (Bishops Run/Crossing)	169 units	ADT	210	$\ln(T)=0.92\ln(x)+2.71$	1,686	843	843
		AM Peak	210	$T=0.70(x)+9.43$	128	32	96
		PM Peak	210	$\ln(T)=0.90\ln(x)+0.53$	172	108	64

Single Family- Detached Housing (54 Homes)	54 units	ADT	210	$\ln(T)=0.92\ln(x)+2.71$	590	295	295
		AM Peak	210	$T=0.70(x)+9.43$	47	12	35
		PM Peak	210	$\ln(T)=0.90\ln(x)+0.53$	62	39	23

Future Jerome Village Development	AM Peak	Southbound on Hyland-Croy Road		216		
		Northbound on Hyland-Croy Road		150		
	PM Peak	Southbound on Hyland-Croy Road		211		
		Northbound on Hyland-Croy Road		237		

Notes:

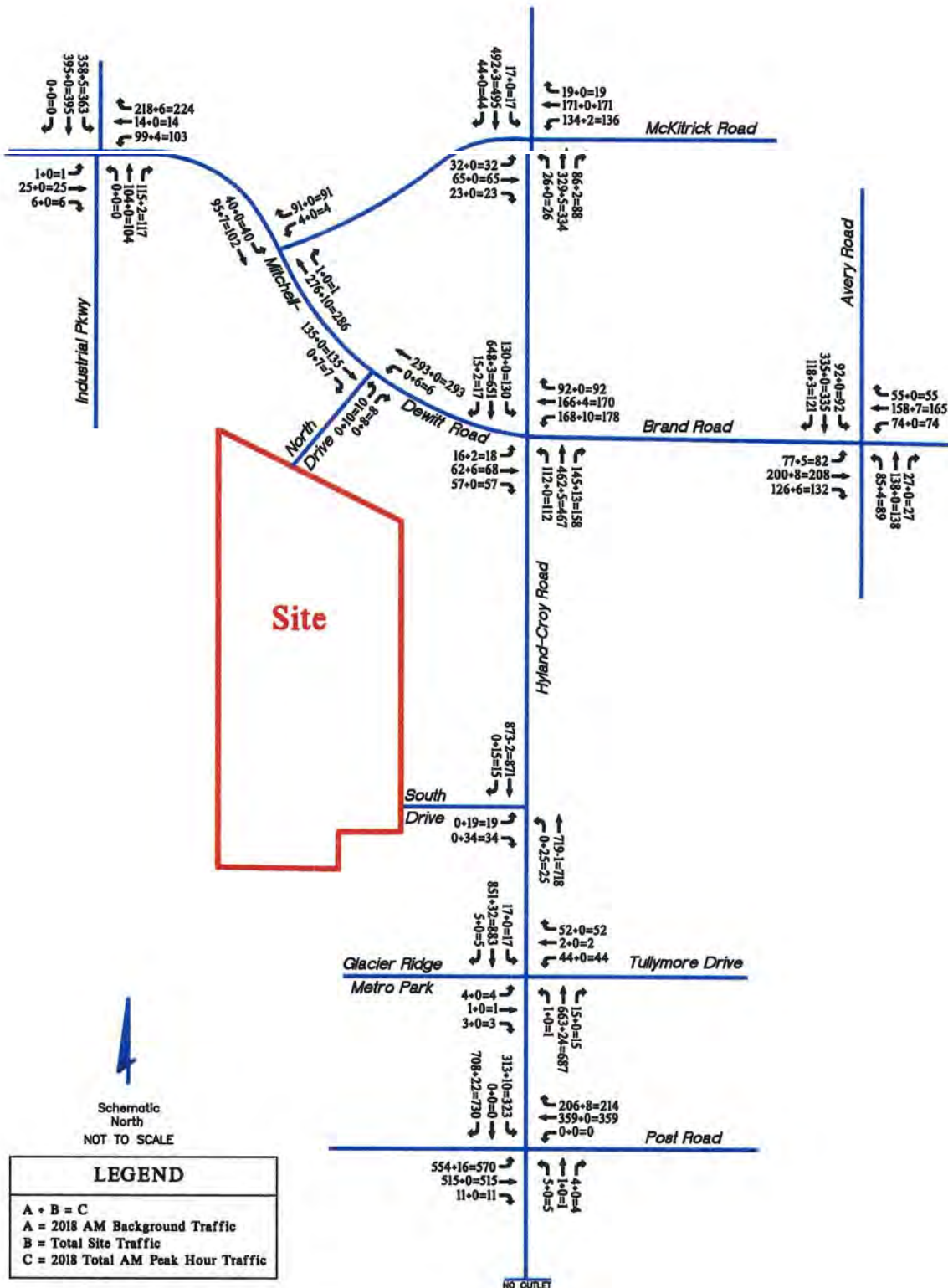
Volumes were provided by "Others" in an email dated Thursday, April 6, 2006.

Future Development

Single Family- Detached Housing (West Parcel)	25 units	ADT	210	$\ln(T)=0.92\ln(x)+2.71$	290	145	145
		AM Peak	210	$T=0.70(x)+9.43$	27	7	20
		PM Peak	210	$\ln(T)=0.90\ln(x)+0.53$	31	20	11

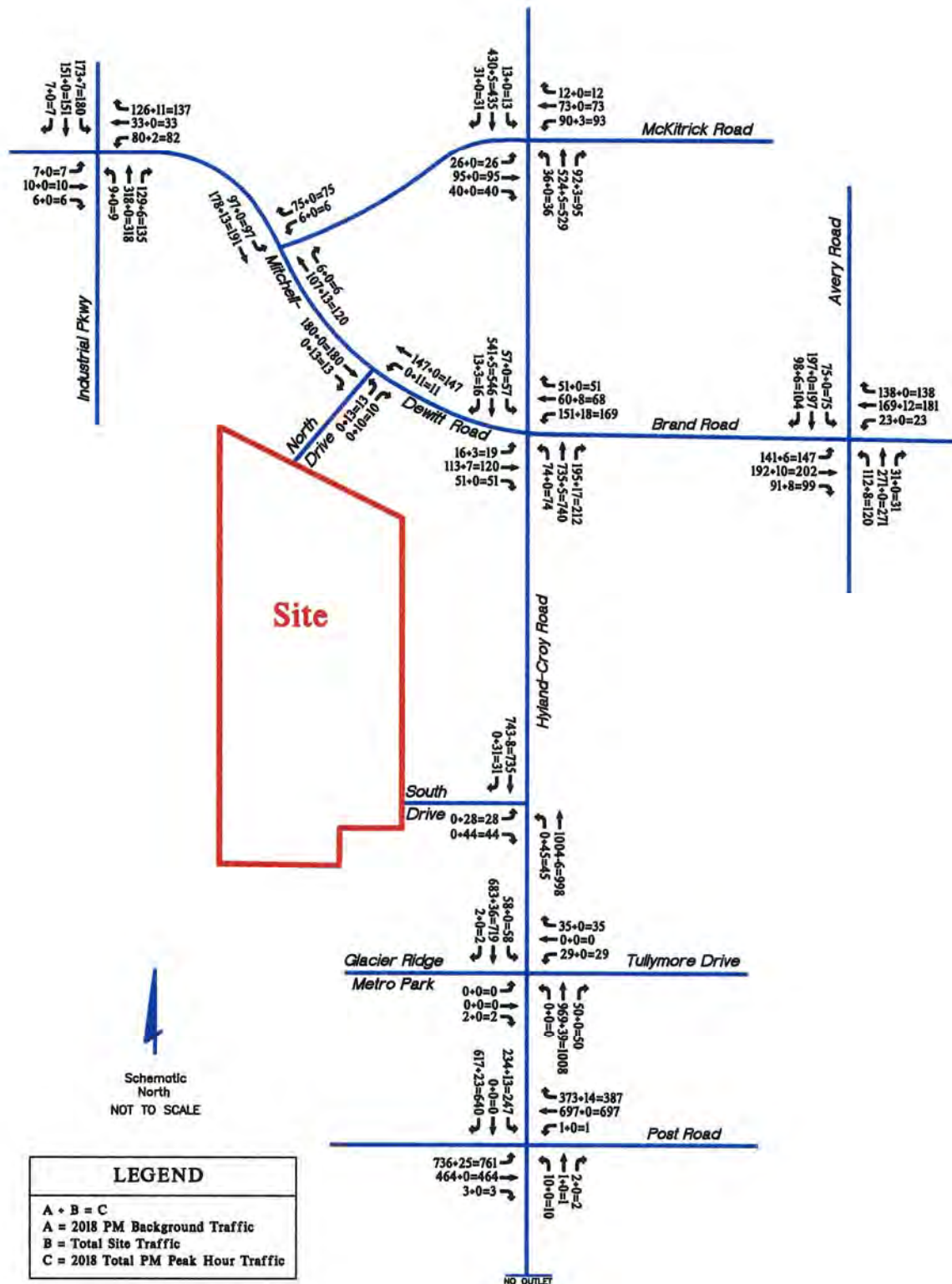
Oak Park

FIGURE 7
2018 TOTAL TRAFFIC VOLUMES
AM PEAK HOUR



Oak Park

FIGURE 8
2018 TOTAL TRAFFIC VOLUMES
PM PEAK HOUR



**FIGURE 1
SITE LOCATION MAP**

Tartan Ridge

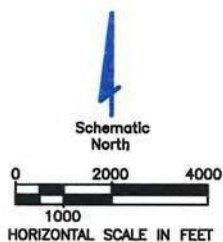
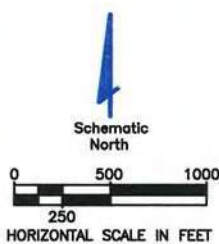
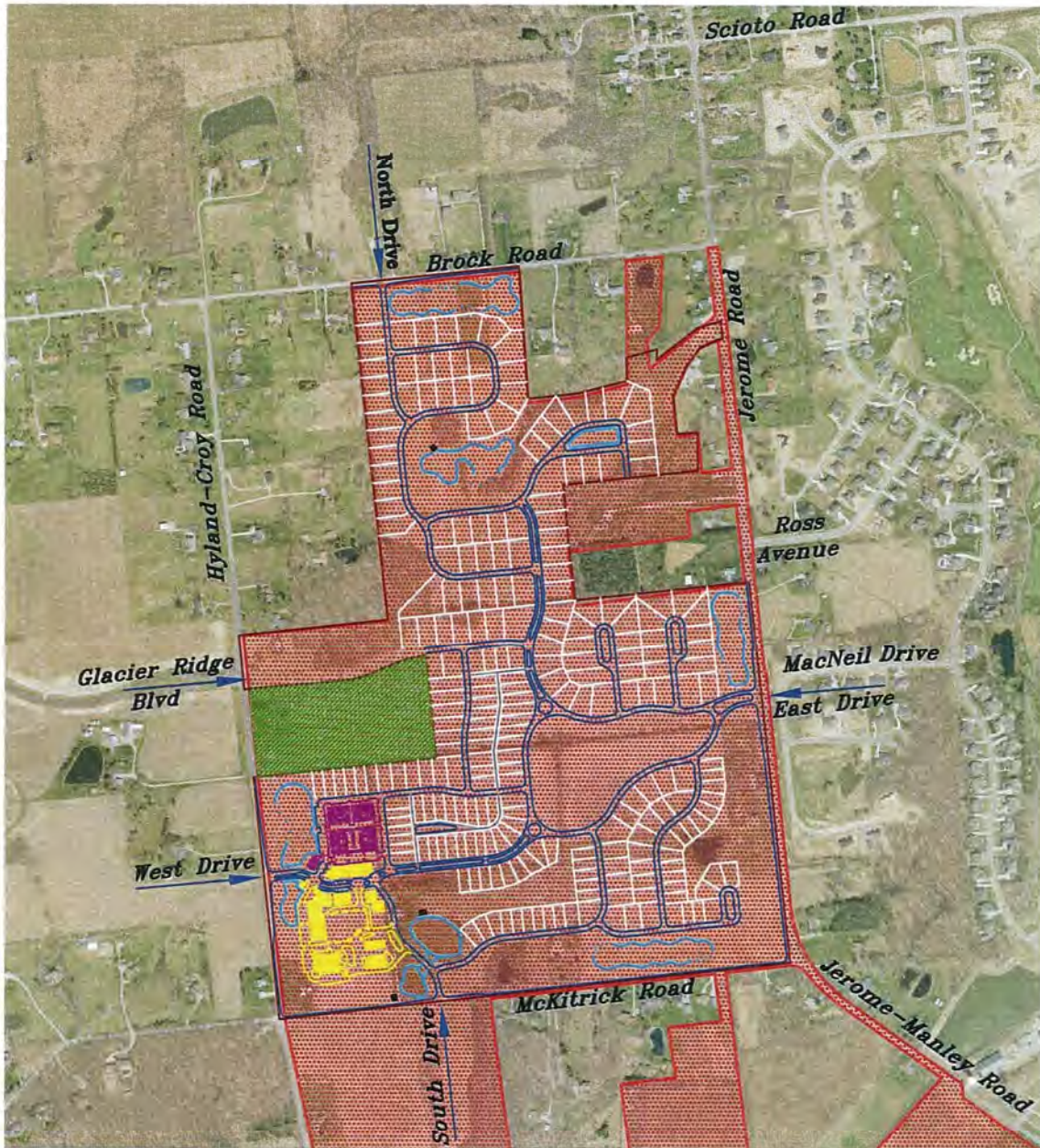


FIGURE 2
SITE PLAN

Tartan Ridge



Legend

- Single-Family
- School
- Townhomes
- Commercial
- Existing Dublin Limits

TARTAN RIDGE
Traffic Impact Study
Trip Generation Rates
Institute of Transportation Engineer, 7th Edition

Tartan Ridge

TABLE B1
Proposed Development Trip Generation Calculations

Land Use	Square Feet or Units	Time Period	ITE Code	ITE Formula	Trips	In	Out	
Single Family-Detached Housing	246 units	ADT	210	$\ln(T)=0.92\ln(x)+2.71$	2,380	1190	1190	
		AM Peak	210	$T=0.70(x)+9.43$	182	46	136	
		PM Peak	210	$\ln(T)=0.90\ln(x)+0.53$	241	152	89	
Condo/Townhouse	24 units	ADT	230	$\ln(T)=0.85\ln(x)+2.55$	192	96	96	
		AM Peak	230	$\ln(T)=0.80\ln(x)+0.26$	16	3	13	
		PM Peak	230	$\ln(T)=0.82\ln(x)+0.32$	19	13	6	
TOTAL RESIDENTIAL	270 units	ADT			2,572	1,286	1,286	
		AM TOTAL			198	49	149	
		PM TOTAL			260	165	95	
Gas station with Convenience Market	8 fueling positions	ADT	945	Average Rate = 162.78	1,302	651	651	
		AM Peak	945	Average Rate = 10.06	80	See Below	See Below	
		PM Peak	945	Average Rate = 13.38	107	See Below	See Below	
	4,000 sf		38%	AM Primary Trips	30	15	15	
			62%	AM Pass-By Trips	50	25	25	
			44%	PM Primary Trips	47	24	23	
Pharmacy/Drugstore with Drive-Through Window	12,000 sf	ADT	881	Average Rate = 88.16	1,058	529	529	
		AM Peak	881	Average Rate = 2.66	32	See Below	See Below	
		PM Peak	881	Average Rate = 8.62	103	See Below	See Below	
			61%	AM Primary Trips	20	11	9	
			39%	AM Pass-By Trips	12	6	6	
			16%	PM Primary Trips	53	26	27	
Shopping Center	38,500 sf	ADT	820	$\ln(T)=0.65\ln(x)+5.83$	3,652	1826	1826	
		AM Peak	820	$\ln(T)=0.60\ln(x)+2.29$	88	See Below	See Below	
		PM Peak	820	$\ln(T)=0.660\ln(x)+3.40$	333	See Below	See Below	
			59%	AM Primary Trips	52	32	20	
			41%	AM Pass-By Trips	36	18	18	
			49%	PM Primary Trips	163	78	85	
Office	14,000 sf	ADT	710	$\ln(T)=0.77\ln(x)+3.65$	296	148	148	
		AM Peak	710	$\ln(T)=0.80\ln(x)+1.55$	39	34	5	
		PM Peak	710	$T=1.12(x)+78.81$	94	16	78	
	TOTAL COMMERCIAL	68,500 sf	ADT			6,308	3,154	3,154
				AM Primary Trips	141	92	49	
				AM Pass-By Trips	98	49	49	
			AM TOTAL	239	141	98		
			PM Primary Trips	357	144	213		
			PM Pass-By Trips	280	140	140		
TOTAL SITE	270 units	ADT			8,880	4,440	4,440	
			AM Primary Trips	339	141	198		
			AM Pass-By Trips	98	49	49		
			AM TOTAL	437	190	247		
		68,500 sf		PM Primary Trips	617	309	308	
				PM Pass-By Trips	280	140	140	
		PM TOTAL	897	449	448			

TABLE B2
Background Development Traffic Volumes (Plate E)

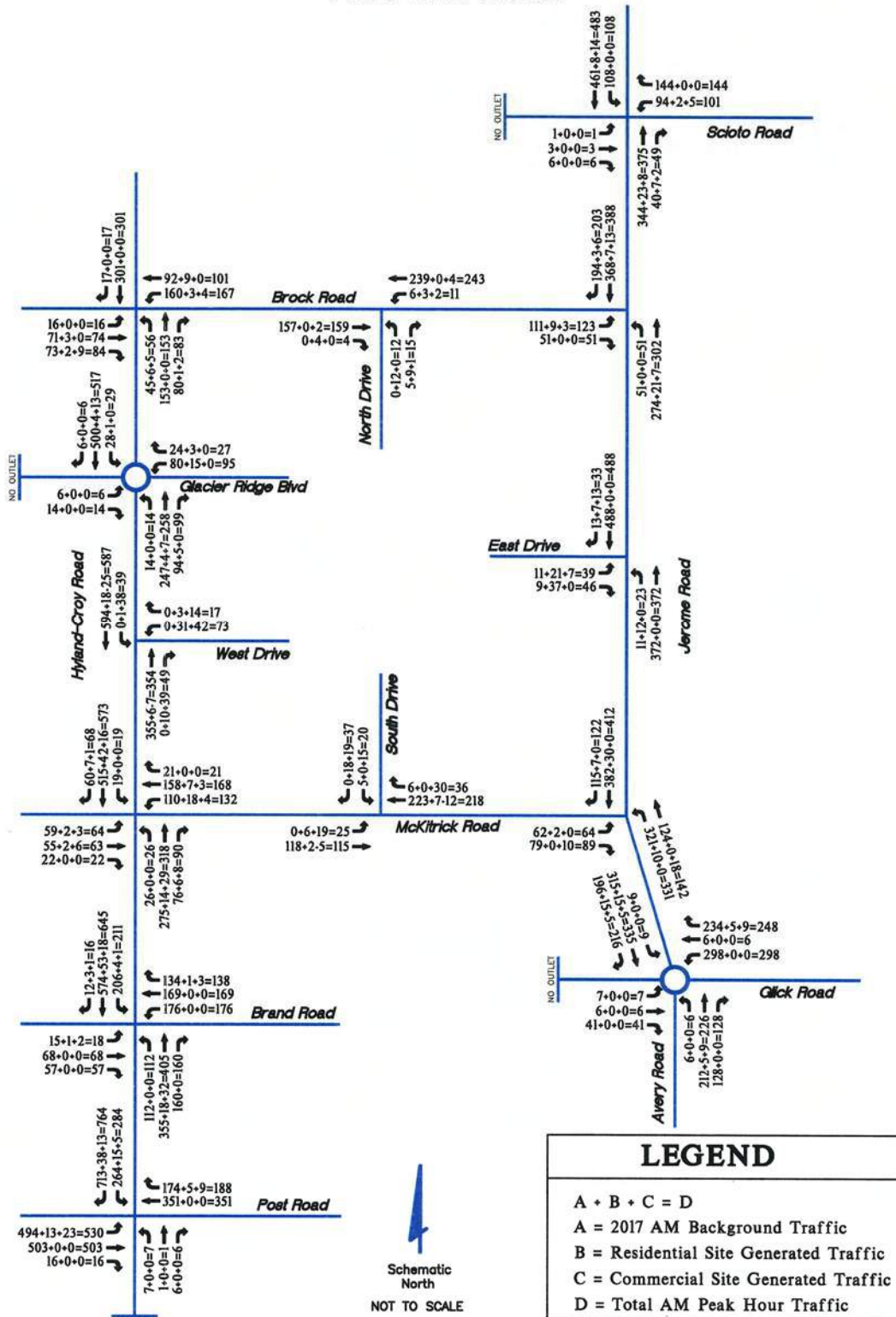
Land Use	Square Feet or Units	Time Period	ITE Code	ITE Formula	Trips	In	Out
Elementary School	70,000 sf	ADT	520	$\ln(T)=0.99\ln(x)+2.59$	894	447	447
		AM Peak	520	$\ln(T)=1.11\ln(x)+0.96$	292	158	134
		PM Peak	520	$\ln(T)=0.89\ln(x)+1.49$	195	84	111

TABLE B3
Preferred Growth Scenario

Land Use	Square Feet or Units	Time Period	ITE Code	ITE Formula	Trips	In	Out
Single Family-Detached Housing (189.6 acres)	379 units @ 2 units/acre	ADT	210	$\ln(T)=0.92\ln(x)+2.71$	3,542	1771	1771
		AM Peak	210	$T=0.70(x)+9.43$	275	69	206
		PM Peak	210	$\ln(T)=0.90\ln(x)+0.53$	356	224	132

