LC WORTHINGTON

WORTHINGTON, OHIO

PUD - PRELIMINARY PLAN
AND
ARCHITECTURE REVIEW BOARD
SUBMITTALS

DATE: OCTOBER 2, 2020

LEGAL COUNCIL
ISAAC WILES
THOMAS L. HART
2 MIRANOVA PLACE, SUITE 700
COLUMBUS, OH 43215
TEL: 614-340-7415
EMAIL: THART@ISAACWILES.COM

ARCHITECT
MIKE SULLIVAN
LOONEY RICKS KISS
150 TUTTLE CREEK, SUITE 104D
DALLAS, TX 75207

DEVELOPER
LIFESTYLE COMMUNITIES
230 WEST STREET, SUITE 200
COLUMBUS, OH 43215
TEL: 614-882-2500
FAX: 614-890-2511

OWNERS
UNITED METHODIST CHILDREN
HOME WEST OHIO
LC LARRIMER LLC.
230 WEST STREET, SUITE 200
COLUMBUS, OH 43215

SURVEYOR, ENGINEER, & PLANNER
EMHT. INC.
EDWARD J. MILLER, PS.
KYLE S. SHREVES, PE. , LINDA MENEREY, PLA, ASLA.
5500 NEW ALBANY ROAD
COLUMBUS, OH 43054
TEL: 614-775-4500
EMAIL: LMENEREY@EMHT.COM

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SECTION 1- APPLICATION MATERIALS
LC WORTHINGTON • PUD • ARB SUBMITTAL
OCTOBER 2, 2020

City of Worthington

PLANNED UNIT DEVELOPMENT
PRELIMINARY PLAN APPLICATION

Case # _____
Date Received _____
Fee _____
Meeting Date _____
Filing Deadline _____

1. Property Location 1033 High St; Parcel#100-006774; 100-002427; 100-002425

2. Present Zoning S-1; Special; C-3 Institutions/Offices ~~C-2 Community Shopping Ctr~~ Present Use Institutional Office

3. Proposed Use PUD with Mixed Uses of single family, multi-family, townhouses apartments, commercial and medical office

4. Applicant _____

   Address 230 West St, Ste 200, Columbus, OH 43215

   Home Phone N/A Work Phone 614-918-2000

5. Property Owner United Methodist Childrens Home

   Address 431 E. Broast St, Columbus, OH 43215

   Home Phone N/A Work Phone 614-885-5020

6. Project Description Modern, amenitized mixed use developmentincluding single family homes, owner-occupied townhomes, for rent townhomes and apartments, commercial uses such as office, medical offices, restaurants, work facilities and outdoor recreation and community spaces connected with paths and sidewalks, multi-story parking facilities and protected natural area.

PLEASE READ THE FOLLOWING STATEMENT AND SIGN YOUR NAME:

The information contained in this application and in all attachments is true and correct to the best of my knowledge. I further acknowledge that I have familiarized myself with all applicable sections of the Worthington Codified Ordinances and will comply with all applicable regulations.

Applicant (Signature) 10-02-2020 Date

Property Owner (Signature) Cynthia Hau for UM Children's Home Champion 10-2-2020 Date

City of Worthington

ARCHITECTURAL REVIEW BOARD

Certificate of Appropriateness
Application

Case # _____
Date Received _____
Fee _____
Meeting Date _____
Filing Deadline _____
Receipt # _____

1. **Property Location** 1033 High Street, Parcel #100-006774; 100-002427; 100-002425
2. **Present/Proposed Use** S-1 Special; C-2 Community Shopping; C-3 Institutions/Mixed Use PUD
3. **Zoning District** S-1, C-3, C-2
4. **Applicant** _____

   Address 230 West Street, Ste. 200, Columbus, OH 43215

   Phone Number(s) 614-918-2000

   Email _____
5. **Property Owner** United Methodist Childrens Home

   Address 431 E. Broad St., Columbus, OH 43215

   Phone Number(s) 614-885-5020

   Email _____
6. **Project Description** modern amenitized mixed use development including single-~~family homes, owner-occupied townhomes, for rent~~ townhomes and apartments, commercial uses such as office, medical offices, restaurants, work-facilities and outdoor recreation and ~~community spaces connected with~~ paths and sidewalks, multi-story parking facilities and protected natural area
7. **Project Details:**

   a) **Design** See attached project narratives

   b) **Color** Colors vary but are comparable with existing neighborhood

   c) **Size** 19 SF, 166 townhomes, 540 apartments; 60,000 SF commercial ~~25,000 SF medical~~

   d) **Approximate Cost** EStimate pending **Expected Completion Date** 2 to 4 years from construction start

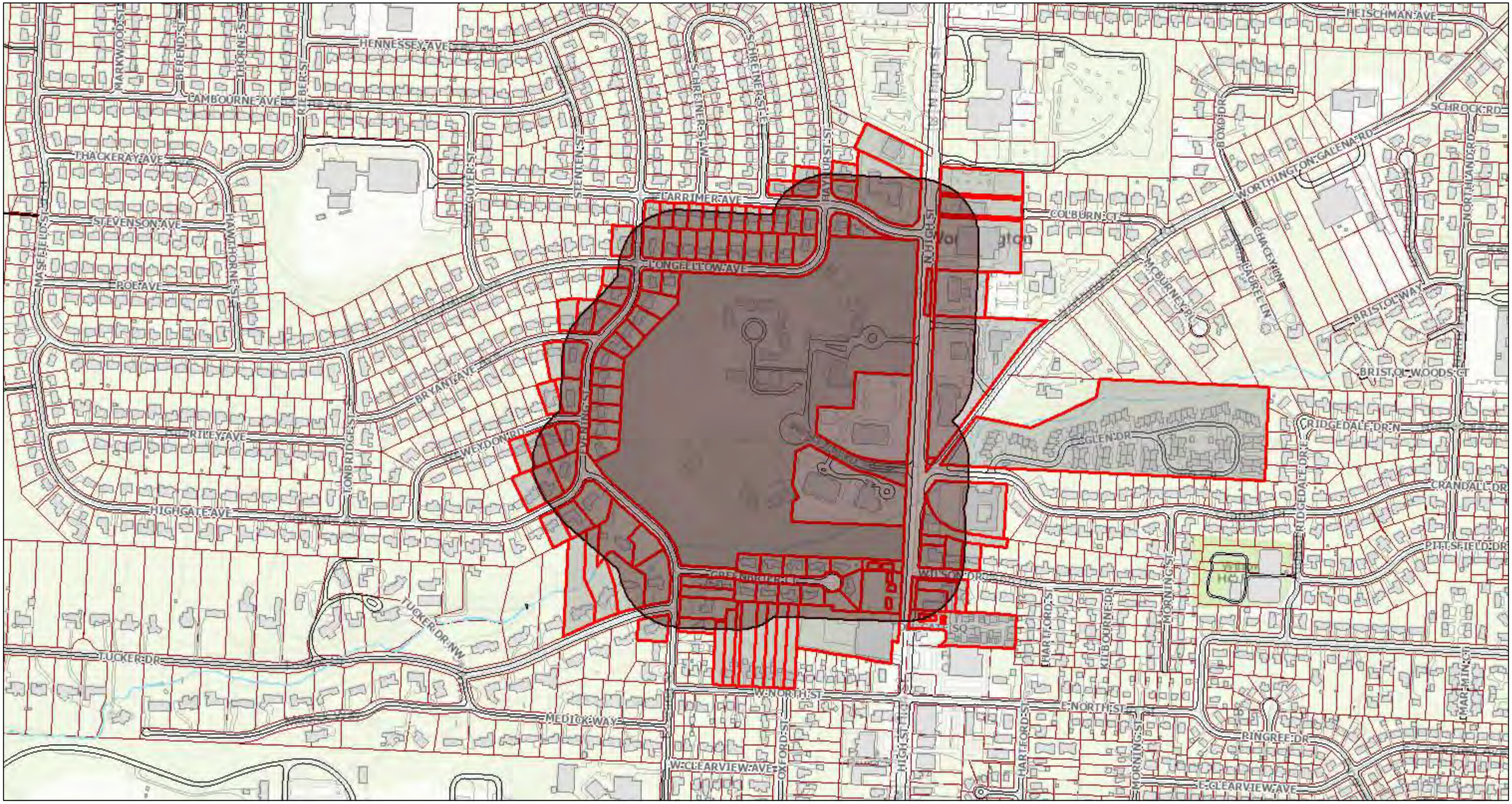
PLEASE READ THE FOLLOWING STATEMENTAND SIGN YOUR NAME:

The information contained in this application and in all attachments is true and correct to the best of my knowledge. I further acknowledge that I have familiarized myself with all applicable sections of the Worthington Codified Ordinances and will comply with all applicable regulations.

_____ 10.02.2020
Applicant (Signature) Date

_____ 10-2-2020
Property Owner (Signature) Date

Franklin County Auditors Office



October 1, 2020

1:7,345

0 0.075 0.15 0.3 mi

0 0.125 0.25 0.5 km

Franklin County Auditor
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Franklin County Auditors Office
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taxid	legal1	ownername1	ownername2	property address1	zipcode	owneraddress1 (mailing)	owneraddress2
100-000737-00	960 EVENING STREET	SMITH ELAINE F TR		960 EVENING ST	43085	201 E SILVER ST	CARBONDALE CO 81623-9056
100-000734-00	940 EVENING STREET	FU DORIS S		940 EVENING ST	43085	940 EVENING ST	WORTHINGTON OH 43085
100-000728-00	W NORTH STREET	BROWN STEVEN R	BROWN EMILY E	0 W NORTH ST	43085	112 W NORTH ST	WORTHINGTON OH 43085
100-000726-00	W NORTH STREET	BROWN STEVEN R	BROWN EMILY E	0 W NORTH ST	43085	112 W NORTH ST	WORTHINGTON OH 43085
100-001136-00	161 TUCKER DR	BYRNES JOHN J	BYRNES JAYNE S	161 TUCKER DR	43085	161 TUCKER DR	WORTHINGTON OH 43085
100-002226-00	6641 HIGH ST	WORTHINGTON FELLOWS LLC		6641 N HIGH ST	43085	6641 N HIGH ST	WORTHINGTON OH 43085
100-003445-00	WORTHINGTON ESTATES	SCHAUBLIN MATT	SCHAUBLIN KATIE	70 LONGFELLOW AV	43085	70 LONGFELLOW AVE	WORTHINGTON OH 43085
100-005545-00	GREENBRIER CT	WEBER ROBERT C	WEBER JULIE C	300 GREENBRIER CT	43085	300 GREENBRIAR CT	WORTHINGTON OH 43085
100-003980-00	80 LONGFELLOW AVE	PUTKA STEVEN	PUTKA WENDY D	80 LONGFELLOW AV	43085	80 LONGFELLOW AVE	WORTHINGTON OH 43085
100-004338-00	6550 EVENING ST	FIELDS JUSTIN M	FIELDS CORINNE M	6550 EVENING ST	43085	5191 BUCKEYE GRV	COLUMBUS OH 43214
100-004434-00	6480 EVENING ST	ELLIOTT RICHARD K TOD		6480 EVENING ST	43085		
100-004433-00	6470 EVENING ST	STRANGE ANDREW C	STRANGE SHELLY L	6470 EVENING ST	43085	1171 EAST RIDGEDALE DR	WORTHINGTON OH 43085
100-004371-00	229 HIGHGATE AVE	KNITTLE RICHARD HILL TR	HUDSON HARRIET ELIZAB	229 HIGHGATE AV	43085	229 HIGHGATE AVE	WORTHINGTON OH 43085
100-004416-00	6458 EVENING ST	FINCH KENNETH F	VALVERDE MILLY	6485 EVENING ST	43085	6485 EVENING ST	WORTHINGTON OH 43085
100-002605-00	N HIGH ST	WORTHINGTON 17 LLC		0 N HIGH ST	43085	50 W BROAD ST STE 200	COLUMBUS OH 43215
100-002641-00	N HIGH ST	WORTHINGTON 17 LLC		0 N HIGH ST	43085	50 W BROAD ST STE 200	COLUMBUS OH 43215
100-002591-00	6600 N HIGH ST	FC BANK		6600 N HIGH ST	43085	4545 WEST DUBLIN GRANVILLE RD	DUBLIN OH 43017
100-003000-00	1030 N HIGH ST	FINANCING VI HEALTHCARE PROPERTY LLC		1030 N HIGH ST	43085	303 W MADISON ST STE 2400	CHICAGO IL 60606
100-000727-00	112 W NORTH ST	BROWN STEVEN R	BROWN EMILY E	112 W NORTH ST	43085	112 W NORTH ST	WORTHINGTON OH 43085
100-000722-00	W NORTH STREET	GANT RAYMOND N	NANCY J	70 W NORTH ST	43085	70 W NORTH ST	WORTHINGTON OH 43085-4133
100-005503-00	6650 HAYHURST ST	SEYMOUR SCOTT AARON	SEYMOUR JULIE	6650 HAYHURST ST	43085	6650 HAYHURST ST	WORTHINGTON OH 43085
100-003451-00	133 LARRIMER AVE	HECKER RICHARD T	ANDREA L	133 LARRIMER AV	43085	133 LARRIMER AVE	WORTHINGTON OH 43085
100-005543-00	267 GREENBRIER CT	OFFENBURGER GREG L	MARY S	267 GREENBRIER CT	43085		
100-004372-00	243 HIGHGATE AVE	OBRIEN JOHN P	OBRIEN KATELYN B	243 HIGHGATE AV	43085	243 HIGHGATE AVE	WORTHINGTON OH 43085
100-002598-00	6660 N HIGH ST	LIN FAMILY LP		6660 N HIGH ST	43085		
100-004072-00	6650 N HIGH ST	OHIO BELL TELEPHONE CO		6650 N HIGH ST	43085		
100-002223-00	N HIGH ST	GRIFF REAL PROPERTY LLC		0 N HIGH ST	43085	PO BOX 2214	COLUMBUS OH 43216
100-000735-00	950 EVENING ST	BLEVINS JASON A	BLEVINS DAWN M	950 EVENING ST	43085	6656 EVENING ST	WORTHINGTON OH 43085
100-001107-00	208 TUCKER DR	LOADMAN WILLIAM E	LOADMAN GAIL P	208 TUCKER DR	43085	208 TUCKER DR	WORTHINGTON OH 43085
100-001109-00	6425 EVENING ST	WINTER CHESTER C	WINTER MARY MERULLO	6425 EVENING ST	43085	6425 EVENING ST	WORTHINGTON OH 43085
100-003714-00	6649 N HIGH ST	MILLER CHRISTINE M	HUNKINS TODD A, HUNK	6649 N HIGH ST	43085	4161 ROWANNE RD	COLUMBUS OH 43214
100-002425-00	47 LARRIMER AVE	LC LARRIMER LLC		47 LARRIMER AV	43085	230 WEST ST STE 200	COLUMBUS OH 43215
100-003446-00	87 LARRIMER AVE	DUNWOODIE NORMAN C TR		87 LARRIMER AV	43085	87 LARRIMER AVE	WORTHINGTON OH 43085
100-003985-00	140 LONGFELLOW AVE	JUNG QUENTIN	JUNG CATHERINE A	140 LONGFELLOW AV	43085	140 LONGFELLOW AVE	WORTHINGTON OH 43085
100-003981-00	100 LONGFELLOW AVE	LEE MAKANA W K	FANNY L F	100 LONGFELLOW AV	43085		
100-004339-00	6540 EVENING ST	TEMPLETON JANE E	TEMPLETON MATT R	6540 EVENING ST	43085	6540 EVENING ST	WORTHINGTON OH 43085
100-004414-00	236 WEYDON RD	DUKES JOHN ROBERT TR		236 WEYDON RD	43085	236 WEYDON ROAD	WORTHINGTON OH 43085
100-005904-00	937 N HIGH ST	CAPITAL APPRAISAL LTD		937 HIGH ST	43085	937 N HIGH ST	WORTHINGTON OH 43085
100-004091-00	970 HIGH ST	GARNES KARI		970 HIGH ST	43085	970 HIGH ST A1	WORTHINGTON OH 43085
100-001121-00	1012 N HIGH ST	EQUITY TRUST CO CUST FBO	THOMAS W KEYES IRA	1012 N HIGH ST	43085	103 NOB HILL DR N	COLUMBUS OH 43230
100-001124-00	40 WILSON DR	KLOSS KENT	OLIVER DONNA M	40 WILSON DR	43085	40 WILSON DR	WORTHINGTON OH 43085
100-000724-00	92 W NORTH STREET	GILL STEPHEN K	TEITT RACHEL K	92 W NORTH ST	43085	92 WEST NORTH ST	WORTHINGTON, OH 43085
100-000721-00	70 W NORTH STREET	GANT RAYMOND N	NANCY J	70 W NORTH ST	43085	70 W NORTH ST	WORTHINGTON OH 43085
100-006588-00	NORTH HIGH STREET	CITY OF WORTHINGTON		6500 N HIGH ST	43085		
100-001168-00	EVENING ST	WINTER CHESTER C	WINTER MARY MERULLO	0 EVENING ST	43085	6425 EVENING ST	WORTHINGTON OH 43085
100-003453-00	153 LARRIMER AVE	RITTENBERG MARK A	STACEY L	153 LARRIMER AV	43085	153 LARRIMER AVE	WORTHINGTON OH 43085
100-003455-00	173 LARRIMER AVE	LISK DIANE L		173 LARRIMER AV	43085	173 LARRIMER AVE	WORTHINGTON OH 43085
100-003335-00	6639 HAYHURST ST	KAYA KERRI E	KAYA HAKAN	6639 HAYHURST ST	43085	6639 HAYHURST ST	WORTHINGTON OH 43085
100-005546-00	GREENBRIER CT	TOMLINSON ADAM	TOMLINSON HEATHER	0 GREENBRIER CT	43085	260 GREENBRIAR CT	WORTHINGTON OH 43085
100-005547-00	260 GREENBRIER CT	TOMLINSON ADAM	TOMLINSON HEATHER	260 GREENBRIER CT	43085	260 GREENBRIER CT	WORTHINGTON OH 43085
100-004341-00	6522 EVENING ST	C-SHELL LLC		6522 EVENING ST	43085	398 HIGHGATE AVE	WORTHINGTON OH 43085
100-004417-00	241 WEYDON RD	WILKEN BRENDA		241 WEYDON RD	43085	241 WEYDON RD	WORTHINGTON OH 43085
100-005905-00	1001 N HIGH ST	AN-JAK PROPERTIES LLC		1001 HIGH ST	43085	141 E TOWN ST	COLUMBUS OH 43215
100-004092-00	970 HIGH ST	BASER FRANCES S		970 972 HIGH ST	43085	970 HIGH ST A-2	WORTHINGTON, OH 43085
100-000268-00	33 WILSON DR	BARNES DOROTHY G		33 WILSON DR	43085	33 WILSON DR	WORTHINGTON OH 43085
100-001147-00	192 TUCKER DR	LYTTLE JEFFREY R	LYTTLE CATHERINE M	192 TUCKER DR	43085	192 TUCKER DR	WORTHINGTON OH 43085
100-005541-00	237 GREENBRIER CT	SHONK JASON R TR		237 GREENBRIER CT	43085	237 GREENBRIAR CT	WORTHINGTON OH 43085
100-005550-00	200 GREENBRIER CT	TURNER KEVIN G TR	TURNER MOLLIE H TR	200 GREENBRIER CT	43085	200 GREENBRIER CT	WORTHINGTON, OH 43085
100-003988-00	170 LONGFELLOW AVE	TAYLOR JILL BRADLEY		170 LONGFELLOW AV	43085	170 LONGFELLOW AVE	WORTHINGTON OH 43085
100-004432-00	6465 EVENING ST	PALMER SCOTT M	PALMER BRENNA K	6465 EVENING ST	43085	6465 EVENING STREET	WORTHINGTON OH 43085
100-004336-00	6555 EVENING ST	CANNON CARMELLA T		6555 EVENING ST	43085		
100-002200-00	1018 N HIGH ST	GRIFF REAL PROPERTY LLC		1020 N HIGH ST	43085	PO BOX 2214	COLUMBUS OH 43216
100-000265-00	N HIGH ST	HIGH-WILSON LLC		0 N HIGH ST	43085		
100-006382-00	160 TUCKER DRIVE	CIAFFONCINI TOMMASO	CIAFFONCINI DIANA JEA	160 TUCKER DR	43085	160 TUCKER DR	WORTHINGTON OH 43085
100-003416-00	96 LARRIMER AVE	FERGUSON VICTORIA L	FERGUSON MICHAEL D	96 LARRIMER AV	43085	96 LARRIMER AVE	WORTHINGTON OH 43085
100-003336-00	78 LARRIMER AVE	JAKOVLJEVIC ZIVOJIN	JAKPVLJEVIC GEORGIA L	78 LARRIMER AV	43085		
100-005549-00	220 GREENBRIER CT	BUCKLEY BRENT D	BUCKLEY SANDY M	220 GREENBRIER CT	43085	220 GREENBRIAR CT	WORTHINGTON OH 43085
100-003984-00	130 LONGFELLOW AVE	MARTI LISA M	MARTI MAXWELL	130 LONGFELLOW AV	43085	74 E KANAWHA AVE	COLUMBUS OH 43214
100-003983-00	120 LONGFELLOW AVE	GHARBO CHRISTA		120 LONGFELLOW AV	43085	120 LONGFELLOW AVENUE	WORTHINGTON OH 43085
100-004057-00	6570 EVENING ST	MULLIGAN MICHAEL M	MULLIGAN SHANNON M	6570 EVENING ST	43085	6570 EVENING ST	WORTHINGTON OH 43085
100-004436-00	6500 EVENING ST	MATSON JAMES T	BEVERLY J	6500 EVENING ST	43085	6500 EVENING ST	WORTHINGTON OH 43085
100-004435-00	6490 EVENING ST	PILOSENO RICHARD E	ELLINGSON CAROL D	6490 EVENING ST	43085	6490 EVENING ST	WORTHINGTON OH 43085
100-004370-00	215 HIGHGATE AVE	DUGAN JAMES PAUL	DUGAN MEGAN CHURCI	215 HIGHGATE AV	43085	215 HIGHGATE AVE	WORTHINGTON OH 43085
100-004333-00	230 BRYANT AVE	WERTZ WILLIAM	SCHROEDER DEBORAH L	230 BRYANT AV	43085	230 BRYANT AVE	WORTHINGTON OH 43085
100-006774-00	LOT 4	UNITED METHODIST CHILDREN	HOME WEST OHIO	N HIGH ST	43085		
100-005906-00	1001 N HIGH ST	AN-JAK PROPERTIES LLC		1001 HIGH ST	43085	141 E TOWN ST	COLUMBUS OH 43215
100-006025-00	965 N HIGH ST	965 HIGH LLC		965 HIGH ST	43085	3636 N HIGH ST	WORTHINGTON OH 43085
100-006029-00	951 N HIGH ST	MEDIA MOUSE INK ART	DESIGN CO	951 HIGH ST	43085	951-B HIGH ST	WORTHINGTON OH 43085
100-006757-00	FRESH THYME RESUBDIVISIOI	VEREIT GS WORTHINGTON OH LLC		933 N HIGH ST	43085	2325 CAMELBACK RD STE#1100	PHOENIX AZ 85016
100-003449-00	117 LARRIMER AVE	BENNETT YVONNE F TR	SHOEMAKER DIANNE E TI	117 LARRIMER AV	43085	626 EAST 7TH ST	SALEM OH 44460
100-005544-00	287 GREENBRIER CT	HARNESS STEPHEN D	KRISTINE	287 GREENBRIER CT	43085	287 GREENBRIAR CT	WORTHINGTON OH 43085-3060
100-003990-00	6607 EVENING ST	ANDERSON JENNIFER	ANDERSON TIMOTHY W	6607 EVENING ST	43085	6607 EVENING ST	WORTHINGTON OH 43085
100-003986-00	150 LONGFELLOW AVE	MOULTON JAMES	MOULTON STEPHANIE	150 LONGFELLOW AV	43085	150 LONGFELLOW AVE	WORTHINGTON OH 43085
100-004431-00	238 HIGHGATE AVE	POSEY JOSHUA E	POSEY SARA ELIZABETH	238 HIGHGATE AV	43085	238 HIGHGATE AVE	WORTHINGTON OH 43085
100-004418-00	253 WEYDON RD	EDWARDS COLIN G	EDWARDS ANNE C	253 WEYDON RD	43085	253 WEYDON RD	WORTHINGTON OH 43085
100-004419-00	263 WEYDON RD	HIGHLEY CHRISTOPHER F TR	KNEEDLER SUSAN J TR	263 WEYDON RD	43085	263 WEYDON RD	WORTHINGTON OH 43085
100-004342-00	6519 BRYANT AVE	PETRICK RICHARD L	SUSAN W	6519 EVENING ST	43085		
100-004343-00	245 BRYANT AVE	YOUNG JAMES D	YOUNG RENEE D	245 BRYANT AV	43085	245 BRYANT AVE	WORTHINGTON OH 43085
100-004056-00	205 LONGFELLOW AVE	REITTER PAUL B		205 LONGFELLOW AV	43085	205 LONGFELLOW AVE	WORTHINGTON OH 43085
100-006773-00	LOT 3	THE WEST OHIO ANNUAL CONFERENCE OF THE UNITED METHO		N HIGH ST	43085	32 WESLEY BLVD	WORTHINGTON OH 43085
100-005903-00	937 N HIGH ST	CAPITAL APPRAISAL LTD		937 HIGH ST	43085	937 N HIGH ST	WORTHINGTON OH 43085
100-006028-00	951 N HIGH ST	MARTINEZ MARCO A CUEVAS	DURAN MARIA DE LA LUZ	951 HIGH ST	43085	321 AMBER WOOD WAY	LEWIS CENTER OH 43035
100-005504-00	HAYHURST ST	MITCHELL BETH C TR	RUSH JAMES K TR	58 LARRIMER AV	43085	58 LARRIMER AVE	WORTHINGTON OH 43085-2455
100-003448-00	105 LARRIMER AVE	GALLUCCI NEAL DAVID TR	GALLUCCI STEPHANIE LEI	105 LARRIMER AV	43085	P O BOX 2800	GLEN ALLEN, VA 23058
100-003452-00	143 LARRIMER AVE	LAY RYAN MATTHEW		143 LARRIMER AV	43085	143 LARRIMER AVE	WORTHINGTON OH 43085
100-003989-00	6606 EVENING ST	MATHEWS A L & MYSA C		6606 EVENING ST	43085		
100-004340-00	6530 EVENING ST	GUITRY NOEL D & JANET F		6530 EVENING ST	43085		
100-004430-00	250 HIGHGATE AVE	SUTTON JASON W	SUTTON MAGGIE L	250 HIGHGATE AV	43085	250 HIGHGATE AVE	WORTHINGTON OH 43085
100-004415-00	6509 EVENING ST	SCHULZE RONALD C & MARY B		6509 EVENING ST	43085	6509 EVENING ST	WORTHINGTON OH 43085-3057
100-004093-00	970 HIGH ST A3	JEFFERS MARGARET		970 973 HIGH ST	43085		
100-000269-00	N HIGH ST	HIGH-WILSON LLC		0 N HIGH ST	43085		
100-006295-00	6500 N HIGH ST	CITY OF WORTHINGTON		6500 N HIGH ST	43085		
100-002568-00	176 TUCKER DR	DOOLEY MICHAEL P	DOOLEY SARAH H	176 TUCKER DR	43085	176 TUCKER DR	WORTHINGTON OH 43085
100-002427-00	57 LARRIMER AVE	LC LARRIMER LLC		57 LARRIMER AV	43085	230 WEST STREET STE 200	COLUMBUS OH 43215