FIGURE 5
2017 FULL BUILD TRAFFIC VOLUMES
AM PEAK HOUR

Tartan Ridge



Tartan Ridge

FIGURE 6
2017 FULL BUILD TRAFFIC VOLUMES
PM PEAK HOUR

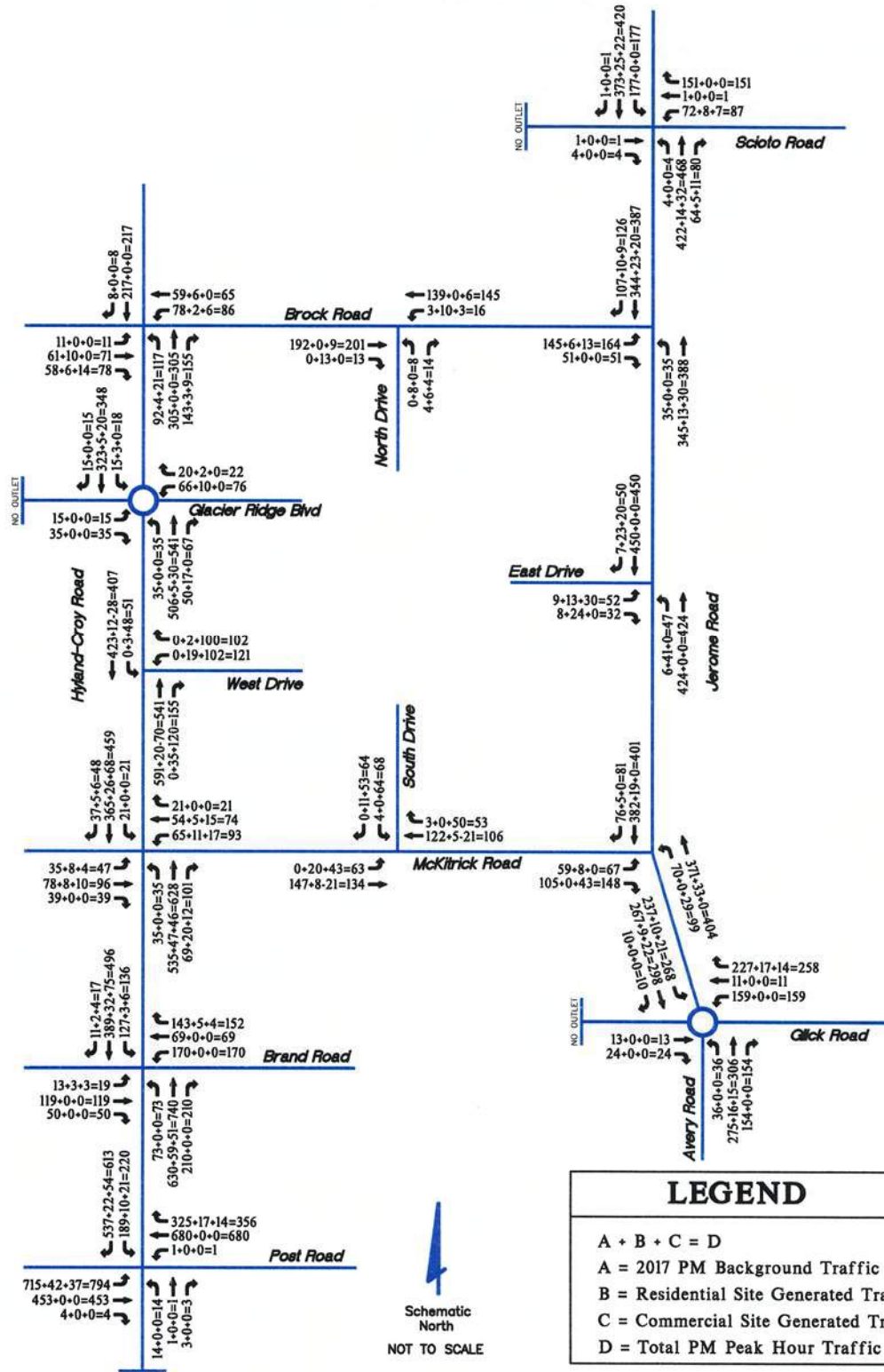


FIGURE 1
Site Location Map

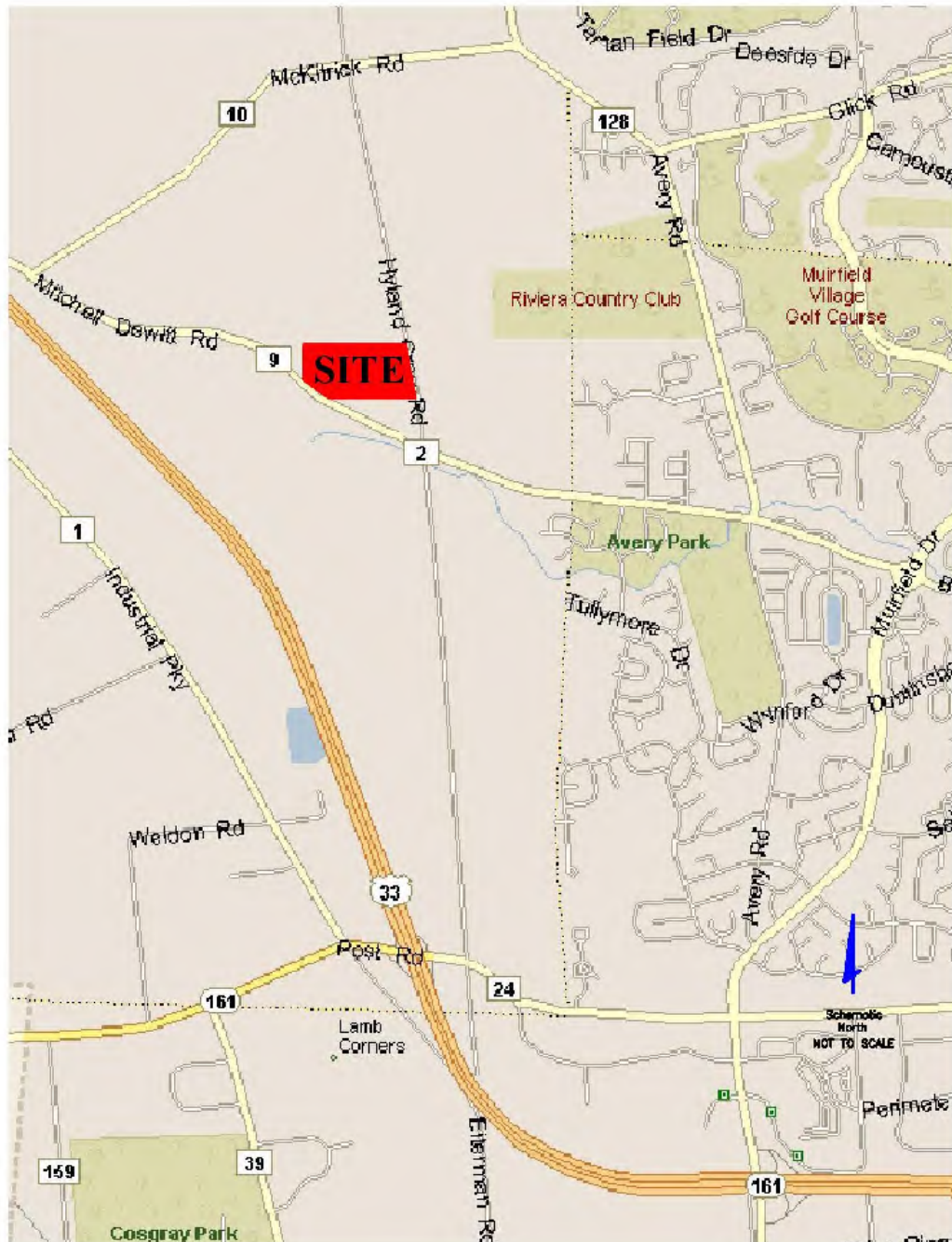


FIGURE 2
Site Plan

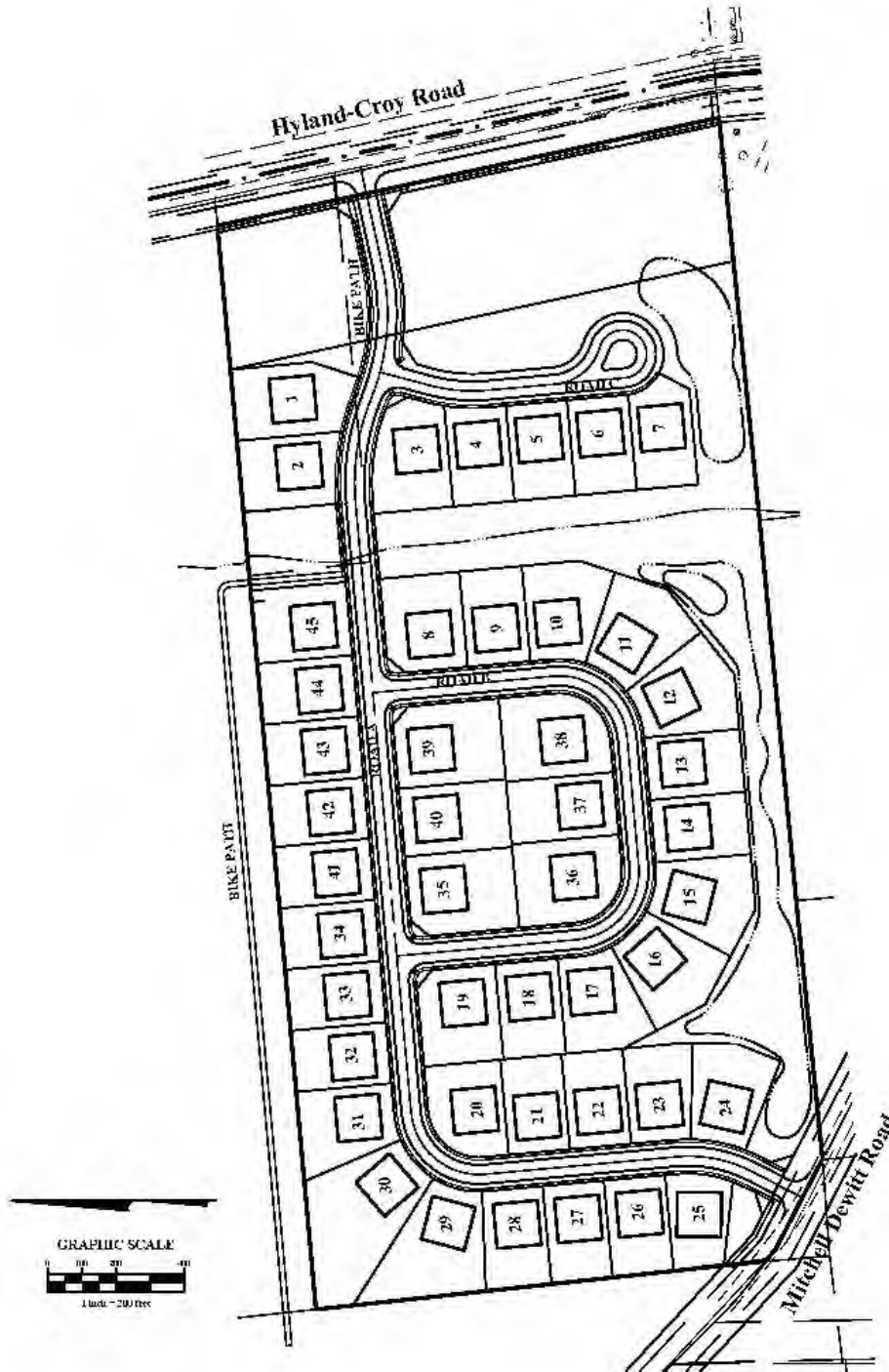


FIGURE 7
2023 Traffic Volumes - AM Peak Hour

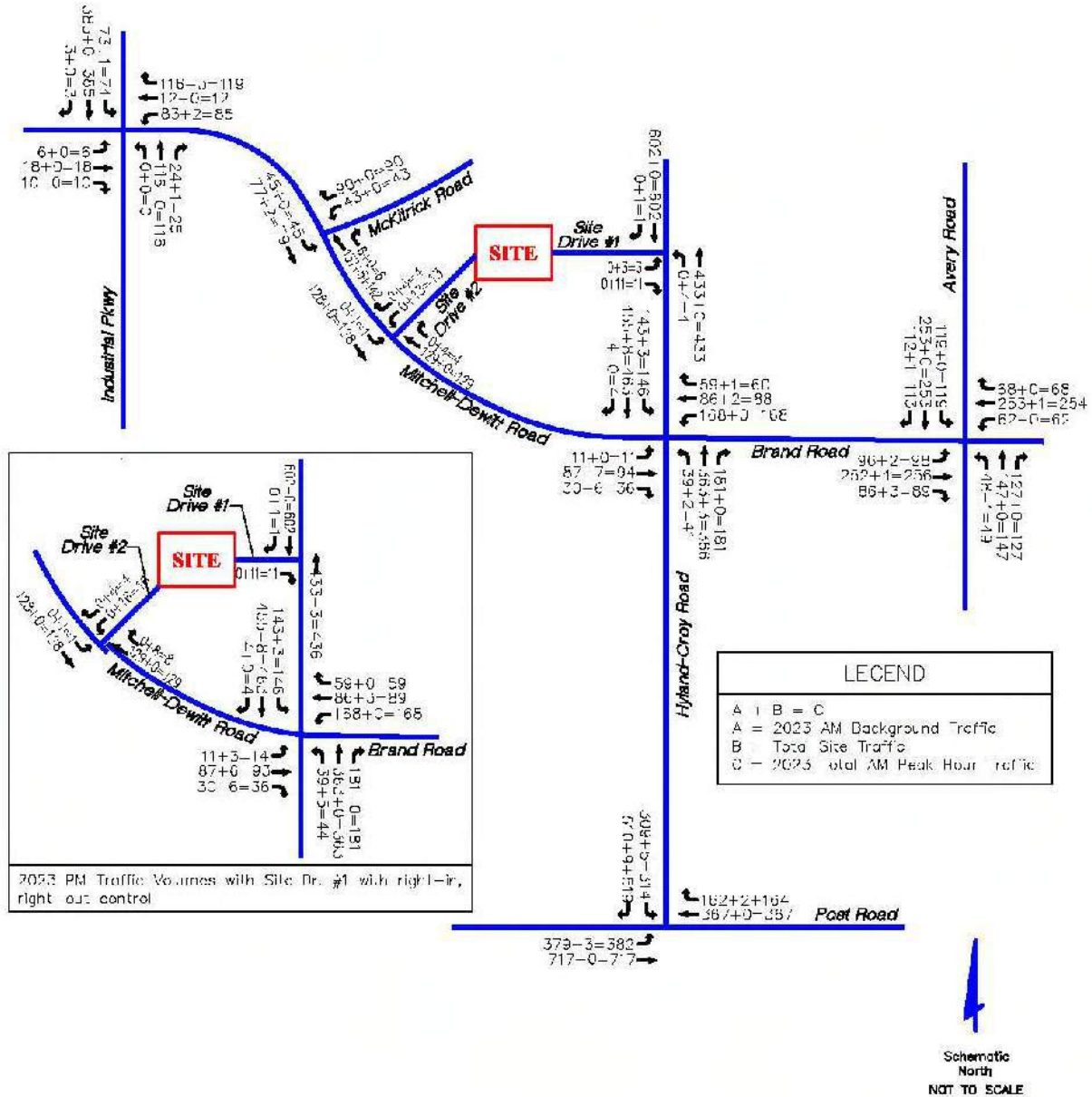
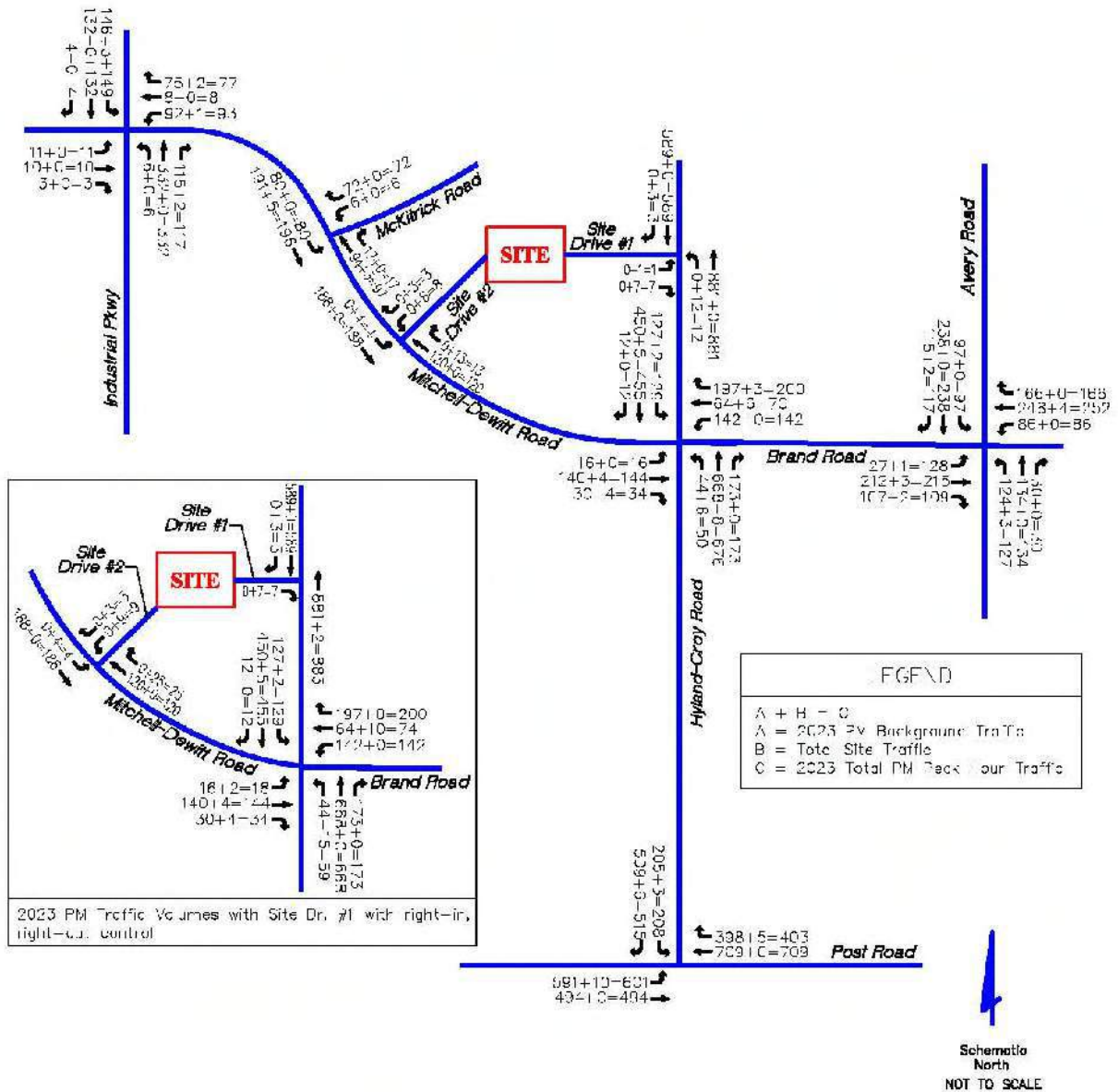
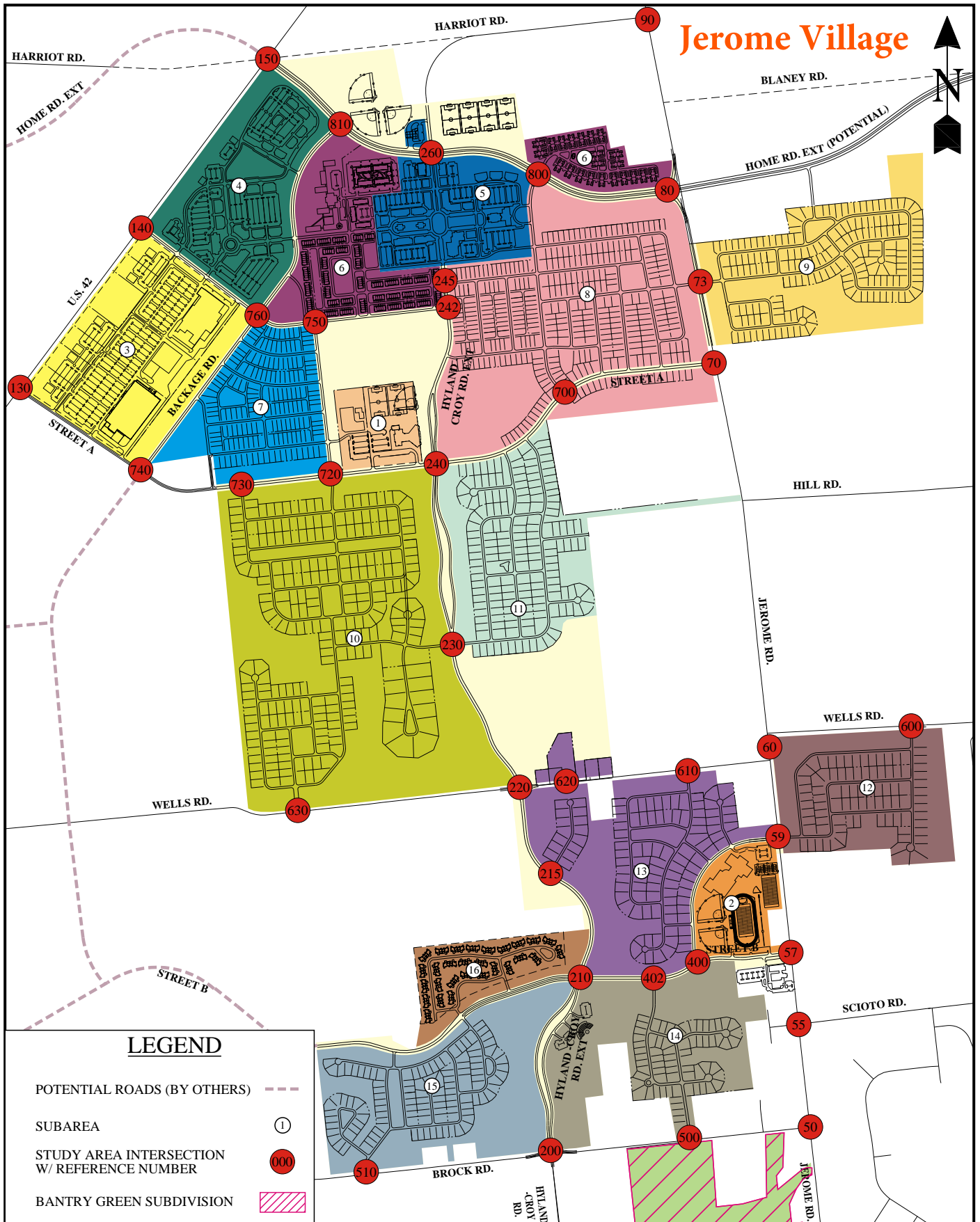


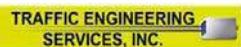
FIGURE 8
2023 Traffic Volumes - PM Peak Hour





JEROME VILLAGE TRAFFIC IMPACT STUDY

PREPARED BY:



2/2007

FIGURE 3

STUDY AREA

Traffic Study Sub Area	ITE Land Use #	Description
1	520	600 Students of Elementary School
2	522	1000 Students of Middle School/Junior High School
3	820	518600 SF Gross Floor Area of Shopping Center
4	710	528000 SF Gross Floor Area of General Office Building
5	NA	1 Each of Jerome Town Center
6	NA	1 Each of Town Center Area Multi Family
7	210	173 Dwelling Units of Single-Family Detached Housing
8	210	410 Dwelling Units of Single-Family Detached Housing
9	210	190 Dwelling Units of Single-Family Detached Housing
10	210	257 Dwelling Units of Single-Family Detached Housing
11	210	162 Dwelling Units of Single-Family Detached Housing
12	210	90 Dwelling Units of Single-Family Detached Housing
13	210	120 Dwelling Units of Single-Family Detached Housing
14	210	68 Dwelling Units of Single-Family Detached Housing
15	210	130 Dwelling Units of Single-Family Detached Housing
16	230	116 Dwelling Units of Residential Condominium/Townhouse

TABLE 1A - LAND USE SUMMARY

Traffic Study Sub Area	Rate (Trips/In d Var.)	Total (Trips)	Internal Capture (%)	Pass-By % (%)	Entering						Exiting					
					%	Total Trips	Internal Capture	Sub Total	Pass-By Trips	Primary Trips	%	Total Trips	Internal Capture	Sub Total	Pass-By Trips	Primary Trips
1	1.29	774	0.0%	NA	50%	387	0	387	NA	387	50%	387	0	387	NA	387
2	1.62	1620	0.0%	NA	50%	810	0	810	NA	810	50%	810	0	810	NA	810
3	38.17	19796	0.0%	NA	50%	9898	0	9898	NA	9898	50%	9898	0	9898	NA	9898
4	11.01	5813	0.0%	NA	50%	2907	0	2907	NA	2907	50%	2907	0	2907	NA	2907
5	13228.00	13228	0.0%	NA	50%	6614	0	6614	NA	6614	50%	6614	0	6614	NA	6614
6	3497.00	3497	0.0%	NA	50%	1749	0	1749	NA	1749	50%	1749	0	1749	NA	1749
7	9.57	1656	0.0%	NA	50%	828	0	828	NA	828	50%	828	0	828	NA	828
8	9.57	3924	0.0%	NA	50%	1962	0	1962	NA	1962	50%	1962	0	1962	NA	1962
9	9.57	1818	0.0%	NA	50%	909	0	909	NA	909	50%	909	0	909	NA	909
10	9.57	2459	0.0%	NA	50%	1230	0	1230	NA	1230	50%	1230	0	1230	NA	1230
11	9.57	1550	0.0%	NA	50%	775	0	775	NA	775	50%	775	0	775	NA	775
12	9.57	861	0.0%	NA	50%	431	0	431	NA	431	50%	431	0	431	NA	431
13	9.57	1148	0.0%	NA	50%	574	0	574	NA	574	50%	574	0	574	NA	574
14	9.57	651	0.0%	NA	50%	325	0	325	NA	325	50%	325	0	325	NA	325
15	9.57	1244	0.0%	NA	50%	622	0	622	NA	622	50%	622	0	622	NA	622
16	5.86	680	0.0%	NA	50%	340	0	340	NA	340	50%	340	0	340	NA	340
TOTALS		60720				30360	0	30360	NA	30360		30360	0	30360	NA	30360