100-005548-00	240 GREENBRIER CT	SHIMEALL SAMUEL	EVANS ANGELA	240 GREENBRIER CT	43085	240 GREENBRIER CT	WORTHINGTON OH 43085
100-001135-00	22 WILSON DRIVE	LEWIS MICHAEL W		22 WILSON DR	43085	22 WILSON DR	WORTHINGTON OH 43085
100-000267-00	1000 N HIGH ST	HIGH-WILSON LLC		1000 N HIGH ST	43085		
100-003454-00	163 LARRIMER AVE	MECHLING DAVID J	MECHLING AMY B	163 LARRIMER AV	43085	163 LARRIMER AVE	WORTHINGTON OH 43085
100-005540-00	217 GREENBRIER CT	FAIR M SCOTT	FAIR PAMELA S	217 GREENBRIER CT	43085	217 GREENBRIAR CT	COLUMBUS OH 43085
100-004334-00	220 BRYANT AVE	GREER DENNIS KEITH		220 BRYANT AV	43085	220 BRYANT AVE	WORTHINGTON OH 43085
100-002599-00	N HIGH STREET	LIN FAMILY LP		0 N HIGH ST	43085		
100-005907-00	971 N HIGH ST	965 HIGH LLC		979 HIGH ST	43085	965 HIGH STREET	WORTHINGTON OH 43085
100-005908-00	979 N HIGH ST	965 HIGH LLC		979 HIGH ST	43085	965 HIGH STREET	WORTHINGTON OH 43085
100-000725-00	96 W NORTH ST	KINGTON ROBERT	KINGTON CYNTHIA	96 W NORTH ST	43085	96 W NORTH ST	WORTHINGTON OH 43085-4114
100-000723-00	86 W NORTH STREET	FILIPPI ELIA L	PATITUCCI ANNA A	86 W NORTH ST	43085	86 W NORTH ST	WORTHINGTON OH 43085
100-003450-00	127 LARRIMER AVE	DAVIS EVELYN		127 LARRIMER AV	43085	127 LARRIMER AVE	WORTHINGTON OH 43085
100-005542-00	247 GREENBRIER CT	SHARP MALCOLM S TR	SHARP WAYNE STEELE TR	247 GREENBRIER CT	43085	247 GREENBRIER CT	WORTHINGTON OH 43085
100-006390-00	UNITED METHODIST	UNITED METHODIST CHILDREN	HOME WEST OHIO	6525 N HIGH ST	43085	CONFERENCE UMC	
100-006026-00	965 N HIGH ST	965 HIGH LLC		965 HIGH ST	43085	3636 N HIGH ST	WORTHINGTON OH 43085
100-006027-00	965 N HIGH ST	965 HIGH LLC		965 HIGH ST	43085	3636 N HIGH ST	WORTHINGTON OH 43085
100-000738-00	EVENING ST	SMITH ELAINE F TR		0 EVENING ST	43085	201 E SILVER ST	CARBONDALE CO 81623-9056
100-003982-00	110 LONGFELLOW AVE	TROXELL ELMER L JR	TAKEKO M	110 LONGFELLOW AV	43085	110 LONGFELLOW AVE	WORTHINGTON OH 43085
100-004337-00	6560 EVENING ST	BATES MICHAEL G	BATES SUSAN P	6560 EVENING ST	43085	6560 EVENING ST	WORTHINGTON OH 43085
100-004437-00	6510 EVENING ST	TAYLOR JUSTIN B	TAYLOR RIANN N	6510 EVENING ST	43085	6510 EVENING ST	WORTHINGTON OH 43085
100-003456-00	181 LARRIMER AVE	CURTISS BRENT A	CURTISS JUDITH S	181 LARRIMER AV	43085	181 LARRIMER AVE	WORTHINGTON OH 43085
100-004335-00	6535 EVENING ST	LEE TRACY		6535 EVENING ST	43085	6535 EVENING ST	COLUMBUS OH 43085
100-006030-00	951 N HIGH ST	965 HIGH LLC		951 HIGH ST	43085	965 HIGH ST	WORTHINGTON OH 43085
100-003447-00	97 LARRIMER AVE	WARD JAMES R	DOROTHY L	97 LARRIMER AV	43085		
100-003987-00	160 LONGFELLOW AVE	HAMER THOMAS L	HAMER KATHRYN M	160 LONGFELLOW AV	43085	160 LONGFELLOW AVE	WORTHINGTON OH 43085
100-005707-00	LONGFELLOW AVE	RYAN DANIEL J	BEVERLY J	173 LONGFELLOW AV	43085	173 LONGFELLOW AVE	WORTHINGTON OH 43085

ZONING DESCRIPTION
37.843 ACRES

Situated in the State of Ohio, County of Franklin, City of Worthington, in Lots 30, 31 and 32, Quarter Townships 2 and 3, Township 2, Range 18, United States Military Lands, being comprised of Lot 4 of the subdivision entitled "Replat of Lot 2 of United Methodist Children's Home Amended Subdivision", of record in Plat Book 122, Page 75, that 0.234 acre tract of land conveyed to Walter H. Beever and Deborah J. Beever by deed of record in Instrument Number 199811200299507, and that 0.263 acre tract of land conveyed to Rodger E. Russi and Anne E. Russi by deed of record in Official Record 10894D18 (all references are to the records of the Recorder's Office, Franklin County, Ohio) and more particularly bounded and described as follows:

BEGINNING at the northeasterly corner of said Lot 4, at the intersection of the southerly right of line of Larrimer Avenue and the westerly right of way line of North High Street (U.S. Route 23);

Thence South 03° 03' 59" West, with said westerly right of way line, a distance of 658.20 feet to the northeasterly corner of Lot 3 of said subdivision;

Thence with the boundary of said Lot 3 the following courses and distances:

North 86° 56' 01" West, a distance of 276.50 feet to a point;

South 03° 03' 59" West, a distance of 177.50 feet to a point;

North 86° 56' 01" West, a distance of 177.41 feet to a point;

South 03° 03' 59" West, a distance of 136.12 feet to a point;

South 60° 37' 31" East, a distance of 183.95 feet to a point;

With the arc of a curve to the left, having a central angle of 21° 27' 56", a radius of 415.20 feet, an arc length of 155.55 feet, a chord bearing of South 75° 00' 22" East and chord distance of 154.64 feet to a point; and

With the arc of a curve to the left, having a central angle of 02° 42' 26", a radius of 2915.10 feet, an arc length of 137.73 feet, a chord bearing of South 86° 24' 33" East and chord distance of 137.72 feet to a point in said westerly right of way line;

Thence South 03° 03' 59" West, with said westerly right of way line, a distance of 118.70 feet to the northeasterly corner of Lot 1 of the subdivision entitled "United Methodist Children's Home Amended Subdivision", of record in Plat Book 83, Page 53;

Thence with boundary of said Lot 1 the following courses and distances:

North 69° 23' 51" West, a distance of 177.67 feet to a point;

With the arc of a curve to the right, having a central angle of 19° 48' 22", a radius of 419.51 feet, an arc length of 145.02 feet, a chord bearing of North 70° 31' 42" West and chord distance of 144.30 feet to a point;

North 60° 37' 31" West, a distance of 196.02 feet to a point;

South 63° 07' 29" West, a distance of 76.93 feet to a point;

South 02° 33' 54" West, a distance of 92.56 feet to a point;

South 24° 40' 46" West, a distance of 21.59 feet to a point;

South 02° 33' 54" West, a distance of 53.75 feet to a point;

South 26° 52' 13" East, a distance of 65.37 feet to a point;

South 63° 07' 47" West, a distance of 36.89 feet to a point;

South 02° 33' 54" West, a distance of 97.12 feet to a point; and

South 87° 26' 07" East, a distance of 555.40 feet to a point in said westerly right of way line;

Thence South 03° 03' 59" West, with said westerly right of way line, a distance of 169.08 feet to the northeasterly corner of the subdivision entitled "Greenbrier Hill", of record in Plat Book 56, Page 17;

Thence with the boundary of said subdivision the following courses and distances:

North 87° 26' 07" West, a distance of 811.45 feet to a point;

South 05° 12' 42" West, a distance of 72.04 feet to a point; and

North 86° 45' 27" West, a distance of 274.27 feet to a point in the easterly right of way line of Evening Street;

Thence with said easterly right-of-way line the following courses and distances:

With the arc of a curve to the left, having a central angle of 42° 29' 09", a radius of 308.91 feet, an arc length of 229.06 feet, a chord bearing of North 26° 57' 27" West and chord distance of 223.85 feet to a point;

North 48° 12' 01" West, a distance of 350.00 feet to a point; and

With the arc of a curve to the right, having a central angle of 21° 28' 15", a radius of 255.00 feet, an arc length of 95.56 feet, a chord bearing of North 37° 36' 34" West and chord distance of 95.00 feet to the southwesterly corner of Lot 64 of subdivision entitled "Worthingway", of record in Plat Book 36, Page 92;

Thence North 63° 07' 34" East, with the boundary of said subdivision, a distances of 135.00 feet to a point;

Thence North 03° 32' 32" East, with the boundary of said subdivision, a distance of 440.00 feet to the southwesterly corner of Lot 185 of the subdivision entitled "Worthingway No. 3", of record in Plat Book 36, Page 94;

Thence North 44° 01' 32" East, with the boundary of said subdivision, a distance of 385.00 feet to a point;

Thence North 03° 09' 52" East, with the boundary of said subdivsion, a distance of 152.54 feet to a point in the southerly right-of-way line of Longfellow Avenue;

Thence with said southerly right-of-way line the following courses and distances:

South 86° 50' 08" East, a distance of 549.90 feet to a point;

With the arc of a curve to the left, having a central angle of 90° 06' 37", a radius of 174.66 feet, an arc length of 274.69 feet, a chord bearing of North 48° 06' 29" East and chord distance of 247.24 feet to a point;

North 03° 03' 59" East, a distance of 99.97 feet to a point; and

With the arc of a curve to the right, having a central angle of 101° 20' 27", a radius of 50.00 feet, an arc length of 88.44 feet, a chord bearing of North 53° 44' 12" East and chord distance of 77.35 feet to a point in the southerly right of way line of said Larrimer Avenue;

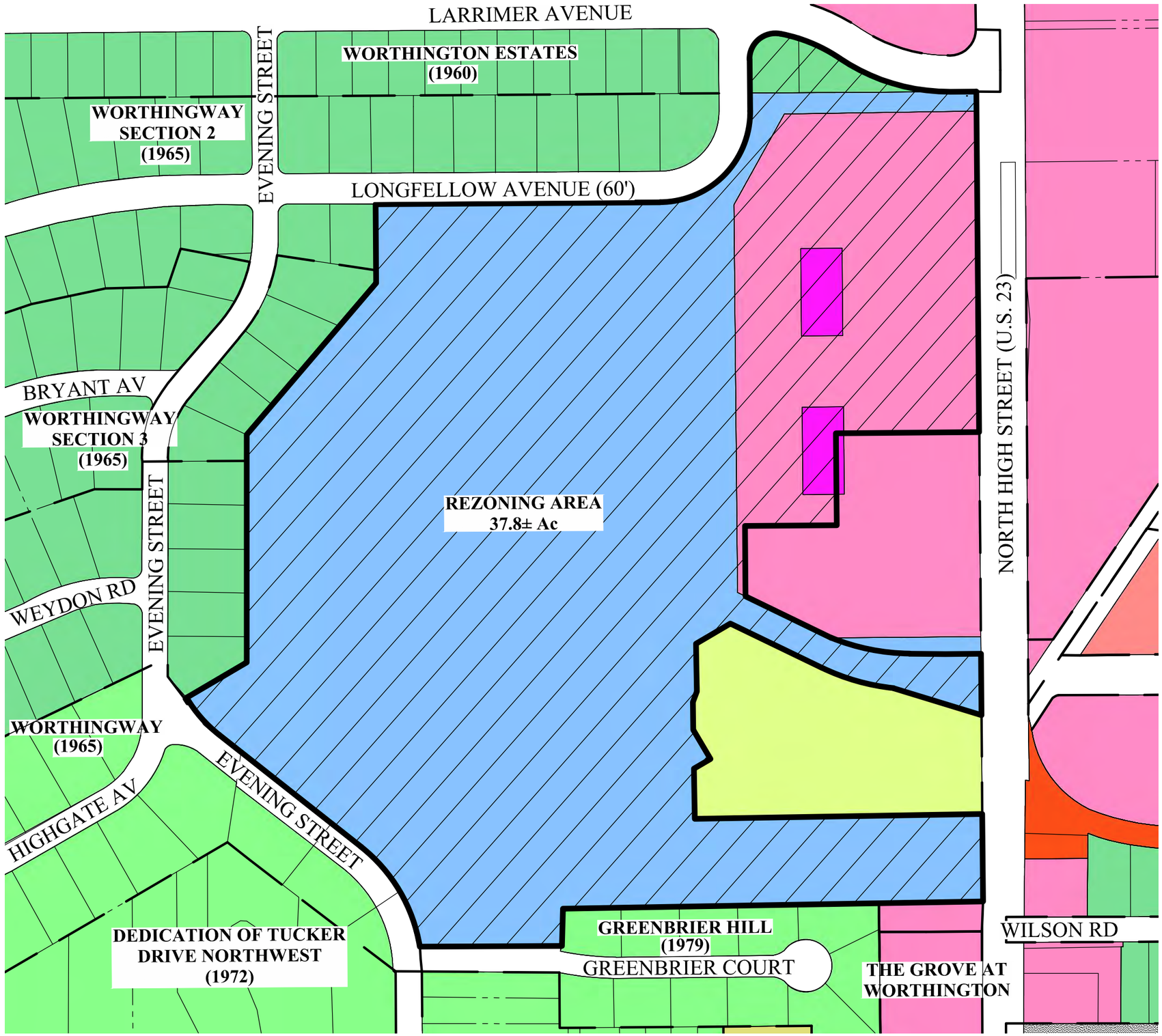
Thence with said southerly right of way line the following courses and distances:

With the arc of a curve to the right, having a central angle of 23° 11' 35", a radius of 307.62 feet, an arc length of 124.52 feet, a chord bearing of South 64° 01' 28" East and chord distance of 123.67 feet to a point;

With the arc of a curve to the left, having a central angle of 34° 25' 12", a radius of 377.62 feet, an arc length of 226.85 feet, a chord bearing of South 69° 37' 00" East and chord distance of 223.46 feet to a point; and

South 86° 50' 08" East, a distance of 50.12 feet to the POINT OF BEGINNING, containing 37.843 acres of land, more or less.

EVANS, MECHWART, HAMBLETON & TILTON, INC.



KEY	
SYMBOL	ZONING
	S-1 Special
	R-16 Very Low Density Residential
	R-10 Low Density Residential
	AR-4.5 Low Density Apartment Residences
	SC Senior Citizen
	C1 Neighborhood Commercial
	C2 Community Shopping Center
	C3 Institutions and Offices
	PUD Planned Use District
	Rezoning Area

GRAPHIC SCALE

0 100 200 400

1 inch = 200 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
UMCH SITE
WORTHINGTON
VICINITY MAP

EMHT

Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" = 200'

JOB NO.
2018-0036

SHEET
1/1

J:\2018\0036\Dwg\04Sheets\PREL\1 Vicinity Map.dwg, Last Saved By: sohara, 9/25/2020 1:17 PM Last Printed By: O'Hara, Shaun, 9/28/2020 10:43 AM
x-Xrefs: 2018\0016-PREL-TITLE-REF-N, 2018\0016-PS-REF-F, 2018\0016-PS-REF-N

LIFESTYLE COMMUNITIES
LC WORTHINGTON PLANNED UNIT DEVELOPMENT TEXT

October 2, 2020

Former United Methodist Children's Home Site
Address: 1033 High Street
Location: Westside of North High Street between Larrimer Avenue and Greenbrier Court and Evening Street on the former United Methodist Children's Home site.
Total Acreage:
+/- 37.80 gross acres
+/- 36.4 net developable area acres
725 residential units
60,000 sf commercial
25,000 sf medical office
+/- 10.1 open space acres

Existing Zoning: S-1 Special, C-3 Institutions and Offices and C-2 Community Shopping Center
Proposed Zoning: PUD with Mixed Uses of Single-Family, Multi-Family Townhomes and Apartments, Commercial and Medical Offices.

I. INTRODUCTION AND PURPOSE

The subject property is made up of parcel numbers 100-006774, 100-002427 and 100-002425 and 37.80+/- gross acres. The property is located west of North High Street and is bordered in part by Greenbrier Court, Evening Street, Longfellow Avenue and Larrimer Avenue. The existing Wesley Boulevard and Larrimer Avenue are the main access points to the proposed development from High Street. Additional access points are proposed into the development from Longfellow Avenue and Evening Street.

The property is surrounded on three sides by single family residences in the Worthingway, Worthington Estates, Greenbrier Hill and Larrimer subdivisions, as well as office/institutional uses. The property across North High Street and in the immediate High Street corridor includes the Worthington Fire Department, the Worthington Municipal complex, a bank and various offices, medical and institutional uses.

As stated in the Worthington Comprehensive Plan ("Comprehensive Plan"), "[b]ecause of its size, location and importance of the UMCH site, it is critical that any redevelopment be master planned and consider the site as a whole." (p.90) As expected by the Comprehensive Plan, this application for "redevelopment include[s]

rezoning of the entire site to a Planned Unit Development," providing flexibility and an emphasis on mixed uses...(p. 91) The development plan follows the diagram on page 91 of the Comprehensive Plan, transitioning uses from west to east as follows: single-family residences, townhomes, apartments, commercial and, finally, office spaces fronting North High Street.

The LC Worthington PUD development plan proposes a variety of high quality mixed uses with an updated urban pattern and architecture. The plan is walkable, with subareas connected internally and integrated with connections to surrounding neighborhoods and the balance of the City as recommended in the Comprehensive Plan. (p. 90-91). New single-family homes, townhomes, apartments, medical/office and retail spaces with integrated greenspaces and activity centers are designed to serve the changing demographics and economic needs of the community. The Comprehensive Plan points out that such mixed uses should be designed to "…complement each other to create an active, vibrant place." (p. 91) This point and the proposed development plan's integrated design recognizes that in today's market a critical mass of density and mix of uses creates vibrancy and supports the "live, work, play" environments that attract young professionals, active adults and empty nesters alike, as well as employers and businesses seeking to accommodate such key employee demographics. (p. 92 – "The objective of the High Street Mixed Use zone is to create a high-quality, dense, walkable, connected, mixed-use development that creates a dynamic space and signature address to attract Class A office tenants along High Street and add vitality and life to the High Street corridor.") The updated housing types attempt to fill the gap in housing choice currently facing Worthington as a community. (See Comprehensive Plan Objective 3 p. 91: "Addressing the needs of current and future residents by providing new housing types/options that are under- represented in the market and complement Worthington's current offerings.")

The variety of housing types in the proposed plan recognizes that central Ohio and local housing needs are evolving. MORPC's Insight 2050 report documents the national and local trend of shrinking demand for larger lot, single-family homes and the increasing demand for smaller detached homes on smaller lots, attached/townhomes and multifamily housing of all types. These transitioning consumer preferences to more and multiple housing options suit changing lifestyles and needs at all tiers of the housing market. Mixed use developments include apartments in many forms and configurations, including mid-to-high rise; condominiums, detached or attached buildings; and townhomes, either rented or owner-occupied. All of these housing options have surged in acceptance, popularity and market momentum to serve owners looking for alternatives to single-family homes in central Ohio's most dynamic submarkets, including Bridge Street in Dublin, downtown Columbus, the Short North, Grandview and Hilliard. (See MORPC, Insight 2050 attached to this application.) In such communities, density equals vibrancy, as employment, housing and entertainment uses and options merge to create energetic, twenty-four hour living environments.

According to MORPC, demographic, family and workforce trends are also driving changes in housing preferences across central Ohio. These trends include the aging of the baby-boom population, the growth of households without children and the number of single-occupant households. All such trends create demand for housing other than traditional single family. This is especially relevant in Worthington based on current lack of housing options, community demographics and the reality that many aging single-family homeowners will seek a different housing choice within the next 5 to 10 years, but typically want such choice in their own community. (see Comprehensive Plan pages 22,23,24 and 58,59,60)

Worthington is one of oldest established communities in central Ohio. The City's median age is 4 years older than the median age of Ohio in general. The number of people over 65 is expected to double over the next several decades as average life expectancy is expected to lengthen. (See MORPC, Columbus Area Transportation Plan, 2016 to 2040, pp 2-3) The growing aging population and the national and local housing trend of large numbers of baby-boomers downsizing from traditional single family homes to alternative housing choices are very important housing market drivers in Worthington. As explained by the Insight 2050 Report, there is considerable need for attached and multi-family housing choices designed for empty nesters, active adults and boomers who want the option of leaving their traditional single-family homes. Many other central Ohio communities are providing such options and accommodating the changing needs of long-time residents. The proposed development provides Worthington residents the ability to downsize in their own community which meets a key Comprehensive Plan objective.

In addition, under normal conditions, business leaders, job location decision-makers and their employees increasingly focus on commute distances and duration when locating and growing businesses. With the competition for scarce numbers of qualified and work-ready talent, top corporate decision-makers now commonly ask local governments, "where can our people live," and "what housing options are available to our employees close to work." Employee commute time, work proximity, housing choices, availability, modern designs accommodating work from home flexibility, and amenities that come with updated housing are more important quality of life components today than ever before.

The Comprehensive Plan documents that as of 2005 (the publication date) 85.2% of Worthington's existing housing stock was traditional single-family housing. (p. 22, 2005 Comprehensive Plan.) At that time, 14+ years ago, the majority of that housing was at least 30 years old, with a significant portion over 50 years old. (ibid.) This high quality housing stock undoubtedly defines and characterizes Worthington as a unique and outstanding place to live. Yet, as the Comprehensive Plan points out, such aging housing lacks modern layouts, room sizes, and amenities, and requires significant maintenance, technology upgrading, work-space reconfiguration and remodeling to hold its value and remain competitive. (ibid.) Importantly, this dominance of aging single-family homes creates a "gap" in the community's market and housing needs which the Comprehensive Plan seeks to address. (id. p. 23) A

greater variety of housing options, close to downtown Worthington's vibrant shops, restaurants, recreation, arts and entertainment amenities, are cited as needed to close this gap and meet the needs of residents and the changing buyer preferences driven by down-sizing baby boomers, young professionals, active adults, singles and seniors aging in place. The Comprehensive Plan states that alternative housing types are needed that include rental, with maintenance services, modern group amenities such as gyms and social spaces, all with proximity to centers of community activity. (ibid.) Work from home spaces and built-in technology systems could be added to this amenities list in terms of must-have market demands. The Comprehensive Plan also recognizes that the economy of scale of higher density is necessary to achieve these goals and close this "housing availability gap." (id. p. 24)

When referencing the illustrative conceptual plans for the subject site the Comprehensive Plans states, "This residential area would consist of cluster residential development and transition to more dense urban village residential development to help address the housing type imbalance of the City." (id. p. 90)

The proposed mixed-use development attempts to meet the market demands, demographic trends and Comprehensive Plan goals cited above. Commercial, office and medical uses create the opportunity for significant employment and an increase in City tax revenues along High Street, in line with City goals. As specified in the Comprehensive Plan, the most density and diversity of uses are placed in the middle of the site, and residential housing types are mixed, with owner-occupied townhomes, rental units, and amenitized apartment buildings. Park, gathering spaces, tree lined streets, alley accesses and other amenities create interest and define different housing areas. (See *Neighborhood Core* pages 93 and 94.) The placement of single-family homes is consistent with Comprehensive Plan recommendations under the *Worthington Estates Edge* transition zone on pages 92 and 93 of the Comprehensive Plan and matches recommended densities for that zone. Consistent with Comprehensive Plan recommendations, this development plan preserves approximately 5.7 acres along Tucker Creek as a designated community open space amenity and proposes a dedication of this unique natural area to the City for preservation. Consistent with the Comprehensive Plan, this dedication provides the opportunity for a public pedestrian connection from High Street and Evening Street via a path system. Other pedestrian connections are key elements under the development plan, via both on-street and off-street sidewalk and path systems. These pedestrian connections continue throughout the site linking to High Street and the adjacent sidewalk system on the adjoining residential lots at Larrimer, Longfellow Avenue and Evening Street, creating both internal connectivity and integration with the greater community, as sought in the Comprehensive Plan.

II. 1174.03 GENERAL PROVISIONS

(d) <u>Overlay District – Chapter 1177 of the Worthington Code, the Architectural Review District applies to this site.</u>

(e) Ownership – The United Methodist Children's Home West Ohio (current) and under contractual agreement with the developer/applicant.

III. 1174.04 ALLOWABLE USES

"The mix of uses allowed in a PUD shall meet changing economic and demographic demands; permit implementation of development standards, plans, studies and guidelines adopted by the City Council; and/or provide the opportunity to retain and enhance the character of the City, and the health, safety and general welfare of the inhabitants."

Consistent with this code language, the text recognizes that PUD standards are designed to be flexible and are proposed by the applicant to allow innovation, meet changing market demands and fill gaps in housing and commercial services. Most modern developments in urban and suburban cores involve mixing of uses to meet market and community demands. Generally, the option of Planned District Zoning and PUDs are added to zoning codes because straight code districts are rigid and do not support changing preferences and conditions over time. The Planned District approach is utilized under this text and for this development because it allows divergences from strict code limitations and encourages flexibility in standards to meet the demands of modern mixed-use development. The strict nature of the base code would discourage such flexibility.

This site will include a mix of single-family homes, townhomes, apartments, medical/office, retail, open spaces and community amenities to serve the growing demographic and economic needs of the community in a manner consistent with the Comprehensive Plan.

Refer to Subarea details for specific allowable uses.

IV. 1174.05 DEVELOPMENT STANDARDS AND DEVELOPMENT STANDARDS TEXT PER SUBAREA

Subarea	Unit Type	Unit Count	Acres
1	Single Family	24	5.9
2	Multi-Family	94 units w/ garages	9.0
3	Multi-Family	72 units	5.1
4	Multi-Family Commercial Medical Office	540 units 60,000 sq. ft. 25,000 sq. ft.	11.4
5	Tucker Creek/Storm Pond	N/A	6.4
Total		730	37.8

A. Subarea 1 – Worthington Estates Edge

Subarea 1 consists of +/-5.9 acres along the western and northern property borders with access to Evening Street and Longfellow Avenue.

1. Allowable uses – The following uses shall be allowed in Subarea 1. Unless a different definition of uses is provided within this Development Text, the definition of uses specified in the Code for the R-6.5 residential district shall apply.

    a. 24 single-family dwelling lots that are at minimum 55 feet wide at the build line with a minimum lot area of 6,875 square feet.

    b. Such single-family dwellings shall include square footages ranging from 1,600 to 2,800 square feet.

    c. The uses appurtenant to single-family homes and those accessory and conditional uses related to R-6.5 single-family dwellings and allowed under Code section 1147.01, including but are not limited to garages, patios, decks, landscape/hardscape improvements, entry features, streets, utilities. However, two-family dwellings shall be prohibited in Subarea 1.

2. Density, Height, Lot and Setback Commitments.

    a. 24 total single-family dwellings on +/-5.9 acres or 4.1 dwellings units per acre.

    b. Single-family dwellings shall be up to 2½ stories, 1½ stories or single-story buildings with principle roof height not to exceed 35 feet at mid-height of the roof slope measured from the finished floor elevation.

    c. Impervious lot areas for buildings and driveways shall not exceed 60% of the total area not including patios, decks, sidewalks, etc.

    d. There shall be a minimum 20-foot building set back from Longfellow Avenue, Evening Street and the proposed public Street A internal to the site.

    e. Rear setbacks shall be 25 feet and side yard setbacks shall be 5 feet Decks and patios are allowed to encroach within the rear setbacks, however, no building foundations shall be allowed in rear setbacks.

    f. Driveways may encroach 2 feet into side yard setbacks.

3. Access, Parking and/or Traffic Related Commitments.

    a. Street access from the public street networks to Subarea 1 shall be provided via public Street A which shall connect to Longfellow Avenue from the north and Evening Street from the south. All access points are subject to review and approval by the City Engineer. The location and design of all public streets are subject to City Engineer approval.

    b. Street A shall have a right of way of 50 feet and a pavement width of 26 feet from face to face of curb.

    c. Each single-family dwelling shall have a minimum two car attached garage. Driveways shall accommodate parking space for at least one off-street parking space.

    d. On street parking shall be permitted on Street A on the side of the street opposite the fire hydrants.

    e. Street A shall include 5-foot sidewalks and a minimum 6-foot tree lawn per side.

    f. Sidewalks or paths shall be installed to connect this subarea with adjacent subareas and uses and are depicted on Sheet 9 – Open Space, Pedestrian Connectivity and Amenities Plan.

4. Architectural Design and Standards

    a. Representative and illustrative examples of the architectural character of the single-family homes in this subarea are depicted in the sample elevations attached to this application.

    b. The architecture of the homes shall be “four-sided” as defined herein, and conform to the following standards set forth as follows:

        i. Blank facades shall not be permitted.

        ii. The same materials and details used on front elevations shall be carried through to and utilized on the other three elevations in a manner that creates continuity and balance.

        iii. All sides of the homes shall display a high level of quality and architectural interest.

        iv. All fronts of homes and those side elevations facing public streets shall be articulated with a minimum of at least three design elements listed below.

        v. All side elevations not facing public streets shall be articulated with at least two design elements listed below.

        vi. The following elements and details shall be considered “design elements” for creating the standards for four-sided architecture:

            1. Doors;

            2. Porches;

            3. Balconies;

            4. A window or grouping of windows at least 6 square feet;

            5. Window mullions;

            6. Bay windows or bay elements;

            7. Chimney;

            8. Masonry water tables;

            9. Masonry covered foundations;

            10. Decorative louvers or shutters of at least 3 square feet;

            11. Dormers (active and inactive); and,

            12. Vertical board and batten or shake style siding elements (provided such elements are compatible with the design, style and character of the home and subject elevation).

    c. The exterior of the buildings shall be restricted to the following approved siding and trim/accent materials in any combination that allows for consistent architectural treatment and aesthetics:

        i. Fiber cement such as HardiPlank ™ or a comparable cement fiber siding and trim products;

        ii. Aluminum or vinyl soffits, vents, eaves and fascia or other hard to reach or maintain elements. For horizontal vinyl elements, .05 mm thickness shall be used;

        iii. Stone, cultured stone or stone veneer;

iv. Brick or thin brick;

v. Wood lap siding or trim, composite lap siding or trim, or cedar shake or composite siding or trim, (painted or stained), vinyl siding or trim with a thickness of .045 mm or greater;

vi. Roof materials: Dimensional architectural shingles, three-tab asphalt shingles, cedar shakes, tile, slate, synthetic slate, and metal as an accent feature on limited portions of roof areas;

vii. Chimneys: Chimneys shall be full masonry or full brick or brick veneer, stone or cultured stone. Exposed metal flues shall be painted to match the roof color. Cantilevered chimneys shall be prohibited;

viii. Gutters (and the materials by which gutters attach to the home) downspouts, soffits, garage entrance doors, secondary house doors, may be of man-made materials such as metal, aluminum, fiberglass and glass; and,

ix. Other materials used as minor accents subject to approval of the City Planning Department.

d. Trim Requirements: Sides and Rear Windows/Doors – 3 ½ inches actual minimum trim required, but not if window is bordered by masonry or includes shutters.

e. Overhangs Rakes and Eaves: Required 8 inches minimum from outside walls. The eaves shall be subject to the side setback requirements.

f. Exterior Colors:

i. Siding colors. Natural earth tones and/or warm neutral colors, including white. High-Chroma colors are not permitted.

ii. Trim colors. Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color. High-Chroma colors are not permitted.

iii. Roof Colors. Shingle colors shall be from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

g. Basements: All homes in Subarea 1 shall have partial or full basements, soil conditions permitting.

h. Garages: All homes shall have a minimum attached two-car garage. Garage door openings shall not exceed 45% of the width of the house façade for a two-car garage or 50% of the width of the house façade for a three-car garage, including the garage. Front loaded garages shall be flush with or not project more than 4 feet in front of the most forward facing architectural element of the homes, including porches. Where side-loaded garages will fit on corner lots or otherwise, side-loading shall be offered as an option subject to customer preferences. Courtyard and auto court configurations shall be permitted for garages and where utilized garage placement is not limited by the maximum 4 foot projection limitation from the front of the home. Garage doors on all front elevations shall be of a premium architectural style to compliment the architecture of the home. Decorative treatments (including a mix of but not limited to the following elements: decorative hinges, raised panels, vertical or horizontal accents, windows, or other architectural features) shall be required on all garage doors.

i. Diversity: The same home design with the same front elevation shall not be constructed on lots that are adjacent to one another. House models with the same footprint may be allowed within the distance and parameters described above provided that such houses incorporate substantial differences in the front elevations such as material changes, configuration of front porch, etc.

j. Roof pitches: Main roofs shall have a minimum pitch of 6/12. Secondary roof pitches shall match the architectural design of the homes.

k. Accessory Structures: No sheds shall be permitted.

l. Above ground swimming pools shall be prohibited. In-ground swimming pools and hot tubs shall be permitted as governed by private deed restrictions and shall meet all code requirements.

m. Any deviations to these standards shall be approved by the Planning Department prior to the approval of a building permit.

5. Landscaping and Screening

a. All landscaping shall meet the provisions of the Zoning Code except where varied herein.

b. Any portion of a lot that is not covered by buildings, drives or parking areas shall be landscaped with lawn as a minimum. Those areas that are designed as landscaped buffers, tree lawns, tree preservation,

entry features, or other landscaped features shall be maintained according to City Code standards.

c. Street trees shall be provided at one tree per 40 linear feet with breaks as necessary for streetscape elements such as driveways, light fixtures, fire hydrants, etc.

d. Tree protection and/or replacement provisions:

   i. The Development Plans indicate the areas in which trees shall be saved and protected.

   ii. The developer/builder shall make reasonable, good faith efforts to preserve existing healthy trees on site during construction.

e. The developer shall make a good faith effort to save all perimeter trees that are in healthy to fair condition, subject to utility services placement.

f. Proposed community entrance feature locations and character images are depicted on the development plans Sheet 10. Design entry features shall be provided with the final development plan.

   g. All fencing must meet City Code provisions. No chain link shall be allowed on any lot.

6. Graphics, Signage and Lighting and Trash Collection:

   a. All graphics and signage for Subarea 1 shall conform to code.

   b. See development plan sheets 8 and 9 for decorative pedestrian lighting specifications and placement.

   c. Trash collection shall be public.

B. Subarea 2 – Neighborhood Core

Subarea 2 consists of +/-9.0 acres internal to the site with private alleys and street access to public Street A and the planned extension of Wesley Boulevard (public Street B).

1. Allowable uses – The following uses shall be allowed in Subarea 2.

   a. Subarea 2 shall include not more than 94 townhome dwellings on

separate fee simple lots with garages provided with access to private alleys. The townhomes shall be offered for sale to owner occupants as single-family attached dwellings.

   b. Such townhome dwellings shall be a minimum of 1,000 square feet.

   c. The uses appurtenant to townhomes and those accessory and conditional uses related as specified under Code section 1147.01 for A-3 uses include but are not limited to garages, patios, decks, landscape/hardscape improvements, entry features, public and private streets and alleys, and utility, and ancillary facilities to residences.

   d. Multiple programmed open and amenities spaces are detailed on Sheet 8 – Community Character and Sheet 9 – Open Space, Pedestrian Connectivity and Amenities Plan. These spaces will include public amenities detailed on Sheet 9, which are to be finalized at the time of final development plan. (Note: Mail facilities are planned as shown on plan sheet 8, but final locations and configurations are subject to approval by the USPO Postmaster.)

2. Density, Height, Lot and Setback Commitments.

   a. 94 total townhomes on +/-9.0 acres or +/-10.4 dwellings units per acre.

   b. Townhome dwellings shall include a mix of two and three-story buildings. The maximum building height shall be measured under the zoning code definition of height and shall be 60 feet for three-story buildings and 35 feet for all other buildings. Patios off dormers and gables are permitted. Finished attic space is permitted.

   c. Lot sizes will range from 16 to 24 feet in width and have a minimum depth of 92 feet.

   d. There shall be a minimum 10-foot building set back from the reserve line of private Streets B, C, D and E and 10 feet from the right-of-way of public street A. Front porches shall not be any closer than within 4 feet of the reserve line of private streets. There shall be a zero setback from Subarea 5. There shall be a minimum 5 feet building setback from the reserve line of the private alley.

   e. Townhomes are zero lot line with no side yard setback between units. The minimum setback between the rear of the townhome and the garage shall be 20 feet where detached garages are utilized. Corner unit shall have a 10 feet side yard setback from the reserve line of the private street.

3. Access, Parking and/or Traffic Related Commitments:

    a. Street access from the public street networks to Subarea 2 shall be provided via multiple access points to public Street “A”. Other access points are depicted on plans from private Streets B, C D, and E and private alleys. All access points are subject to review and approval by the City Engineer.

    b. Private streets shall have a 20-foot drive aisle with an 8-foot wide by 22-foot long parallel parking space on both sides. Private streets shall be located within a 56-foot wide reserve. Private alleys shall have a 16-foot drive within a 20-foot wide reserve.

    c. For the townhome dwellings, a minimum of 1.5 parking spaces per dwelling unit shall be provided. Each townhome dwelling shall include a detached garage. Additional unassigned on-street parking will be available throughout the subarea and overall development for resident and guest parking.

    d. Parallel on street parking shall be allowed on Streets B, C, D and E. No alley parking shall be allowed in Subarea 2. “No parking” signs shall be posted as appropriate in accordance with city standards. Parking details for this Subarea are detailed on plan sheets 6, 7, 13 and 14, with the Site Parking Data Table on Sheet 7. ADA accessible parking and bicycle parking spaces will be provided per City Code at the time of Final Development Plan. On-street parking located within Subarea 2 shall be for the use of all subareas.

    e. Cross access easements to the extent required for this subarea in relation to other subareas are subject to approval by the City Engineer and Law Director.

    f. Pedestrian connections shall be installed to connect this subarea with adjacent subareas and uses. Such paths and/or sidewalks are depicted on development plans and delineated with landscaping and hardscape materials. (see Sheet 9)

4. Architectural Design and Standards

    Representative and illustrative examples of the architectural character of the townhomes in this subarea are depicted in the sample elevations attached to this application. Buildings in this subarea shall meet the following design requirements and shall be generally consistent with the architectural exhibits included with this application.

    a. Color Palette: A mixed palette on a single building shall be carefully selected so all colors are harmonious with each other. High chroma colors are not permitted.

    b. Exterior Colors:

        i. Siding colors. Natural earth tones and/or warm neutral colors, including white.

        ii. Trim Colors: Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color.

        iii. Shingle colors shall be from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

    c. Approved Materials:

        i. Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, field stone, stucco stone, vinyl siding or trim with a thickness of .045 mm or greater, wood and cementitious or HardiPlank™ siding and trim, in any combination that allows for consistent architectural treatment and aesthetics. All building elevations shall be designed with similar building materials and lighting.

        ii. Aluminum or vinyl soffits, vents, eaves and fascia or other hard to reach or maintain elements. For horizontal vinyl elements, .05 mm thickness shall be used;

        iii. Roof materials: Dimensional architectural shingles, three-tab shingles, cedar shakes, tile, slate, synthetic slate, fiberglass shingles, asphaltic shingles or standing seam metal roofs may be used.

        iv. Roof:

            1. Pitched roofs with gabled or hipped ends are required with a slope equal to 5:12 or greater.

            2. Roof on secondary architectural features, such as bay windows, porches, stoops, etc., may have a roof pitch of 3:12 or greater.