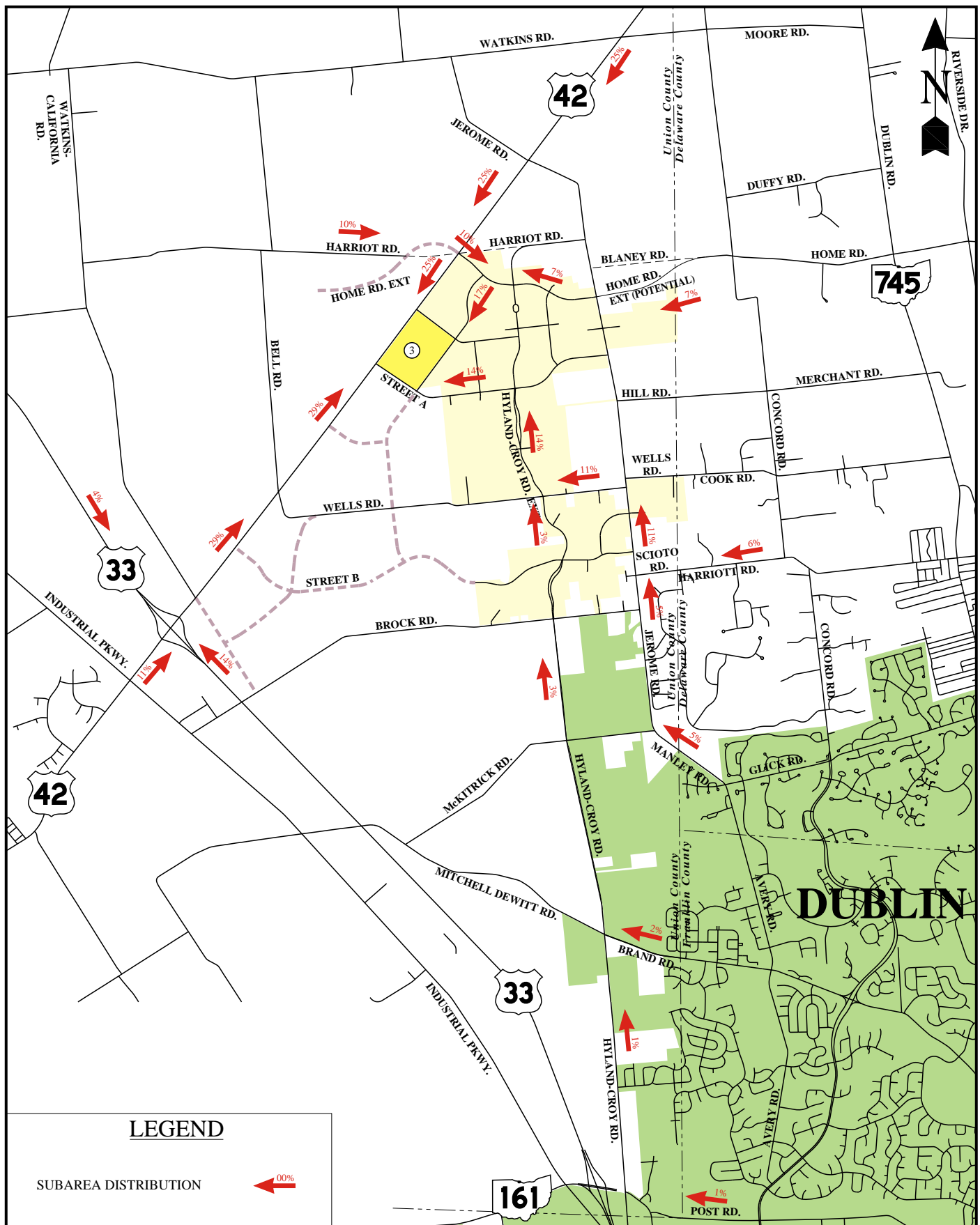
TABLE 1B - SITE TRIP GENERATION SUMMARY - DAILY

Traffic Study Sub Area	Rate (Trips/In d Var.)	Total (Trips)	Internal Capture (%)	Pass-By % (%)	Entering						Exiting					
					%	Total Trips	Internal Capture	Sub Total	Pass-By Trips	Primary Trips	%	Total Trips	Internal Capture	Sub Total	Pass-By Trips	Primary Trips
1	0.36	215	NA	0%	55%	118	NA	118	0	118	45%	97	NA	97	0	97
2	0.53	530	NA	0%	55%	292	NA	292	0	292	45%	239	NA	239	0	239
3	0.81	420	NA	0%	61%	256	NA	256	0	256	39%	164	NA	164	0	164
4	1.55	818	NA	0%	88%	720	NA	720	0	720	12%	98	NA	98	0	98
5	531.00	531	NA	0%	75%	398	NA	398	0	398	25%	133	NA	133	0	133
6	249.00	249	NA	0%	25%	62	NA	62	0	62	75%	187	NA	187	0	187
7	0.75	130	NA	0%	25%	32	NA	32	0	32	75%	97	NA	97	0	97
8	0.75	308	NA	0%	25%	77	NA	77	0	77	75%	231	NA	231	0	231
9	0.75	143	NA	0%	25%	36	NA	36	0	36	75%	107	NA	107	0	107
10	0.75	193	NA	0%	25%	48	NA	48	0	48	75%	145	NA	145	0	145
11	0.75	122	NA	0%	25%	30	NA	30	0	30	75%	91	NA	91	0	91
12	0.75	68	NA	0%	25%	17	NA	17	0	17	75%	51	NA	51	0	51
13	0.75	90	NA	0%	25%	23	NA	23	0	23	75%	68	NA	68	0	68
14	0.75	51	NA	0%	25%	13	NA	13	0	13	75%	38	NA	38	0	38
15	0.75	98	NA	0%	25%	24	NA	24	0	24	75%	73	NA	73	0	73
16	0.44	51	NA	0%	17%	9	NA	9	0	9	83%	42	NA	42	0	42
TOTALS		4015				2155	NA	2155	0	2155		1859	NA	1859	0	1859

TABLE 1C - SITE TRIP GENERATION SUMMARY - AM PEAK

Traffic Study Sub Area	Rate (Trips/In d Var.)	Total (Trips)	Internal Capture (%)	Pass-By % (%)	Entering						Exiting					
					%	Total Trips	Internal Capture	Sub Total	Pass-By Trips	Primary Trips	%	Total Trips	Internal Capture	Sub Total	Pass-By Trips	Primary Trips
1	0.00	0	0.0%	0%	50%	0	0	0	0	0	50%	0	0	0	0	0
2	0.30	300	0.0%	0%	52%	156	0	156	0	156	48%	144	0	144	0	144
3	3.58	1855	0.0%	24%	48%	890	0	890	214	677	52%	965	0	965	232	733
4	1.49	787	0.0%	0%	17%	134	0	134	0	134	83%	653	0	653	0	653
5	1326.00	1326	0.0%	0%	42%	557	0	557	0	557	58%	769	0	769	0	769
6	310.00	310	0.0%	0%	62%	192	0	192	0	192	38%	118	0	118	0	118
7	1.01	175	0.0%	0%	63%	110	0	110	0	110	37%	65	0	65	0	65
8	1.01	414	0.0%	0%	63%	261	0	261	0	261	37%	153	0	153	0	153
9	1.01	192	0.0%	0%	63%	121	0	121	0	121	37%	71	0	71	0	71
10	1.01	260	0.0%	0%	63%	164	0	164	0	164	37%	96	0	96	0	96
11	1.01	164	0.0%	0%	63%	103	0	103	0	103	37%	61	0	61	0	61
12	1.01	91	0.0%	0%	63%	57	0	57	0	57	37%	34	0	34	0	34
13	1.01	121	0.0%	0%	63%	76	0	76	0	76	37%	45	0	45	0	45
14	1.01	69	0.0%	0%	63%	43	0	43	0	43	37%	25	0	25	0	25
15	1.01	131	0.0%	0%	63%	83	0	83	0	83	37%	49	0	49	0	49
16	0.52	60	0.0%	0%	67%	40	0	40	0	40	33%	20	0	20	0	20
TOTALS		6254				2988	0	2988	214	2774		3266	0	3266	232	3035

TABLE 1D - SITE TRIP GENERATION SUMMARY - PM PEAK



JEROME VILLAGE TRAFFIC IMPACT STUDY

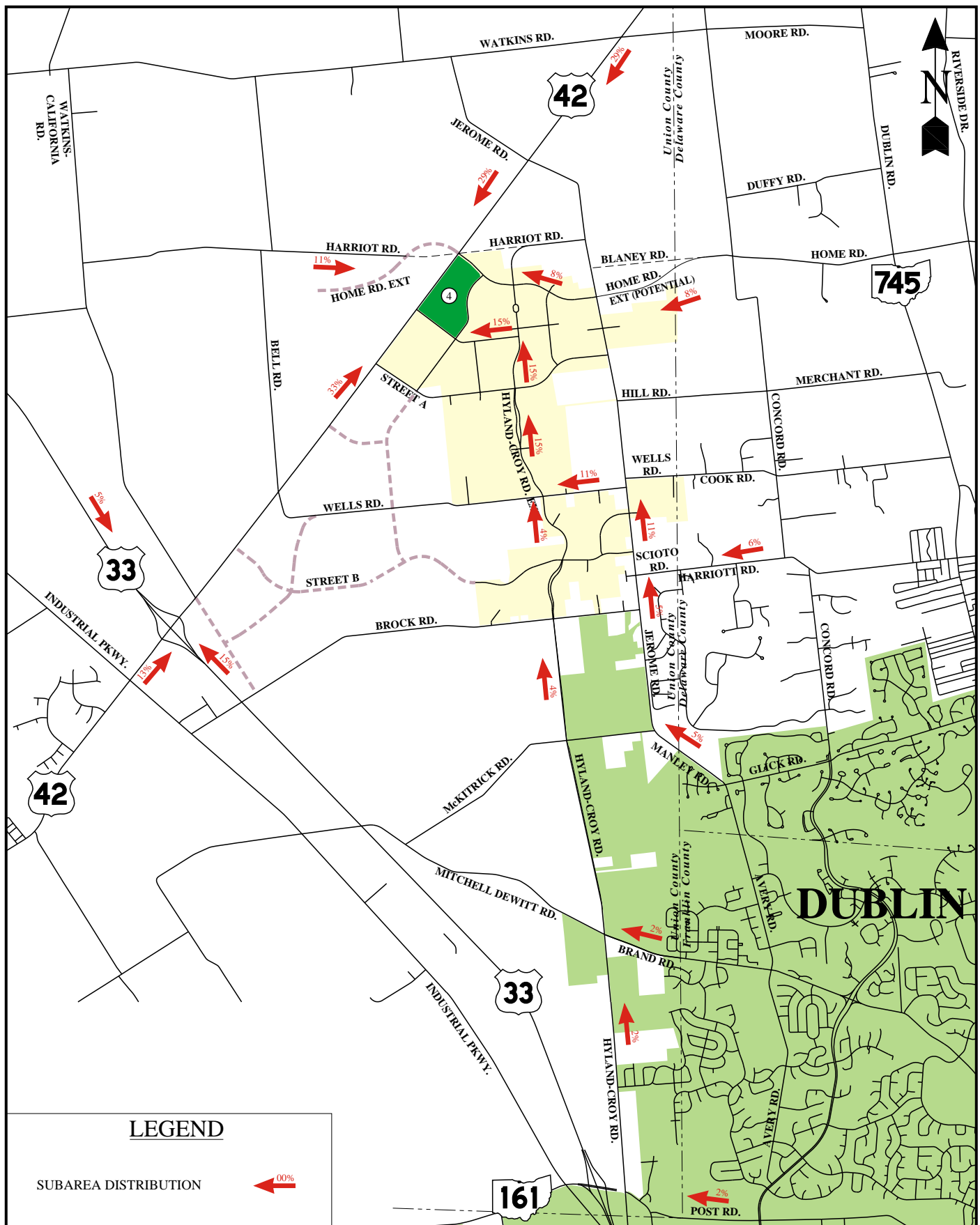
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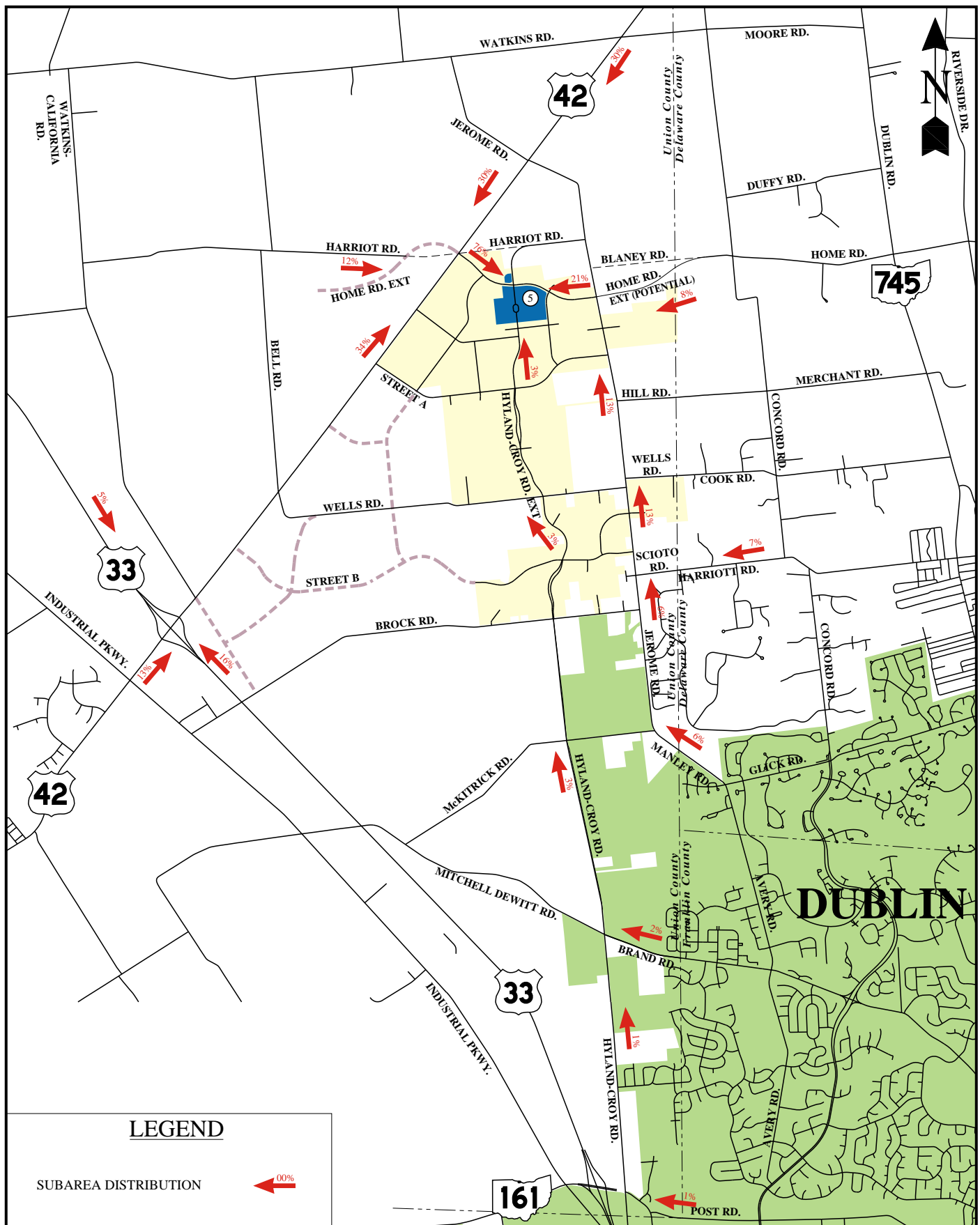
TRAFFIC ENGINEERING
SERVICES, INC.

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APPENDIX C

SUBAREA 3 PRIMARY TRAFFIC DISTRIBUTION





JEROME VILLAGE TRAFFIC IMPACT STUDY

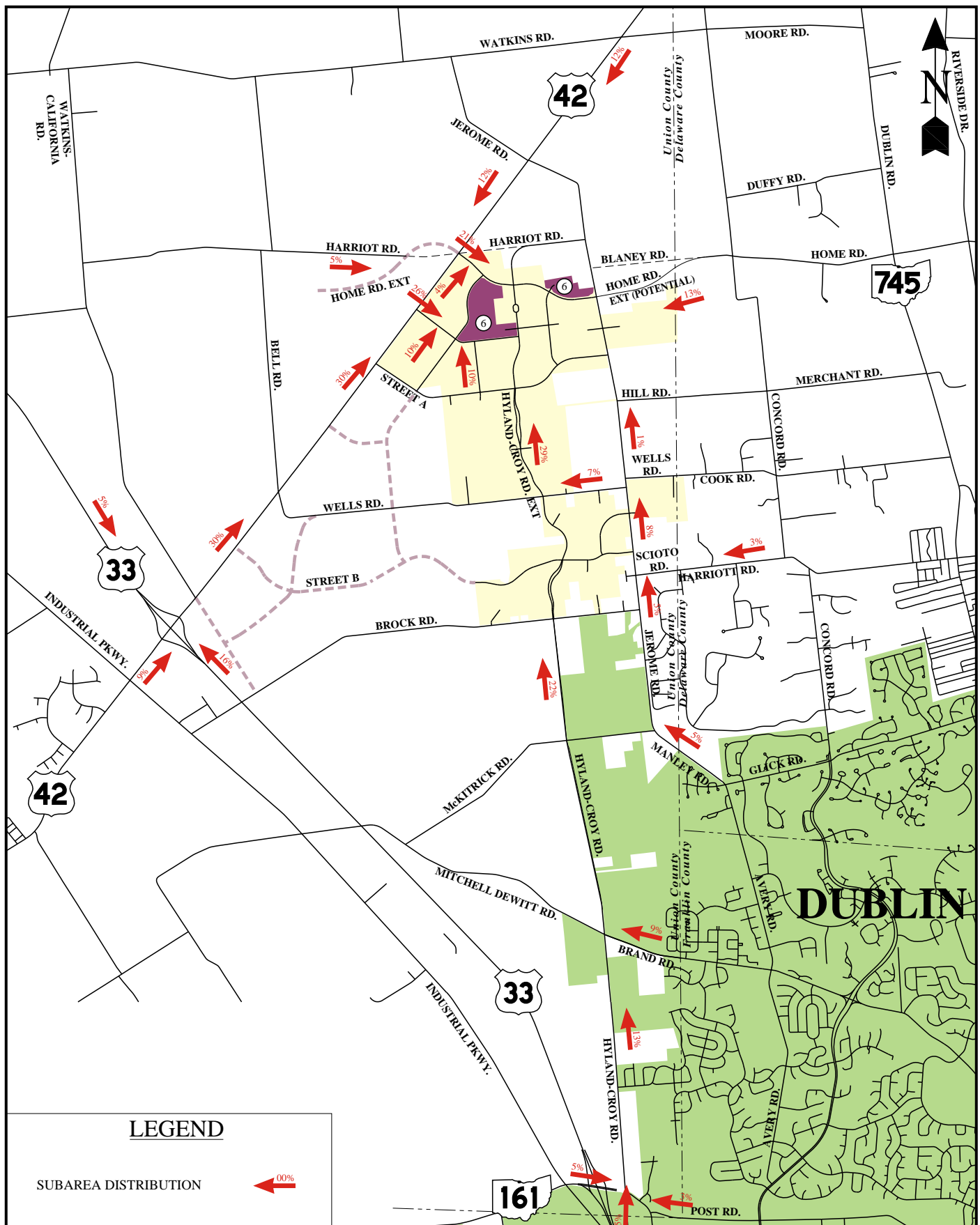
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2/2007

APPENDIX C

SUBAREA 5 PRIMARY TRAFFIC DISTRIBUTION



JEROME VILLAGE TRAFFIC IMPACT STUDY

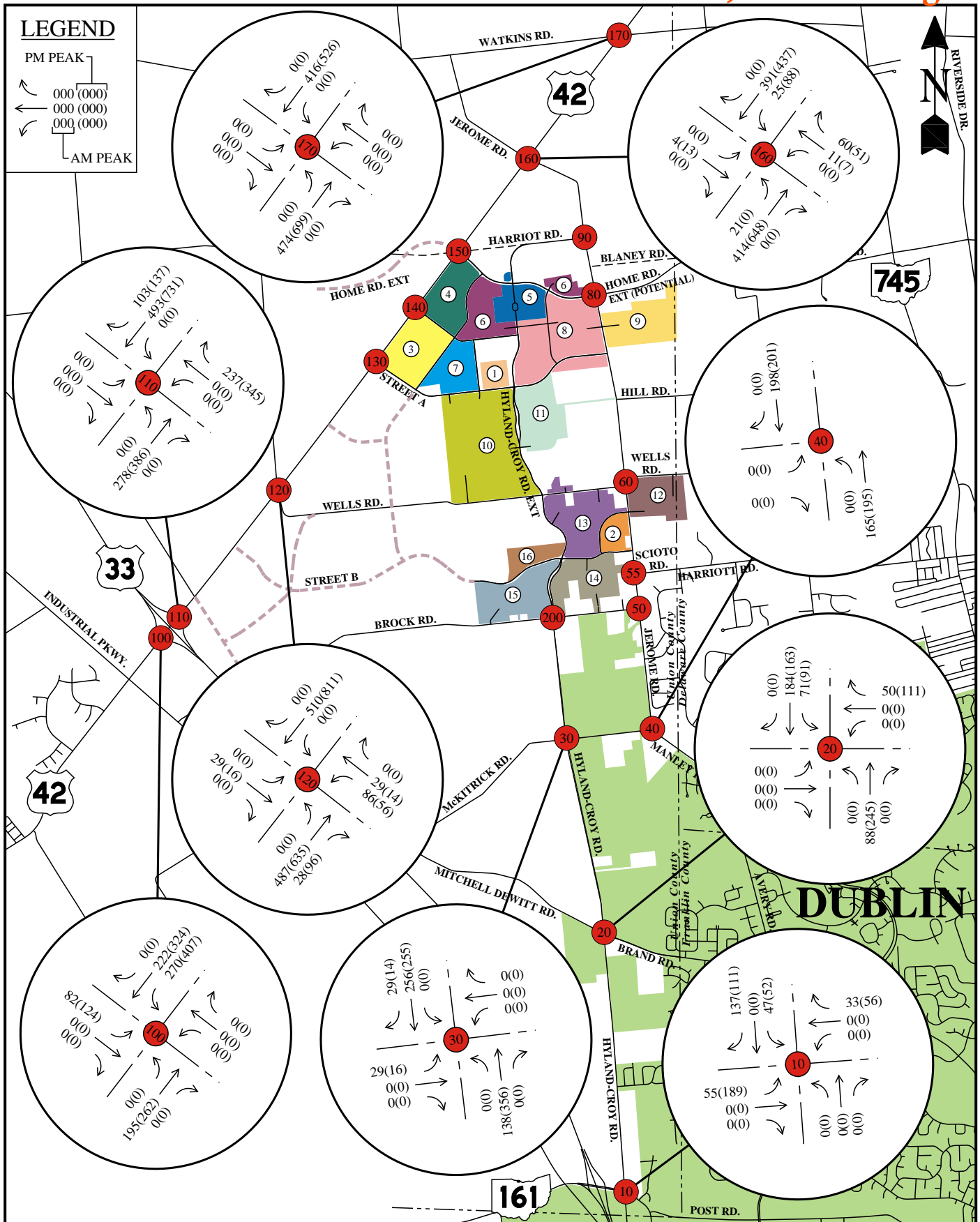
PREPARED BY:



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APPENDIX C

SUBAREA 6 PRIMARY TRAFFIC DISTRIBUTION



JEROME VILLAGE TRAFFIC IMPACT STUDY

PREPARED BY:



2/2007

APPENDIX D

SITE GENERATED TRAFFIC

	Oak Park		Tartan Ridge	
Residential	AM Peak	PM Peak	AM Peak	PM Peak
% Undeveloped (2015)	60%		25%	
Primary Trips	74	87	198	260
Undeveloped Trips	44	52	50	65
Commercial	AM Peak	PM Peak	AM Peak	PM Peak
% Undeveloped (2015)	100.00%		100.00%	
Primary Trips	44	80	141	357
Undeveloped Trips	44	80	141	357
Total	AM Peak	PM Peak	AM Peak	PM Peak
% Undeveloped (2015)	75%	79%	56%	68%
Primary Trips	118	167	339	617
Undeveloped Trips	88	132	191	422

Refer to comment on page 10 regarding background traffic for Jerome Village

Jerome Village Site Traffic Adjustments for Subareas to Develop Beyond 2026

AM Peak																							
	REV. 1	Subarea 3				Subarea 4				Subarea 5				Subarea 6				Subarea 8				Adjustment	Adjusted Volume
		Entering		Exiting		Entering		Exiting		Entering		Exiting		Entering		Exiting		Entering		Exiting			
		256		164		720		98		398		133		62		187		77		231			
Hyland-Croy Rd. & Mitchell-DeWitt Rd./Brand Rd.																							
NB Thru	88	1%	3		0	2%	14		0	1%	4		0	13%	8		0	13%	10		0	39	49
SB Thru	184		0	1%	2		0	2%	2		0	1%	1		0	13%	24		0	13%	30	59	125
SB LT	71		0	2%	3		0	2%	2		0	2%	3		0	9%	17		0	7%	16	41	30
WB RT	50	2%	5		0	2%	14		0	2%	8		0	9%	6		0	7%	5		0	38	12
Hyland-Croy Rd. & Post																							
SB LT	47		0	1%	2		0	2%	2		0	1%	1		0	3%	6		0	3%	7	17	30
SB RT	137		0		0		0		0		0		0		0	10%	19		0	10%	23	42	95
WB RT	33	1%	3		0	2%	14		0	1%	4		0	3%	2		0	3%	2		0	25	8
EB LT	55		0		0		0		0		0		0	10%	6		0	10%	8		0	14	41

PM Peak																							
	REV. 1	Subarea 3				Subarea 4				Subarea 5				Subarea 6				Subarea 8				Adjustment	Adjusted Volume
		Entering		Exiting		Entering		Exiting		Entering		Exiting		Entering		Exiting		Entering		Exiting			
		677		733		134		653		557		769		192		118		261		153			
Hyland-Croy Rd. & Mitchell-DeWitt Rd./Brand Rd.																							
NB Thru	245	1%	7		0	2%	3		0	1%	6		0	13%	25		0	13%	34		0	74	171
SB Thru	163		0	1%	7		0	2%	13		0	1%	8		0	13%	15		0	13%	20	63	100
SB LT	91		0	2%	15		0	2%	13		0	2%	15		0	9%	11		0	7%	11	64	27
WB RT	111	2%	14		0	2%	3		0	2%	11		0	9%	17		0	7%	18		0	63	48
Hyland-Croy Rd. & Post																							
SB LT	52		0	1%	7		0	2%	13		0	1%	8		0	3%	4		0	3%	5	36	16
SB RT	111		0		0		0		0		0		0		0	10%	12		0	10%	15	27	84
WB RT	56	1%	7		0	2%	3		0	1%	6		0	3%	6		0	3%	8		0	29	27
EB LT	189		0		0		0		0		0		0	10%	19		0	10%	26		0	45	144

From: [Chandra Parasa](#)
To: [Kristine Connolly](#)
Cc: [John Gallagher](#); [Nick Gill](#); [Hwashik Jang](#); [Zhuojun Jiang](#)
Subject: RE: Growth Rates in southeastern Union County
Date: Friday, January 03, 2014 1:06:54 PM

Kristine,

We have completed processing growth rate request for this study area.