            3. Minimum 8-inch overhangs are required.

        v. Wall Articulation/Fenestration.

1. In addition to using building elements to articulate the building mass, individual walls must be articulated with fenestration, pattern, or structural expression equally on all sides of each structure.

2. The amount of fenestration shall be balanced with the amount of solid façade.

3. Four-sided architecture is required. Buildings shall have a consistent finish on all four sides. Fenestration shall be proportional with building size and massing.

4. Garages facing and abutting auto courtyards and alley ways shall have complimentary aesthetics and building materials as the primary structure, but no ornamental architecture is required.

5. Landscaping, Screening and Open Space:

   a. All landscaping shall meet the provisions of the Zoning Code except where varied herein.

   b. Any portion of a lot that is not covered by buildings, drives or parking areas shall be landscaped with lawn as a minimum. Those areas that are designed as landscaped buffers, tree lawns, tree preservation, entry features, public or private green spaces or other landscaped features shall be maintained according to City Code standards.

   c. See street tree and landscaping package for on-lot commitments. (See sheet 9 Open Space, Pedestrian Connectivity and Amenities Plan.)

   d. The required Tree Survey is included with this application. Tree protection and/or replacement provisions:

      i. The Preliminary Development Plans indicate the areas in which trees shall be saved and protected.

      ii. The developer/builder shall make reasonable, good faith efforts to preserve existing healthy trees on site during construction.

   e. Public and private open and green spaces located in Subarea 2 and characterizing the community are identified with their acreages and uses specified on Sheets 8, 9 and 12. Public space amenities allocated to this Subarea 2 and public space amenity calculations are identified on these exhibit sheets. Generally, an +/-1.3 acre open recreation space, separate dog park, various seating areas, visual connective spaces and connective paths define this subarea. Open space areas may be utilized for stormwater management.

   f. The use of landscape elements such as arbors, benches, fountains, plazas, patios, planters and similar elements will be utilized to enhance the pedestrian scale and nature of the overall development and be created toward required public space amenities. These elements will be used to reinforce pedestrian walkways and compliment the character of the architecture. Such elements will be fully detailed at the final development plan stage.

   g. Proposed community entrance feature locations and character images are depicted on the development plans Sheet 10. Design of entry features shall be provided with the final development plan.

   h. All fencing must meet City Code provisions. No chain link shall be allowed on any lot.

6. Graphics, Signage, Lighting and Trash Collection:

   a. All graphics and signage for Subarea 2 shall conform to code unless otherwise approved. A comprehensive sign package shall be submitted separately for review and approval by the Planning and Zoning Commission prior to the issuance of any permit for permanent signage.

   b. See development plan Sheets 8 and 9 for decorative pedestrian light placement.

   c. Trash pickup for this subarea shall be privately contracted with a trash valet. The compactor site identified in Subarea 3 shall serve as a central trash compacting station with private hauling from that location.

C. Subarea 3 – Neighborhood Core

Subarea 3 consists of +/-5.1 acres internal to the site with private alleys and street access through Subarea 2 to public Street A and the planned extension of Wesley Boulevard (Private Street B).

1. Allowable uses – The following uses shall be allowed in Subarea 3.

   a. Subarea 3 shall include not more than 72 multi-family dwelling units in several building configurations and offered for rent.

i. Such multi-family dwelling units shall have a livable area ranging in square footage from 700 square feet and up to 1,300 square feet.

ii. Anticipated dwelling unit mix:
- One bedroom 30% @ +/-700 average sf
- Two bedrooms 60% @ +/-1,100 average sf
- Three bedrooms 10% @ +/-1,300 average sf

b. The uses appurtenant to multi-family dwellings and those accessory and conditional uses related as specified under Code section 1147.01 for AR-3 uses and including but not limited to surface parking lots, detached garages, landscape/hardscape improvements, entry features, facilities, public and private streets and alleys, trash compactor, and utility and services facilities ancillary to residences.

c. A minimum of 50% of all units shall have garages or garage access. Detached or attached garages are permitted.

d. Multiple programmed open space and amenities totaling approximately 0.6 acres are detailed on development plan exhibits and may include but not be limited to outdoor recreation, central mailbox units and waste refuse area.

2. Density, Height, Lot and Setback Commitments:

a. 72 total multi-family units on +/-5.1 acres or 14.1 dwellings units per acre.

b. Multi-family dwellings may include a mix of townhomes and/or stacked flat units or other configurations. The maximum building height shall be measured under the zoning code definition of height and shall be up to 60 feet.

c. There shall be a minimum 10-foot building set back from private Street C and 10-foot setback from alleys. There shall be a 15-foot pavement and building setback from the east property line.

d. Units shall share walls and separations between buildings where shown shall be not less than 16 feet.

e. There shall be a zero setback for building and pavement from Subarea 5.

3. Access, Parking and/or Traffic Related Commitments:

a. Street access from the public street networks to Subarea 3 shall be provided via multiple access points to private Street “C” from alleys and parking lots. All access points are subject to review and approval by the City Engineer.

b. For the multi-family dwellings in this subarea, a minimum of 1.5 parking spaces per dwelling unit shall be provided. Private streets shall have a 20’ drive aisle with an 8-foot wide by 22-foot long parallel parking space on both sides. Private streets shall be located within a 56-foot wide reserve. Private alleys shall have a 16-foot drive within a 20-foot wide reserve. For surface parking lots, parking spaces shall be 9 feet x 19 feet with 22-foot drive aisles.

c. Parallel parking shall be allowed on Street C adjacent to apartments in Subarea 3. “No parking” signs shall be posted as appropriate in accordance with city standards. Parking details for this Subarea are detailed on plan Sheets 6, 7, 13 and 14, with the Site Parking Data Table on Sheet 7. ADA accessible parking and bicycle parking spaces will be provided per City Code at the time of Final Development Plan. On-street parking located within Subarea 2 shall be for the use of all subareas.

d. Cross access easements to the extent required for this subarea in relation to other subareas are subject to approval by the City Law Director.

e. Pedestrian connections shall be installed to connect this subarea with adjacent subareas and uses. Such paths and/or sidewalks are depicted on development plans and delineated with landscaping and hardscape materials. (see Sheet 9).

4. Architectural Design and Standards:

Representative and illustrative examples of the architectural character of the townhome buildings in this subarea are depicted in the sample elevations attached to this application. Buildings in this subarea shall meet the following design requirements and shall be generally consistent with the architectural exhibits included with this application.

a. Color Palette: A mixed palette on a single building shall be carefully selected so all colors are harmonious with each other. High chroma colors are not permitted.

b. Exterior Colors:

i. Siding colors. Natural earth tones and/or warm neutral colors, including white.

ii. Trim Colors: Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color.

iii. Shingle colors shall be from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

c. Approved Materials:

i. Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, field stone, stucco stone, vinyl siding or trim with a thickness of .045 mm or greater, wood and cementitious or HardiPlank™ siding and trim, in any combination that allows for consistent architectural treatment and aesthetics. All building elevations shall be designed with similar building materials and lighting.

ii. Aluminum or vinyl soffits, vents, eaves and fascia or other hard to reach or maintain elements. For horizontal vinyl elements, .05 mm thickness shall be used;

iii. Roof materials: Dimensional architectural shingles, three-tab shingles, cedar shakes, tile, slate, synthetic slate, fiberglass shingles, asphaltic shingles or standing seam metal roofs may be used.

iv. Roof:

1. Pitched roofs with gabled or hipped ends are required with a slope equal to 5:12 or greater.

2. Roof on secondary architectural features, such as bay windows, porches, stoops, etc., may have a roof pitch of 3:12 or greater.

3. Minimum 8-inch overhangs are required.

v. Wall Articulation/Fenestration:

1. In addition to using building elements to articulate the building mass, individual walls must be articulated with fenestration, pattern, or structural expression equally on all sides of each structure.

2. The amount of fenestration shall be balanced with the amount of solid façade.

3. Buildings shall have a consistent finish on all sides facing public or private streets or drives. Rear facing side and/or those facing motor courtyards or alleyways shall have complimentary aesthetics as the primary faces of the buildings, but no ornamental architecture is required. Fenestration shall be proportional with building size and massing.

5. Landscaping, Screening and Open Space:

a. All landscaping shall meet the provisions of the Zoning Code except where varied herein.

b. Any portion of a lot that is not covered by buildings, drives or parking areas shall be landscaped with lawn as a minimum. Those areas that are designed as landscaped buffers, tree lawns, tree preservation, entry features, public or private green spaces or other landscaped features shall be maintained according to City Code standards.

c. Street trees shall be provided at one tree per 40 linear feet with breaks as necessary for streetscape elements such as driveways, light fixtures, fire hydrants, etc.

d. The required Tree Survey is included with this application.

i. The Development Plans indicate the areas in which trees shall be saved and protected.

ii. The developer/builder shall make reasonable, good faith efforts to preserve existing healthy trees on site during construction.

e. A landscaping buffer consisting of a minimum of 8 evergreen trees, 6 feet in height at installation shall be planted between this subarea and the neighboring institutional facility to the east with a detailed landscape plan provided at the time of Final Development Plan. Surface parking lot screening and landscaping shall meet City Code requirements, including parking lot islands. Visual open space corners and green space connections are depicted on plan Sheet 9. All open spaces are to be planted with turf grass unless otherwise indicated.

f. Public and private open and green spaces located in Subarea 3 that characterize the aesthetics of the community are identified with their acreages and uses specified on Sheets 9 and 12. Public space amenities allocated to this Subarea 3 and public space amenity

calculations are identified on exhibit sheets. Generally, a 0.6 acre open recreation field, seating areas, a dog park, and other small and connecting green spaces are identified on Sheets 9 and 12 and characterize this subarea.

g. Pedestrian walkways frame and connect this subarea and delineate it from the Tucker Creek subarea as depicted on plan Sheet 9. The use of landscape elements such as arbors, benches, fountains, plazas, patios, planters and similar elements may be utilized to enhance the pedestrian scale and nature of the overall development. These elements will be used to reinforce pedestrian walkways and compliment the character of the architecture. Such elements will be fully detailed at the final development plan stage.

h. All fencing must meet City Code provisions. No chain link shall be allowed on any lot.

6. Graphics, Signage, Lighting and Trash Collection:

a. All graphics and signage for Subarea 3 shall conform to code unless otherwise approved. A comprehensive sign package shall be submitted separately for review and approval by the Planning and Zoning Commission prior to the issuance of any permit for permanent signage.

b. See development plan exhibits: Photometric Plan and sheet 9 for decorative pedestrian light placement.

c. Neighborhood identification features are depicted on plan Sheet 10.

d. Trash pick-up for this subarea shall be privately contracted with a trash valet. The compactor site identified in Subarea 3 shall serve as a central trash compacting station for Subareas 2 and 3 and potentially a portion of Subarea 4 with private hauling from that location.

D. Subarea 4 – High Street Mixed Use

Subarea 4 consists of +/-540 multi-family apartments, 60,000 square feet of commercial space and 25,000 square feet of medical office space on 11.4 acres. Subarea 4 fronts on North High Street, and borders Subarea 2 on the west, Larrimer Avenue and Longfellow Avenue on the north and United Methodist Church parking lots and facilities on the south.

1. Allowable uses – The following uses shall be allowed in Subarea 4.

a. Subarea 4 shall include not more than 540 multi-family apartments in several building configurations and offered for rent.

i. Such multi-family apartments dwelling units shall range in livable square footage from +/-500 square feet to +/-1,300 square feet.

ii. Anticipated dwelling unit mix:

- One bedroom 30% @ +/-500 average sf
- Two bedrooms 60% @ +/-1,000 average sf
- Three bedrooms 10% @ +/-1,300 average sf

b. Commercial office/retail spaces of up to 60,000 square feet and divided into various buildings. Commercial uses shall include all those defined and allowed under the Zoning Code unless prohibited hereunder and may include but shall not be limited to:

i. Retail;

ii. Administrative, business, medical or professional services;

iii. Personal and professional services;

iv. Pharmacy with or without drive-up service;

v. Bank or financial services with or without drive-up service;

vi. Eating or drinking establishments with or without drive-through provided that menu signs are screened from view from the North High Street right of way;

vii. Medical offices; and,

viii. Hotel/conference center.

c. Medical Office: One medical office building of up to 25,000 square feet to include uses such as but not limited to medical, health, wellness, fitness, urgent care, emergency medicine, laboratory, surgical, preventative care and medicine, in-patient or out-patient services, and pharmacy service uses.

d. The uses appurtenant to multi-family apartments, commercial and office uses and those accessory and conditional uses related as specified under Code Section 1147.01 for A-3 uses and C-1, C-2 and C-3 uses

and including but not limited to surface parking lots, up to 5 level parking facilities, outdoor court games and/or lawn games, in ground swimming pool, restaurant, bar, community meeting rooms, fitness and/or wellness facilities, other community open spaces, walking paths, outdoor seating, dog park, landscape/hardscape improvements, entry features and signage, public and private streets and alleys, and utility facilities. Restaurant, retail or personal services uses shall be permitted within multi-family buildings.

e. Multiple programmed open and amenities spaces amounting to 1.3 acres are detailed on Sheet 9 of the development plan, along with outdoor recreation, mail structures and pre-compaction trash processing/holding dumpster areas.

f. The following uses shall be prohibited from this Subarea 4:

Blood and organ bank, crematory, funeral home and service, warehouse club, super center, automotive accessories, parts and tire stores, automobile and light truck dealers, automobile sales, leasing and rental, building materials and supply dealers, check cashing and loans, community food pantry, discount department stores, home centers mission/temporary shelters, motorcycle, boat and other motor vehicle dealer, motor vehicle accessories and parts dealers, outdoor power equipment stores, pawn brokers, recreational vehicle dealers, truck, utility trailer and RV (recreational vehicle) sales/rental/leasing/vending machine operators, automotive maintenance and repair, bowling centers, drive-in motion picture theatres, farm equipment and supply stores, animal shelter, amusement arcades, half-way house, tobacconist, telephone call centers, coin operated laundries.

2. Density, Height, Lot and Setback Commitments:

Multi-Family Apartments:

a. 540 total apartments on +/-11.4 acres.

b. Multi-family apartments buildings and garages may include a mix of building heights of up to five stories. The maximum building height for apartments and garages shall be 80 feet, as measured under the zoning code definition of height.

c. Setbacks. There shall be a minimum 25 foot building setback for habitable buildings from North High Street, a 25 foot building and pavement setback from Longfellow Avenue, a 20 foot building and pavement setback from

Larrimer Street, and 10+/- foot building setbacks from private streets and a 10 foot building and pavement setback from the south property line.

d. Interior or rear setbacks are varied backing to surface parking lots as shown on plans. Units shall share walls.

Commercial

a. 60,000 square feet commercial/retail space.

b. Commercial square footage may be allocated throughout the buildings in Subarea 4. The maximum building height shall be 80 under the zoning code definition of height.

c. Setbacks. There shall be a minimum 25 foot building set back from North High Street, a 20 foot setback from Larrimer Street, and 10 foot setbacks from Streets B, E and F, and alleys.

Medical Office

a. 25,000 square feet medical office.

b. The maximum building height shall be 65 feet for medical office buildings under the zoning code definition of height.

c. Setbacks. There shall be a minimum 25-foot building set back from North High Street, and a 10-foot setback from Street E and the southern property line.

3. Access, Parking and/or Traffic Related Commitments:

a. The subarea is to be served by an extension of Wesley Boulevard to Longfellow Avenue, access from North High Street from Street E, and Street F which connects to Larrimer Avenue. Street access from the public street networks to Subarea 4 shall be provided via multiple access points to North High Street and Larrimer Avenue. All access points are subject to review and approval by the City Engineer.

b. Private streets shall have a 20-foot drive aisle with an 8-foot wide by 22 foot-long parallel parking space on both sides. Private streets shall be located within a 56-foot wide reserve. Private alleys shall have a 16-foot drive within a 20-foot wide reserve. For surface parking lots, parking spaces shall be 9 feet x 19 inches feet with 22-foot drive aisles.

c. Parking in this subarea is identified on the chart on Plan Sheets 6 and 7 with spaces allocated based on uses per the Site Parking Data Table on

Sheet 6. ADA accessible parking and bicycle parking spaces will be provided per City Code at the time of Final Development Plan.

d. Parallel parking shall be allowed on Streets E and F. No alley or drive aisle parking shall be allowed. “No parking” signs shall be posted as appropriate in accordance with city standards.

e. Cross access easements to the extent required for this subarea in relation to other subareas are subject to approval by the City Law Director.

f. Pedestrian connections shall be installed to connect this subarea with adjacent subareas and uses. Such paths and/or sidewalks are depicted on development plans and delineated with landscaping and hardscape materials. (see Sheets 8 and 9)

4. Architectural Design and Standards

Representative and illustrative examples of the architectural character of the buildings in this subarea are depicted in the sample elevations attached to this application. Buildings in this subarea shall meet the following design requirements and shall be generally consistent with the architectural exhibits included with this application.

a. Color Palette: The color palette shall be carefully selected so all colors are harmonious with each other. High chroma colors are not permitted.

b. Exterior Colors:

i. Siding colors. Natural earth tones and/or warm neutral colors, including white.

ii. Trim Colors: Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color.

iii. Shingle colors shall be from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

c. Approved Materials:

i. Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, field stone, stucco stone, wood and cementitious or HardiPlank™ and .045 mm thickness or greater vinyl siding or trim. Front elevations of buildings in this subarea shall include natural materials with the allowance for the use of vinyl siding and trim accents with a thickness of .045 mm or greater. On other elevations vinyl siding and trim accents with a

thickness of .045 or greater in any combination with other materials may utilized that allows for consistent architectural treatment and aesthetic on all four building sides. All building elevations shall be designed with consistent lighting treatments.

ii. Aluminum or vinyl soffits, vents, eaves and fascia or other hard to reach or maintain elements. For horizontal vinyl elements, .05 mm thickness shall be used;

iii. Roof materials: Dimensional architectural shingles, three-tab shingles, cedar shakes, tile, slate, synthetic slate, fiberglass shingles, asphaltic shingles or standing seam metal roofs may be used.

iv. Roof:

1. Pitched roofs with a slope equal to 5:12 or greater are required for main roofs. Roofs on secondary architectural features such as bay windows, porches, stoops, etc. may have a roof pitch 3:12 or greater.

2. Minimum 8-inch overhangs are required for pitched roofs.

3. With the use of flat commercial roof, parapets shall be required in order to screen rooftop mechanical equipment.

v. Wall Articulation/Fenestration:

1. In addition to using building elements to articulate the building mass, individual walls must be articulated with fenestration, pattern, or structural expression equally on all sides of each apartment building structure. Garages shall meet pattern or structural expression requirements.

2. The amount of fenestration shall be balanced with the amount of solid façade for apartment buildings.

3. Four-sided architecture is required for apartments. Apartment buildings shall have a consistent finish on all four sides. Fenestration shall be proportional with building size and massing for apartment buildings.

5. Landscaping, Screening and Open Space

a. All landscaping shall meet the provisions of the Zoning Code except where varied herein.

b. Any portion of a lot that is not covered by buildings, drives or parking areas shall be landscaped with lawn as a minimum. Those areas that are designed as landscaped buffers, tree lawns, tree preservation, entry features, public or private green spaces or other landscaped features shall be maintained according to City Code standards.

c. The required Tree Survey is included with this application.

    i. The Development Plans indicate the areas in which trees shall be saved and protected.

    ii. The developer/builder shall make reasonable, good faith efforts to preserve existing healthy trees on site during construction.

d. Surface parking lot screening and landscaping shall meet City Code requirements, including parking lot islands. Visual open space corners and green space connections are depicted on plan Sheet 9. All open spaces are to be planted with turf grass unless otherwise indicated.

e. Public and private open and green spaces located in subarea 4 and characterizing the community are identified with their acreages and uses specified on Sheets 8, 9 and 12. Public space amenities allocated to this Subarea 4 and public space amenity calculations are identified on Sheet 9. Generally, a 0.3 acre open recreation field, seating areas, 0.7 acre active recreation space, and a 0.2 acre central green between apartment building elements are planned and characterize this subarea.

f. Pedestrian walkways frame and connect this subarea as depicted on plan Sheet 9. The use of landscape and streetscape elements such as benches, plazas, patios, planters and similar elements will be utilized to enhance the pedestrian scale and nature of the overall development. These elements will be used to reinforce pedestrian walkways and compliment the character of the architecture. Such elements will be fully detailed at the final development plan stage.

g. All fencing must meet City Code provisions. No chain link shall be allowed on any lot.

6. Graphics, Signage, Lighting and Trash Collection:

    a. All graphics and signage for Subarea 4 shall conform to code unless otherwise approved. A comprehensive sign package shall be submitted separately for review and approval by the Planning and Zoning Commission prior to the issuance of any permit for permanent signage.

    b. See development plan Sheets 8 and 9 for decorative pedestrian lighting.

    c. Community identification features are depicted on plan Sheets 9 and 12.

    d. Trash pick-up for this subarea shall be privately contracted with a trash valet for residential. Separate trash service in the case of commercial or medical uses shall be required.

E. Subarea 5 – Tucker Creek Preserve

Subarea 5, the Tucker Creek Preserve, includes a storm water management basin, as well as +/-6.4 acres of trees, foliage, the existing water course and stream bank commonly known as Tucker Creek, +/- 5.7 acres of which are to be set aside and preserved as a natural area and with a permanent conservation easement, and/or conveyed to the city for public ownership and use with approved credits. (Note: The portion of Subarea 5 that is to include a stormwater basin is not proposed to be conveyed for public ownership.) No ongoing development activities may take place within this Subarea 5, with the exception of initial construction activities, path access and utility crossings and maintenance, as well as work related to the installation of the stormwater basin and related facilities shown on plan exhibits to serve and be maintained by the homeowners' associations, as approved and permitted by the City with appropriate easements and other appropriate regulatory agencies. Any initial construction or development activities and utility crossings shall involve returning such impacted areas to a natural state as much as possible with oversight by the City Engineer. As an alternative to the proposed conveyance to the city, this Subarea 5 acreage may be considered for conveyance to a public park system operator or other conservation organization with credits against fees pursuant to section 1174.04 (c)(2)(A) and (B) and (3)(B) and (C).

V. 1174.05 OTHER DEVELOPMENT STANDARDS

1. Design Regulations – See design standards within individual subareas of text and attached plan sheet details.

2. Traffic Commitments – To be determined and finalized at the time of Final Development Plan and based on the required Traffic Impact Study and discussions/approval of the City Engineering Department. At the time of the Preliminary Development Plan filing, Traffic Impact Study findings include the following recommendations and/or changes to traffic regulation:

    a. Install a new traffic signal at the High Street/East access when warranted, with the contribution from this development being based on the proportionate share of traffic flow to the intersection. This signalized access should be located approximately midway between

existing signals at High Street/Worthington Galena Road and High Street/Larrimer Avenue.

b. Operate the High Street/East Access signal semi-actuated with fire preemption and remove the exiting fire signal currently in place to control southbound traffic.

c. Revise pavement marking on High Street to provide a 100 foot long northbound left turn lane at East Access point.

d. Revise pavement marking at High Street/Worthington Galena Road intersection to extend the length of existing northbound and southbound left turn lanes to 200 feet each.

e. Modify signs, pavement marking and signal operation to permit full movements eastbound and westbound (left turn lane, right turn and through) at High Street/Worthington Galena Road intersection.

3. Parking Summary – See Plan Sheet 7 and Site Parking Data Table.

VI. 1705 GENERAL REQUIREMENTS:

1. Tree Preservation and Replacement

City of Worthington, Ohio, Codified Ordinance Section 1174.05(c)(2)(B) *Development Standards- General Requirements: Natural Features,* requires all healthy trees 6" caliper or larger be retained or replaced with a total tree trunk equal in diameter to the removed tree.

The applicant has prepared a tree survey of all trees (deciduous and evergreen) 6 inches caliper or larger, with species and condition noted. Trees were measured per industry standards - diameter at breast height. Based on the applicant's site plan, the Tree Survey Table provides a tabulation of anticipated trees to be removed and a tabulation of all unhealthy trees (unhealthy, poor or dead condition). Total tree caliper to be removed is 6,264 inches, less unhealthy, dead and poor species of 1,069 inches yields 5,195 inches of replacement required. Tree removal is a total of 365 trees: 29 dead, 28 poor condition, 2 ash trees and 306 additional trees to be removed. The applicant intends to provide as many replacement trees on site as practical and per acceptable industry standards and as allowed to facilitate healthy growth.

On the Open Space, Pedestrian Connectivity and Amenities Plan, approximately 5.7 acres of treed area along Tucker Creek will be maintained as a "Natural Features Preservation" area per code and conveyed to the city.

Tree Replacement:

Tree replacement shall be provided by the following means with additional options for tree replacement provided with a detailed landscape plan at Final Development Plan, as necessary:

- Street Trees: Street trees will be provided on all private or public streets at a ratio of 1 tree per 40 linear feet of street. Trees may be equally spaced or grouped. All street trees shall be a minimum 3" caliper at installation. (Approximately 284 trees at 3 inches = 852 inches)

- Alley/Parking Lot Island Trees: A minimum of 30 alley/parking lot trees shall be planted with a minimum of 2.5 inches caliper at installation. (30 trees at 2.5 inches = 75 inches)

- Open Space Tree Plantings: A minimum of 80 trees shall be planted in open space areas. (80 trees at 2.5 inches = 200 inches)

- Buffer Plantings: A minimum of 10 trees (proposed combination of ornamental trees and shade trees) shall be provided between the storm water pond along Evening Street and apartment units in Subarea 2 (10 trees at 2.5 inches = 25 inches). A minimum of 8 evergreen trees shall be provided between the east property line of Subarea 3 and the Assisted Living/Nursing Home use (8 trees (6 foot ht.) at 3 inches = 24 inches.)

- Other Locations: Other on-site or off-site locations acceptable to the City's Service and Engineering Department, with such placement credited against applicable fee in lieu payments. The applicant shall work in good faith with city departmental staff to find off-site tree replacement locations as follows: Replacement trees can be located in off-site roadways, such as parkway trees or median plantings, at locations acceptable to the City's Service and Engineering Department. Replacement trees can be located in off-site parklands in locations acceptable to the City's Parks and Recreation Department. Replacement trees can be located in other off-site public property locations in acceptable locations as determined by the appropriate city departments. Areas in close proximity to the LC-Worthington/UMCH site and to locations with the most visibility to Worthington residents shall be given the highest priority for consideration for tree replacement by city departments under this plan.

Tree replacement required under this planned district text is as follows, after applied credits asdetailed above:

Caliper Inches of Tree Replacement Required:	5,195 inches
Less Caliper Inches of Replacement Trees (detailed above)	1,176 inches
Balance of Caliper Inches of Tree Replacement Required	4,019 inches

The “Balance of Caliper Inches of Tree Replacement Required” which is 4,019 inches based on the number credited after application of the first four bullets above is counted on a basis of $150 per caliper inch ($554,400) and such amount shall be credited against the dedication of Tucker Creek Preserve acreage to be considered by City Council as a proposed substitution and waiver of the code based tree replacement fee in lieu standard that would be otherwise applicable to this site.(See rationale for crediting below.) It should be noted that at this point, the target credit number is only an estimate, and the need for crediting would be adjusted if the applicant and city agree to off-site locations for replacement trees as outlined above.

Tree Replacement Standards:

Tree replacement shall meet the following standards:

- Street Trees shall be a minimum of 3 inch caliper at installation.
- Deciduous Shade Trees shall be a minimum of 2.5 inch caliper at installation.
- Ornamental Trees shall be a minimum of 1.5 inch caliper at install for single stem or 6 foot height at install for multi-stem. Multi-stem tree caliper inches shall be credited for the aggregate total of all trunks.
- Evergreen Trees shall be 6-foot height at installation.
    - A 6-foot tall evergreen tree shall count for 3 caliper inches.
    - For every foot in height greater than 6 feet in height, an additional 2 caliper inches shall be added. (e.g. A 7-foot tall evergreen = 5 caliper inches, e.g. A 8-foot tall evergreen = 7 caliper inches)
- The dedication of Tucker Creek Preserve may be counted toward the fee in lieu for tree replacements. See Public Area Payments Section.
- Fee-in-lieu for Tree Replacement and/or the number of trees replaced off-site shall be based on a $150 per caliper inch standard as proposed for substitution and waiver approval by City Council for this site only.

Rationale: The unique location of trees on this site makes it impossible to replace all code required caliper inches on site in a healthy manner and for optimal tree growth and survival. Full on-site replacement is not feasible and would result in crowding on the site. The code standard provision for fee in lieu of replacement as written would operate as an unreasonable burden on the property if the fee in lieu is paid, and, in any case, whether such fee is paid or replacement of such caliper inches occurs off-site, there is no nexus to benefit the property. This raises fairness and legal questions under Ohio impact fee law. Therefore, the

applicant proposes a fee in lieu and/or a more reasonable off-site replacement value standard of $150 per caliper inch, combined with a crediting against the value of both trees preserved within Tucker Creek Preserve and the Tucker Creek land conveyance to the city as a substitution and waiver of section 1174.05 (c)(2)(B). The applicant is committed to a reasonable and balanced tree replacement standard that includes on-site replacement, off-site replacement, and crediting in order to meet the spirit and intent of the code, while resulting in fairness. The applicant will work in good faith with city departments to find other off-site replacement locations on public lands, which would reduce the amount of crediting taken against the proposed Tucker Creek Preserve conveyance. However, based on the number of trees to be preserved, the number of trees preserved within Tucker Creek Preserve and the value of Tucker Creek Preserve as a public donation, crediting to off-set fees is reasonable and appropriate.

2. Public Area Payments

City of Worthington, Ohio, Codified Ordinance Section 1174.05(c)(3) *Public Area Payments* requires the following:

- The developer of commercial or industrial space created as part of a PUD to make a cash payment to the City in the amount of one hundred dollars ($100.00) per 1000 gross square feet of new or expanded commercial or industrial space for deposit in the Special Parks Fund.
- The developer of Dwelling Units created as part of a PUD shall make a cash payment to the City in the amount of two hundred fifty dollars ($250.00) per each new Dwelling Unit created for deposit in the Special Parks Fund.

The proposed plan provides the following uses:

- Commercial: 85,000 sf (85,000/1000 = 85 x $100 = $8,500)
- Residential: 24 Single Family Lots, 706 Multi-Family Units (730 x $250 = $182,500)

  Total Required Public Area Payment: $191,000

Public Area Payment:

- The developer shall receive a credit for the Public Area Payment required through the dedication of +/-5.7 acres to the City of Worthington for of the preservation of Tucker Creek per code section 1174.05(c)(3)(A) and upon such determination by City Council, such credit shall be calculated as follows:
    - Property Value per Franklin County Auditor: $6,263,000 (As of 9/14/20)

- Price per Acre: $165,688 ($6,263,000/37.8 acres)
- Credit for Tucker Creek Preservation area: $944,422 (5.7 x $165,688)

- The credit balance to the developer from the Tucker Creek Preservation and Dedication after the Public Area Payment is $753,422 ($944,422 - $191,000)

- This credit may be utilized toward tree replacement fees or other fees or assessments as approved by Council.

Rationale: The Comprehensive Plan states that this site is to be considered as a whole, not in individual components or sections. The applicant believes, based upon the reasons articulated in the Comprehensive Plan that the value of the Tucker Creek proposed preserve as conservation area to be dedicated to public use is well beyond the code calculated public area payments. In addition, the development provides many recreation and passive outdoor gathering opportunities for its own residents and will maintain such amenities, taking a significant burden off the existing city park system.

3. Public Space Amenities

City of Worthington, Ohio, Codified Ordinance Section 1175.05 (c) (3) Public Space Amenities requires a minimum of one Public Space Amenity as approved by the Municipal Planning Commission for every five-thousand (5000) square feet of gross floor area of multiple family dwelling, commercial or industrial space that is new in the PUD.

The anticipated Public Amenity Space calculations for this proposal are:

PUBLIC SPACE AMENITY CALCULATION

BUILDNG TYPE	UNITS (Approximate)	GROSS FLOOR AREA PER UNIT MIN. (SF) (Approx)	GROSS FLOOR AREA PER TYPE MIN. (SF)
Townhomes- Subarea 2	94	1000	94,000
Apartments - Subarea 3	72		
Anticipated Mix			
1 Bed (30%)	22	700	15,400
2 Bed (60%)	43	1100	47,300
3 Bed (10%)	7	1300	9,100
Apartments- Subarea 4	540		
Anticipated Mix			
1 Bed (30%)	162	500	81,000
2 Bed (60%)	324	1000	324,000
3 Bed (10%)	54	1300	70,200
Commercial			
Commercial	1	60000	60,000
Medical Office	1	25000	25,000
Total			**726,000**
1 Public Space Amenity per 5,000 SF Gross Floor Area of Multi-Family			5,000
Total Public Space Amenities Required			**145**

The applicant proposes the following public space amenities and provides the following calculations for open space and public amenities per code requirements on exhibit sheet 9 for the PUD. The list is not intended to be all inclusive. Modifications to the amenity and additional amenities may be added at time of Final Development Plan. Each amenity listed will be credited as one public amenity space based on the descriptions in the exhibit sheet. The Open Space, Pedestrian Connectivity and Amenities Plan sheet 9 provides a Summary Chart and identification of the proposed Public Space Amenities. See exhibit sheet 9.

VII. 1174.06 Other Preliminary Plan Requirements

1174.06 (11) Provision of water, sanitary sewer, surface drainage, and utility facilities, etc. –The development will be serviced by the existing available City of Worthington water/sewer lines and connections thereto. See exhibit plan Sheets 19, 20, 21, and 22 for storm water facilities, sanitary sewer plans and water main lines respectively.

The following is a summary of the proposed utilities:

Sanitary Sewer

Sanitary sewer service will be provided by the City of Worthington. There is an existing 12” sanitary sewer (C-1276) located along the south property line. An existing 10” sanitary sewer line (City of Worthington) extends north into the site from the 12” sewer. The existing 10” & 12” sewer lines are of sufficient size and capacity to handle the anticipated wastewater volumes of the proposed development (24 single family homes, 706 units, 60,000 SF of commercial, and 25,000 SF of medical office). The proposed sanitary sewer services are designed to City of Columbus and Ohio EPA standards.

Water

Water service will be provided by the City of Worthington. The proposed taps are into the existing 12” water line (WO0066_003) located along N. High Street along the East side of the site, the existing 12” water line (WO0148_002) located along Wesley Blvd along the southeast side of the site, the existing 6” water line (WO0024_002) located along Longfellow Ave along the north side of the site, and the existing 6” water line (WO0016_003) located along Evening St along the southwest side of the site. Public water lines will be installed to connect the existing water lines from Wesley Blvd to Longfellow Ave and Evening St to Longfellow Ave. Private taps/meters will be installed for private domestic and fire services for Subareas 2, 3, & 4. The water lines will be constructed to service the development for domestic and fire protection uses.

Stormwater

Stormwater management for this site will be provided by a wet detention basin for Subarea 1 along the southwest property line. Stormwater storage vaults and surface detention facilities will be used with Subarea 2, 3, & 4 located within open spaces and parking areas. A storm sewer system will be constructed to collect and outlet stormwater from the proposed development to the existing Tucker Creek along the south property line. The proposed stormwater system is designed to City of Columbus and Ohio EPA standards.

1174.06 (13) Proposed easements, cross access easements, shared parking arrangements, reciprocal utility and access easements between subareas are to be finalized at the time of Final Development Plan, and shall be consistent with easements as previously utilized, reviewed and approved by the City Engineering Department and in a form approved by the City Law Director.

1174.06 (16) Phasing Plan. Phasing plans will be developed based on zoning approval and finalized at the time of Final Development Plan submission.

Construction will begin with single-family development and the commercial/office uses fronting High Street and proceed subject to market conditions.

1174.06 (17) HOA, Deed Restrictions. (See attached)

LIFESTYLE COMMUNITIES
LC WORTHINGTON PLANNED UNIT DEVELOPMENT TEXT

October 2, 2020

Former United Methodist Children's Home Site
Address: 1033 High Street
Location: Westside of North High Street between Larrimer Avenue and Greenbrier Court and Evening Street on the former United Methodist Children's Home site.
Total Acreage:
+/- 37.80 gross acres
+/- 36.4 net developable area acres
725 residential units
60,000 sf commercial
25,000 sf medical office
+/- 10.1 open space acres

Existing Zoning: S-1 Special, C-3 Institutions and Offices and C-2 Community Shopping Center
Proposed Zoning: PUD with Mixed Uses of Single-Family, Multi-Family Townhomes and Apartments, Commercial and Medical Offices.

I. INTRODUCTION AND PURPOSE

The subject property is made up of parcel numbers 100-006774, 100-002427 and 100-002425 and 37.80+/- gross acres. The property is located west of North High Street and is bordered in part by Greenbrier Court, Evening Street, Longfellow Avenue and Larrimer Avenue. The existing Wesley Boulevard and Larrimer Avenue are the main access points to the proposed development from High Street. Additional access points are proposed into the development from Longfellow Avenue and Evening Street.

The property is surrounded on three sides by single family residences in the Worthingway, Worthington Estates, Greenbrier Hill and Larrimer subdivisions, as well as office/institutional uses. The property across North High Street and in the immediate High Street corridor includes the Worthington Fire Department, the Worthington Municipal complex, a bank and various offices, medical and institutional uses.

As stated in the Worthington Comprehensive Plan ("Comprehensive Plan"), "[b]ecause of its size, location and importance of the UMCH site, it is critical that any redevelopment be master planned and consider the site as a whole." (p.90) As expected by the Comprehensive Plan, this application for "redevelopment include[s]

rezoning of the entire site to a Planned Unit Development," providing flexibility and an emphasis on mixed uses...(p. 91) The development plan follows the diagram on page 91 of the Comprehensive Plan, transitioning uses from west to east as follows: single-family residences, townhomes, apartments, commercial and, finally, office spaces fronting North High Street.

The LC Worthington PUD development plan proposes a variety of high quality mixed uses with an updated urban pattern and architecture. The plan is walkable, with subareas connected internally and integrated with connections to surrounding neighborhoods and the balance of the City as recommended in the Comprehensive Plan. (p. 90-91). New single-family homes, townhomes, apartments, medical/office and retail spaces with integrated greenspaces and activity centers are designed to serve the changing demographics and economic needs of the community. The Comprehensive Plan points out that such mixed uses should be designed to "…complement each other to create an active, vibrant place." (p. 91) This point and the proposed development plan's integrated design recognizes that in today's market a critical mass of density and mix of uses creates vibrancy and supports the "live, work, play" environments that attract young professionals, active adults and empty nesters alike, as well as employers and businesses seeking to accommodate such key employee demographics. (p. 92 – "The objective of the High Street Mixed Use zone is to create a high-quality, dense, walkable, connected, mixed-use development that creates a dynamic space and signature address to attract Class A office tenants along High Street and add vitality and life to the High Street corridor.") The updated housing types attempt to fill the gap in housing choice currently facing Worthington as a community. (See Comprehensive Plan Objective 3 p. 91: "Addressing the needs of current and future residents by providing new housing types/options that are under- represented in the market and complement Worthington's current offerings.")

The variety of housing types in the proposed plan recognizes that central Ohio and local housing needs are evolving. MORPC's Insight 2050 report documents the national and local trend of shrinking demand for larger lot, single-family homes and the increasing demand for smaller detached homes on smaller lots, attached/townhomes and multifamily housing of all types. These transitioning consumer preferences to more and multiple housing options suit changing lifestyles and needs at all tiers of the housing market. Mixed use developments include apartments in many forms and configurations, including mid-to-high rise; condominiums, detached or attached buildings; and townhomes, either rented or owner-occupied. All of these housing options have surged in acceptance, popularity and market momentum to serve owners looking for alternatives to single-family homes in central Ohio's most dynamic submarkets, including Bridge Street in Dublin, downtown Columbus, the Short North, Grandview and Hilliard. (See MORPC, Insight 2050 attached to this application.) In such communities, density equals vibrancy, as employment, housing and entertainment uses and options merge to create energetic, twenty-four hour living environments.

According to MORPC, demographic, family and workforce trends are also driving changes in housing preferences across central Ohio. These trends include the aging of the baby-boom population, the growth of households without children and the number of single-occupant households. All such trends create demand for housing other than traditional single family. This is especially relevant in Worthington based on current lack of housing options, community demographics and the reality that many aging single-family homeowners will seek a different housing choice within the next 5 to 10 years, but typically want such choice in their own community. (see Comprehensive Plan pages 22,23,24 and 58,59,60)

Worthington is one of oldest established communities in central Ohio. The City's median age is 4 years older than the median age of Ohio in general. The number of people over 65 is expected to double over the next several decades as average life expectancy is expected to lengthen. (See MORPC, Columbus Area Transportation Plan, 2016 to 2040, pp 2-3) The growing aging population and the national and local housing trend of large numbers of baby-boomers downsizing from traditional single family homes to alternative housing choices are very important housing market drivers in Worthington. As explained by the Insight 2050 Report, there is considerable need for attached and multi-family housing choices designed for empty nesters, active adults and boomers who want the option of leaving their traditional single-family homes. Many other central Ohio communities are providing such options and accommodating the changing needs of long-time residents. The proposed development provides Worthington residents the ability to downsize in their own community which meets a key Comprehensive Plan objective.

In addition, under normal conditions, business leaders, job location decision-makers and their employees increasingly focus on commute distances and duration when locating and growing businesses. With the competition for scarce numbers of qualified and work-ready talent, top corporate decision-makers now commonly ask local governments, "where can our people live," and "what housing options are available to our employees close to work." Employee commute time, work proximity, housing choices, availability, modern designs accommodating work from home flexibility, and amenities that come with updated housing are more important quality of life components today than ever before.