Please use the following linear annual growth rates as follows:

Location	Growth Rate (Linear Annual)
Avery Road, North & South of Perimeter Dr	1.0%
Perimeter Dr, East of Avery Rd	0.25%
Perimeter Dr, West of Avery Rd	1.5%
Avery Rd & Brand Rd Intersection	2.25%
Mitchell Dewitt (Brand) Rd, E & W of Hyland Croy	2.5%
Hyland Croy Rd, N & S of Mitchell Dewitt Rd	5.0%
US 33 Interchange ramps	3.25%
Post Road, West of Hyland Croy Rd	5.0%
Post Road from Hyland Croy to E of Perimeter Dr	2.5%
Perimeter Dr, E of Post Rd	2.25%

Thanks,

Chad

From: Kristine Connolly [<mailto:kconnolly@cmtran.com>]
Sent: Thursday, December 05, 2013 2:04 PM
To: Hwashik Jang
Cc: John Gallagher; Nick Gill; Chandra Parasa
Subject: RE: Growth Rates in southeastern Union County

Hwashik,

I have attached PDFs of the counts with selectable text.

Thanks,

Kristine

From: Kristine Connolly
Sent: Thursday, December 05, 2013 11:50 AM
To: Hwashik Jang
Cc: John Gallagher; Nick Gill; Chandra Parasa
Subject: RE: Growth Rates in southeastern Union County

We only have the counts in paper (scanned form). I am requesting an selectable text file from the city of Dublin. By the way, I forgot to mention that this is a joint project for Union County and the City of Dublin. I will let you know when I receive the PDF.

Thanks,
Kristine

From: Hwashik Jang [<mailto:hjang@morpc.org>]
Sent: Thursday, December 05, 2013 9:20 AM
To: Kristine Connolly
Cc: John Gallagher; Nick Gill; Chandra Parasa
Subject: RE: Growth Rates in southeastern Union County

Kristine,

Existing Counts.pdf is scanned file, so we are unable to select text in the PDF. Can you provide us PDF with selectable text format? Excel file or 'Non-scanned pdf' file will help us to process traffic counts.

Thanks,
Hwashik

From: Kristine Connolly [<mailto:kconnolly@cmtran.com>]
Sent: Wednesday, December 04, 2013 8:49 AM
To: Chandra Parasa
Cc: John Gallagher; Hwashik Jang; Nick Gill
Subject: Growth Rates in southeastern Union County

Chad,

I am requesting growth rates for the area including the following intersections:

1. Mitchell-Dewitt (Brand) Road/Hyland-Croy Road
2. Avery Road/Brand Road
3. Perimeter Drive/Avery-Muirfield Drive
4. Post Road/Perimeter Drive
5. Post Road/Hyland-Croy Road
6. SR 161/US 33 and Post Road/US 33 interchange
7. SR 161/Eiterman Road
8. SR 161/Cosgray Road

I have attached counts for all of the above intersections. We are performing a traffic impact study for the Halls Corner development proposed on the West side of Hyland-Croy Road, 900' north of Post Road. The site consists of 3 parcels of land (110 acres) with proposed retail development. The site plan is also attached. There are several other recent/proposed developments in and around the study area outlined above.

The opening year is 2014 and horizon year is 2034. Please let me know if you need any additional

information.

Thanks,

Kristine Connolly, EIT

Traffic Engineer



Carpenter Marty Transportation, Inc.

7007 Discovery Blvd.

Dublin, OH 43017

T (614) 656-2419

kconnolly@cmtran.com

WD Transportation is now Carpenter Marty Transportation, Inc.

Appendix E. Traffic Signal Warrants

SIGNAL WARRANT WORKSHEET

Warrant 3, Peak Hour

Ohio MUTCD

Intersection: Industrial Parkway & Mitchel-DeWitt
Project Name: Jerome Twp. Development
Project No.: _____

Year: Design Year 2038
Condition: AM Peak Hour - No Build
Analyst: MIM - CT Consultants

Section 4C.04 Warrant 3, Peak Hour

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

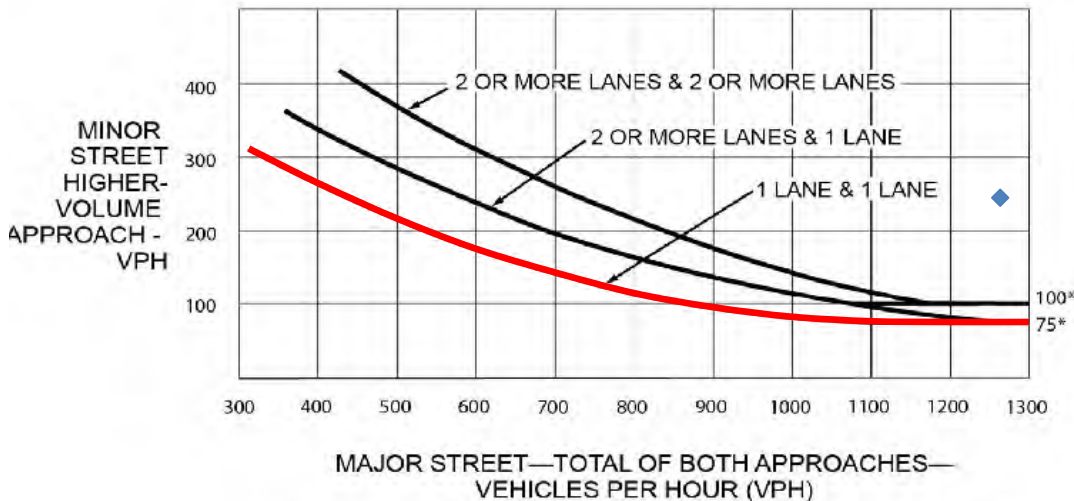
The need for a traffic control signal shall be considered if the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding plotted vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-4 for the existing combination of approach lanes.

	Major Street	Minor Street
Street Name	Industrial Pkwy	Mitchell-DeWitt
No. of Lanes	1	1
Hour	Volume* (vph)	
AM Peak	1263	244

Warrant 3 Met?
YES

*Total of both approaches for major street, higher volume approach only for minor street

Figure 4C - 4. Warrant 3, Peak Hour (70%)
(Community less than 10,000 population or above 40 mph on major street)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: January 2012 Ohio MUTCD, Part 4

SIGNAL WARRANT WORKSHEET

Warrant 3, Peak Hour

Ohio MUTCD

Intersection: Industrial Parkway & Mitchel-DeWitt
Project Name: Jerome Twp. Development
Project No.: _____

Year: Design Year 2038
Condition: PM Peak Hour - No Build
Analyst: MIM - CT Consultants

Section 4C.04 Warrant 3, Peak Hour

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

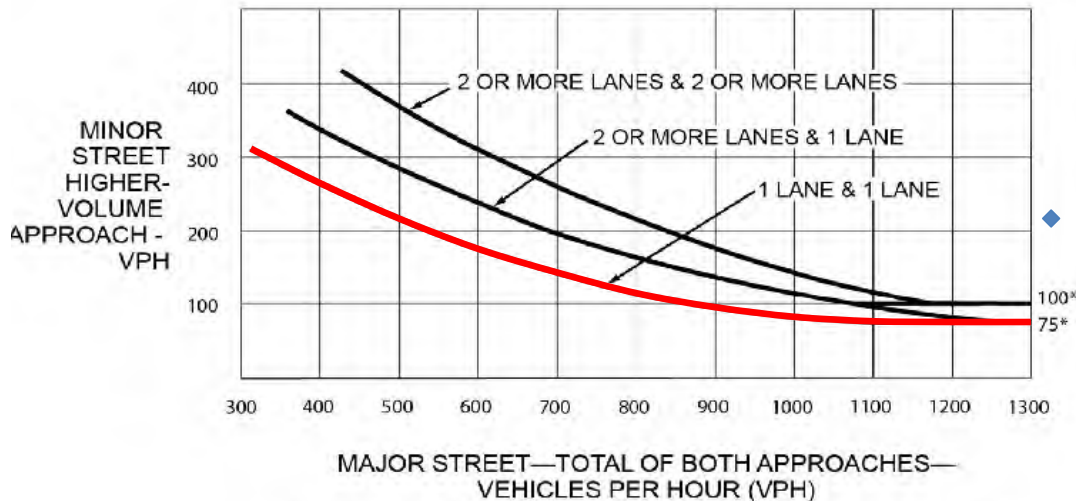
The need for a traffic control signal shall be considered if the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding plotted vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-4 for the existing combination of approach lanes.

	Major Street	Minor Street
Street Name	Industrial Pkwy	Mitchell-Dewitt
No. of Lanes	1	1
Hour	Volume* (vph)	
PM Peak	1792	216

Warrant 3 Met?
YES

*Total of both approaches for major street, higher volume approach only for minor street

Figure 4C - 4. Warrant 3, Peak Hour (70%)
 (Community less than 10,000 population or above 40 mph on major street)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.






















Source: January 2012 Ohio MUTCD, Part 4

Appendix F. Turn Lane Length Calculation Worksheets

Appendix G. Intersection Capacity Analyses and Results





HCM 2010 Signalized Intersection Summary
1: Industrial Parkway & Mitchell-DeWitt

2038 No Build
07/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	7	8	15	108	23	113	133	790	14	2	298	26
Future Volume (veh/h)	7	8	15	108	23	113	133	790	14	2	298	26
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	8	9	16	117	25	123	145	859	15	2	324	28
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	95	168	370	43	212	736	1148	20	360	1172	996
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1235	603	1071	1380	274	1350	1025	1825	32	632	1863	1583
Grp Volume(v), veh/h	8	0	25	117	0	148	145	0	874	2	324	28
Grp Sat Flow(s),veh/h/ln	1235	0	1674	1380	0	1624	1025	0	1857	632	1863	1583
Q Serve(g_s), s	0.3	0.0	0.5	3.3	0.0	3.6	3.1	0.0	13.9	0.1	3.3	0.3
Cycle Q Clear(g_c), s	3.8	0.0	0.5	3.9	0.0	3.6	6.4	0.0	13.9	14.0	3.3	0.3
Prop In Lane	1.00		0.64	1.00		0.83	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	261	0	263	370	0	255	736	0	1168	360	1172	996
V/C Ratio(X)	0.03	0.00	0.10	0.32	0.00	0.58	0.20	0.00	0.75	0.01	0.28	0.03
Avail Cap(c_a), veh/h	615	0	743	766	0	721	1607	0	2748	897	2756	2342
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	15.2	16.8	0.0	16.5	4.9	0.0	5.5	10.4	3.5	2.9
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.5	0.0	2.1	0.1	0.0	1.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	1.3	0.0	1.7	0.9	0.0	7.1	0.0	1.7	0.1
LnGrp Delay(d),s/veh	18.3	0.0	15.3	17.3	0.0	18.5	5.1	0.0	6.4	10.4	3.6	3.0
LnGrp LOS	B		B	B		B	A		A	B	A	A
Approach Vol, veh/h	33					265		1019		354		
Approach Delay, s/veh	16.1					18.0		6.3		3.6		
Approach LOS	B					B		A		A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4			6		8				
Phs Duration (G+Y+Rc), s	31.0		11.1			31.0		11.1				
Change Period (Y+Rc), s	4.5		4.5			4.5		4.5				
Max Green Setting (Gmax), s	62.3		18.7			62.3		18.7				
Max Q Clear Time (g_c+I1), s	16.0		5.8			15.9		5.9				
Green Ext Time (p_c), s	10.5		1.0			10.5		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 4.9

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	61	106	122	14	53	110
Future Vol, veh/h	61	106	122	14	53	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	175	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	115	133	15	58	120

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	148	0	388
Stage 1	-	-	140
Stage 2	-	-	248
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1434	-	616
Stage 1	-	-	887
Stage 2	-	-	793
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1434	-	588
Mov Cap-2 Maneuver	-	-	588
Stage 1	-	-	887
Stage 2	-	-	757






















Approach	EB	WB	SW
HCM Control Delay, s	2.8	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1434	-	-	-	771
HCM Lane V/C Ratio	0.046	-	-	-	0.23
HCM Control Delay (s)	7.6	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

HCM 2010 Signalized Intersection Summary





1: Industrial Parkway & Mitchell-DeWitt

2038 No Build
07/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	5	10	3	86	27	103	250	362	12	21	892	255
Future Volume (veh/h)	5	10	3	86	27	103	250	362	12	21	892	255
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	5	11	3	93	29	112	272	393	13	23	970	277
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	176	48	267	42	162	325	1338	44	685	1112	945
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.09	0.75	0.75	0.60	0.60	0.60
Sat Flow, veh/h	1243	1410	385	1394	336	1298	1774	1793	59	975	1863	1583
Grp Volume(v), veh/h	5	0	14	93	0	141	272	0	406	23	970	277
Grp Sat Flow(s), veh/h/ln	1243	0	1795	1394	0	1634	1774	0	1852	975	1863	1583
Q Serve(g_s), s	0.3	0.0	0.5	4.4	0.0	5.8	3.7	0.0	5.0	0.7	30.6	6.0
Cycle Q Clear(g_c), s	6.0	0.0	0.5	4.9	0.0	5.8	3.7	0.0	5.0	0.7	30.6	6.0
Prop In Lane	1.00		0.21	1.00		0.79	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	155	0	224	267	0	204	325	0	1383	685	1112	945
V/C Ratio(X)	0.03	0.00	0.06	0.35	0.00	0.69	0.84	0.00	0.29	0.03	0.87	0.29
Avail Cap(c_a), veh/h	321	0	463	453	0	421	438	0	1671	775	1283	1090
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	0.0	27.0	29.1	0.0	29.3	15.7	0.0	2.9	5.8	11.9	6.9
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.8	0.0	4.2	10.2	0.0	0.1	0.0	6.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	1.8	0.0	2.8	4.2	0.0	2.5	0.2	17.3	2.6
LnGrp Delay(d),s/veh	32.3	0.0	27.1	29.9	0.0	33.5	25.9	0.0	3.0	5.8	18.0	7.1
LnGrp LOS	C		C	C		C	C		A	A	B	A
Approach Vol, veh/h	19			234			678			1270		
Approach Delay, s/veh	28.5			32.0			12.2			15.4		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.5	46.2		13.2		56.6		13.2				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	10.4	48.1		18.0		63.0		18.0				
Max Q Clear Time (g_c+l1), s	5.7	32.6		8.0		7.0		7.8				
Green Ext Time (p_c), s	0.3	9.1		0.7		15.6		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	16.3											
HCM 2010 LOS	B											

Intersection

Int Delay, s/veh 4.1

Movement	WBR	SEL	SWL	SWR
Lane Configurations				
Traffic Vol, veh/h	105	299	20	104
Future Vol, veh/h	105	299	20	104
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Free	Stop	Stop
RT Channelized	-	None	-	None
Storage Length	0	225	100	0
Veh in Median Storage, #	0	0	0	-
Grade, %	0	0	0	-
Peak Hour Factor	92	92	92	92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	114	325	22	113

Major/Minor	Major2	Major1	Minor2	
Conflicting Flow All	0	154	929	134
Stage 1	-	-	134	-
Stage 2	-	-	795	-
Critical Hdwy	-	4.12	7.12	6.22
Critical Hdwy Stg 1	-	-	6.12	-
Critical Hdwy Stg 2	-	-	6.12	-
Follow-up Hdwy	-	2.218	3.518	3.318
Pot Cap-1 Maneuver	-	1426	248	915
Stage 1	-	-	869	-
Stage 2	-	-	381	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	1426	217	915
Mov Cap-2 Maneuver	-	-	217	-
Stage 1	-	-	726	-
Stage 2	-	-	318	-






















Approach	WB	SE	SW
HCM Control Delay, s	0	3.4	11.7
HCM LOS			B

Minor Lane/Major Mvmt	WBR	WBR2	SEL2	SELSWLn1	SWLn2
Capacity (veh/h)	-	-	1426	-	217 915
HCM Lane V/C Ratio	-	-	0.165	-	0.1 0.124
HCM Control Delay (s)	-	-	8	-	23.4 9.5
HCM Lane LOS	-	-	A	-	C A
HCM 95th %tile Q(veh)	-	-	0.6	-	0.3 0.4

HCM 2010 Signalized Intersection Summary





1: Industrial Parkway & Mitchell-DeWitt

2038 Build
07/20/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	7	9	15	146	34	174	154	790	14	2	298	53
Future Volume (veh/h)	7	9	15	146	34	174	154	790	14	2	298	53
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	8	10	16	159	37	189	167	859	15	2	324	58
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	134	214	423	55	281	606	1095	19	309	761	647
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.09	0.60	0.60	0.41	0.41	0.41
Sat Flow, veh/h	1150	646	1034	1379	266	1357	1774	1825	32	632	1863	1583
Grp Volume(v), veh/h	8	0	26	159	0	226	167	0	874	2	324	58
Grp Sat Flow(s),veh/h/ln	1150	0	1680	1379	0	1623	1774	0	1857	632	1863	1583
Q Serve(g_s), s	0.3	0.0	0.6	4.9	0.0	6.0	2.2	0.0	16.6	0.1	5.8	1.0
Cycle Q Clear(g_c), s	6.3	0.0	0.6	5.5	0.0	6.0	2.2	0.0	16.6	7.8	5.8	1.0
Prop In Lane	1.00		0.62	1.00		0.84	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	245	0	348	423	0	336	606	0	1114	309	761	647
V/C Ratio(X)	0.03	0.00	0.07	0.38	0.00	0.67	0.28	0.00	0.78	0.01	0.43	0.09
Avail Cap(c_a), veh/h	512	0	738	743	0	713	711	0	2408	711	1948	1656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	14.9	17.1	0.0	17.0	6.1	0.0	7.1	13.4	9.9	8.5
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.6	0.0	2.3	0.2	0.0	1.3	0.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	1.9	0.0	2.9	1.1	0.0	8.6	0.0	3.0	0.5
LnGrp Delay(d),s/veh	20.0	0.0	15.0	17.7	0.0	19.4	6.3	0.0	8.3	13.4	10.3	8.5
LnGrp LOS	B		B	B		B	A		A	B	B	A
Approach Vol, veh/h	34			385			1041			384		
Approach Delay, s/veh	16.2			18.7			8.0			10.0		
Approach LOS	B			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	23.6		14.2		32.5		14.2				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	7.2	48.8		20.5		60.5		20.5				
Max Q Clear Time (g_c+I1), s	4.2	9.8		8.3		18.6		8.0				
Green Ext Time (p_c), s	0.1	9.3		1.4		9.4		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay	10.8											
HCM 2010 LOS	B											

Intersection

Int Delay, s/veh 5.4

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	77	175	149	21	72	148
Future Vol, veh/h	77	175	149	21	72	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	190	162	23	78	161

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	185	0	531
Stage 1	-	-	173
Stage 2	-	-	358
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1390	-	509
Stage 1	-	-	857
Stage 2	-	-	707
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1390	-	478
Mov Cap-2 Maneuver	-	-	478
Stage 1	-	-	857
Stage 2	-	-	664






















Approach	EB	WB	SW
HCM Control Delay, s	2.4	0	13
HCM LOS			B






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1
Capacity (veh/h)	1390	-	-	686
HCM Lane V/C Ratio	0.06	-	-	0.349
HCM Control Delay (s)	7.8	-	-	13
HCM Lane LOS	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.6

HCM 2010 Signalized Intersection Summary

1: Industrial Parkway & Mitchell-DeWitt

2038 Build
07/17/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	5	14	3	124	39	148	302	362	12	21	892	363
Future Volume (veh/h)	5	14	3	124	39	148	302	362	12	21	892	363
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	5	15	3	135	42	161	328	393	13	23	970	395
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	230	46	278	52	198	362	1344	44	623	1040	884
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.75	0.75	0.56	0.56	0.56
Sat Flow, veh/h	1174	1508	302	1389	338	1296	1774	1793	59	975	1863	1583
Grp Volume(v), veh/h	5	0	18	135	0	203	328	0	406	23	970	395
Grp Sat Flow(s),veh/h/ln	1174	0	1810	1389	0	1634	1774	0	1852	975	1863	1583
Q Serve(g_s), s	0.4	0.0	0.8	8.5	0.0	11.1	11.0	0.0	6.5	1.0	44.3	13.6
Cycle Q Clear(g_c), s	11.5	0.0	0.8	9.3	0.0	11.1	11.0	0.0	6.5	1.0	44.3	13.6
Prop In Lane	1.00		0.17	1.00		0.79	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	116	0	277	278	0	250	362	0	1389	623	1040	884
V/C Ratio(X)	0.04	0.00	0.07	0.48	0.00	0.81	0.91	0.00	0.29	0.04	0.93	0.45
Avail Cap(c_a), veh/h	166	0	353	337	0	318	392	0	1464	646	1085	922
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	0.0	33.5	37.5	0.0	37.8	28.0	0.0	3.7	9.2	18.8	12.0
Incr Delay (d2), s/veh	0.2	0.0	0.1	1.3	0.0	11.9	23.1	0.0	0.1	0.0	13.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.4	3.4	0.0	5.8	10.4	0.0	3.3	0.3	26.6	6.0
LnGrp Delay(d),s/veh	43.6	0.0	33.6	38.8	0.0	49.7	51.0	0.0	3.8	9.2	32.5	12.3
LnGrp LOS	D		C	D		D	D		A	A	C	B
Approach Vol, veh/h	23			338			734			1388		
Approach Delay, s/veh	35.7			45.3			24.9			26.4		
Approach LOS	D			D			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	17.7	56.1		18.6		73.7		18.6				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	14.7	53.8		18.0		73.0		18.0				
Max Q Clear Time (g_c+I1), s	13.0	46.3		13.5		8.5		13.1				
Green Ext Time (p_c), s	0.2	5.3		0.6		15.6		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay	28.6											
HCM 2010 LOS	C											

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	256	346	181	56	33	128
Future Vol, veh/h	256	346	181	56	33	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	376	197	61	36	139
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	258	0	-	0	1160	227
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	933	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1307	-	-	-	216	812
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	383	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1307	-	-	-	170	812
Mov Cap-2 Maneuver	-	-	-	-	170	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	302	-
Approach	EB		WB		SW	
HCM Control Delay, s	3.6		0		14.7	
HCM LOS					B	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	SWLn2
Capacity (veh/h)	1307	-	-	-	170	812
HCM Lane V/C Ratio	0.213	-	-	-	0.211	0.171
HCM Control Delay (s)	8.5	-	-	-	31.8	10.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.8	0.6

Appendix H. Roundabout Capacity Analyses

Intersection				
Intersection Delay, s/veh	138.5			
Intersection LOS	F			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	164	431	883	974
Demand Flow Rate, veh/h	167	440	900	993
Vehicles Circulating, veh/h	1216	558	466	451
Vehicles Exiting, veh/h	228	808	917	547
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	23.8	20.3	152.2	197.8
Approach LOS	C	C	F	F
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	167	440	900	993
Cap Entry Lane, veh/h	335	647	709	720
Entry HV Adj Factor	0.983	0.980	0.981	0.981
Flow Entry, veh/h	164	431	883	974
Cap Entry, veh/h	329	633	695	706
V/C Ratio	0.499	0.680	1.269	1.380
Control Delay, s/veh	23.8	20.3	152.2	197.8
LOS	C	C	F	F
95th %tile Queue, veh	3	5	33	42

Intersection				
Intersection Delay, s/veh	216.5			
Intersection LOS	F			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	233	458	1322	691
Demand Flow Rate, veh/h	237	467	1349	704
Vehicles Circulating, veh/h	880	1031	405	374
Vehicles Exiting, veh/h	198	723	712	1124
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	18.1	127.5	376.1	36.7
Approach LOS	C	F	F	E
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	237	467	1349	704
Cap Entry Lane, veh/h	469	403	754	777
Entry HV Adj Factor	0.981	0.980	0.980	0.981
Flow Entry, veh/h	233	458	1322	691
Cap Entry, veh/h	460	395	739	763
V/C Ratio	0.506	1.159	1.790	0.906
Control Delay, s/veh	18.1	127.5	376.1	36.7
LOS	C	F	F	E
95th %tile Queue, veh	3	18	79	12

Intersection				
Intersection Delay, s/veh	157.9			
Intersection LOS	F			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	258	451	890	976
Demand Flow Rate, veh/h	264	460	907	995
Vehicles Circulating, veh/h	1216	580	534	478
Vehicles Exiting, veh/h	257	861	946	562
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	45.8	23.3	195.2	215.6
Approach LOS	E	C	F	F
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	264	460	907	995
Cap Entry Lane, veh/h	335	633	662	701
Entry HV Adj Factor	0.978	0.980	0.981	0.981
Flow Entry, veh/h	258	451	890	976
Cap Entry, veh/h	327	620	650	687
V/C Ratio	0.788	0.727	1.369	1.420
Control Delay, s/veh	45.8	23.3	195.2	215.6
LOS	E	C	F	F
95th %tile Queue, veh	6	6	39	44

Intersection				
Intersection Delay, s/veh	236.7			
Intersection LOS	F			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	296	493	1360	641
Demand Flow Rate, veh/h	301	503	1388	653
Vehicles Circulating, veh/h	825	1075	401	449
Vehicles Exiting, veh/h	277	714	725	1129
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	21.2	184.4	395.7	38.6
Approach LOS	C	F	F	E
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	301	503	1388	653
Cap Entry Lane, veh/h	495	386	757	721
Entry HV Adj Factor	0.982	0.980	0.980	0.981
Flow Entry, veh/h	296	493	1360	641
Cap Entry, veh/h	486	378	742	708
V/C Ratio	0.608	1.304	1.834	0.905
Control Delay, s/veh	21.2	184.4	395.7	38.6
LOS	C	F	F	E
95th %tile Queue, veh	4	23	83	12

GLACIER POINTE

Jerome Township, Union County, Ohio

MASTER DEED DECLARATION, RESTRICTIONS AND BYLAWS

This Instrument was Prepared by:

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EXHIBIT A – Master Plan Area for Glacier Pointe

EXHIBIT B – Initial Property owned by the Declarant and the Master Developer Subject to this
Master Declaration

EXHIBIT C – Open Space Plan for Common Property

EXHIBIT D – Bylaws of the Master Association

MASTER DEED DECLARATION, RESTRICTIONS AND BYLAWS

This Master Deed Declaration, Restrictions and Bylaws (the "Master Declaration") is made on or as of this ____ day of _____, 2017, by _____, LLC, an Ohio limited liability company of Columbus, Ohio (hereinafter, the "Declarant" and "Master Developer").