The Comprehensive Plan documents that as of 2005 (the publication date) 85.2% of Worthington's existing housing stock was traditional single-family housing. (p. 22, 2005 Comprehensive Plan.) At that time, 14+ years ago, the majority of that housing was at least 30 years old, with a significant portion over 50 years old. (ibid.) This high quality housing stock undoubtedly defines and characterizes Worthington as a unique and outstanding place to live. Yet, as the Comprehensive Plan points out, such aging housing lacks modern layouts, room sizes, and amenities, and requires significant maintenance, technology upgrading, work-space reconfiguration and remodeling to hold its value and remain competitive. (ibid.) Importantly, this dominance of aging single-family homes creates a "gap" in the community's market and housing needs which the Comprehensive Plan seeks to address. (id. p. 23) A

greater variety of housing options, close to downtown Worthington's vibrant shops, restaurants, recreation, arts and entertainment amenities, are cited as needed to close this gap and meet the needs of residents and the changing buyer preferences driven by down-sizing baby boomers, young professionals, active adults, singles and seniors aging in place. The Comprehensive Plan states that alternative housing types are needed that include rental, with maintenance services, modern group amenities such as gyms and social spaces, all with proximity to centers of community activity. (ibid.) Work from home spaces and built-in technology systems could be added to this amenities list in terms of must-have market demands. The Comprehensive Plan also recognizes that the economy of scale of higher density is necessary to achieve these goals and close this "housing availability gap." (id. p. 24)

When referencing the illustrative conceptual plans for the subject site the Comprehensive Plans states, "This residential area would consist of cluster residential development and transition to more dense urban village residential development to help address the housing type imbalance of the City." (id. p. 90)

The proposed mixed-use development attempts to meet the market demands, demographic trends and Comprehensive Plan goals cited above. Commercial, office and medical uses create the opportunity for significant employment and an increase in City tax revenues along High Street, in line with City goals. As specified in the Comprehensive Plan, the most density and diversity of uses are placed in the middle of the site, and residential housing types are mixed, with owner-occupied townhomes, rental units, and amenitized apartment buildings. Park, gathering spaces, tree lined streets, alley accesses and other amenities create interest and define different housing areas. (See *Neighborhood Core* pages 93 and 94.) The placement of single-family homes is consistent with Comprehensive Plan recommendations under the *Worthington Estates Edge* transition zone on pages 92 and 93 of the Comprehensive Plan and matches recommended densities for that zone. Consistent with Comprehensive Plan recommendations, this development plan preserves approximately 5.7 acres along Tucker Creek as a designated community open space amenity and proposes a dedication of this unique natural area to the City for preservation. Consistent with the Comprehensive Plan, this dedication provides the opportunity for a public pedestrian connection from High Street and Evening Street via a path system. Other pedestrian connections are key elements under the development plan, via both on-street and off-street sidewalk and path systems. These pedestrian connections continue throughout the site linking to High Street and the adjacent sidewalk system on the adjoining residential lots at Larrimer, Longfellow Avenue and Evening Street, creating both internal connectivity and integration with the greater community, as sought in the Comprehensive Plan.

II. 1174.03 GENERAL PROVISIONS

(d) <u>Overlay District – Chapter 1177 of the Worthington Code, the Architectural Review District applies to this site.</u>

(e) Ownership – The United Methodist Children's Home West Ohio (current) and under contractual agreement with the developer/applicant.

III. 1174.04 ALLOWABLE USES

"The mix of uses allowed in a PUD shall meet changing economic and demographic demands; permit implementation of development standards, plans, studies and guidelines adopted by the City Council; and/or provide the opportunity to retain and enhance the character of the City, and the health, safety and general welfare of the inhabitants."

Consistent with this code language, the text recognizes that PUD standards are designed to be flexible and are proposed by the applicant to allow innovation, meet changing market demands and fill gaps in housing and commercial services. Most modern developments in urban and suburban cores involve mixing of uses to meet market and community demands. Generally, the option of Planned District Zoning and PUDs are added to zoning codes because straight code districts are rigid and do not support changing preferences and conditions over time. The Planned District approach is utilized under this text and for this development because it allows divergences from strict code limitations and encourages flexibility in standards to meet the demands of modern mixed-use development. The strict nature of the base code would discourage such flexibility.

This site will include a mix of single-family homes, townhomes, apartments, medical/office, retail, open spaces and community amenities to serve the growing demographic and economic needs of the community in a manner consistent with the Comprehensive Plan.

Refer to Subarea details for specific allowable uses.

IV. 1174.05 DEVELOPMENT STANDARDS AND DEVELOPMENT STANDARDS TEXT PER SUBAREA

Subarea	Unit Type	Unit Count	Acres
1	Single Family	24	5.9
2	Multi-Family	94 units w/ garages	9.0
3	Multi-Family	72 units	5.1
4	Multi-Family Commercial Medical Office	540 units 60,000 sq. ft. 25,000 sq. ft.	11.4
5	Tucker Creek/Storm Pond	N/A	6.4
Total		730	37.8

A. Subarea 1 – Worthington Estates Edge

Subarea 1 consists of +/-5.9 acres along the western and northern property borders with access to Evening Street and Longfellow Avenue.

1. Allowable uses – The following uses shall be allowed in Subarea 1. Unless a different definition of uses is provided within this Development Text, the definition of uses specified in the Code for the R-6.5 residential district shall apply.

    a. 24 single-family dwelling lots that are at minimum 55 feet wide at the build line with a minimum lot area of 6,875 square feet.

    b. Such single-family dwellings shall include square footages ranging from 1,600 to 2,800 square feet.

    c. The uses appurtenant to single-family homes and those accessory and conditional uses related to R-6.5 single-family dwellings and allowed under Code section 1147.01, including but are not limited to garages, patios, decks, landscape/hardscape improvements, entry features, streets, utilities. However, two-family dwellings shall be prohibited in Subarea 1.

2. Density, Height, Lot and Setback Commitments.

    a. 24 total single-family dwellings on +/-5.9 acres or 4.1 dwellings units per acre.

    b. Single-family dwellings shall be up to 2½ stories, 1½ stories or single-story buildings with principle roof height not to exceed 35 feet at mid-height of the roof slope measured from the finished floor elevation.

    c. Impervious lot areas for buildings and driveways shall not exceed 60% of the total area not including patios, decks, sidewalks, etc.

    d. There shall be a minimum 20-foot building set back from Longfellow Avenue, Evening Street and the proposed public Street A internal to the site.

    e. Rear setbacks shall be 25 feet and side yard setbacks shall be 5 feet Decks and patios are allowed to encroach within the rear setbacks, however, no building foundations shall be allowed in rear setbacks.

    f. Driveways may encroach 2 feet into side yard setbacks.

3. Access, Parking and/or Traffic Related Commitments.

    a. Street access from the public street networks to Subarea 1 shall be provided via public Street A which shall connect to Longfellow Avenue from the north and Evening Street from the south. All access points are subject to review and approval by the City Engineer. The location and design of all public streets are subject to City Engineer approval.

    b. Street A shall have a right of way of 50 feet and a pavement width of 26 feet from face to face of curb.

    c. Each single-family dwelling shall have a minimum two car attached garage. Driveways shall accommodate parking space for at least one off-street parking space.

    d. On street parking shall be permitted on Street A on the side of the street opposite the fire hydrants.

    e. Street A shall include 5-foot sidewalks and a minimum 6-foot tree lawn per side.

    f. Sidewalks or paths shall be installed to connect this subarea with adjacent subareas and uses and are depicted on Sheet 9 – Open Space, Pedestrian Connectivity and Amenities Plan.

4. Architectural Design and Standards

    a. Representative and illustrative examples of the architectural character of the single-family homes in this subarea are depicted in the sample elevations attached to this application.

    b. The architecture of the homes shall be “four-sided” as defined herein, and conform to the following standards set forth as follows:

        i. Blank facades shall not be permitted.

        ii. The same materials and details used on front elevations shall be carried through to and utilized on the other three elevations in a manner that creates continuity and balance.

        iii. All sides of the homes shall display a high level of quality and architectural interest.

        iv. All fronts of homes and those side elevations facing public streets shall be articulated with a minimum of at least three design elements listed below.

        v. All side elevations not facing public streets shall be articulated with at least two design elements listed below.

        vi. The following elements and details shall be considered “design elements” for creating the standards for four-sided architecture:

            1. Doors;

            2. Porches;

            3. Balconies;

            4. A window or grouping of windows at least 6 square feet;

            5. Window mullions;

            6. Bay windows or bay elements;

            7. Chimney;

            8. Masonry water tables;

            9. Masonry covered foundations;

            10. Decorative louvers or shutters of at least 3 square feet;

            11. Dormers (active and inactive); and,

            12. Vertical board and batten or shake style siding elements (provided such elements are compatible with the design, style and character of the home and subject elevation).

    c. The exterior of the buildings shall be restricted to the following approved siding and trim/accent materials in any combination that allows for consistent architectural treatment and aesthetics:

        i. Fiber cement such as HardiPlank ™ or a comparable cement fiber siding and trim products;

        ii. Aluminum or vinyl soffits, vents, eaves and fascia or other hard to reach or maintain elements. For horizontal vinyl elements, .05 mm thickness shall be used;

        iii. Stone, cultured stone or stone veneer;

iv. Brick or thin brick;

v. Wood lap siding or trim, composite lap siding or trim, or cedar shake or composite siding or trim, (painted or stained), vinyl siding or trim with a thickness of .045 mm or greater;

vi. Roof materials: Dimensional architectural shingles, three-tab asphalt shingles, cedar shakes, tile, slate, synthetic slate, and metal as an accent feature on limited portions of roof areas;

vii. Chimneys: Chimneys shall be full masonry or full brick or brick veneer, stone or cultured stone. Exposed metal flues shall be painted to match the roof color. Cantilevered chimneys shall be prohibited;

viii. Gutters (and the materials by which gutters attach to the home) downspouts, soffits, garage entrance doors, secondary house doors, may be of man-made materials such as metal, aluminum, fiberglass and glass; and,

ix. Other materials used as minor accents subject to approval of the City Planning Department.

d. Trim Requirements: Sides and Rear Windows/Doors – 3 ½ inches actual minimum trim required, but not if window is bordered by masonry or includes shutters.

e. Overhangs Rakes and Eaves: Required 8 inches minimum from outside walls. The eaves shall be subject to the side setback requirements.

f. Exterior Colors:

i. Siding colors. Natural earth tones and/or warm neutral colors, including white. High-Chroma colors are not permitted.

ii. Trim colors. Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color. High-Chroma colors are not permitted.

iii. Roof Colors. Shingle colors shall be from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

g. Basements: All homes in Subarea 1 shall have partial or full basements, soil conditions permitting.

h. Garages: All homes shall have a minimum attached two-car garage. Garage door openings shall not exceed 45% of the width of the house façade for a two-car garage or 50% of the width of the house façade for a three-car garage, including the garage. Front loaded garages shall be flush with or not project more than 4 feet in front of the most forward facing architectural element of the homes, including porches. Where side-loaded garages will fit on corner lots or otherwise, side-loading shall be offered as an option subject to customer preferences. Courtyard and auto court configurations shall be permitted for garages and where utilized garage placement is not limited by the maximum 4 foot projection limitation from the front of the home. Garage doors on all front elevations shall be of a premium architectural style to compliment the architecture of the home. Decorative treatments (including a mix of but not limited to the following elements: decorative hinges, raised panels, vertical or horizontal accents, windows, or other architectural features) shall be required on all garage doors.

i. Diversity: The same home design with the same front elevation shall not be constructed on lots that are adjacent to one another. House models with the same footprint may be allowed within the distance and parameters described above provided that such houses incorporate substantial differences in the front elevations such as material changes, configuration of front porch, etc.

j. Roof pitches: Main roofs shall have a minimum pitch of 6/12. Secondary roof pitches shall match the architectural design of the homes.

k. Accessory Structures: No sheds shall be permitted.

l. Above ground swimming pools shall be prohibited. In-ground swimming pools and hot tubs shall be permitted as governed by private deed restrictions and shall meet all code requirements.

m. Any deviations to these standards shall be approved by the Planning Department prior to the approval of a building permit.

5. Landscaping and Screening

a. All landscaping shall meet the provisions of the Zoning Code except where varied herein.

b. Any portion of a lot that is not covered by buildings, drives or parking areas shall be landscaped with lawn as a minimum. Those areas that are designed as landscaped buffers, tree lawns, tree preservation,

entry features, or other landscaped features shall be maintained according to City Code standards.

c. Street trees shall be provided at one tree per 40 linear feet with breaks as necessary for streetscape elements such as driveways, light fixtures, fire hydrants, etc.

d. Tree protection and/or replacement provisions:

   i. The Development Plans indicate the areas in which trees shall be saved and protected.

   ii. The developer/builder shall make reasonable, good faith efforts to preserve existing healthy trees on site during construction.

e. The developer shall make a good faith effort to save all perimeter trees that are in healthy to fair condition, subject to utility services placement.

f. Proposed community entrance feature locations and character images are depicted on the development plans Sheet 10. Design entry features shall be provided with the final development plan.

   g. All fencing must meet City Code provisions. No chain link shall be allowed on any lot.

6. Graphics, Signage and Lighting and Trash Collection:

   a. All graphics and signage for Subarea 1 shall conform to code.

   b. See development plan sheets 8 and 9 for decorative pedestrian lighting specifications and placement.

   c. Trash collection shall be public.

B. Subarea 2 – Neighborhood Core

Subarea 2 consists of +/-9.0 acres internal to the site with private alleys and street access to public Street A and the planned extension of Wesley Boulevard (public Street B).

1. Allowable uses – The following uses shall be allowed in Subarea 2.

   a. Subarea 2 shall include not more than 94 townhome dwellings on

separate fee simple lots with garages provided with access to private alleys. The townhomes shall be offered for sale to owner occupants as single-family attached dwellings.

   b. Such townhome dwellings shall be a minimum of 1,000 square feet.

   c. The uses appurtenant to townhomes and those accessory and conditional uses related as specified under Code section 1147.01 for A-3 uses include but are not limited to garages, patios, decks, landscape/hardscape improvements, entry features, public and private streets and alleys, and utility, and ancillary facilities to residences.

   d. Multiple programmed open and amenities spaces are detailed on Sheet 8 – Community Character and Sheet 9 – Open Space, Pedestrian Connectivity and Amenities Plan. These spaces will include public amenities detailed on Sheet 9, which are to be finalized at the time of final development plan. (Note: Mail facilities are planned as shown on plan sheet 8, but final locations and configurations are subject to approval by the USPO Postmaster.)

2. Density, Height, Lot and Setback Commitments.

   a. 94 total townhomes on +/-9.0 acres or +/-10.4 dwellings units per acre.

   b. Townhome dwellings shall include a mix of two and three-story buildings. The maximum building height shall be measured under the zoning code definition of height and shall be 60 feet for three-story buildings and 35 feet for all other buildings. Patios off dormers and gables are permitted. Finished attic space is permitted.

   c. Lot sizes will range from 16 to 24 feet in width and have a minimum depth of 92 feet.

   d. There shall be a minimum 10-foot building set back from the reserve line of private Streets B, C, D and E and 10 feet from the right-of-way of public street A. Front porches shall not be any closer than within 4 feet of the reserve line of private streets. There shall be a zero setback from Subarea 5. There shall be a minimum 5 feet building setback from the reserve line of the private alley.

   e. Townhomes are zero lot line with no side yard setback between units. The minimum setback between the rear of the townhome and the garage shall be 20 feet where detached garages are utilized. Corner unit shall have a 10 feet side yard setback from the reserve line of the private street.

3. Access, Parking and/or Traffic Related Commitments:

    a. Street access from the public street networks to Subarea 2 shall be provided via multiple access points to public Street “A”. Other access points are depicted on plans from private Streets B, C D, and E and private alleys. All access points are subject to review and approval by the City Engineer.

    b. Private streets shall have a 20-foot drive aisle with an 8-foot wide by 22-foot long parallel parking space on both sides. Private streets shall be located within a 56-foot wide reserve. Private alleys shall have a 16-foot drive within a 20-foot wide reserve.

    c. For the townhome dwellings, a minimum of 1.5 parking spaces per dwelling unit shall be provided. Each townhome dwelling shall include a detached garage. Additional unassigned on-street parking will be available throughout the subarea and overall development for resident and guest parking.

    d. Parallel on street parking shall be allowed on Streets B, C, D and E. No alley parking shall be allowed in Subarea 2. “No parking” signs shall be posted as appropriate in accordance with city standards. Parking details for this Subarea are detailed on plan sheets 6, 7, 13 and 14, with the Site Parking Data Table on Sheet 7. ADA accessible parking and bicycle parking spaces will be provided per City Code at the time of Final Development Plan. On-street parking located within Subarea 2 shall be for the use of all subareas.

    e. Cross access easements to the extent required for this subarea in relation to other subareas are subject to approval by the City Engineer and Law Director.

    f. Pedestrian connections shall be installed to connect this subarea with adjacent subareas and uses. Such paths and/or sidewalks are depicted on development plans and delineated with landscaping and hardscape materials. (see Sheet 9)

4. Architectural Design and Standards

    Representative and illustrative examples of the architectural character of the townhomes in this subarea are depicted in the sample elevations attached to this application. Buildings in this subarea shall meet the following design requirements and shall be generally consistent with the architectural exhibits included with this application.

    a. Color Palette: A mixed palette on a single building shall be carefully selected so all colors are harmonious with each other. High chroma colors are not permitted.

    b. Exterior Colors:

        i. Siding colors. Natural earth tones and/or warm neutral colors, including white.

        ii. Trim Colors: Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color.

        iii. Shingle colors shall be from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

    c. Approved Materials:

        i. Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, field stone, stucco stone, vinyl siding or trim with a thickness of .045 mm or greater, wood and cementitious or HardiPlank™ siding and trim, in any combination that allows for consistent architectural treatment and aesthetics. All building elevations shall be designed with similar building materials and lighting.

        ii. Aluminum or vinyl soffits, vents, eaves and fascia or other hard to reach or maintain elements. For horizontal vinyl elements, .05 mm thickness shall be used;

        iii. Roof materials: Dimensional architectural shingles, three-tab shingles, cedar shakes, tile, slate, synthetic slate, fiberglass shingles, asphaltic shingles or standing seam metal roofs may be used.

        iv. Roof:

            1. Pitched roofs with gabled or hipped ends are required with a slope equal to 5:12 or greater.

            2. Roof on secondary architectural features, such as bay windows, porches, stoops, etc., may have a roof pitch of 3:12 or greater.

            3. Minimum 8-inch overhangs are required.

        v. Wall Articulation/Fenestration.

1. In addition to using building elements to articulate the building mass, individual walls must be articulated with fenestration, pattern, or structural expression equally on all sides of each structure.

2. The amount of fenestration shall be balanced with the amount of solid façade.

3. Four-sided architecture is required. Buildings shall have a consistent finish on all four sides. Fenestration shall be proportional with building size and massing.

4. Garages facing and abutting auto courtyards and alley ways shall have complimentary aesthetics and building materials as the primary structure, but no ornamental architecture is required.

5. Landscaping, Screening and Open Space:

   a. All landscaping shall meet the provisions of the Zoning Code except where varied herein.

   b. Any portion of a lot that is not covered by buildings, drives or parking areas shall be landscaped with lawn as a minimum. Those areas that are designed as landscaped buffers, tree lawns, tree preservation, entry features, public or private green spaces or other landscaped features shall be maintained according to City Code standards.

   c. See street tree and landscaping package for on-lot commitments. (See sheet 9 Open Space, Pedestrian Connectivity and Amenities Plan.)

   d. The required Tree Survey is included with this application. Tree protection and/or replacement provisions:

      i. The Preliminary Development Plans indicate the areas in which trees shall be saved and protected.

      ii. The developer/builder shall make reasonable, good faith efforts to preserve existing healthy trees on site during construction.

   e. Public and private open and green spaces located in Subarea 2 and characterizing the community are identified with their acreages and uses specified on Sheets 8, 9 and 12. Public space amenities allocated to this Subarea 2 and public space amenity calculations are identified on these exhibit sheets. Generally, an +/-1.3 acre open recreation space, separate dog park, various seating areas, visual connective spaces and connective paths define this subarea. Open space areas may be utilized for stormwater management.

   f. The use of landscape elements such as arbors, benches, fountains, plazas, patios, planters and similar elements will be utilized to enhance the pedestrian scale and nature of the overall development and be created toward required public space amenities. These elements will be used to reinforce pedestrian walkways and compliment the character of the architecture. Such elements will be fully detailed at the final development plan stage.

   g. Proposed community entrance feature locations and character images are depicted on the development plans Sheet 10. Design of entry features shall be provided with the final development plan.

   h. All fencing must meet City Code provisions. No chain link shall be allowed on any lot.

6. Graphics, Signage, Lighting and Trash Collection:

   a. All graphics and signage for Subarea 2 shall conform to code unless otherwise approved. A comprehensive sign package shall be submitted separately for review and approval by the Planning and Zoning Commission prior to the issuance of any permit for permanent signage.

   b. See development plan Sheets 8 and 9 for decorative pedestrian light placement.

   c. Trash pickup for this subarea shall be privately contracted with a trash valet. The compactor site identified in Subarea 3 shall serve as a central trash compacting station with private hauling from that location.

C. Subarea 3 – Neighborhood Core

Subarea 3 consists of +/-5.1 acres internal to the site with private alleys and street access through Subarea 2 to public Street A and the planned extension of Wesley Boulevard (Private Street B).

1. Allowable uses – The following uses shall be allowed in Subarea 3.

   a. Subarea 3 shall include not more than 72 multi-family dwelling units in several building configurations and offered for rent.

i. Such multi-family dwelling units shall have a livable area ranging in square footage from 700 square feet and up to 1,300 square feet.

ii. Anticipated dwelling unit mix:
- One bedroom 30% @ +/-700 average sf
- Two bedrooms 60% @ +/-1,100 average sf
- Three bedrooms 10% @ +/-1,300 average sf

b. The uses appurtenant to multi-family dwellings and those accessory and conditional uses related as specified under Code section 1147.01 for AR-3 uses and including but not limited to surface parking lots, detached garages, landscape/hardscape improvements, entry features, facilities, public and private streets and alleys, trash compactor, and utility and services facilities ancillary to residences.

c. A minimum of 50% of all units shall have garages or garage access. Detached or attached garages are permitted.

d. Multiple programmed open space and amenities totaling approximately 0.6 acres are detailed on development plan exhibits and may include but not be limited to outdoor recreation, central mailbox units and waste refuse area.

2. Density, Height, Lot and Setback Commitments:

a. 72 total multi-family units on +/-5.1 acres or 14.1 dwellings units per acre.

b. Multi-family dwellings may include a mix of townhomes and/or stacked flat units or other configurations. The maximum building height shall be measured under the zoning code definition of height and shall be up to 60 feet.

c. There shall be a minimum 10-foot building set back from private Street C and 10-foot setback from alleys. There shall be a 15-foot pavement and building setback from the east property line.

d. Units shall share walls and separations between buildings where shown shall be not less than 16 feet.

e. There shall be a zero setback for building and pavement from Subarea 5.