STATEMENT OF PURPOSE

A. The Master Developer has assembled, planned and zoned a planned community known as "Glacier Pointe" that generally encompasses the geographic area depicted on the attached Exhibit A, located in Jerome Township, Union County, Ohio ("Glacier Pointe").

B. The Master Developer desires to develop Glacier Pointe into a high-quality, planned community to consist of residential subdivisions and other facilities for recreational, civic and governmental uses and open spaces, and to restrict the use and occupancy of Glacier Pointe for the protection and benefit of all future owners thereof.

C. Detailed design guidelines may be established by the Glacier Pointe Design Board to regulate development, architecture and construction within Glacier Pointe ("DRB Design Guidelines"). Each Parcel, as hereinafter defined, agrees to and shall be bound by such design guidelines.

D. The Master Developer deems it desirable to establish a master association for the purpose of governing the maintenance of certain areas and/or improvements constructed as part of Glacier Pointe, to provide for the establishment of a design review board and other management mechanisms, to provided for assessments of Parcels and to permit the establishment of sub-associations to govern and maintain certain subareas created within Glacier Pointe, for the purpose of addressing conditions and circumstances unique to individual subareas, subdivisions and condominium regimes created within Glacier Pointe.

E. To ensure the proper application of the DRB Design Guidelines, and to further the development of Glacier Pointe and the separate subdivisions and condominium regimes therein, the Master Developer hereby declares that all of the Property, as hereinafter defined, now or hereafter becoming a part of Glacier Pointe, as provided herein, shall be held, developed, encumbered, leased, occupied, improved, used and conveyed subject to the following covenants, easements, conditions, restrictions and assessments, which are for the purpose of protecting the value and desirability of, and which shall run with, the Property and be binding on all parties having any right, title or interest in the Property or any part thereof, their heirs, successors and assigns, and shall inure to the benefit of each owner of any portion of the Property.

F. This Master Declaration shall inure to the benefit of all future owners of all or any portion of the Property and all others claiming under or through them, as well as the Master Developer, and their respective heirs, successors and assigns.

NOW THEREFORE, in pursuance of a general plan for the protection, benefit, and mutual advantages of the Property, as presently constituted and as it may hereafter be constituted, the following restrictions, conditions, easements, covenants, obligations and charges are hereby created, declared and established:

ARTICLE I. APPLICABILITY

Upon the recordation hereof, this Master Declaration shall apply to the entire Property. The Property consists of approximately _____ acres of land, more or less, from which the Master Developer intends to subdivide several single-family subdivisions and condominium regimes, together with certain Common Property (each subdivision or condominium regime may be referred to herein as a "Development Phase"). The Master Developer reserves the right, but not the obligation, to acquire additional acreage adjacent to the Property and to add the same to the Property and Glacier Pointe and subject it to this Master Declaration, so as to benefit and encumber such additional property as fully as if it were a part of the Property and Glacier Pointe on the date hereof. If and as the Master Developer acquires and/or develops additional parcels adjacent to the Property, the Master Developer may add such additional parcels to, and declare them to be, subsequent Development Phases of Glacier Pointe. Upon such addition the Master Developer shall have the right, but not the obligation, to subject such additional parcels to the terms and conditions of this Master Declaration. The Master Developer may subject additional adjacent parcels to this Master Declaration without modification, or the Master Developer may supplement and amend this Master Declaration as it applies to such additional phases of development. As to each new Development Phase of Glacier Pointe, the Master Developer may re-record this Master Declaration with an attached exhibit which modifies and/or supplements this Master Declaration with respect to such Development Phase, or the Master Developer may incorporate this Master Declaration by reference into a supplemental declaration which establishes the modifications and/or supplemental provisions desired by the Master Developer to be applicable to such phase. The modifications and/or supplemental provisions applicable to different phases of development at Glacier Pointe may be comparable to, or more restrictive than, the parallel provisions applicable to other Development Phases, as determined to be appropriate by the Master Developer in the exercise of its sole discretion. In the event of any inconsistency between the provisions of this Master Declaration and the provisions of any phase-specific modifications and/or supplements hereto, the more restrictive of the conflicting provisions shall control.

Glacier Pointe is a "planned community" for purposes of Chapter 5312 of the Ohio Revised Code, as amended (the "Planned Community Statute") and shall comply with the provisions of the Planned Community Statute.

ARTICLE II. DEFINITIONS

In addition to the words and terms defined elsewhere in this Master Declaration, the following words and terms, as used herein, shall have the following meanings:

A. "Additional Property" - real property that may in the future be identified, as determined by the Master Developer in its sole and unfettered discretion, as real property to be part of Glacier Pointe and subjected to the provisions hereof, and may include any real property presently planned by the Master Developer to become part of Glacier Pointe in the future, adjacent or contiguous with the Property as it is then constituted, provided that, with respect to other real property, the owner or owners thereof concur and join in with the subjecting of same to the provisions hereof.

B. "Administrative Expenses" - all costs and expenses incurred by the Master Association, the Board of the Master Association and/or the Design Review Board in conducting their respective affairs and generally discharging their respective duties and obligations under this Master Declaration. Administrative Expenses shall include, by way of example, but not limited to: necessary office overhead, salaries and expenses; legal fees and expenses; fees and expenses of consultants and professionals such as architects and engineers; accounting, bookkeeping and audit expenses; fees and costs incurred for a Manager; costs of insurance as provided in Article VIII Paragraph F hereof; reserves deemed necessary by the Board of the Master Association; and other usual and customary costs of master association administration.

C. "Annual Assessments" - the amount to be paid to the Master Association by each Owner annually, as further provided in Article IX Paragraph E hereof.

D. "Articles" and "Articles of Incorporation" - the articles of incorporation, when filed with the Secretary of State of Ohio, incorporating the Master Association as a non-profit corporation under the provisions of Chapter 1702 of the Ohio Revised Code.

E. "Assessments" - collectively referring to Annual Assessments, Lot Assessments and Special Assessments, all as further provided in Article IX hereof.

F. "Board" - the board of directors or other management body of the Master Association.

G. "Bylaws" - the Bylaws of Glacier Pointe Master Property Owners Association, Inc., as further provided in Article VII Paragraph E hereof, constituting the code of regulations pursuant to the provisions of Chapter 1702 of the Ohio Revised Code, as amended.

H. "Common Expenses" - all expenses incurred by the Master Association in connection with its ownership, lease and/or maintenance of the Common Property, maintenance of property other than Common Property as provided herein, real estate taxes and assessments, if

any, attributable to the Common Property, utilities for the Common Property or consumed in furtherance of the Master Association's duties and obligations, and all costs and expenses incurred by the Master Association in conducting its affairs and generally discharging the duties and obligations imposed upon it by this Declaration or assumed by it pursuant to authorization granted by this Declaration, including, but not limited to, all Administrative Expenses.

I. "Common Property" - all real property designated as such on any subdivision plat or otherwise with respect to Glacier Pointe. All such Common Property shall be owned by the Master Association, a Sub-Association or a governmental entity. Common Property shall also include personal property used in connection therewith. Common Property includes all real property cross-hatched on the Open Space Plan for Common Property attached hereto as Exhibit C as the same may be amended and modified with respect to final subdivision plats of Glacier Pointe; For purposes of Article X, Paragraph A hereof, Common Property shall include all common elements of a Condominium, all as so determined and designated by the Master Developer.

J. "Condominium" or "Condominium Parcel" - the portions of the Property designated as areas in which residential condominium development is to occur pursuant to Chapter 5311 of the Ohio Revised Code, as amended. The individual residential units developed on the Condominium Parcel and their respective undivided interests in related common elements are referred to herein as Units.

K. "Condominium Association" - a condominium association organized in connection with a Condominium created pursuant to Ohio Revised Code Section 5311.01 et seq., as amended, upon any Condominium Parcel.

L. "Declarant" - _____, LLC, an Ohio limited liability company, and any successor or assign thereof to which the Declarant specifically assigns all, but not less than all, of its rights, duties and obligations under this Master Declaration by a written instrument, as further provided in Article XIV hereof.

M. "Design Review Board" - the Design Review Board created, governed and operated as provided in Article V Paragraph A hereof, consisting of the group of individuals having the power and authority to establish and enforce development and architectural standards governing the development, construction and architectural detail of Glacier Pointe.

N. "Developer" - a person or entity to whom a Development Phase has been transferred by the Master Developer for the development, construction and sale or lease thereon of residential Lots.

O. "Development Phase" - an individual portion of the Property, subdivided from the Property, that has not yet been fully developed, on which a single-family residential subdivision or Condominium is to be developed and constructed.

P. "Directors" - those natural Persons appointed or elected to the Board of the Master Association as provided in Article VII Paragraph C hereof and the Bylaws of the Master Association.

Q. "DRB Design Guidelines" - those design guidelines which may be established from time to time by the Design Review Board to regulate the development, architecture and construction within Glacier Pointe, as the same may be modified, amended, amplified and interpreted by the Design Review Board in its sole discretion from time to time.

R. "Exempt Property" - the portions of real property comprising Glacier Pointe that are (a) now or hereafter dedicated to common public use or owned by the United States, the State of Ohio, Union County, Jerome Township, any school board, or similar governmental body, or any instrumentality or agency of any such entity, for so long as any such entity or instrumentality or agency shall be the owner thereof, or (b) owned by a Sub-Association; provided in any such case, the same is not utilized as a residence.

S. "Governing Documents" - as applicable, each of the Master Association's Articles of Incorporation, the Master Association Bylaws, this Master Declaration, the DRB Design Guidelines, and all amendments thereto, applicable building and zoning laws, subdivision and other plats of property in Glacier Pointe, if any, and the provisions of the covenants, conditions, restrictions, governing organizational documents (including governing organizational documents for any Sub-Association) and rules imposed on or encumbering any Parcel within Glacier Pointe.

T. "Improvements" - any and all alterations to the Property which cause the Property to deviate from its natural condition or condition as of the date hereof or the date any real property is added to this Master Declaration, including but not limited to: changes in grade, slope or elevation and changes in drainage patterns; all buildings, outbuildings, sheds, garages and other structures; recreational courts, fixtures and facilities, including tree houses, children's recreational equipment or structures, swing sets, playhouses, forts, basketball hoops and playground equipment; swimming pools and related facilities and equipment; pet houses, runs and enclosures; overhead, above ground and underground installations, including without limitations, utility facilities and systems, lines, pipes, wires, towers, cables, conduits, poles and antennae; walkways, fences, mailboxes, trellises, walls, retaining walls, exterior stairs, decks, patios, and porches; any change in exterior colors, materials or elevations; exterior lighting; roads, driveways, curb cuts, parking lots, parking structures, uncovered parking areas, drive aisles and other such areas; planted trees, hedges, shrubs and all other forms of landscaping; and

all other structures or improvements of every type or character, constructed, installed or maintained on any property within Glacier Pointe.

U. "Lot" - a discrete parcel of real property now or hereafter identified upon a recorded residential subdivision plat of any Development Phase in Glacier Pointe, or any portion thereof, or recorded re-subdivision thereof, and any other discrete parcel of real property designated as a Lot, and subjected to the provisions of this Master Declaration, excluding any Exempt Property, any Condominium Parcel and any Property dedicated for public use; provided that, for purposes hereof (unless specifically provided otherwise) if a separate parcel of real estate is designed for, intended to be, and is conveyed by the Master Developer to a builder or Developer, for purposes of constructing dwellings declared under law to be Condominium Units, that parcel shall be considered and deemed to contain that number of "Lots" that equals the number of Condominium Units that are authorized by law, and approved by the Master Developer, to be so constructed and declared on that parcel of real estate.

V. "Lot Assessment" - an assessment that the Board may levy against one or more Lots or Units to reimburse the Master Association for costs incurred on behalf of the assessed Lot or Unit, including without limitation, costs associated with making repairs that are the responsibility of the Owner thereof, costs of additional insurance premiums specifically allocable to an Owner; costs of any utility expenses chargeable to an Owner but not separately billed by the utility company; and all other fines and charges reasonably determined to be a Lot Assessment by the Board, all as further provided in Article IX Paragraph G hereof.

W. "Manager"- a Person retained by the Master Association Board to assist in the management of the Master Association.

X. "Master Association" - Glacier Pointe Master Property Owners Association, Inc. being the legal entity (and its successors and assigns) formed for the purpose of enforcing the provisions of this Master Declaration. The Association shall be named GLACIER POINTE MASTER PROPERTY OWNERS ASSOCIATION, INC., and shall be formed as an Ohio non-profit corporation or other appropriate non-profit entity.

Y. "Master Developer" - _____, LLC, an Ohio limited liability company, and any successor or assign thereof to which the Master Developer specifically assigns all, but not less than all, of its rights, duties and obligations under this Master Declaration by a written instrument, as further provided in Article XIV hereof.

Z. "Member" - any person or entity entitled to membership in the Master Association, as provided for in Article VII Paragraph A hereof.

AA. "Operating Fund" and "Reserve Fund" - respectively, the funds established pursuant to Article IX Paragraph A hereof for the purpose of funding the operations of the Master Association and establishing reserves for capital expenditures thereof.

BB. "Owner" - the record owner, whether one or more Persons or entities, of fee simple title to a Parcel, Lot or Unit, including contract sellers, but excluding (i) those having an interest merely as security for performance of an obligation and (ii) the Master Developer. An "Owner" shall include the association created to own the common elements of a Condominium Parcel.

CC. "Parcel" - each Condominium Parcel and each legally separate tax parcel subdivided or created from the Property, including each Lot, Unit and the common elements of a Condominium.

DD. "Person"- a natural individual, trust or trustee, corporation, limited liability company, partnership, or other legal entity capable of holding title to real property.

EE. "Property" - the real property presently owned by the Master Developer described on the attached Exhibit B and together with such additional real property as may be added hereto from time to time by the Master Developer as provided in Article I hereof, it being the express intention of the Master Developer that all residential real property constituting Glacier Pointe shall be a part of the Property hereunder.

FF. "Rules"- the rules and regulations governing use, occupancy and appearance of the Property, the Common Property, Parcels, Lots and Units as may be established by the Master Association Board from time to time.

GG. "Special Assessment" - an assessment levied by the Master Association against all Lots or Units encumbered by this Declaration pursuant to Article IX Paragraph F hereof to pay for necessary expenses not included in the annual operating budget and not projected to be paid out of the Operating Fund.

HH. "State" - the State of Ohio, and, unless the context requires otherwise, any political subdivision thereof exercising jurisdiction over the Property.

II. "Sub-Association" - each sub-association (if any) created in connection with a Development Phase of the Property, subject to the terms and conditions of Article XIII hereof. The association created to own the common elements of a Condominium Parcel shall be considered a Sub-Association hereunder.

JJ. "Turnover Date" - the first to occur of (i) the sale by the Master Developer of the last residential Lot owned by the Master Developer in the single family subdivisions planned for

Glacier Pointe (whether or not developed), or (ii) the waiver by the Master Developer of its exclusive right to appoint Directors of the Master Association.

KK. "Unit" or "Condominium Unit" - a discrete parcel of real property a part of Glacier Pointe identified as a "Unit" in a duly recorded declaration of Condominium and shown on filed drawings for the Condominium, or on duly recorded or filed amendments thereto, together with their respective undivided interests in related common elements.

ARTICLE III. GOALS

The restrictions, conditions, easements, covenants, obligations and charges contained in this Master Declaration are declared to be in furtherance of the following purposes:

- A. Compliance with all zoning and similar governmental regulations;
- B. Promotion of the health, safety and welfare of all Owners and residents of the Property;
- C. Preservation, beautification and maintenance of the Property and all Improvements;
- D. Establishment of requirements for Glacier Pointe and use of the Property;
- E. To create, maintain and preserve the quality of life for all Owners and residents of Glacier Pointe; and
- F. To provide for mandatory membership of all Owners in the Master Association, as it may be constituted from time to time, and certain Sub-Associations, if applicable, and the collection of funds to fulfill its objectives.

ARTICLE IV. USE RESTRICTIONS

The following restrictions and covenants concerning the use and occupancy of the Property shall run with the land and be binding upon the Master Developer, each Developer, and upon every Owner, tenant or occupant, their respective heirs, successors and assigns, as well as their family members, guests, and invitees.

A. Use. Except as otherwise permitted herein, each Lot and all other areas of the Property designated or zoned for residential development shall be occupied and used exclusively for residential purposes and purposes customarily incidental to residential occupancy thereof. No Improvements may be constructed, modified or demolished by a Developer or Owner on any Parcel (including Common Property and Exempt Property) unless and until the plans therefor have been approved by the Design Review Board, as further provided in Article V hereof.

B. Use of Common Property. Any Common Property may be used only in accordance with the purposes for which it is intended pursuant to Exhibit C and/or any applicable revisions thereto. All uses of the Common Property shall benefit or promote the health, safety, welfare, convenience, comfort, recreation, and enjoyment of the Owners and occupants of the Parcels and shall comply with the provisions of this Master Declaration, the laws of the State of Ohio, and the Rules.

C. Use of Condominium Parcel. Condominium Parcels may be utilized for the development thereon of a Condominium pursuant to Chapter 5311 of the Ohio Revised Code, as amended. No Improvements may be constructed on any Condominium Parcel until and unless the plans therefore have been approved by the Design Review Board, as further provided in Article V hereof.

D. Hazardous Actions or Materials. Nothing shall be done or kept in or on any Parcel, or in or on any portion of the Common Property or Exempt Property that is unlawful or hazardous (excluding hazardous materials kept, maintained and used in accordance with all applicable environmental laws), that might reasonably be expected to increase the cost of casualty or public liability insurance covering the Common Property or Exempt Property or that might unreasonably disturb the quiet occupancy of any person residing on any other Parcel. This paragraph shall not be construed so as to prohibit the Master Developer or Developers from construction activities consistent with good construction practices.

E. Signs. All signage located within Glacier Pointe shall comply with the signage requirements imposed by the Design Review Board pursuant to the DRB Design Guidelines and all signage requirements of the Jerome Township Zoning Resolution.

F. Animals. No person may keep, breed, board or raise any animal, livestock, reptile or poultry of any kind for breeding or other commercial purpose on any Parcel or in or upon any part of the Common Property, unless expressly permitted by the Rules. No animals shall be kept which constitute a nuisance or which unreasonably interfere with any Owner's right to the quiet enjoyment of his or her property. Domestic animals must be kept in a contained area or on a leash, chain or rope at all times when not inside of a residence.

G. Nuisances. No noxious or offensive trade or activity shall be permitted on the Property or within any dwelling located on the Property, nor shall any use be made, nor condition allowed to exist, on any Parcel, or within any dwelling or structure erected on any Parcel which unreasonably disturbs or interferes with the quiet occupancy of any person residing on any other Parcel.

H. Business. No industry, business, trade, occupation or profession of any kind may be conducted, operated or established on any Parcel without the prior written approval of the Master Association Board. The provisions of this Section shall not prohibit an Owner or resident

from conducting a "home business" which does not involve non-resident employees at, or retail sales to customers visiting, the Parcel from which such home business is conducted. No exterior signs or signage visible from the exterior of a dwelling unit shall be permitted in connection with a "home business" conducted from a dwelling unit.

I. Storage. No open storage of any kind is permitted on any Parcel. Except as hereinafter provided in this Paragraph I, no storage buildings of any kind are permitted on any Parcels, including, without limitation, sheds or barns. Storage buildings and pool amenity buildings shall be permitted on Condominium Parcels if approved by the Design Review Board.

J. Hotel/Transient Uses; Leases. No Parcel may be used for hotel or transient uses, including without limitation, uses in which the occupant is provided customary hotel services such as room service for food and beverage, maid service, furnishing laundry and linen, or similar services, or leases to roomers or boarders. All residential leases shall be in writing and shall be subject to this Master Declaration.

K. Vehicles. The Master Association Board shall be entitled to create and enforce Rules concerning the parking of vehicles within Glacier Pointe in accordance with plans approved by the Design Review Board. In addition to their authority to levy Lot Assessments as penalties for the violation of the Rules, the Master Association Board shall be authorized to cause the removal of any vehicle violating the Rules. No trucks, commercial vehicles, boats, trailers, recreational vehicles, campers or mobile homes shall be parked or stored on any street or on any Parcel (except in an enclosed structure shielded from view) for any time period longer than forty-eight (48) consecutive hours in any thirty (30) day period, provided, however, that nothing contained herein shall prohibit the reasonable use of such vehicles as may be necessary during construction or maintenance of residences on Parcels.

The word "trailer" shall include trailer coach, house trailer, mobile home, automobile trailer, camp car, camper or any other vehicle, whether or not self-propelled, constructed or existing in such a manner as would permit use and occupancy thereof, or for storage or the conveyance of machinery, tools or equipment, whether resting on wheels, jacks, tires or other foundation. The word "truck" shall include and mean every type of motor vehicle other than passenger cars, sport utility vehicles, motorcycles, passenger vans and any vehicle other than a pickup truck or work van without a modified bed or enclosure which is used as a personal automotive vehicle by a resident or a member of a resident's family.

L. Trash. Except for the reasonably necessary activities of the Master Developer and Developers during the original development of the Property and Development Phases, no burning or storage of trash of any kind shall be permitted on the Property. All trash shall be deposited in covered sanitary containers, screened from view.

M. Antennae; Clotheslines. No outside television or radio aerial or antenna, or other aerial or antenna, including satellite receiving dishes, for reception or transmission, shall be maintained on any Parcel, to the extent permissible under applicable statutes and regulations, including those administered by the Federal Communications Commission, except that this restriction shall not apply to satellite dishes with a diameter less than one meter, erected or installed to minimize visibility from the street which the dwelling fronts. No outdoor clotheslines shall be permitted on any Parcel, nor shall the outdoor drying of laundered clothes on structures or improvements other than "clotheslines" (but which serve the same purpose), be permitted.

N. Utility Lines. All utility lines on the Property shall be underground, subject to the requirements of relevant governmental authorities and utility companies.

O. Holiday Displays. Any exterior holiday displays placed on any Parcel, such as, but not limited to, exterior lights, holiday scenes, characters or music, shall be tasteful, not unduly large in size, not offensive to neighbors or other residents of the Property, and of limited duration. The Master Association Board shall be permitted to establish Rules regarding holiday displays.

P. Tanks; Wells. No tanks for the storage of propane gas or fuel oil shall be permitted to be located above or beneath the ground of any Parcel except that propane gas grills are permitted. No wells of any sort or description shall be permitted on the Property; provided that the foregoing restrictions as to wells shall not apply to water wells used to provide water to recharge ponds on Common Property or Exempt Property.

Q. Street Trees. The Master Developer may designate trees to be planted along the street(s) adjacent to each Parcel. If the Master Developer determines to designate street trees, then Owners shall be deemed to have agreed to such uniform street trees. Each Owner shall be responsible to care for (and if necessary, replace with a like kind tree) such street trees at the Owner's expense. The Master Developer may implement interior street tree planting requirements relative to Condominium Parcels.

R. Mailboxes. The Master Developer shall designate a uniform style of curbside mailbox for all Lots in a Development Phase, and shall establish siting parameters for the locations thereof, with the intention of providing uniformity throughout each Development Phase. If any mailbox is damaged, destroyed or deteriorates, then each Owner, at such Owner's expense, shall repair or replace such mailbox with another of a like kind, design, pattern and color as designated by the Master Developer.

S. Yard Lights and Lamp Posts. All yard lights and lampposts shall conform to the design and location standards set forth by the Master Developer and as further provided in the DRB Design Guidelines and the PD Regulation Text applicable to Glacier Pointe.

T. Fencing. As further provided in the Development and Architectural Documents, the Design Review Board shall have the authority to establish standards according to which fencing and walls may be permitted at the Property. Said authority shall include the power to prohibit fencing or walls, or both, entirely, to prohibit or permit fencing or walls of certain types or in certain areas, and to prohibit or permit fencing or walls of certain types in certain areas. The Design Review Board may establish, and all fencing and walls shall conform to, specific standards for fencing. Separate specific standards may be set for perimeter yard fencing as distinct from pool enclosure fencing or other types of fencing. All fence plans must be approved by the Design Review Board, in writing, prior to the installation thereof.

U. Swimming Pools. No above ground swimming pool extending twelve (12) inches or more above the finished grade of the Lot shall be permitted upon any Lot except that this Article IV Paragraph U shall not be intended to prohibit the installation of a hot tub or sauna. If an in-ground pool is installed on any Parcel, all fencing, screening and landscaping around said pool shall meet the Design Review Board standards. Notwithstanding the foregoing, all swimming pools and their related fencing, screening and landscaping are considered Improvements and must be approved by the Design Review Board.

V. Entrance Walls, Fencing, Subdivision Identification Signs, Earthen Mounds and Landscaping. The walls, fencing, subdivision identification signs, earthen mounds, electrical facilities, irrigation systems, utilities facilities and landscaping placed or installed on, over, under or through any of the Parcels by the Master Developer or by any Developer, shall not be removed or changed except with prior approval of the Design Review Board.

W. Tree Removal. No trees shall be removed from the Property except as disclosed in plans submitted to and approved by the Design Review Board. Any tree removed contrary to the provisions hereof shall be replaced at a location and with a tree or trees (all as approved by the Design Review Board) of comparable caliper and species of the tree so removed. The Master Association Board may also levy a fine against any Owner who wrongly removes or permits the removal of one or more trees from the Property contrary to the provisions of this Paragraph W. The amount of such a fine shall be discretionary with the Master Association Board, but in any event shall not exceed two times the measurable economic gain to the Owner of having the tree(s) removed as determined by the Master Association Board.

X. Hunting, Trapping and Fishing. No hunting, trapping and fishing shall be permitted on any portion of Glacier Pointe.

Y. Portable Sports Equipment. No portable sports equipment such as basketball backboards or soccer goals shall be permitted to be located, used or maintained within or adjacent to any public or private street or cul-de-sac.

Z. Compliance with Zoning Requirements. Certain provisions of this Master Declaration may have been included herein as a result of governmental requirements established through the zoning and development plan approval process in the State, County, City, Township and/or Village in which the Property is located. Compliance with all such governmental requirements, for so long as such requirements are effective and binding, is required by this Master Declaration. In the event, however, that such governmental entity(ies) change or agree to a modification of such underlying obligation(s), or if such obligations lapse or for any reason whatsoever become legally unenforceable, this Master Declaration shall be deemed modified, ipso facto and without need for further action on the part of the Master Developer or the Master Association, such that this Master Declaration requires compliance with the obligation as affected by such change or modification.

AA. Compliance with Subdivision Regulations. Notwithstanding the foregoing use restrictions contained in this Article IV, the Union County, Ohio Subdivisions Regulations as in effect from time to time shall control in the event of any conflict between these use restrictions and such Subdivision Regulations.

BB. Lot Splits. No Parcel shall be further subdivided or split into two or more tax parcels without the prior written consent of the Master Developer prior to the Turnover Date, and after the Turnover Date, without the approval of the Design Review Board and the Master Association Board.

ARTICLE V. DEVELOPMENT AND ARCHITECTURAL STANDARDS

All Property at any time subject to this Master Declaration shall be governed and controlled by this Article.

A. Design Review Board. There is hereby created and constituted the Glacier Pointe Design Review Board, consisting at all times of not less than three (3) persons. Initially, all three (3) members of the Design Review Board shall be appointed by the Master Developer. Until the Turnover Date, the Master Developer shall retain exclusive control to appoint and remove all members of the Design Review Board. From and after the Turnover Date, the Master Association shall govern and control the Design Review Board and the Master Association Board shall appoint, elect and remove all three (3) members thereof; provided that at all times, at least one member of the Design Review Board shall be a licensed architect experienced planned communities such as Glacier Pointe. At all times, the Design Review Board shall have the absolute authority and final say with respect to all plan reviews with respect to any Improvements constructed or to be constructed at or on the Property or any portion thereof.

Each Developer and Owner shall submit all proposed development plans (preliminary and final), all proposed subdivision plats (preliminary and final), all proposed development and building plans, and all plans for Improvements to the Design Review Board for review and

approval prior to submission to any governmental body for review and approval. Each Developer and Owner covenants and agrees by acceptance of a deed to a Parcel, to comply with, and to cause such Owner's property and any occupant thereof to comply with the DRB Design Guidelines and other standards promulgated by the Design Review Board. No Development of a Development Phase, Common Property or Exempt Property shall be undertaken and no Improvement shall be placed, erected, constructed or installed on the Property by any Developer or Owner, no construction (which term shall include in its definition staking, clearing, excavation, grading, other site work, and building construction) by any Developer, other building company, contractor or Owner shall be permitted, and no other changes to the exterior elevation of any existing Improvement, including changes to exterior colors, fixtures, or roof shall be made, without, until and unless the Developer, builder, contractor or Owner first obtains the written approval thereof from the Design Review Board and otherwise complies with the provisions of this Master Declaration. Improvements, additions and modifications to structures and/or alterations to natural or permitted improved site conditions, including landscaping and tree removal, after the original site construction has been completed as approved by the Design Review Board, shall be subject to the prior written approval of the Design Review Board.

B. Modifications. No Person shall construct any Improvement on the Property (including any Parcel, Common Property or Exempt Property), including without limitation, alter surfaces of existing Improvements, change paint colors or roofing materials, construct or modify fencing, or install any recreational device, without the prior written consent of the Design Review Board. Owners shall submit plans and specifications showing the nature, kind, shape, color, size, materials and location of Improvements and alterations to the Design Review Board for approval. Nothing contained herein shall be construed to limit the right of an Owner to remodel or decorate the interior of any building constructed on the Property.

C. Variances. To avoid unnecessary hardship and/or to overcome practical difficulties in the application of the provisions of this Master Declaration, the Design Review Board shall have the authority to grant reasonable variances from the provisions of this Article; provided that the activity or condition is not prohibited by applicable law; and provided further that, in the judgment of the Design Review Board, the variance is in the best interest of the community and is within the spirit of the DRB Design Guidelines and other design standards established by the Design Review Board. No variance granted pursuant to this Paragraph C shall constitute a waiver of any provision of this Master Declaration as applied to any other Person or any other part of the Property. Any variance granted by the Design Review Board pursuant to this Paragraph C shall apply solely to the Parcel for which a variance was requested and granted and not to any other similarly situated Parcel. The granting of a variance for a particular Parcel shall not be deemed to establish a course of conduct or a policy by the Design Review Board to grant similar variances to similarly situated Parcels.

D. Improvements by the Master Developer; Pre-Approved Plans. Notwithstanding the foregoing to the contrary, all Improvements and landscaping constructed by the Master

Developer or its partners, members or shareholders shall be deemed to comply in all respects with the requirements of the Design Review Board, and separate approval therefore by the Design Review Board is not required. In addition, the Design Review Board shall have the right, upon review of submitted standard building plans from the individual Development Phase Developers, to pre-approve building plans. Upon approval by the Design Review Board, such building plans shall be deemed approved by the Design Review Board; subject, however, to the further requirement that such pre-approved building plans shall require further submissions to the Design Review Board for each use of such plans for review and approval by the Design Review Board of proposed construction materials, exterior colors, lot orientation, replication of same or similar elevation, lot setbacks and landscaping.

E. Exclusive Jurisdiction of Design Review Board. The Design Review Board shall be the sole and exclusive design review board for Glacier Pointe and shall be the sole and exclusive authority for interpretation of DRB Design Guidelines and other design standards established by the Design Review Board, subject to the provisions of Article V Paragraph G hereof.

F. Requirement to Receive Design Review Board Approval. No Person shall apply to any governmental unit, agency, authority or officer for any development plan approval, subdivision plat approval, Condominium development approval, construction permit, building permit or variance pertaining to any Improvements to be developed, constructed or installed within Glacier Pointe unless and until the Design Review Board has endorsed its written approval thereon.

G. Amendments, Modifications and Amplifications of Design Review Board DRB Design Guidelines and other Standards. Until the Turnover Date, the Master Developer shall have and retain sole and complete discretion to create, amend, modify and amplify the DRB Design Guidelines and other design standards established by the Design Review Board, subject to the terms and conditions of the zoning and governmental approvals pertaining to Glacier Pointe. From and after the Turnover Date, the Master Association Board, upon recommendation of the Design Review Board, or upon its own initiative, shall have the right to amend, modify and amplify the DRB Design Guidelines and other design standards.

H. Inspection License. During site development and the development and construction of any Improvements on a Parcel, the Design Review Board and its duly authorized representatives are granted an irrevocable license to come upon the Parcel on which site development is occurring or Improvements are being developed and constructed, to determine compliance with the development and building plans approved by the Design Review Board.

I. Liability Relating to Approvals. Neither the Master Developer, the Master Association, the Master Association Board, the Design Review Board, nor any member thereof, nor any of their respective heirs, personal representatives, successors and assigns, shall be liable

to anyone submitting plans and specifications for approval by reason of mistakes of judgment, negligence, or nonfeasance arising out of, or in connection with, the approval or disapproval or failure to approve the same. Every Person and Owner who submits plans and/or specifications or otherwise requests approval from the Design Review Board agrees, by submission thereof, that they will not bring any action or suit, seek damages, or otherwise attempt to compel the approval of the same. Each Owner shall be responsible for ensuring that any Improvements constructed on their Parcel comply with any zoning ordinances and any easements, covenants and conditions of record.

J. Responsibility for Governmental Fees and Costs. All governmental fees and costs incurred in developing and constructing improvements on a Parcel shall be at the sole cost and expense of the Owner thereof.

K. Enforcement. Failure of a person to comply with the provisions of this Article V will result in the Design Review Board exercising its enforcement rights pursuant to Article XV Paragraph B hereof.

ARTICLE VI. EASEMENTS AND LICENSES

A. Easement of Access and Enjoyment Over Common Property. Every Owner shall have a right and easement (in common with all other Owners) of enjoyment in, over, and upon the Common Property, which rights shall be appurtenant to, and shall pass with the title to, such Owner's property, subject to the terms and limitations set forth in this Master Declaration, and subject to the Rules. An Owner may delegate such Owner's rights of access and enjoyment to family members, tenants, occupants, guests and invitees.

B. Right of Entry for Repair. The duly authorized Manager and its agents, officers, contractors, and employees of the Master Association shall have a right of entry and access to the Property, including without limitation the Parcels, for the purpose of performing the Master Association's rights or obligations set forth in this Master Declaration. The Master Association may enter any Parcel to remove or correct any violation of this Master Declaration or the Rules, or to maintain, repair, and replace the Common Property, but only during reasonable hours and after providing seventy-two (72) hours advance notice to the Owner, except in cases of emergency.

C. Easement for Utilities and Other Purposes. The Master Developer retains the right to and may convey easements over the Common Property or within any platted easement area on any Parcel, to any entity, public or private, for the purpose of constructing, installing, maintaining, and operating poles, pipes, conduit, wires, ducts, cables, and other equipment necessary to furnish electrical, gas, sewer, water, telephone, cable television, internet, and other similar utility or security services, whether of public or private nature, and to any entity for such other purposes as the Master Developer deems appropriate; provided that such equipment or the

exercise of such easement rights shall not unreasonably interfere with the Owners' use and enjoyment of the Property. The Master Developer may grant such easements over all portions of the Property for the benefit of adjacent properties as the Master Developer deems appropriate; provided that the grant of such easements imposes no undue, unreasonable, or material burden or cost upon the Property; and further provided that except within existing platted easement areas, the Master Developer may not convey any easement over a Parcel which has previously been transferred to a Developer or Owner without the prior written consent of the Developer or Owner thereof (which consent shall not be unreasonably delayed, conditioned or withheld), as appropriate. The approval or consent of an Owner shall not be required for the Master Developer's grant of an additional easement within a platted easement area. The foregoing notwithstanding, each Development Phase Developer, and each Owner, by acceptance of a deed to any Parcel, grants an irrevocable and limited power of attorney to the Master Developer, which power shall be deemed coupled with an interest, for the purpose of conveying easement rights within existing platted easement areas to the extent and as deemed desirable by the Master Developer.

D. Easement for Services. A non-exclusive easement is hereby granted to all police, firefighters, ambulance operators, mail personnel, delivery personnel, garbage removal personnel, all similar persons, local governmental authorities and the Master Association (but not to the public in general) to enter upon the Common Property to perform their duties.

E. Reservation of Special Easements. The Master Developer hereby reserves special easements for the purpose of constructing Improvements or conveying rights deemed by the Master Developer to be beneficial to the Property including, but not limited to, easements for bio-swales if any. These special easement areas are also No-Build Zones. The special easement areas may be parts of individual Parcels instead of on Common Property. In such cases, the Owner(s) of the Property(ies) affected by the special easement(s) shall be and remain responsible for the ordinary care and maintenance of the special easement area. If special fencing, landscaping, storm water detention/retention, or community safety or entry features are constructed in a special easement area by the Master Developer, or any governmental entity exercising jurisdiction over the Property, or the Master Association, the responsibilities of the Owner on whose property such Improvement has been constructed shall not exceed ordinary grass cutting, trimming and watering around such Improvements. Nothing contained in this Section shall require that the Master Developer reserve or establish special easements.

F. No-Build Zones. Any areas designated on any recorded plat of Glacier Pointe, or in prior deed restrictions as "Open Space" shall be areas in which no Owner shall have the right to construct or locate any Improvements.

G. Compliance with Subdivision Regulations. Notwithstanding the foregoing easements and licenses contained in this Article VI, the Union County, Ohio Subdivision

Regulations as in effect from time to time shall control in the event of any conflict between these easements and licenses and such Subdivision Regulations.

ARTICLE VII. THE MASTER ASSOCIATION

A. **Membership.** The Master Developer and each Owner shall have a membership in the Master Association, and by acceptance of a deed to a Parcel, every Owner agrees to and acknowledges being a Member of the Master Association. Membership is a right appurtenant to and inseparable from an Owner's fee simple title in a Parcel, and such right of membership shall automatically transfer to any transferee of fee simple title to a Parcel at the time such title is conveyed or at such time as a land installment contract is entered for the conveyance of fee simple title. The foregoing is not intended to include persons who hold an interest merely as security for the performance of an obligation, and the giving of a security interest or mortgage shall not terminate an Owner's membership. No Owner, whether one or more persons, shall have more than one membership per Parcel owned. In the event an Owner consists of more than one Person, such Persons shall have one membership in the Master Association as tenants in common. For purposes of membership in the Master Association, the association created to own the common elements of a Condominium Parcel shall not be considered an Owner.

B. **Governance.** Voting and all other matters regarding the governance and operation of the Master Association shall be set forth herein and in the Master Association's Articles of Incorporation and Bylaws, including all amendments hereto and thereto, except as otherwise required by law.

C. **Composition of Master Association Board.** At all times, the Master Association Board shall be composed of three (3) Directors. Until the Turnover Date, all Directors of the Master Association Board shall be appointed by the Master Developer. On the Turnover Date, all Directors of the Master Association appointed by the Master Developer shall resign and a new Board shall be constituted for the Master Association consisting of three (3) Directors elected by the Owners. Each Director of the Master Association shall hold office for a three (3) year term; provided that one initial Director of the Master Association elected by the Owners shall be elected to a one (1) year term, one initial Director of the Master Association elected by the Owners shall be elected to a two (2) year term, and one initial Director of the Master Association elected by the Owners shall be elected to a three (3) year term, in order that the terms of one-third (1/3) of all Directors of the Master Association expire annually.

D. **Voting Rights.** The Members of the Master Association shall not have any right to vote on any matter pertaining to this Master Declaration or the Master Association, except as otherwise provided herein or required by law. The Master Association shall be governed and controlled exclusively by the Master Association Board, who shall have and possess all voting rights and control hereunder.

E. Bylaws. The initial Bylaws of the Master Association shall be as set forth in the attached Exhibit D, subject to amendment as permitted therein.

ARTICLE VIII. RIGHTS AND OBLIGATIONS OF THE MASTER ASSOCIATION

A. Personal Property and Real Property for Common Use. The Master Association may acquire, hold, mortgage and dispose of tangible and intangible personal property and real property.

B. Rules and Regulations. The Master Association may make and enforce reasonable rules and regulations governing the use of the Property, which shall be consistent with this Master Declaration and the Governing Documents. The Master Association shall have the power to impose sanctions on Owners, including without limitation, suspension of the right to use the Common Property. In addition, the Board shall have the power to seek relief in any court for violations or to abate unreasonable disturbances.

C. Implied Rights. The Master Association may exercise any other right or privilege given to it expressly by the laws of the State and this Master Declaration, and every other right or privilege reasonably implied from the existence of any right or privilege granted in this Master Declaration, or reasonably necessary to effect any such right or privilege.

D. Joint Use and Cost-Sharing Agreements. The Master Association may enter into agreements with any other homeowners association and/or master association, including but not limited to, Sub-Associations, whereby: (i) any other homeowners association, master association and/or Sub-Association agrees to maintain, repair and replace the Common Property (and any other common improvements or areas benefiting the Property), and (ii) the Master Association and any other homeowners association, master association and/or Sub-Association grant reciprocal rights and licenses to members of each such association to use and enjoy common areas, subject to such rules, regulation, restrictions and fees as the board of trustees of each homeowners association may from time to time determine.

E. Managing Agent. The Master Association may retain and employ a Manager, which may be the Master Developer (or an affiliate thereof), a Developer or an independent third-party, and may delegate to the Manager such duties as the Master Association Board might otherwise be authorized or obligated to perform. The compensation of the Manager shall be an Administrative Expense. Any management agreement shall allow for termination by either party, without cause, and without penalty upon not less than thirty (30) nor more than ninety (90) days' prior written notice.

F. Insurance.

1. The Master Association shall be required to obtain and maintain adequate blanket property insurance and flood insurance covering all of the Common Property owned by the Master Association, and liability insurance pertaining to the Common Property, in each case in amounts as are commonly required by comparable master associations. The cost of such insurance shall be an Administrative Expense.

2. The Master Association may, in the Board's discretion, obtain and maintain the following insurance as an Administrative Expense: (a) fidelity bond coverage and workers' compensation insurance for all officers, directors, board members and employees of the Master Association and all other persons handling or responsible for handling funds of the Master Association; (b) adequate comprehensive general liability insurance; (c) directors, officers and trustees liability insurance; (d) additional insurance against such other hazards and casualties as is required by law; and (e) any other insurance the Master Association deems necessary.

G. Condemnation. The Master Association shall represent the Owners in any condemnation proceedings or in negotiations, settlements and agreements with the condemning authority for acquisition of the Common Property, or any portion thereof. Each Owner hereby appoints the Master Association as its attorney-in-fact for such purpose. The awards or proceeds of any condemnation action shall be payable to the Master Association, to be held in trust or used for the benefit of the Owners.

H. Books, Records. Upon reasonable request of any Member, the Master Association shall be required to make available for inspection all books, records and financial statements of the Master Association during regular business hours. Any copies requested by a Member shall be charged at a reasonable fee per copy as established by the Master Association Board from time to time. Notwithstanding the foregoing, none of the books, records or documents pertaining to any of the following matters may be examined or copied without the express approval of the Master Association Board:

1. information that pertains to personnel matters;
2. communications with legal counsel or attorney work product pertaining to potential, threatened or pending litigation, or other property-related matters;
3. information that pertains to contracts or transactions currently under negotiation, or information that is contained in a contract or other agreement containing confidentiality requirements and that is subject to those requirements;
4. information that relates to the enforcement of the Master Declaration, Bylaws or Rules of the Master Association against other Owners; and
5. information, the disclosure of which is prohibited by state or federal law.

ARTICLE IX. ASSESSMENTS

A. Operating and Reserve Funds. The Master Association shall establish an Operating Fund for financing the administration, governance and operation of the Master Association, necessary costs and expenses of operating the Master Association and replacing, repairing and maintaining the Common Property. The Master Association shall also establish a separate Reserve Fund for capital expenditures not covered in the budget for ordinary operations. The Owners shall have no right to waive the annual reserve requirement established by the Board.

B. Types of Assessments. Each Owner, by accepting a deed to a Parcel, is deemed to covenant and agree to pay to the Master Association the following assessments: (i) Annual Assessments; (ii) Special Assessments; and (iii) Lot Assessments. No Lot Owner or Unit Owner may gain exemption from liability for any Assessment by waiving or foregoing the use or enjoyment of any of the Common Property or by abandoning such Lot Owner's Lot or Unit Owner's Lot.

C. Uniform Rates for Annual and Special Assessments. Annual and Special Assessment rates shall be fixed at a uniform rate for all Lots and Units.

D. Initial Implementation of Annual Assessments and Special Assessments. Notwithstanding anything to the contrary contained herein, Annual Assessments and Special Assessments shall initially be imposed or implemented against each Lot or Unit on the first to occur of initial occupancy of the residential dwelling constructed thereon or twelve (12) months after transfer of title to the Parcel to which such Lot or Unit relates by the Master Developer.

E. Annual Assessments. The Board shall estimate the Common Expenses for the maintenance, operation, management and other costs of the Master Association (including Administrative Expenses) and any and all property and improvements to be maintained, replaced, operated and managed thereby (which may include amounts, if any, for the Reserve Fund, as may be determined by the Board), and shall assess each Owner an Annual Assessment equal to such Owner's estimated share thereof, as determined in accordance with Article IX Paragraph C hereof. The Master Association shall thereupon assess each Owner such Owner's share of the Common Expenses. The Annual Assessments shall be paid in accordance with the procedures set forth in the Rules. Notwithstanding the foregoing to the contrary, the Master Developer may elect to pay the Annual Assessments applicable to Parcels it owns, or in lieu thereof, not pay such Annual Assessments and pay any deficit incurred in operating the Master Association. The standard of maintenance that is to be performed shall be that which is customary for similar master planned community developments.

F. Special Assessments. The Board may levy against Parcels encumbered by this Declaration, a Special Assessment to pay any necessary expenses not included in the annual operating budget and not projected to be paid out of the budgeted Operating Fund.

G. Lot Assessments. The Board may levy a Lot Assessment against any Owner(s) to reimburse the Master Association for costs incurred on behalf of the specific Parcel assessed (including Lots and Units), including without limitation, costs associated with making repairs that are the responsibility of the Owner, costs of additional insurance premiums specifically allocable to an Owner, costs of any utility expenses chargeable to an Owner but not separately billed by the utility company, and all other fines and charges reasonably determined to be a Lot Assessment by the Board. Upon its determination to levy a Lot Assessment and prior to levying such Lot Assessment, the Board shall give the affected Owner(s) written notice and the right to be heard by the Board or a duly appointed committee thereof in connection with such Lot Assessment ten (10) days prior to the effective date of the levy of any Lot Assessment. The Board may levy a Lot Assessment in the nature of a fine reasonably determined by the Board against any Owner who violates the Rules or this Declaration, or who suffers or permits his/her family members, guests, invitees or tenants to violate such Rules or this Declaration. Any written notice provided by the Board to an Owner that the Board proposes to levy a Lot Assessment shall include all information required by Section 5312.11(C) of the Ohio Revised Code, as amended. Any Owner receiving such a written notice may request a hearing before the Board by delivering to the Board a written notice not later than ten (10) days after receiving a written notice from the Board, as provided in this Paragraph G. If an Owner fails to make a timely request for a hearing, the right to such hearing is waived and the Board may immediately impose and levy a Lot Assessment. If a hearing is timely requested by an Owner, such hearing shall be conducted and any Lot Assessment subsequently levied, in compliance with Section 5312.11(D) of the Ohio Revised Code, as amended.

H. Remedies.

1. Late Charge; Acceleration. If any Assessment remains unpaid for ten (10) days after all or any part thereof shall become due and payable, the Board or the Manager may charge interest at the lesser of the rate of twelve percent (12%) per annum or the highest rate permitted by law, together with an administrative collection charge to the Board or Manager as determined from time to time by the Board.

2. Liability for Unpaid Assessments. Each Assessment or installment of an Assessment, together with interest thereon and any costs of collection, including reasonable attorney's fees shall become the personal obligation of the Owner(s) beginning on the date the Assessment or installment thereof becomes due and payable. The Board may authorize the Master Association to institute an action at law on behalf of the Master Association against the Owner(s) personally

obligated to pay any delinquent assessment. The Manager shall be authorized to commence such an action only with the advice and consent of the Board. An Owner's personal obligation for a delinquent Assessment shall also be the personal obligation of his/her heirs, successors and assigns in title who acquire an interest in the assessed property after any Assessment becomes due and payable, and both such Owner and his/her heirs, successor and assigns in title shall be jointly and severally liable therefor. Except as otherwise provided herein, the transfer of an interest in a Parcel shall neither impair the Master Association's lien against that property for any delinquent Assessment, nor prohibit the Master Association from foreclosing such lien.

3. Liens. All unpaid Assessments, together with any interest and charges thereon, administrative charges and costs of collection, shall constitute a continuing charge in favor of the Master Association and a lien on the Parcel against which the Assessment was levied. If any Assessment remains unpaid for ten (10) days after it is due, then the Board may, subject to the provisions of Chapter 5312 of the Ohio Revised Code, as amended, authorize any officer or appointed agent of the Master Association to file a certificate of lien for all or any part of the unpaid balance of that Assessment, together with interest and costs, with the appropriate governmental office containing a description of the property which the lien encumbers, the name(s) of the Owner(s) thereof, the amount of the unpaid portion of the Assessment, and such other information as the laws of the State may require. The certificate may be signed by any officer or authorized agent (including the Manager) of the Master Association. Upon the filing of the certificate, the subject property shall be encumbered by a continuing lien in favor of the Master Association. The Assessment lien shall remain valid for a period of five (5) years from the date such certificate is duly filed, unless the lien is re-recorded, or earlier released or satisfied in the same manner provided by the law of the State for the release and satisfaction of mortgages on real property, or unless the lien is discharged by the final judgment or order of any court having jurisdiction.