3. Access, Parking and/or Traffic Related Commitments:

a. Street access from the public street networks to Subarea 3 shall be provided via multiple access points to private Street “C” from alleys and parking lots. All access points are subject to review and approval by the City Engineer.

b. For the multi-family dwellings in this subarea, a minimum of 1.5 parking spaces per dwelling unit shall be provided. Private streets shall have a 20’ drive aisle with an 8-foot wide by 22-foot long parallel parking space on both sides. Private streets shall be located within a 56-foot wide reserve. Private alleys shall have a 16-foot drive within a 20-foot wide reserve. For surface parking lots, parking spaces shall be 9 feet x 19 feet with 22-foot drive aisles.

c. Parallel parking shall be allowed on Street C adjacent to apartments in Subarea 3. “No parking” signs shall be posted as appropriate in accordance with city standards. Parking details for this Subarea are detailed on plan Sheets 6, 7, 13 and 14, with the Site Parking Data Table on Sheet 7. ADA accessible parking and bicycle parking spaces will be provided per City Code at the time of Final Development Plan. On-street parking located within Subarea 2 shall be for the use of all subareas.

d. Cross access easements to the extent required for this subarea in relation to other subareas are subject to approval by the City Law Director.

e. Pedestrian connections shall be installed to connect this subarea with adjacent subareas and uses. Such paths and/or sidewalks are depicted on development plans and delineated with landscaping and hardscape materials. (see Sheet 9).

4. Architectural Design and Standards:

Representative and illustrative examples of the architectural character of the townhome buildings in this subarea are depicted in the sample elevations attached to this application. Buildings in this subarea shall meet the following design requirements and shall be generally consistent with the architectural exhibits included with this application.

a. Color Palette: A mixed palette on a single building shall be carefully selected so all colors are harmonious with each other. High chroma colors are not permitted.

b. Exterior Colors:

i. Siding colors. Natural earth tones and/or warm neutral colors, including white.

ii. Trim Colors: Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color.

iii. Shingle colors shall be from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

c. Approved Materials:

i. Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, field stone, stucco stone, vinyl siding or trim with a thickness of .045 mm or greater, wood and cementitious or HardiPlank™ siding and trim, in any combination that allows for consistent architectural treatment and aesthetics. All building elevations shall be designed with similar building materials and lighting.

ii. Aluminum or vinyl soffits, vents, eaves and fascia or other hard to reach or maintain elements. For horizontal vinyl elements, .05 mm thickness shall be used;

iii. Roof materials: Dimensional architectural shingles, three-tab shingles, cedar shakes, tile, slate, synthetic slate, fiberglass shingles, asphaltic shingles or standing seam metal roofs may be used.

iv. Roof:

1. Pitched roofs with gabled or hipped ends are required with a slope equal to 5:12 or greater.

2. Roof on secondary architectural features, such as bay windows, porches, stoops, etc., may have a roof pitch of 3:12 or greater.

3. Minimum 8-inch overhangs are required.

v. Wall Articulation/Fenestration:

1. In addition to using building elements to articulate the building mass, individual walls must be articulated with fenestration, pattern, or structural expression equally on all sides of each structure.

2. The amount of fenestration shall be balanced with the amount of solid façade.

3. Buildings shall have a consistent finish on all sides facing public or private streets or drives. Rear facing side and/or those facing motor courtyards or alleyways shall have complimentary aesthetics as the primary faces of the buildings, but no ornamental architecture is required. Fenestration shall be proportional with building size and massing.

5. Landscaping, Screening and Open Space:

a. All landscaping shall meet the provisions of the Zoning Code except where varied herein.

b. Any portion of a lot that is not covered by buildings, drives or parking areas shall be landscaped with lawn as a minimum. Those areas that are designed as landscaped buffers, tree lawns, tree preservation, entry features, public or private green spaces or other landscaped features shall be maintained according to City Code standards.

c. Street trees shall be provided at one tree per 40 linear feet with breaks as necessary for streetscape elements such as driveways, light fixtures, fire hydrants, etc.

d. The required Tree Survey is included with this application.

i. The Development Plans indicate the areas in which trees shall be saved and protected.

ii. The developer/builder shall make reasonable, good faith efforts to preserve existing healthy trees on site during construction.

e. A landscaping buffer consisting of a minimum of 8 evergreen trees, 6 feet in height at installation shall be planted between this subarea and the neighboring institutional facility to the east with a detailed landscape plan provided at the time of Final Development Plan. Surface parking lot screening and landscaping shall meet City Code requirements, including parking lot islands. Visual open space corners and green space connections are depicted on plan Sheet 9. All open spaces are to be planted with turf grass unless otherwise indicated.

f. Public and private open and green spaces located in Subarea 3 that characterize the aesthetics of the community are identified with their acreages and uses specified on Sheets 9 and 12. Public space amenities allocated to this Subarea 3 and public space amenity

calculations are identified on exhibit sheets. Generally, a 0.6 acre open recreation field, seating areas, a dog park, and other small and connecting green spaces are identified on Sheets 9 and 12 and characterize this subarea.

g. Pedestrian walkways frame and connect this subarea and delineate it from the Tucker Creek subarea as depicted on plan Sheet 9. The use of landscape elements such as arbors, benches, fountains, plazas, patios, planters and similar elements may be utilized to enhance the pedestrian scale and nature of the overall development. These elements will be used to reinforce pedestrian walkways and compliment the character of the architecture. Such elements will be fully detailed at the final development plan stage.

h. All fencing must meet City Code provisions. No chain link shall be allowed on any lot.

6. Graphics, Signage, Lighting and Trash Collection:

a. All graphics and signage for Subarea 3 shall conform to code unless otherwise approved. A comprehensive sign package shall be submitted separately for review and approval by the Planning and Zoning Commission prior to the issuance of any permit for permanent signage.

b. See development plan exhibits: Photometric Plan and sheet 9 for decorative pedestrian light placement.

c. Neighborhood identification features are depicted on plan Sheet 10.

d. Trash pick-up for this subarea shall be privately contracted with a trash valet. The compactor site identified in Subarea 3 shall serve as a central trash compacting station for Subareas 2 and 3 and potentially a portion of Subarea 4 with private hauling from that location.

D. Subarea 4 – High Street Mixed Use

Subarea 4 consists of +/-540 multi-family apartments, 60,000 square feet of commercial space and 25,000 square feet of medical office space on 11.4 acres. Subarea 4 fronts on North High Street, and borders Subarea 2 on the west, Larrimer Avenue and Longfellow Avenue on the north and United Methodist Church parking lots and facilities on the south.

1. Allowable uses – The following uses shall be allowed in Subarea 4.

a. Subarea 4 shall include not more than 540 multi-family apartments in several building configurations and offered for rent.

i. Such multi-family apartments dwelling units shall range in livable square footage from +/-500 square feet to +/-1,300 square feet.

ii. Anticipated dwelling unit mix:

- One bedroom 30% @ +/-500 average sf
- Two bedrooms 60% @ +/-1,000 average sf
- Three bedrooms 10% @ +/-1,300 average sf

b. Commercial office/retail spaces of up to 60,000 square feet and divided into various buildings. Commercial uses shall include all those defined and allowed under the Zoning Code unless prohibited hereunder and may include but shall not be limited to:

i. Retail;

ii. Administrative, business, medical or professional services;

iii. Personal and professional services;

iv. Pharmacy with or without drive-up service;

v. Bank or financial services with or without drive-up service;

vi. Eating or drinking establishments with or without drive-through provided that menu signs are screened from view from the North High Street right of way;

vii. Medical offices; and,

viii. Hotel/conference center.

c. Medical Office: One medical office building of up to 25,000 square feet to include uses such as but not limited to medical, health, wellness, fitness, urgent care, emergency medicine, laboratory, surgical, preventative care and medicine, in-patient or out-patient services, and pharmacy service uses.

d. The uses appurtenant to multi-family apartments, commercial and office uses and those accessory and conditional uses related as specified under Code Section 1147.01 for A-3 uses and C-1, C-2 and C-3 uses

and including but not limited to surface parking lots, up to 5 level parking facilities, outdoor court games and/or lawn games, in ground swimming pool, restaurant, bar, community meeting rooms, fitness and/or wellness facilities, other community open spaces, walking paths, outdoor seating, dog park, landscape/hardscape improvements, entry features and signage, public and private streets and alleys, and utility facilities. Restaurant, retail or personal services uses shall be permitted within multi-family buildings.

e. Multiple programmed open and amenities spaces amounting to 1.3 acres are detailed on Sheet 9 of the development plan, along with outdoor recreation, mail structures and pre-compaction trash processing/holding dumpster areas.

f. The following uses shall be prohibited from this Subarea 4:

Blood and organ bank, crematory, funeral home and service, warehouse club, super center, automotive accessories, parts and tire stores, automobile and light truck dealers, automobile sales, leasing and rental, building materials and supply dealers, check cashing and loans, community food pantry, discount department stores, home centers mission/temporary shelters, motorcycle, boat and other motor vehicle dealer, motor vehicle accessories and parts dealers, outdoor power equipment stores, pawn brokers, recreational vehicle dealers, truck, utility trailer and RV (recreational vehicle) sales/rental/leasing/vending machine operators, automotive maintenance and repair, bowling centers, drive-in motion picture theatres, farm equipment and supply stores, animal shelter, amusement arcades, half-way house, tobacconist, telephone call centers, coin operated laundries.

2. Density, Height, Lot and Setback Commitments:

Multi-Family Apartments:

a. 540 total apartments on +/-11.4 acres.

b. Multi-family apartments buildings and garages may include a mix of building heights of up to five stories. The maximum building height for apartments and garages shall be 80 feet, as measured under the zoning code definition of height.

c. Setbacks. There shall be a minimum 25 foot building setback for habitable buildings from North High Street, a 25 foot building and pavement setback from Longfellow Avenue, a 20 foot building and pavement setback from

Larrimer Street, and 10+/- foot building setbacks from private streets and a 10 foot building and pavement setback from the south property line.

d. Interior or rear setbacks are varied backing to surface parking lots as shown on plans. Units shall share walls.

Commercial

a. 60,000 square feet commercial/retail space.

b. Commercial square footage may be allocated throughout the buildings in Subarea 4. The maximum building height shall be 80 under the zoning code definition of height.

c. Setbacks. There shall be a minimum 25 foot building set back from North High Street, a 20 foot setback from Larrimer Street, and 10 foot setbacks from Streets B, E and F, and alleys.

Medical Office

a. 25,000 square feet medical office.

b. The maximum building height shall be 65 feet for medical office buildings under the zoning code definition of height.

c. Setbacks. There shall be a minimum 25-foot building set back from North High Street, and a 10-foot setback from Street E and the southern property line.

3. Access, Parking and/or Traffic Related Commitments:

a. The subarea is to be served by an extension of Wesley Boulevard to Longfellow Avenue, access from North High Street from Street E, and Street F which connects to Larrimer Avenue. Street access from the public street networks to Subarea 4 shall be provided via multiple access points to North High Street and Larrimer Avenue. All access points are subject to review and approval by the City Engineer.

b. Private streets shall have a 20-foot drive aisle with an 8-foot wide by 22 foot-long parallel parking space on both sides. Private streets shall be located within a 56-foot wide reserve. Private alleys shall have a 16-foot drive within a 20-foot wide reserve. For surface parking lots, parking spaces shall be 9 feet x 19 inches feet with 22-foot drive aisles.

c. Parking in this subarea is identified on the chart on Plan Sheets 6 and 7 with spaces allocated based on uses per the Site Parking Data Table on

Sheet 6. ADA accessible parking and bicycle parking spaces will be provided per City Code at the time of Final Development Plan.

d. Parallel parking shall be allowed on Streets E and F. No alley or drive aisle parking shall be allowed. “No parking” signs shall be posted as appropriate in accordance with city standards.

e. Cross access easements to the extent required for this subarea in relation to other subareas are subject to approval by the City Law Director.

f. Pedestrian connections shall be installed to connect this subarea with adjacent subareas and uses. Such paths and/or sidewalks are depicted on development plans and delineated with landscaping and hardscape materials. (see Sheets 8 and 9)

4. Architectural Design and Standards

Representative and illustrative examples of the architectural character of the buildings in this subarea are depicted in the sample elevations attached to this application. Buildings in this subarea shall meet the following design requirements and shall be generally consistent with the architectural exhibits included with this application.

a. Color Palette: The color palette shall be carefully selected so all colors are harmonious with each other. High chroma colors are not permitted.

b. Exterior Colors:

i. Siding colors. Natural earth tones and/or warm neutral colors, including white.

ii. Trim Colors: Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color.

iii. Shingle colors shall be from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

c. Approved Materials:

i. Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, field stone, stucco stone, wood and cementitious or HardiPlank™ and .045 mm thickness or greater vinyl siding or trim. Front elevations of buildings in this subarea shall include natural materials with the allowance for the use of vinyl siding and trim accents with a thickness of .045 mm or greater. On other elevations vinyl siding and trim accents with a

thickness of .045 or greater in any combination with other materials may utilized that allows for consistent architectural treatment and aesthetic on all four building sides. All building elevations shall be designed with consistent lighting treatments.

ii. Aluminum or vinyl soffits, vents, eaves and fascia or other hard to reach or maintain elements. For horizontal vinyl elements, .05 mm thickness shall be used;

iii. Roof materials: Dimensional architectural shingles, three-tab shingles, cedar shakes, tile, slate, synthetic slate, fiberglass shingles, asphaltic shingles or standing seam metal roofs may be used.

iv. Roof:

1. Pitched roofs with a slope equal to 5:12 or greater are required for main roofs. Roofs on secondary architectural features such as bay windows, porches, stoops, etc. may have a roof pitch 3:12 or greater.

2. Minimum 8-inch overhangs are required for pitched roofs.

3. With the use of flat commercial roof, parapets shall be required in order to screen rooftop mechanical equipment.

v. Wall Articulation/Fenestration:

1. In addition to using building elements to articulate the building mass, individual walls must be articulated with fenestration, pattern, or structural expression equally on all sides of each apartment building structure. Garages shall meet pattern or structural expression requirements.

2. The amount of fenestration shall be balanced with the amount of solid façade for apartment buildings.

3. Four-sided architecture is required for apartments. Apartment buildings shall have a consistent finish on all four sides. Fenestration shall be proportional with building size and massing for apartment buildings.

5. Landscaping, Screening and Open Space

a. All landscaping shall meet the provisions of the Zoning Code except where varied herein.

b. Any portion of a lot that is not covered by buildings, drives or parking areas shall be landscaped with lawn as a minimum. Those areas that are designed as landscaped buffers, tree lawns, tree preservation, entry features, public or private green spaces or other landscaped features shall be maintained according to City Code standards.

c. The required Tree Survey is included with this application.

    i. The Development Plans indicate the areas in which trees shall be saved and protected.

    ii. The developer/builder shall make reasonable, good faith efforts to preserve existing healthy trees on site during construction.

d. Surface parking lot screening and landscaping shall meet City Code requirements, including parking lot islands. Visual open space corners and green space connections are depicted on plan Sheet 9. All open spaces are to be planted with turf grass unless otherwise indicated.

e. Public and private open and green spaces located in subarea 4 and characterizing the community are identified with their acreages and uses specified on Sheets 8, 9 and 12. Public space amenities allocated to this Subarea 4 and public space amenity calculations are identified on Sheet 9. Generally, a 0.3 acre open recreation field, seating areas, 0.7 acre active recreation space, and a 0.2 acre central green between apartment building elements are planned and characterize this subarea.

f. Pedestrian walkways frame and connect this subarea as depicted on plan Sheet 9. The use of landscape and streetscape elements such as benches, plazas, patios, planters and similar elements will be utilized to enhance the pedestrian scale and nature of the overall development. These elements will be used to reinforce pedestrian walkways and compliment the character of the architecture. Such elements will be fully detailed at the final development plan stage.

g. All fencing must meet City Code provisions. No chain link shall be allowed on any lot.

6. Graphics, Signage, Lighting and Trash Collection:

    a. All graphics and signage for Subarea 4 shall conform to code unless otherwise approved. A comprehensive sign package shall be submitted separately for review and approval by the Planning and Zoning Commission prior to the issuance of any permit for permanent signage.

    b. See development plan Sheets 8 and 9 for decorative pedestrian lighting.

    c. Community identification features are depicted on plan Sheets 9 and 12.

    d. Trash pick-up for this subarea shall be privately contracted with a trash valet for residential. Separate trash service in the case of commercial or medical uses shall be required.

E. Subarea 5 – Tucker Creek Preserve

Subarea 5, the Tucker Creek Preserve, includes a storm water management basin, as well as +/-6.4 acres of trees, foliage, the existing water course and stream bank commonly known as Tucker Creek, +/- 5.7 acres of which are to be set aside and preserved as a natural area and with a permanent conservation easement, and/or conveyed to the city for public ownership and use with approved credits. (Note: The portion of Subarea 5 that is to include a stormwater basin is not proposed to be conveyed for public ownership.) No ongoing development activities may take place within this Subarea 5, with the exception of initial construction activities, path access and utility crossings and maintenance, as well as work related to the installation of the stormwater basin and related facilities shown on plan exhibits to serve and be maintained by the homeowners' associations, as approved and permitted by the City with appropriate easements and other appropriate regulatory agencies. Any initial construction or development activities and utility crossings shall involve returning such impacted areas to a natural state as much as possible with oversight by the City Engineer. As an alternative to the proposed conveyance to the city, this Subarea 5 acreage may be considered for conveyance to a public park system operator or other conservation organization with credits against fees pursuant to section 1174.04 (c)(2)(A) and (B) and (3)(B) and (C).

V. 1174.05 OTHER DEVELOPMENT STANDARDS

1. Design Regulations – See design standards within individual subareas of text and attached plan sheet details.

2. Traffic Commitments – To be determined and finalized at the time of Final Development Plan and based on the required Traffic Impact Study and discussions/approval of the City Engineering Department. At the time of the Preliminary Development Plan filing, Traffic Impact Study findings include the following recommendations and/or changes to traffic regulation:

    a. Install a new traffic signal at the High Street/East access when warranted, with the contribution from this development being based on the proportionate share of traffic flow to the intersection. This signalized access should be located approximately midway between

existing signals at High Street/Worthington Galena Road and High Street/Larrimer Avenue.

b. Operate the High Street/East Access signal semi-actuated with fire preemption and remove the exiting fire signal currently in place to control southbound traffic.

c. Revise pavement marking on High Street to provide a 100 foot long northbound left turn lane at East Access point.

d. Revise pavement marking at High Street/Worthington Galena Road intersection to extend the length of existing northbound and southbound left turn lanes to 200 feet each.

e. Modify signs, pavement marking and signal operation to permit full movements eastbound and westbound (left turn lane, right turn and through) at High Street/Worthington Galena Road intersection.

3. Parking Summary – See Plan Sheet 7 and Site Parking Data Table.

VI. 1705 GENERAL REQUIREMENTS:

1. Tree Preservation and Replacement

City of Worthington, Ohio, Codified Ordinance Section 1174.05(c)(2)(B) *Development Standards- General Requirements: Natural Features,* requires all healthy trees 6" caliper or larger be retained or replaced with a total tree trunk equal in diameter to the removed tree.

The applicant has prepared a tree survey of all trees (deciduous and evergreen) 6 inches caliper or larger, with species and condition noted. Trees were measured per industry standards - diameter at breast height. Based on the applicant's site plan, the Tree Survey Table provides a tabulation of anticipated trees to be removed and a tabulation of all unhealthy trees (unhealthy, poor or dead condition). Total tree caliper to be removed is 6,264 inches, less unhealthy, dead and poor species of 1,069 inches yields 5,195 inches of replacement required. Tree removal is a total of 365 trees: 29 dead, 28 poor condition, 2 ash trees and 306 additional trees to be removed. The applicant intends to provide as many replacement trees on site as practical and per acceptable industry standards and as allowed to facilitate healthy growth.

On the Open Space, Pedestrian Connectivity and Amenities Plan, approximately 5.7 acres of treed area along Tucker Creek will be maintained as a "Natural Features Preservation" area per code and conveyed to the city.

Tree Replacement:

Tree replacement shall be provided by the following means with additional options for tree replacement provided with a detailed landscape plan at Final Development Plan, as necessary:

- Street Trees: Street trees will be provided on all private or public streets at a ratio of 1 tree per 40 linear feet of street. Trees may be equally spaced or grouped. All street trees shall be a minimum 3" caliper at installation. (Approximately 284 trees at 3 inches = 852 inches)

- Alley/Parking Lot Island Trees: A minimum of 30 alley/parking lot trees shall be planted with a minimum of 2.5 inches caliper at installation. (30 trees at 2.5 inches = 75 inches)

- Open Space Tree Plantings: A minimum of 80 trees shall be planted in open space areas. (80 trees at 2.5 inches = 200 inches)

- Buffer Plantings: A minimum of 10 trees (proposed combination of ornamental trees and shade trees) shall be provided between the storm water pond along Evening Street and apartment units in Subarea 2 (10 trees at 2.5 inches = 25 inches). A minimum of 8 evergreen trees shall be provided between the east property line of Subarea 3 and the Assisted Living/Nursing Home use (8 trees (6 foot ht.) at 3 inches = 24 inches.)

- Other Locations: Other on-site or off-site locations acceptable to the City's Service and Engineering Department, with such placement credited against applicable fee in lieu payments. The applicant shall work in good faith with city departmental staff to find off-site tree replacement locations as follows: Replacement trees can be located in off-site roadways, such as parkway trees or median plantings, at locations acceptable to the City's Service and Engineering Department. Replacement trees can be located in off-site parklands in locations acceptable to the City's Parks and Recreation Department. Replacement trees can be located in other off-site public property locations in acceptable locations as determined by the appropriate city departments. Areas in close proximity to the LC-Worthington/UMCH site and to locations with the most visibility to Worthington residents shall be given the highest priority for consideration for tree replacement by city departments under this plan.

Tree replacement required under this planned district text is as follows, after applied credits asdetailed above:

Caliper Inches of Tree Replacement Required:	5,195 inches
Less Caliper Inches of Replacement Trees (detailed above)	1,176 inches
Balance of Caliper Inches of Tree Replacement Required	4,019 inches

The “Balance of Caliper Inches of Tree Replacement Required” which is 4,019 inches based on the number credited after application of the first four bullets above is counted on a basis of $150 per caliper inch ($554,400) and such amount shall be credited against the dedication of Tucker Creek Preserve acreage to be considered by City Council as a proposed substitution and waiver of the code based tree replacement fee in lieu standard that would be otherwise applicable to this site.(See rationale for crediting below.) It should be noted that at this point, the target credit number is only an estimate, and the need for crediting would be adjusted if the applicant and city agree to off-site locations for replacement trees as outlined above.