4. Subordination of Lien. The lien of the Assessments provided for herein shall be subject and subordinate to the liens for real estate taxes and assessments of political subdivisions and the lien of any duly executed first mortgage on the Parcel recorded prior to the date on which such lien of the Master Association is perfected by recording a certificate of lien, and any holder of such first mortgage which comes into possession of a Parcel pursuant to the remedies provided in the mortgage, foreclosure of the mortgage, or deed or assignment in lieu of foreclosure, and any purchaser at a foreclosure sale, shall take the property free of any claims for unpaid Assessments against the mortgaged Parcel which

became due and payable prior, in the case of foreclosure, to the date of the sale, and, in all other cases, to the date legal title vested in the successor Owner.

5. Contested Lien. Any Owner who believes that an Assessment chargeable to that Owner's Parcel, and for which a certificate of lien has been filed by the Master Association, has been improperly charged against that Parcel, may bring an action in the Court of Common Pleas of Union County, Ohio for the discharge of that lien and/or a declaratory judgment that such Assessment was unlawful. The filing of such action shall not be grounds for an offset or to withhold payment. In any such action, if it is finally determined that all or a portion of the Assessment has been improperly charged to that Parcel, the Court shall make such order as is just, which may provide for a discharge of record of all or a portion of that lien and a refund of an Assessment or portion thereof determined to be unlawful.

6. Notice of Discharge. The Board shall, within a reasonable time following receipt of a written demand and for a reasonable charge, furnish a certificate signed by a designated representative of the Master Association, setting forth whether the Assessments on a specified Parcel have been paid. This certificate shall be conclusive evidence of payment of any Assessment therein stated to have been paid.

7. Evidence of Lien. The lien of the Assessments may be foreclosed in the same manner as a mortgage on real property in any action brought by the Master Association.

I. Suspension of Vote and Use of Common Elements. If any Assessment or portion thereof, remains unpaid for thirty (30) days after it becomes due, then the delinquent Owner's voting rights upon Master Association matters and privileges to use the Common Property, and to vote, as a Member of the Master Association, shall be suspended until such Assessment is paid. In any case, suspension of any such rights shall be subject to the right of an Owner, occupant, or their licensees or invitees, to necessary ingress and egress to and from that Owner's Parcel.

J. Assignment and Pledge of Assessments. The Master Association may assign its rights to Assessments or the future income from Assessments.

ARTICLE X. MAINTENANCE

A. Maintenance by Association. The owner of Common Property shall maintain and keep in good repair the Common Property. This maintenance shall include, without limitation, maintenance, repair, and replacement of all landscaping and other flora, structures, and

improvements situated upon the Common Property and all personal property used in connection with the operation of the Common Property.

B. Maintenance by Owner. Each Owner or occupant shall repair, replace, and maintain in good order and condition, at his/her expense, portions of, improvements to, structures on, and equipment and components used in connection with his/her property. This maintenance responsibility includes, without limitation, promptly furnishing all necessary materials and performing or causing to be performed at his/her own expense all maintenance, repairs and replacements within such property that, if omitted, would adversely affect the safety and usefulness of the Common Property. Each Owner shall maintain those portions of his/her property that are adjacent to any portion of the Common Property in accordance with the Rules and the requirements set forth in this Master Declaration.

C. Right of Master Association to Maintain Property. If any Owner fails to maintain his/her property in the manner required herein, or if the Board determines that any maintenance of that property is necessary to ensure public safety, to permit reasonable use or enjoyment of the Common Property by Owners, to prevent damage to or destruction of any other part of the Common Property or to comply with the Rules or this Declaration, then the Board may authorize its employees or agents or the Manager to enter upon such Owner's property pursuant to the right of entry set forth in Article X Paragraph D hereof at any reasonable time to complete the necessary maintenance, and the Board may levy a Lot Assessment for all reasonable expenses incurred.

D. Right of Entry for Maintenance and Repair. The duly authorized employees, officers, agents and contractors of (i) the Master Association and (ii) the Manager shall each have a right of entry and access to all Parcels encumbered by this Declaration for the purpose of performing the Master Association's rights or obligations set forth in this Declaration. The Master Association and the Manager may enter upon any Parcel to remove or correct any violation of this Declaration or the Rules, or to maintain, repair, and replace the Common Property, but only during reasonable hours and after providing seventy-two (72) hours advance notice to the Owner, except in cases of emergency.

E. Damage to Common Property by Owner or Occupant. If the Common Property is damaged by any Owner or occupant, his/her family, guests, or invitees, then the Board may levy a Lot Assessment against such Owner for the cost of repairing or replacing the damaged property. The Master Association is hereby granted a license and shall be entitled to enter upon all Parcels to repair or maintain any Common Property adjacent to such Parcels, pursuant to the right of entry set forth in Article X Paragraph D hereof.

ARTICLE XI. RESERVED

ARTICLE XII. COMMON PROPERTY

A. All Common Property as delineated on any subdivision plat of the Property shall be and remain Common Property in perpetuity and shall not be developed or used for any purpose other than as Common Property for the benefit of all Owners and the Master Association; provided, however, that any Common Property located on discrete and distinct Development Phases owned by a Sub-Association and designated as Common Property for the use of such Development Phase may be reserved for the exclusive use of the residents of such Development Phase and their invitees.

B. No hunting, trapping or fishing shall be permitted on any Common Property and the Master Association shall be authorized to post signs accordingly.

ARTICLE XIII. SUB-ASSOCIATIONS

A. Sub-Associations. Sub-Associations shall be permitted to be created within any residential Development Phase or in connection with any Condominium, provided that any such additional Sub-Associations shall be subject and subordinate to this Master Declaration and the Residential Property Owners Association.

B. Subordination of Sub-Associations. All Sub-Associations shall be subject and subordinate to this Master Declaration and at all times shall comply with all terms and conditions of this Master Declaration and the applicable Sub-Association declaration.

C. Approval of Sub-Association Documents. All documents creating, organizing or governing Sub-Associations, including all amendments thereto, shall be subject to review and approval by the Master Developer prior to the Turnover Date, and after the Turnover Date, shall be subject to review and approval by the Master Association Board. Such approvals shall be for the sole purpose of establishing compliance with this Master Declaration and the development standards of Glacier Pointe and shall not be unreasonably withheld, conditioned or delayed.

D. Sub-Association Limitations. Sub-Associations shall administer restrictions and assessments solely relating to the property within and matters related solely to, the property that is the subject of such Sub-Association, as the case may be, and the Owners of Parcels that constitute portions of such property.

ARTICLE XIV. MASTER DEVELOPER AS SOLE MASTER DEVELOPER; ASSIGNMENT OF MASTER DEVELOPER ROLE; RESTRICTIONS ON REZONINGS

A. _____, LLC, an Ohio limited liability company, is the named Declarant and the Master Developer in this Master Declaration and is filing and recording the Master Declaration in its role as the Master Developer of Glacier Pointe. At all times, there shall be only one Master Developer of Glacier Pointe, until such time as Glacier

Pointe is fully developed and built out, such that there is no longer a need for a Master Developer. Except as otherwise provided in Article XV Paragraph D hereof, in the event _____, LLC desires to assign, transfer and convey its rights and obligations hereunder as the Master Developer of Glacier Pointe, it shall only be permitted to do so if all, but not less than all, of such rights and obligations are assigned, transferred and conveyed to a single Person who agrees in writing to assume all such rights and obligations. Any such assignment shall be recorded in the Official Records of Union County, Ohio.

B. Until the Turnover Date, only the Master Developer shall be permitted to seek zoning amendments (legislative or administrative) or rezonings from applicable governmental authorities pertaining to the Property. From and after the Turnover Date, Owners shall be permitted to seek zoning amendments (legislative or administrative) or rezonings from applicable governmental authorities pertaining to the Property only with the prior written consent of the Master Association Board.

ARTICLE XV. MISCELLANEOUS

A. **Term.** This Master Declaration shall bind and run with the land for a term of thirty (30) years from and after the date this Master Declaration is filed for recording with the appropriate governmental office, and thereafter shall automatically renew for successive periods of ten (10) years each unless and until an election is made by the Master Association Board to terminate this Master Declaration.

B. **Enforcement; Waiver.** This Master Declaration and all provisions hereof may be enforced by any proceeding at law or in equity by the Master Developer, the Design Review Board, any Owner, the Master Association, the Master Association Board, and their respective heirs, successors and assigns, against any person(s) violating, or attempting to violate, any covenant or restriction, to restrain and/or to enjoin violation, to obtain a decree for specific performance as to removal of any nonconforming Improvement, and to recover all damages, costs of enforcement and any other costs incurred (including without limitation reasonable attorneys' fees). Failure of the Master Developer, the Design Review Board, the Master Association, the Master Association Board or any Owner to enforce any provision of this Master Declaration or the Rules in any manner shall not constitute a waiver of any right to enforce any violation of such provision. By accepting a deed to a Parcel, each Developer and Owner is deemed to waive the defenses of laches and statute of limitations in connection with the enforcement of this Master Declaration or the Rules.

C. **Amendments.** The Master Developer may unilaterally amend this Master Declaration from time to time, without the consent of any Developer or any Owners, if such amendment is: (a) necessary to bring any provision hereof into compliance with any applicable governmental statute, rule, regulation or judicial order, (b) necessary to enable any reputable title insurance company to issue title insurance coverage on the Parcels, (c) necessary to conform to

the requirements then governing the making of a mortgage loan or the purchase, guaranty or insurance of mortgages by an institutional lender or an institutional guarantor or insurer of mortgages on Parcels, including but not limited to, the United States Federal Housing Administration, (d) necessary to correct typographical, factual or obvious errors or omissions, or (e) deemed appropriate by the Master Developer for the orderly development of Glacier Pointe; provided, however, any such amendment permitted pursuant to clauses (b) or (e) above shall not materially adversely affect the title to any real property as of the date of such amendment unless the Owner thereof on such date has consented to such amendment in writing. From and after the Turnover Date, the Master Association Board shall have and possess all rights to amend this Master Declaration as provided in the preceding sentence without the consent of any Developer or any Owner; provided, however, that from and after the Turnover Date, the Master Association Board shall have no right or power to modify or amend the provisions of Article XIV hereof. The Master Developer shall have the right and power, but neither the duty nor the obligation, in its sole and absolute discretion and by its sole act, to subject additional property to this Master Declaration at any time and from time to time by executing and recording in the appropriate governmental office, an amendment to this Master Declaration specifying that such additional property is part of the Property. An amendment to this Master Declaration shall not require the joinder or consent of any Developer, the Master Association, the Master Association Board, other Owners, mortgagees or any other person. In addition, such amendments to the Master Declaration may contain such supplementary, additional, different, new, varied, revised or amended provisions and memberships as may be necessary or appropriate, as determined by the Master Developer prior to the Turnover Date, and thereafter by the Master Association Board, to reflect and address the different character or intended development of any such additional property. Except as provided herein, this Master Declaration and the attached Bylaws may be amended only by the Master Association Board. No amendment to this Master Declaration shall be effective until it is filed of record in the Official Records of Union County, Ohio.

D. Master Developer's Rights to Complete Development. The Master Developer, and within each Development Phase the applicable Developer, with the written approval of the Master Developer, shall have the right to: (a) complete development, construction, promotion, marketing, sale, resale and leasing of any Development Phase; (b) construct or alter Improvements on any property owned by the Master Developer; (c) within each Development Phase, maintain model homes, offices for construction, sales or leasing purposes; storage areas, construction yards or similar facilities on any property owned by the Master Developer, the Developer or the Master Association; or (d) post signs incidental to development, construction, promotion, marketing, sale and leasing of property within the Property. Further, the Master Developer and each Developer shall have the right of ingress and egress through the streets, paths and walkways located in the Property for any purpose whatsoever, including, but not limited to, purposes related to the construction, maintenance and operation of Improvements. Nothing contained in this Master Declaration shall limit the rights of the Master Developer or require the Master Developer to obtain approval to: (i) excavate, cut, fill or grade any property owned by the Master Developer, or to construct, alter, remodel, demolish or replace any

Improvements on any Common Property or any property owned by the Master Developer as a construction office, model home or real estate sales or leasing office in connection with the sale of any property; or (ii) require the Master Developer to seek or obtain the approval of the Master Association Board or the Design Review Board for any such activity or Improvement on any Common Property or any property owned by the Master Developer. Nothing in this Section shall limit or impair the reserved rights of the Master Developer or Developers as elsewhere provided in this Master Declaration. Each, some or all of the rights reserved by the Master Developer herein may be assigned, in whole or in part and with or without limitations or restrictions, to the Developer(s) of each such Development Phase, to the extent and as the Master Developer sees fit in its sole and absolute discretion.

E. Master Developer's Rights to Replat the Master Developer's Property. The Master Developer reserves the right, at any time and from time to time, to amend, alter or replat any plat or development plan and to amend any zoning ordinance which affects all or any portion of the Property; provided, however, that only real property owned by the Master Developer shall be the subject of any such amendment, alteration or replatting unless the owner(s) of such other real property as is to be affected by such replatting, alteration or amendment consents in writing to the same. Each Developer, Owner and Member and the Master Association, for themselves and their successors and assigns, hereby consents to and approves any such amendment, alteration or replatting and shall be deemed to have joined in the same.

F. Mortgage Rights. A holder or insurer of a first mortgage upon any Parcel, upon written request to the Master Association (which request shall state the name and address of such holder or insurer and a description of the property) shall be entitled to timely written notice of:

1. any amendment of this Master Declaration or the Bylaws;
2. any termination of the Master Association; and
3. any default under this Master Declaration which gives rise to a cause of action by the Master Association against the Owner of the Parcel subject to the mortgage of such holder or insurer, where the default has not been cured in sixty (60) days.

Each holder and insurer of a first mortgage on any Parcel shall be entitled, upon request and at such mortgagee's expense, to inspect the books and records of the Master Association during normal business hours, subject to the limitations contained in Article VIII Paragraph H hereof.

G. Indemnification. The Master Association shall indemnify every Master Association Board member, officer and trustee thereof and the Design Review Board and each member thereof against any and all claims, liabilities, expenses, including attorneys fees reasonably incurred by or imposed upon any officer, trustee or board member in connection with

any action, suit, or other proceeding (including settlement of any suit or proceeding, if approved by the Master Association Board), to which he/she may be a party by reason of being or having been an officer, trustee or board member. The Master Association Board members, officers and trustees of the Master Association and the members of the Design Review Board shall not be liable for any mistake of judgment, negligent or otherwise, except for their own individual willful misconduct, bad faith or gross negligence. The Master Association Board members, officers and trustees of the Master Association shall have no personal liability with respect to any contract or other commitment made by them in good faith, on behalf of the Master Association (except to the extent that such Master Association Board members, officers or trustees may also be Members of the Master Association), and the Master Association shall indemnify and forever hold its Master Association Board members, officers and trustees free from and harmless against any and all liability to others on account of any such contract or commitment. Any right to indemnification provided herein shall not be exclusive of any other rights to which any Master Association Board or Design Review Board member, officer or trustee, or former Master Association Board or Design Review Board member, officer or trustee, may be entitled.

H. Severability. If any article, section, paragraph, sentence, clause or word in this Master Declaration is held by a court of competent jurisdiction to be in conflict with any law of the State, then the requirements of such law shall prevail and the conflicting provision or language shall be deemed void in such circumstance; provided that the remaining provisions or language of this Master Declaration shall continue in full force and effect.

I. Captions. The caption of each Article, section and paragraph of this Master Declaration is inserted only as a matter of reference and does not define, limit or describe the scope or intent of the provisions of this Master Declaration.

J. Notices. Notices to an Owner shall be given in writing, by personal delivery, at the property owned, or by depositing such notice in the United States Mail, first class, postage prepaid, to the address of the Owner of the property as shown by the records of the Master Association, as shown on the tax duplicate for the Parcel, or as otherwise designated in writing by the Owner.

IN WITNESS WHEREOF, _____, LLC, as the
Declarant and the Master Developer, has caused this Master Declaration to be executed by its
duly authorized representative as of the day and year first above written.

_____, LLC, an
Ohio limited liability company

By: _____

STATE OF OHIO)
COUNTY OF _____) SS:

The foregoing instrument was acknowledged before me this ____ day of _____,
2017, by _____, the _____ of _____, LLC, on
behalf of _____, LLC.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed by official
seal on the date and year aforesaid.

Notary Public

LIST OF EXHIBITS

<u>EXHIBIT A</u>	Master Plan Area for Glacier Pointe
<u>EXHIBIT B</u>	Initial Property owned by the Declarant and the Master Developer Subject to this Master Declaration
<u>EXHIBIT C</u>	Open Space Plan for Common Property
<u>EXHIBIT D</u>	Bylaws of the Master Association

EXHIBIT A

Master Plan Area for Glacier Pointe

EXHIBIT B

Initial Property owned by the Declarant and the Master Developer Subject to this Master Declaration

[See Attached Pages]

EXHIBIT C

Open Space Plan for Common Property

EXHIBIT D

BYLAWS (CODE OF REGULATIONS) OF GLACIER POINTE MASTER PROPERTY OWNERS ASSOCIATION, INC.

SECTION I: NAME AND LOCATION

The name of the Master Association is Glacier Pointe Master Property Owners Association, Inc. (the "Master Association"), which is a nonprofit corporation created by _____, LLC, an Ohio limited liability company ("Declarant"), pursuant to the provisions of Ohio Revised Code Chapter 1702 in connection with the creation of a planned community known as "Glacier Pointe".

The principal office of the Master Association shall be as set forth in its Articles of Incorporation (the "Articles") filed with the Secretary of State of Ohio, and the place of meetings of Owners and of the Board of the Master Association (the "Board") shall be as set forth herein.

SECTION II: DEFINITIONS

All of the terms used herein that are not otherwise defined shall have the same meanings as set forth in the Master Deed Declaration, Restrictions and Bylaws (the "Master Declaration"), recorded simultaneously with these Bylaws with the Recorder of Union County, Ohio.

SECTION III: MASTER ASSOCIATION

1. Membership in Master Association. Membership in the Master Association shall consist of the Declarant as Master Developer and the Owner Members, as further provided in Article VII, Paragraph A of the Master Declaration, who shall collectively be referred to herein as the "Members".
2. Organization of Master Association. The Master Association shall be organized as a nonprofit corporation pursuant to Chapter 1702 of the Ohio Revised Code.
3. Declarant Control. Declarant shall control the Master Association from the time it is established until the earlier to occur of (i) the sale by Declarant of the last residential lot owned by Declarant in the single family subdivisions planned for the Glacier Pointe (whether or not developed), or (ii) the waiver by the Declarant of its exclusive voting rights (the "Turnover Date"). Until the Turnover Date, the Declarant or the Declarant's designee may appoint and remove all members of the Board.
4. Master Association. The Master Association shall administer Glacier Pointe, and the Board shall exercise all power and authority of the Master Association. On the Turnover Date, the Board shall be elected by the Members.

5. Annual Meetings of the Master Association. Except prior to the Turnover Date, the Board shall call regular annual meetings of the Members on a date and at a location within Union County, Ohio and at an hour established by the Board, provided that, in any event, there shall be no more than fourteen (14) months between annual meetings of the Members.

6. Special Meetings of the Master Association. Special meetings of the Master Association may be called at a location within Union County, Ohio, and at any time by the President, a majority of the Board, or Members representing fifty percent (50%) of the voting power of the Master Association.

7. Notice of Meeting of Members. The Secretary or person authorized to call the meeting will provide for written notice of each meeting of Members by mailing a copy of such notice, postage prepaid, at least five (5) days before such meeting, to each Member. Alternatively, personal delivery of a copy of that notice to the appropriate address at least five (5) days before the meeting is acceptable service of the notice. The notice shall be addressed to the Member's address either (a) last appearing on the books of the Master Association or (b) last supplied by that Member to the Master Association for the purpose of notice, whichever is most recent. The notice shall specify the date, place, and hour of the meeting. Additionally, for special meetings, the notice shall indicate the specific purposes of the meeting, and, in the case of special meetings called by the petition and written request of Members, the specific motion or motions (other than procedural) to be voted upon must be indicated in the notice.

8. Conduct of Meetings of Members. The Board shall conduct all meetings of the Members, and the President of the Master Association shall preside over the same, unless otherwise directed by the Board.

9. Quorum. The Members present, in person or by proxy, at any duly called and noticed meeting of the Master Association, shall constitute a sufficient quorum for that meeting.

10. Voting Rights. The Members of the Master Association shall not have any right to vote on any matter pertaining to the Master Declaration or the Master Association, except as otherwise provided in the Master Declaration, these Bylaws or required by law. The Master Association shall be governed and controlled exclusively by the Master Association Board, who shall have and possess all voting rights and control hereunder.

11. Voting Power. Except as otherwise provided in the Master Declaration and these Bylaws or by law, a simple majority of the voting power of Members entitled to vote on any matter that may be determined by the Members at any duly noticed and conducted meeting shall be sufficient to determine the matter voted upon.

12. Proxies. At any meeting of Members, a Member may vote in person or by proxy. All proxies shall be in writing and filed with the Secretary prior to the meeting. A telegram or facsimile appearing to have been transmitted by a Member or a photographic, photocopy, or equivalent reproduction of a writing is sufficient to appoint a proxy. An electronic mail notice of proxy appointment, delivered to the Secretary, shall be sufficient notice of proxy if that Member

previously provided the Master Association a personally signed document verifying that the electronic mail address from which the proxy notice was received is, in fact, the Member's. Every proxy shall be revocable and shall automatically cease upon conveyance of that Member's fee simple interest in a Parcel. Every proxy shall cease to be valid after the expiration of eleven months after its making unless the proxy specifies a specific date on which it is to expire or a specific length of time it is to continue in force.

13. Participation at Meetings. Meetings of the Members shall be open to all Members unless specified by direction of the Board otherwise in the notice of meeting. The Board, in its sole discretion, may exclude from attendance at a meeting of the Members, Members and their agents and representatives (other than Declarant and its successors and assigns so long as Declarant owns a Parcel in the Glacier Pointe Planned Community) in these instances:

(a). A determination by the Board that the Member has a threatened or pending adverse interest to the interests of the Master Association, or the Board, or any member of the Board, or any officer, employee, committee member, or agent of the Master Association, in such Person's capacity as such, if a subject of the meeting will be a discussion of a vote with regard to such adverse interest; or

(b). for any other reason deemed by the Board, from the standpoint of the Master Association's best interests, to be of sufficient merit that attendance and participation at a meeting by such Member would not be in the Master Association's best interests;

provided, that nothing contained in this Section shall preclude or exclude a Member from voting by proxy, on any matter properly voted upon at that meeting by Members.

14. Member Action in Writing Without Meeting. Any action that could be taken by Members at a meeting may be taken without a meeting with the affirmative vote or approval, in a writing or writings, of Members or their proxies having not less than seventy-five percent (75%) of the voting power of all Members, or such greater proportion of the voting power as may be required by the Master Declaration and Bylaws or by law.

SECTION IV: BOARD OF DIRECTORS

1. Initial Directors and Replacements. The initial Directors shall be three (3) persons named by the Declarant as the initial Directors in a separate action. The Declarant reserves the right, at any time, to have the Members elect any or all Directors and for Declarant to turn over the functions or operation of the Master Association to the elected Directors.

2. Successor Directors. On or about the Turnover Date, all current Directors shall resign, either in person or in writing, and at all times thereafter all Directors shall be elected by the Members. The Directors so elected shall take office at an organizational meeting immediately following the Turnover Date. Each Director of the Master Association shall hold office for a three (3) year term; provided that the one initial Director of the Master Association

elected by the Members shall be elected to a one (1) year term, one initial Director of the Master Association elected by the Members shall be elected to a two (2) year term, and the one initial Director of the Master Association elected by the Members shall be elected to a three (3) year term, in order that the terms of one-third (1/3) of all Directors of the Master Association expire annually. In the initial election of Directors by the Members, the candidate nominated for election by the Members receiving the most votes shall be elected to a three (3) year term, the candidate nominated for election by the Members receiving the second highest number of votes shall be elected to a two (2) year term, and the candidate nominated for election by the Member's receiving the third highest number of votes shall be elected to the one (1) year term.

3. Removal. Excepting only Directors named in the Articles or selected or designated by Declarant, any Director duly elected may be removed from the Board by vote of the Members. In the event of the death, resignation, or removal of a Director other than one named in the Articles or a substitute to the same selected by the Declarant, that Director's successor shall be elected by the Members, and such successor shall serve until the next annual meeting of Members, when a Director shall be elected to complete the term of such deceased, resigned, or removed Director.

Until the Turnover Date, Declarant shall have the sole right to remove, with or without cause, any Director designated in the Articles, or a substitute selected by the Declarant. Likewise, the Declarant may select the successor of any Declarant-selected Director who dies, resigns, is removed, or leaves office for any reason before the election of Directors by the Sub-Associations.

4. Qualification. To qualify for election as a Director (other than being selected by the Declarant), the prospect must be an individual who is an Owner or co-Owner of a Parcel or the spouse of an Owner or co-Owner of a Parcel. Further, that Owner or co-Owner of a Parcel or such spouse must not then be delinquent in the payment of any obligation to the Master Association or be an adverse party to the Master Association, its Board, or any member of the Board (in that member's capacity as a Board member) in any litigation.

5. Compensation. No Director shall receive compensation for any service rendered to the Master Association as a Director. However, any Director may be reimbursed actual and reasonable expenses incurred in the performance of duties as a Director.

6. Regular Meetings. Regular meetings of the Board shall be held on such dates and at such places and times as may be fixed from time to time by resolution of the Board, but not less than quarterly.

7. Special Meetings. Special meetings of the Board shall be held when called by the President of the Board, by a majority of the Directors or by Members representing fifty per cent (50%) of the voting power in the Master Association, after not less than three (3) days' notice to each Director, at such places and times as determined at the time of calling such special meeting.

8. Quorum. The presence at any duly called and noticed meeting of Directors consisting of a simple majority, in person, by proxy, and/or by participation by any method of communication, in accordance with Section 11 below.

9. Attendance of Owners at Board Meetings. No Owner other than a Director may attend or participate in any discussion or deliberation at a meeting of the Board unless the Board expressly authorizes that Owner to attend or participate.

10. Voting Power. Each Director shall be entitled to a single vote, and, except as otherwise provided in the Master Declaration and Bylaws or by law, vote of a simple majority of the Directors voting on any matter that may be determined by the Board at a duly called and noticed meeting at which a quorum is present, shall be sufficient to determine that matter.

11. Electronic Communications. The Board may hold a meeting by any method of communication, including electronic or telephonic communication or communication by computer, provided that each Board member can hear or read in real time and participate and respond to every other member of the Board.

12. Action in Writing Without Meeting. Any action that could be taken by the Board at a meeting may be taken without a meeting with the affirmative vote or approval, in a writing or writings, of all of the Directors. Any written vote or approval shall be filed with the minutes of the meetings of the Board.

13. Powers, Duties and Authority. The Board may act in all instances on behalf of the Master Association unless otherwise provided in the Master Declaration and Bylaws and without limiting the generality of the foregoing, the Board shall have the right, power, and authority to:

(a). take all actions deemed necessary or desirable to comply with or to cause compliance with all requirements of law and the Master Declaration and Bylaws;

(b). obtain insurance coverage and bonds in amounts no less than that required pursuant to these Bylaws and the Master Declaration;

(c). enforce the covenants, conditions, and restrictions set forth in the Master Declaration;

(d). repair, maintain, and improve the Common Property;

(e). establish, enforce, levy, and collect Assessments as provided for in the Master Declaration and adopt, publish, and enforce rules and regulations concerning the same;

(f). adopt and publish rules and regulations governing the use of the Common Property and the personal conduct of Owners, and their tenants and guests on the same;

(g). suspend the voting privileges and use of recreational facilities of an Owner during any period in which the Owner shall be in default in the payment of any Assessment required by such Owner;

(h). declare the office of a member of the Board to be vacant in the event such Director shall be absent from three consecutive regular meetings of the Board;

(i). subject to such approvals, if any, as may be required pursuant to the provisions of the Master Declaration and these Bylaws, authorize the officers to enter into one or more agreements necessary or desirable to fulfill the purposes and objectives of the Master Association, including, without limitation: management agreements, and purchase agreements on such terms and conditions as the Board in its sole discretion may determine, subject to the Master Declaration;

(j). cause excess funds of the Master Association to be invested in such reasonable investments as the Board may from time to time determine;

(k). borrow funds, as needed, enter into loan documents, and pledge such security and rights of the Master Association as might be necessary or desirable to obtain any such loan; and

(l). do all things and take all actions permitted to be taken by the Master Association by law or the Master Declaration and these Bylaws not specifically reserved to others.

14. Duties. It shall be the duty of the Board, on behalf of the Master Association, to:

(a). cause to be kept a complete record of all its acts and corporate affairs, including correct and complete books and records of account that specify receipts and expenditures relating to Common Property and other common receipts and expenses, records showing the allocation, distribution, and collection of common profits, losses, and expenses among and from Owners, minutes of meetings of the Members and meetings of the Board, and records of the names and addresses of Members;

(b). present the latest available financial statement of the Master Association to the Members at each annual meeting of Members, or at any special meeting when requested in writing by Members representing a majority of the voting power of Members;

- (c). supervise all officers, agents, and employees of the Master Association and verify that their duties are properly performed;
- (d). prepare or cause an estimated annual budget to be prepared;
- (e). as more fully provided in the Master Declaration, establish, levy, enforce, and collect Assessments;
- (f). procure and maintain insurance and bonds, as provided in the Master Declaration and as the Board deems advisable;
- (g). maintain the Glacier Pointe Planned Community property, subject to the Master Association's jurisdiction, within the scope of authority provided in the Master Declaration;
- (h). cause the restrictions created by the Master Declaration to be enforced; and
- (i). take all other actions required to comply with all requirements of law and the Master Declaration and Bylaws.

15. Delegation of Authority; Management; Contracts. The Board may delegate all or any portion of its authority to discharge its responsibilities to a managing agent. This delegation of authority and responsibility to a managing agent may be evidenced by one or more management contracts which may provide for the payment of reasonable compensation to such managing agent as a common expense; provided, however, that any agreement for professional management shall be terminable by either party without cause and without penalty upon not less than thirty (30) nor more than ninety (90) days prior notice; and shall be bona fide and commercially reasonable at the time entered into under the circumstances then prevailing, provided that, in the case of any professional management contract entered into before the Turnover Date, the contract must give the Master Association the right to terminate it without cause and without penalty at any time after the Turnover Date.

Subject to the foregoing, nothing contained in these Bylaws shall preclude Declarant or any other entity designated by Declarant, from being employed as managing agent. The managing agent, or the Board if there is no managing agent, shall have the authority to enter into contracts with Declarant or an affiliate of Declarant (as defined by an institutional first mortgagee or an agency or organization which purchases, insures, or guarantees first mortgages) for goods, services, or for any other thing, including, but not limited to contracts for maintenance and repair services, provided the same are bona fide and commercially reasonable to the Master Association. In any case, no management contract or agreement by the Master Association executed prior to the Turnover Date shall extend subsequent to that assumption of control unless renewed by the Board pursuant to the provisions of these Bylaws.

SECTION V: OFFICERS

1. **Enumeration of Officers.** The officers of this Master Association shall be a President, a Secretary, a Treasurer, and any other officers as the Board may from time to time determine. No officer need be an Owner, Member or Director of the Master Association. The same person may hold more than one office.

2. **Selection and Term.** Except as otherwise specifically provided in the Master Declaration or these By laws, the officers of the Master Association shall be appointed by the Board to serve until the Board appoints their successors. There is no set term for any officer.

3. **Special Appointments.** The Board may appoint any other officers as the affairs of the Master Association may require; each of whom shall hold office for the period, have the authority, and perform the duties determined by the Board.

4. **Resignation and Removal.** Any officer may be removed from office, with or without cause, by the Board. Any officer may resign at any time by giving written notice to the Board, the President, or the Secretary. Such resignation shall take effect when the notice is received or at any later time specified in the notice. The acceptance of a resignation shall not be necessary to make it effective.

5. **Duties.** The duties of the officers shall be as the Board may from time to time determine. Unless the Board otherwise determines, the duties of the officers shall be as follows:

(a). **President.** The President shall preside at all meetings of the Board, have the authority to see that orders and resolutions of the Board are carried out, and sign all legal instruments on behalf of the Master Association.

(b). **Secretary.** The Secretary shall record the votes and keep the minutes and proceedings of meetings of the Board and of the Members. Further, the Secretary shall serve notice of meetings of the Board and of the Members and keep appropriate current records showing the names of Members of the Master Association together with their addresses.

(c). **Treasurer.** The Treasurer shall receive, deposit (in bank accounts and investment of funds in other vehicles as the Board directs), and disburse funds as directed by the Board. Further, the Treasurer shall keep proper books of account, prepare a proposed annual budget, and finalize statements of income and expenditures to be presented to the Members at annual meetings.

SECTION VI: COMMITTEES

The Board may appoint such committees as it deems appropriate in carrying out its purposes.

SECTION VII: BOOKS AND RECORDS

The books, records, and financial statements of the Master Association, including current copies of the Master Declaration, Bylaws, and effective rules and regulations, shall be available during normal business hours or under other reasonable circumstances, upon request to the Master Association, for inspection by Owners, Members, lenders, and the holders, insurers, and guarantors of first mortgages on Parcels, pursuant to reasonable standards established from time to time by the Board by rule, including, but not limited to, standards governing the type of documents that are subject to examination and copying, the times and locations at which those documents may be examined or copied, and the specification of a reasonable fee for copying the documents; provided, further, that the Board shall not be required to permit the examination and copying of materials and information permitted to be excluded from examination and copying under the Master Declaration, or the disclosure of which is prohibited by other laws of the State of Ohio or of the United States of America. Likewise, during normal business hours or under other reasonable circumstances, the Master Association shall make available to prospective purchasers current copies of the Master Declaration, Bylaws, Articles, effective rules and regulations, and the most recent annual audited financial statement, if such is prepared.

Within thirty (30) days after an Owner obtains a Parcel, the Owner shall provide the Board with the home address, home and business mailing addresses, and home and business telephone numbers of the Owner of the Parcel, as well as the name, business address, and business telephone number of any person who manages the Owner's Parcel as an agent of that Owner. In addition, within thirty (30) days after a change in any of the above information, an Owner shall notify the Master Association, through the Board, in writing of such change. When the Board requests, an Owner shall verify or update the information listed in this paragraph.

SECTION VIII: FISCAL YEAR

Unless otherwise changed by the Board, each fiscal year of the Master Association shall begin on the first day of January and terminate at the end of the 31st day of December of that year, except that the first fiscal year shall begin on the date of incorporation of this Master Association and terminate at the end of the next following 31st day of December.

SECTION IX: ADMINISTRATIVE EXPENSES

In accordance with the Master Declaration, all costs the Master Association incurs in the administration, governance, and maintenance of the Glacier Pointe Planned Community are Administrative Expenses and the manner of collection thereof shall be as provided in the Master Declaration.

SECTION X: INDEMNIFICATION

1. **Third Party Actions.** The Master Association shall indemnify any individual who is or was a party or is threatened to be made a party to any threatened, pending, or completed civil, criminal, administrative or investigative action, suit, or proceeding, including all appeals,

other than an action, suit or proceeding by or in the right of the Master Association, by reason of the fact that the individual is or was a director, officer, employee, or volunteer of the Master Association, against expenses (including reasonable attorney's fees), judgments, fines, penalties, and amounts paid in settlement actually and reasonably incurred by that individual in connection with such action, suit or proceeding, if that individual acted in good faith and in a manner that individual reasonably believed to be in or not opposed to the best interests of the Master Association and, with respect to any criminal action or proceeding, if that individual had no reasonable cause to believe that individual's conduct was unlawful. The termination of any action, suit, or proceeding by judgment, order, settlement, or conviction, or upon a plea of nolo contendere or its equivalent, shall not create, of itself, a presumption that the individual did not act in good faith and in a manner which that individual reasonably believed to be in or not opposed to the best interest of the Master Association and, with respect to any criminal action or proceeding, a presumption that the individual had reasonable cause to believe that the individual's conduct was unlawful. Notwithstanding the foregoing, no indemnification shall be made in respect of (a) any claim, issue, or matter as to which such individual is finally adjudged to be liable for negligence or misconduct in the performance of that individual's duty to the Master Association unless, and only to the extent that the court in which such action or suit was brought determines, upon application, that, despite the adjudication of liability but in view of all the circumstances of the case, such individual is fairly and reasonably entitled to indemnity for such expenses such court considers proper, or (b) any action or suit in which a Director is found liable only pursuant to the provisions of Section 1702.55 of the Ohio Revised Code, as amended.

2. Derivative Actions. The Master Association shall indemnify any individual who is or was a party, or threatened to be made a party, to any threatened, pending, or completed action or suit, including all appeals, by or in the right of the Master Association to procure a judgment in its favor, by reason of the fact that the individual is or was a director, officer, employee, or volunteer of the Master Association, against expenses or settlement of such action or suit, if the individual acted in good faith, and in a manner that individual reasonably believed to be in or not opposed to the best interests of the Master Association, except that no indemnification shall be made in respect of (a) any claim, issue, or matter as to which such individual is finally adjudged to be liable for negligence or misconduct in the performance of that individual's duty to the Master Association unless, and only to the extent that the court in which such action or suit was brought determines, upon application, that, despite the adjudication of liability but in view of all the circumstances of the case, such individual is fairly and reasonably entitled to indemnity for such expenses such court considers proper, or (b) any action or suit in which a Director is found liable only pursuant to the provisions of Section 1702.55 of the Ohio Revised Code, as amended.

3. Other Determinations of Rights. Unless ordered by a court, any indemnification under paragraphs 1 and 2 of this Section X shall be made by the Master Association only as authorized in the specific case, upon a determination that indemnification of the director, officer, employee or volunteer is proper under the circumstances because that individual has met the applicable standard of conduct set forth in paragraphs 1 and 2 of this Section X. Such determination shall be made in any one of the following manners: (a) by a majority vote of a

quorum consisting of Directors who were not and are not parties to or threatened with the action; suit or proceeding referred to in paragraphs 1 and 2 of this Section X, or (b) by the Members by simple majority vote.

4. Indemnification of Agents and Others. The Master Association may, from time to time, and in its sole discretion, indemnify any individual who is or was an agent, or other authorized representative of the Master Association, other than those described under paragraphs 1 and 2 of this Section who may be indemnified, or is or was serving at the request of the Master Association as director, officer, or employee of another corporation, limited liability company, partnership, joint venture, trust, or other enterprise, against any liability asserted against that individual or incurred by that individual in any such capacity or arising out of that individual's status as such, in the same manner and to the same extent as provided herein for Directors, officers, employees, and volunteers of the Master Association.

5. Advances of Expenses. Reasonable expenses of each individual indemnified herein incurred in defending a civil, criminal, administrative, or investigative action, suit, or proceeding (including all appeals), or threat thereof, may be paid by the Master Association in advance of the final disposition of such action, suit, or proceeding as authorized by the Directors, whether a disinterested quorum exists or not, upon receipt of an undertaking by or on behalf of such individual, to repay such amount, if it is ultimately determined that that individual is not entitled to be indemnified by the Master Association.

6. Nonexclusiveness; Heirs. The foregoing rights of indemnification are not exclusive, shall be in addition to any other rights granted to those seeking indemnification as a matter of law, or under the provisions hereof, any lawful rules or regulations, any agreement, vote of members or disinterested Directors, or otherwise, both as to actions in their official capacities and as to actions in another capacity while holding their offices or positions, shall continue as to an individual who has ceased to be a Director, officer, employee, member, agent, or volunteer, and shall inure to the benefit of the heirs, executors, and administrators of such an individual.

7. Purchase of Insurance. Commencing not later than the time of the first conveyance of a Parcel to a person other than Declarant, the Master Association shall maintain all of the following to the extent reasonably available and applicable:

- (a). Property insurance on the Common Property;
- (b). Liability insurance pertaining to the Common Property;
- (c). Directors and officers liability insurance.

The Master Association shall purchase and maintain insurance, or furnish similar protection, including, but not limited to, trust funds, letters of credit, or self-insurance, for or on behalf of any individual who is or was a Director, officer, agent, employee, or volunteer of the Master Association, or is or was serving at the request of the Master Association as a director,

officer, employee, member, manager, agent or volunteer of another corporation, limited liability company, partnership, joint venture, trust, or other enterprise, against any liability asserted against that individual or incurred by that individual in any such capacity, or arising out of that individual's status as such, whether or not the Master Association would have the power to indemnify that individual against such liability under the provisions of this Section or of the Ohio nonprofit corporation law.

SECTION XI: AMENDMENTS

Any modification or amendment of these Bylaws shall be made only by means of an amendment to the Master Declaration, in the manner and subject to the approvals, terms, and conditions set forth in the Master Declaration. Those amendments shall be effective from the time a certificate setting forth such modification or amendment is recorded with the Union County, Ohio Recorder.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]
Signature Page Follows

IN WITNESS WHEREOF, the undersigned, sole member of the Master Association, has caused these Bylaws to be duly adopted on or as of the ____ day of _____, 2017.

_____, LLC, an Ohio
limited liability company

By: _____

Brad Bodenmiller

From: Bill Narducci <bnarducci@co.union.oh.us>
Sent: Thursday, August 3, 2017 1:10 PM
To: Brad Bodenmiller
Subject: Glacier Pointe Re-zoning Amendment

Brad,

I have taken a brief look at the schematic drawings that were provided to you by the Township as part of LUC's zoning amendment review for them. We have been working with the development team off and on over the past 12-18 months regarding roadway alignments for their development, and how they interact with future road alignments shown in our Thoroughfare Plan.

While our Thoroughfare Plan is in the process of being updated, we are fairly confident that the roadway concepts and the conceptual interchange at Mitchell-Dewitt will be incorporated within the final version. As such, the development team has agreed to set aside some right of way both for the interchange and the collector roadway alignments within and near their site.

As with any Thoroughfare Plan, the timing of these projects is unknown and may not happen for many years and possibly not at all, but are established to assist in regional planning and to coordinate with development as it is proposed. What has been submitted to the Township for re-zoning is consistent with what we have seen from the developers in working through this process. I believe there will be some additional modifications to provide or relocate stub streets, but the overall intent of the plan appears consistent.

If you have any additional questions/comments/concerns, please let me know. Thanks

Bill Narducci, P.E.
Assistant County Engineer

Union County Engineer
233 West 6th St.
Marysville, Ohio 43040
Direct: 937.645.3165
Office: 937.645.3018
Fax: 937.645.3161
<http://www.co.union.oh.us/engineer>





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Robert A. Yoder
Treasurer

Zoning & Subdivision Committee Thursday, August 10, 2017

The Zoning and Subdivision Committee met in regular session on Thursday, August 10, 2017 at 12:30 pm at the LUC East Liberty Office.

Zoning & Subdivision Committee Members were in attendance as follows: Brad Bodenmiller, Tyler Bumbalough, Cale Jacobs for Scott Coleman, Chad Flowers, Dave Gulden, Charles Hall, Steve McCall, Heather Martin, Bill Narducci, Tammy Noble for Vince Papsidero, Jeff Stauch and Andy Yoder. Absent members were Wes Dodds and Tom Scheiderer.

Guests included: Justin Wollenberg, Terrain Evolution; Tom Pomorski, Epcon; Jay McIntire, Encore Living; David Fisher, Kephart Fisher; Gary Schmidt, G2 Planning; Adam Moore, City of Urbana.

Andy Yoder chaired the Zoning & Subdivision Committee Meeting.

Steve McCall moved a motion to approve the minutes from the July 13, 2017 meeting as written and Tyler Bumbalough seconded. All in favor.

1. Review of Jerome Village ERN-1 North Preliminary Plat (Union County) – Staff Report by Brad Bodenmiller
 - Brad Bodenmiller – When the staff report was created, no comment had been received by the Township. Since then, the Township provided a letter, that the plat seems to comply with zoning. Also, a letter was provided by the applicant's engineer regarding the soils and site drainage.
 - Charles Hall – Seems like there are a lot of issues, is that unusual?
 - Brad Bodenmiller – I think we have a few more people reviewing than we have in the past, do you agree Bill?
 - Bill Narducci – That is correct and now that we have the experience of these being built out and having the real-life issues, we're looking at things a little more. Things we may not have commented on in the past, we're seeing more issues with now. Also, it's a preliminary plat so it's not uncommon to have this number of comments.
 - Justin Wollenberg – Many of the comments provided were applicable to what needs to be done at the final stages. In regard to the stormwater comments, I talked with Jeremy Burrey and the stormwater easements he mentioned are there, just the drawing he was reviewing did not have them but they were shown on the detail sheets. On the preliminary plat, the

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easements are shown without the benefit of the storm, they were there, he just didn't notice them. For the electric, the electric company had not finished their layout and defined where their lines were going to be and have the easements fully defined.

- Steve McCall – For the entrance, there's quite a number of lots. Are there traffic issues?
 - Justin Wollenberg – It will connect to the first phase of Hyland Croy; this section will connect to the first phase and Ravenhill as well.
- Charles Hall moved a motion to recommend approval of the Jerome Village ERN-1 North Preliminary Plat with all the conditions that have been laid out and Bill Narducci seconded. All in favor.
- 2. Review of Jerome Village GPN-5 Phase 7 Final Plat (Union County) – Staff Report by Brad Bodenmiller
 - Brad Bodenmiller – When the staff report was created, no comment had been received by the Township. Since then, the Township provided a letter, that the plat seems to comply with zoning. This morning, I received additional comments from the Engineer's Office regarding closure and dimensioning.
 - Charles Hall – What you're saying is if you were to rewrite this, you would put approval now?
 - Brad Bodenmiller – In accordance with those comments, yes.
 - Tyler Bumbalough – These are probably an acre lot, does Jerome Township have minimum lot sizes?
 - Brad Bodenmiller – Their plan addresses the size per development. They'll have minimum frontages.
 - Justin Wollenberg – This is a condo development, that's why the lots look to be smaller but their size is appropriate for condos. This is the seventh one section of this development. There will be 116 units total and there are a few attached units.
 - Dave Gulden – What are this type of home called officially?
 - Todd Pomorski – It's called a patio home.
 - Steve McCall – What's the notches on the circle?
 - Justin Wollenberg – It's a parking area.
 - Todd Pomorski – It's going to be community parking and there's a community garden.
 - Steve McCall – Are the streets public?
 - Bill Narducci – It's the first ones in Jerome Village that's private.
 - Bill Narducci moved a motion to recommend approval of the Jerome Village GPN-5 Phase 7 Final Plat with staff comments and reviewing agency comments and Charles Hall seconded. All in favor.

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3. Review of Jerome Village VN-5 Phase 1 Amended Final Plat (Union County) – Staff Report by Brad Bodenmiller
 - Brad Bodenmiller – When the staff report was created, no comment had been received by the Township. Since then, the Township provided a letter, that the plat seems to comply with zoning.
 - Justin Wollenberg – The items in the report have been corrected.
 - Steve McCall – How does Union County handle the stub streets? Are they temporary?
 - Justin Wollenberg – There's a temporary T turnaround and that is being constructed now.
 - Bill Narducci – I think the requirement is 200 feet; if it's a stub street over 200 feet we request a temporary turn-around.
 - Justin Wollenberg – Talking with the fire department, they said they'd probably back out of that one as well.
 - Steve McCall – What is being done on the section by Lavender?
 - Justin Wollenberg – We're going to barricade Lavender. We built it out because there's a pump station in that corner. There's going to be a pump station drive installed and there are no lots beyond that.
 - Bill Narducci moved a motion to recommend approval of the Jerome Village VN-5 Phase 1 Amended Final Plat with staff and reviewing agency comments and Tyler Bumbalough seconded. All in favor.
4. Review of Jerome Township Zoning Parcel Amendment from RU to PD (Union County) – Staff Report by Brad Bodenmiller
 - David Fisher – We don't have any objections from any of the comments from staff.
 - Tammy Noble – For the open space are they not in reserves?
 - Brad Bodenmiller – They are in reserves but based on my experience, it's safer to prohibit further subdivision of the open space in the text so in the future someone can't try to develop that.
 - Tammy Noble – What is the typical lot size?
 - David Fisher – In the 90's except patio homes which are 52.
 - Tammy Noble – Is most the open space passive?
 - Dave Gulden – There's a lot of tree space.
 - Brad Bodenmiller – It's passive except where trail connectors go through.
 - Bill Narducci – The sidewalk will be proposed on each side of the development?
 - David Fisher – It is within the development.

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- Justin Wollenberg – On the major thoroughfare, unless there are lots on them; sidewalks within the developed area definitely.
- Tyler Bumbalough – There's access easements, or potential future access?
 - Brad Bodenmiller – It talks about future roads that could be developed.
 - Tyler Bumbalough – Are those potential connections to other developments?
 - Justin Wollenberg – It's to act as a buffer but there's that potential to connect them. Not a roadway but maybe a connector for pedestrians.
 - Tyler Bumbalough – That side is recommended for light industrial?
 - Brad Bodenmiller explained the section further.
 - Bill Narducci – From a planning perspective, in all likelihood it's not going to happen, does it make more sense to line those up with existing T intersections? Does it make sense to bump that down?
 - David Fisher – We're zoning this on the pod design, so this is just an illustration, this is not an official zoning document.
 - Gary Schmidt – The potential was to provide pedestrian access between the pods. Because we are thinking these pods will be sold and could be sold to two different builders. We wanted to design some flexibility.
- Steve McCall – I agree with your overall wanting to keep that as one.
- Steve McCall moved a motion to recommend approval of the Jerome Township Zoning Parcel Amendment from RU to PD with staff comments and Charles Hall seconded. All in favor.

The Zoning and Subdivision Committee adjourned at 1:11 pm with Steve McCall moving the motion to adjourn and Tyler Bumbalough seconding. All in favor.

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