Tree Replacement Standards:

Tree replacement shall meet the following standards:

- Street Trees shall be a minimum of 3 inch caliper at installation.
- Deciduous Shade Trees shall be a minimum of 2.5 inch caliper at installation.
- Ornamental Trees shall be a minimum of 1.5 inch caliper at install for single stem or 6 foot height at install for multi-stem. Multi-stem tree caliper inches shall be credited for the aggregate total of all trunks.
- Evergreen Trees shall be 6-foot height at installation.
    - A 6-foot tall evergreen tree shall count for 3 caliper inches.
    - For every foot in height greater than 6 feet in height, an additional 2 caliper inches shall be added. (e.g. A 7-foot tall evergreen = 5 caliper inches, e.g. A 8-foot tall evergreen = 7 caliper inches)
- The dedication of Tucker Creek Preserve may be counted toward the fee in lieu for tree replacements. See Public Area Payments Section.
- Fee-in-lieu for Tree Replacement and/or the number of trees replaced off-site shall be based on a $150 per caliper inch standard as proposed for substitution and waiver approval by City Council for this site only.

Rationale: The unique location of trees on this site makes it impossible to replace all code required caliper inches on site in a healthy manner and for optimal tree growth and survival. Full on-site replacement is not feasible and would result in crowding on the site. The code standard provision for fee in lieu of replacement as written would operate as an unreasonable burden on the property if the fee in lieu is paid, and, in any case, whether such fee is paid or replacement of such caliper inches occurs off-site, there is no nexus to benefit the property. This raises fairness and legal questions under Ohio impact fee law. Therefore, the

applicant proposes a fee in lieu and/or a more reasonable off-site replacement value standard of $150 per caliper inch, combined with a crediting against the value of both trees preserved within Tucker Creek Preserve and the Tucker Creek land conveyance to the city as a substitution and waiver of section 1174.05 (c)(2)(B). The applicant is committed to a reasonable and balanced tree replacement standard that includes on-site replacement, off-site replacement, and crediting in order to meet the spirit and intent of the code, while resulting in fairness. The applicant will work in good faith with city departments to find other off-site replacement locations on public lands, which would reduce the amount of crediting taken against the proposed Tucker Creek Preserve conveyance. However, based on the number of trees to be preserved, the number of trees preserved within Tucker Creek Preserve and the value of Tucker Creek Preserve as a public donation, crediting to off-set fees is reasonable and appropriate.

2. Public Area Payments

City of Worthington, Ohio, Codified Ordinance Section 1174.05(c)(3) *Public Area Payments* requires the following:

- The developer of commercial or industrial space created as part of a PUD to make a cash payment to the City in the amount of one hundred dollars ($100.00) per 1000 gross square feet of new or expanded commercial or industrial space for deposit in the Special Parks Fund.
- The developer of Dwelling Units created as part of a PUD shall make a cash payment to the City in the amount of two hundred fifty dollars ($250.00) per each new Dwelling Unit created for deposit in the Special Parks Fund.

The proposed plan provides the following uses:

- Commercial: 85,000 sf (85,000/1000 = 85 x $100 = $8,500)
- Residential: 24 Single Family Lots, 706 Multi-Family Units (730 x $250 = $182,500)

  Total Required Public Area Payment: $191,000

Public Area Payment:

- The developer shall receive a credit for the Public Area Payment required through the dedication of +/-5.7 acres to the City of Worthington for of the preservation of Tucker Creek per code section 1174.05(c)(3)(A) and upon such determination by City Council, such credit shall be calculated as follows:
    - Property Value per Franklin County Auditor: $6,263,000 (As of 9/14/20)

- Price per Acre: $165,688 ($6,263,000/37.8 acres)
- Credit for Tucker Creek Preservation area: $944,422 (5.7 x $165,688)

- The credit balance to the developer from the Tucker Creek Preservation and Dedication after the Public Area Payment is $753,422 ($944,422 - $191,000)

- This credit may be utilized toward tree replacement fees or other fees or assessments as approved by Council.

Rationale: The Comprehensive Plan states that this site is to be considered as a whole, not in individual components or sections. The applicant believes, based upon the reasons articulated in the Comprehensive Plan that the value of the Tucker Creek proposed preserve as conservation area to be dedicated to public use is well beyond the code calculated public area payments. In addition, the development provides many recreation and passive outdoor gathering opportunities for its own residents and will maintain such amenities, taking a significant burden off the existing city park system.

3. Public Space Amenities

City of Worthington, Ohio, Codified Ordinance Section 1175.05 (c) (3) Public Space Amenities requires a minimum of one Public Space Amenity as approved by the Municipal Planning Commission for every five-thousand (5000) square feet of gross floor area of multiple family dwelling, commercial or industrial space that is new in the PUD.

The anticipated Public Amenity Space calculations for this proposal are:

PUBLIC SPACE AMENITY CALCULATION

BUILDNG TYPE	UNITS (Approximate)	GROSS FLOOR AREA PER UNIT MIN. (SF) (Approx)	GROSS FLOOR AREA PER TYPE MIN. (SF)
Townhomes- Subarea 2	94	1000	94,000
Apartments - Subarea 3	72		
Anticipated Mix			
1 Bed (30%)	22	700	15,400
2 Bed (60%)	43	1100	47,300
3 Bed (10%)	7	1300	9,100
Apartments- Subarea 4	540		
Anticipated Mix			
1 Bed (30%)	162	500	81,000
2 Bed (60%)	324	1000	324,000
3 Bed (10%)	54	1300	70,200
Commercial			
Commercial	1	60000	60,000
Medical Office	1	25000	25,000
Total			**726,000**
1 Public Space Amenity per 5,000 SF Gross Floor Area of Multi-Family			5,000
Total Public Space Amenities Required			**145**

The applicant proposes the following public space amenities and provides the following calculations for open space and public amenities per code requirements on exhibit sheet 9 for the PUD. The list is not intended to be all inclusive. Modifications to the amenity and additional amenities may be added at time of Final Development Plan. Each amenity listed will be credited as one public amenity space based on the descriptions in the exhibit sheet. The Open Space, Pedestrian Connectivity and Amenities Plan sheet 9 provides a Summary Chart and identification of the proposed Public Space Amenities. See exhibit sheet 9.

VII. 1174.06 Other Preliminary Plan Requirements

1174.06 (11) Provision of water, sanitary sewer, surface drainage, and utility facilities, etc. –The development will be serviced by the existing available City of Worthington water/sewer lines and connections thereto. See exhibit plan Sheets 19, 20, 21, and 22 for storm water facilities, sanitary sewer plans and water main lines respectively.

The following is a summary of the proposed utilities:

Sanitary Sewer

Sanitary sewer service will be provided by the City of Worthington. There is an existing 12” sanitary sewer (C-1276) located along the south property line. An existing 10” sanitary sewer line (City of Worthington) extends north into the site from the 12” sewer. The existing 10” & 12” sewer lines are of sufficient size and capacity to handle the anticipated wastewater volumes of the proposed development (24 single family homes, 706 units, 60,000 SF of commercial, and 25,000 SF of medical office). The proposed sanitary sewer services are designed to City of Columbus and Ohio EPA standards.

Water

Water service will be provided by the City of Worthington. The proposed taps are into the existing 12” water line (WO0066_003) located along N. High Street along the East side of the site, the existing 12” water line (WO0148_002) located along Wesley Blvd along the southeast side of the site, the existing 6” water line (WO0024_002) located along Longfellow Ave along the north side of the site, and the existing 6” water line (WO0016_003) located along Evening St along the southwest side of the site. Public water lines will be installed to connect the existing water lines from Wesley Blvd to Longfellow Ave and Evening St to Longfellow Ave. Private taps/meters will be installed for private domestic and fire services for Subareas 2, 3, & 4. The water lines will be constructed to service the development for domestic and fire protection uses.

Stormwater

Stormwater management for this site will be provided by a wet detention basin for Subarea 1 along the southwest property line. Stormwater storage vaults and surface detention facilities will be used with Subarea 2, 3, & 4 located within open spaces and parking areas. A storm sewer system will be constructed to collect and outlet stormwater from the proposed development to the existing Tucker Creek along the south property line. The proposed stormwater system is designed to City of Columbus and Ohio EPA standards.

1174.06 (13) Proposed easements, cross access easements, shared parking arrangements, reciprocal utility and access easements between subareas are to be finalized at the time of Final Development Plan, and shall be consistent with easements as previously utilized, reviewed and approved by the City Engineering Department and in a form approved by the City Law Director.

1174.06 (16) Phasing Plan. Phasing plans will be developed based on zoning approval and finalized at the time of Final Development Plan submission.

Construction will begin with single-family development and the commercial/office uses fronting High Street and proceed subject to market conditions.

1174.06 (17) HOA, Deed Restrictions. (See attached)

Utility Feasibility Summary

Lifestyle Communities – UMCH

City of Worthington, Franklin County

09/12/2019

The following is a summary of the proposed utilities:

Sanitary Sewer

Sanitary sewer service will be provided by the City of Worthington. There is an existing 12" sanitary sewer (C-1276/5-268(431.924)) located along the south property line. An existing 10" sanitary sewer line (City of Worthington) extends north into the site from the 12" sewer. The existing 10" & 12" sewer are of sufficient size and capacity to handle the anticipated wastewater volumes of the proposed development (19 single family homes, 706 units, 60,000 SF of commercial, and 25,000 SF of medical office). The proposed sanitary sewer mainline and service are designed to City of Worthington, City of Columbus, and Ohio EPA standards.

Water

Water service will be provided by the City of Worthington. The proposed connections are into the existing 12" water line (WO0066) located along N. High Street along the East side of the site, the existing 12" water line (WO0148) located along Wesley Blvd along the southeast side of the site, the existing 6" water line (WO0024) located along Longfellow Ave along the north side of the site, and the existing 6" water line (WO0016) located along Evening St along the southwest side of the site. Removal and relocation of public water line will connect the existing water lines from Wesley Blvd to Longfellow Ave along Street B (Private). Public water line will be installed along street A (Public) from Evening St to Longfellow Ave. Private taps/meters will be installed for private domestic and fire services for Subareas 2, 3, & 4. The water lines will be constructed to service the development for domestic and fire protection uses. The proposed water system is designed to City of Worthington, City of Columbus, and Ohio EPA standards.

Stormwater

Stormwater management for this site will be provided by a wet detention facility for Subarea 1 along the southwest property line. Underground storage and surface detention facilities will be used with Subarea 2, 3, & 4 located within open spaces and parking areas. A storm sewer system will be constructed to collect and outlet stormwater from the proposed development to the existing Tucker Creek along the south property line. The proposed stormwater system is designed to, City of Worthington and Ohio EPA standards.

Engineers, Surveyors, Planners, Scientists

September 13, 2019

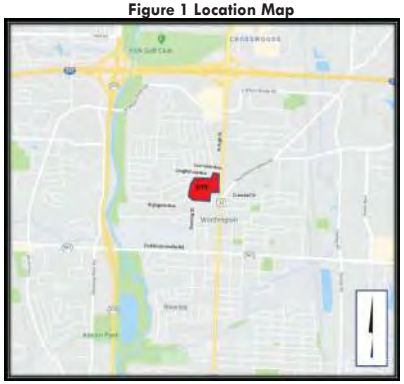
Daniel W. Whited, PE
Director of Service and Engineering
City of Worthington
380 Highland Avenue
Worthington, Ohio 43085

Subject: United Methodist Children's Home
Traffic Impact Study

Dear Mr. Whited,

We submit this Traffic Impact Study (TIS) on behalf of the applicant for redevelopment of the United Methodist Children's Home (UMCH) site. High Street, Larrimer Avenue, Longfellow Avenue, and Evening Street surround the UMCH site as shown in **Figure 1** and provide multiple points of access. This study was prepared in accordance with a Memorandum of Understanding (MOU) dated April 26, 2018 and approval comments from the City's engineering consultant dated May 9, 2018. The MOU and City response are attached for reference.

Figure 1 Location Map



Proposed Development & Access Plan

The proposed redevelopment aligns with the mixed-use vision of the city's Comprehensive Plan including integration of the site into the existing street network surrounding it. Redevelopment includes General Commercial uses of 60,000 square feet (SF), assumed for this study to split 30,000 SF of retail use and 30,000 SF of general office use. Other site uses studied include 35,000 SF of medical office (reduced to 25,000 SF after completion of this study) and a mix of 19 single-family detached residences, 166 townhouses and 540 mid-rise multi-family homes. The attached site plan shows the well-distributed access points available to the site via North High Street, Larrimer Avenue, Longfellow Avenue and Evening Street.

Study Area

In addition to site access points, we analyzed the following intersections that define the Study Area in accordance with the approved MOU for this project:

1. High Street/Dublin-Granville Road
2. High Street/Wesley Boulevard/Worthington-Galena Road
3. High Street/Larrimer Avenue
4. High Street/Wilson Bridge Road
5. Evening Street/Dublin Granville Road
6. Evening Street/Highgate Avenue
7. Evening Street/Longfellow Avenue
8. Larrimer Avenue/Longfellow Avenue
9. Worthington Galena Road/Crandall Drive

Data Collection

EMH&T completed weekday peak-hour turning movement counts in early November, 2018 at Study Area intersections in the High Street and Dublin-Granville Road corridors. Record count data established traffic volumes at internal, neighborhood street intersections. The list below summarizes count locations and observation periods:

Count 7-9 AM/4-6 PM

1. High Street/Dublin-Granville Road
2. High Street/Wesley Boulevard
3. High Street/Larrimer Avenue
4. Evening Street/Dublin Granville Road
5. Evening Street/Highgate Avenue
6. Evening Street/Longfellow Avenue

Count 1 hour in AM and 1hour in PM

1. High Street/North Street
2. Evening Street/Stafford Avenue
3. Evening Street/North Street
4. Evening Street/Greenbriar Court
5. Larrimer Avenue/Longfellow Avenue
6. Worthington-Galena Road/Crandall Drive

We derived traffic volumes for the High Street/Wilson Bridge Road intersection from record counts and the Ohio Department of Transportation certified traffic forecast for FRA-270-22.42. Detailed count tabulations are attached and peak-hour turning movement volumes are shown on the traffic volume plates attached to this TIS.

Trip Generation

We projected site generated trip ends using data and methodology contained in the Trip Generation Manual, 10th Edition (Institute of Transportation Engineers, 2017). Morning and afternoon peak hour traffic volumes were estimated using trip generation rates published for ITE land use codes 210 (Single Family Housing), 220 (Multi-family Housing, Low Rise), 221 (Multi-Family, Mid-Rise), 710 (General Office), 720 (Medical-Dental Office Building), and 820 (Shopping Center). Pass-by trips and internal trip capture was determined from the Trip Generation Manual User's Guide and Handbook, 9th Edition (Institute of Transportation Engineers, 2012).

Pass-by trips represent vehicles diverted from the existing traffic stream into the site and are therefore not new to the roadway. The only proposed land use with pass-by trips is the retail component which draws 34% of its trips from the existing traffic stream during the PM peak hour. Internal trip capture reduces new trips slightly to account for trips with more than one destination within a multi-use site. Internal trip capture was limited to retail, general office and residential land uses and reduced PM peak trips loaded to the existing street system by about 10% overall. **Table 1** summarizes trip generation calculations prior to reducing for internal trip capture and additional detailed calculations are attached.

Table 1: Trip Generation

Land Use	Square Feet or Units	ITE Code	Time Period	ITE Formula	Total Trips	Trips Entering	Trips Exiting
Single Family - Detached	19 units	210	ADT	Ln(T)=0.92Ln(x)+2.71	226	113	113
			AM Peak	T=0.71(x)+4.8	18	5	13
			PM Peak	Ln(T)=0.96Ln(x)+0.2	21	13	8
Multifamily Housing Low-Rise (One or two floors)	166 units	220	ADT	T=7.56(x) - 40.86	1,214	607	607
			AM Peak	Ln(T)=0.95Ln(x)-0.51	77	18	59
			PM Peak	Ln(T)=0.89Ln(x)-0.02	93	59	34
Multifamily Housing Mid-Rise (3-10 floors)	540 units	221	ADT	T=5.45(x) - 1.75	2,942	1,471	1,471
			AM Peak	Ln(T)=0.98Ln(x)-0.98	179	47	132
			PM Peak	Ln(T)=0.96Ln(x)-0.63	224	137	87
Medical-Dental Office	35,000 sf	720	ADT	T=38.42(x) -87.62	1,258	629	629
			AM Peak	Ln(T)=0.89Ln(x)+1.31	88	69	19
			PM Peak	T=3.39(x)+2.02	121	34	87
Shopping Center	30,000 sf	820	ADT	Ln(T)=0.68Ln(x)+5.57	2,652	1,326	1,326
			AM Peak	T=0.5(x)+151.78	167	See Below	
			PM Peak	Ln(T)=0.74Ln(x)+2.89	223	See Below	
			100%	AM Primary Trips	167	104	63
			0%	AM Pass-By Trips	0	0	0
			66%	PM Primary Trips	147	71	76
			34%	PM Pass-By Trips	76	38	38
Office	30,000 sf	710	ADT	Ln(T)=0.97Ln(x)+2.50	330	165	165
			AM Peak	T=0.94(x)+26.49	55	47	8
			PM Peak	Ln(T)=0.95Ln(x)+0.36	36	6	30

Trip Distribution and Assignment

This study assigned site generated traffic volumes to the surrounding street system based on observed traffic patterns and assessment of area characteristics. We applied the following gateway distribution to site generated trips in order to assign those trips to the surrounding street system. Two values are given(**X%/Y%**). The first (**X%**) is the distribution applied to residential land uses and the second (**Y%**) was applied to commercial land uses, i.e. retail, office and medical office.

Trip Distribution (residential/non-residential)

- **32%/27%** to-from Dublin-Granville Road west of Evening Street
- **18%/19%** to-from High Street south of Dublin-Granville Road
- **15%/12%** to-from High Street north of Wilson Bridge Road
- **13%/16%** to-from Dublin-Granville Road east of High Street
- **6%/7%** to-from Worthington-Galena Road east of High Street
- **5%/3%** to-from Wilson Bridge Road west of High Street
- **4%/3%** to-from Wilson Bridge Road east of High Street
- **3%/2%** to-from Evening Street south of Dublin-Granville Road
- **2%/2%** to-from North Street east of High Street
- **2%/2%** to-from Crandall Drive east of High Street
- **0%/2%** to-from Larrimer Avenue west of Hayhurst Street
- **0%/2%** to-from Longfellow Avenue west of Evening Street
- **0%/2%** to-from Evening Street north of Longfellow Avenue
- **0%/1%** to-from Highgate Avenue west of Evening Street

Traffic Projections

We combined traffic volumes generated by the proposed redevelopment with background traffic volumes to establish opening day (2019) and design year (2029) full build traffic volumes for use in traffic analyses. We projected counted traffic volumes to opening day and horizon year conditions by application of annual growth factors to account for background growth not associated with site development. We obtained linear, annual growth rates from the Mid-Ohio Regional Planning Commission (MORPC) as outlined below and further detailed in the attachments.

Linear Annual Background Growth Rates

- 1%-High Street north of Worthington-Galena Road
- 1%-High Street from North Street to Worthington-Galena Road
- 1%-Worthington-Galena Road east of High Street
- 1%-Wesley Boulevard west of High Street
- 0.75%-High Street south of North Street
- 0.50%-Dublin-Granville Road west of High Street
- 0.50%-Dublin-Granville Road east of High Street

Traffic Analyses

Traffic Signal Warrants

We evaluated the proposed access to High Street located between Larrimer Avenue and Wesley Boulevard for signalization under full site build conditions. This study assessed traffic signal warrants using thresholds established by the Ohio Manual of Uniform Traffic Control Devices § 4C (Ohio Department of Transportation) (OMUTCD). Signal warrant evaluation required conversion of AM and PM peak hour volumes calculated for the site, and observed on High Street, to hourly volumes (7:00 AM-7:00 PM) for comparison to signal warrant criteria that must be met on a sustained basis over four to eight hours.

We determined the relationship between off-peak, hourly traffic volumes and the AM and PM peak-hour volumes calculated for this study from two sets of count data. One is an ODOT 24-hour count on N High Street north of Wilson Bridge Road dated December 7, 2016. The second set of count data is a 24-hour machine count on Larrimer Avenue between High Street and Longfellow Avenue dated April 16, 2015. We used the 24-hour High Street count to factor peak hour, calculated volumes on High Street and we used the 24-hour Larrimer Avenue count to factor peak hour, calculated volumes projected on the proposed site access to High Street.

This study compared the hourly approach volumes calculated for the site access intersection at High Street to volume criteria specified in the OMUTCD for Warrant 1 (Eight-Hour Warrant), Warrant 2 (Four-Hour Warrant), and Warrant 3 (Peak Hour Warrant). We assessed warrant results with, and without, a right turn reduction factor applied in accordance with the Traffic Engineering Manual § 402-5 (Ohio Department of Transportation). The results of the analysis show that the High Street/High Street East Access will meet warrants 1, 2, and 3 in both 2019 and 2029 Build conditions but only without a right turn volume reduction.

Intersection Capacity Analyses

We used Synchro 10 employing HCM 6th edition methodology to evaluate operational characteristics of Study Area intersections. We also completed a Synchro/SimTraffic model for the entire Study Area focused on queue modeling in the High Street corridor and review of operations in the High Street/Worthington-Galena Road and Worthington-Galena Road/Crandall Drive intersections considering the close intersection spacing and alignment challenges in this area. Level of Service (LOS) D for the overall Intersection is the threshold of acceptable performance for this study in accordance with the approved MOU. **Table 2** summarizes the results of capacity analyses.

Table 2 - Summary of Capacity Analysis

Time Period	Year	Scenario	Conditions	EBLT	EBTH	EBRT	WBLT	WBTH	WBRT	NBLT	NBTH	NBRT	SBLT	SBTH	SBRT	TOTAL
N High St./ SR-161																
AM Peak Hour	2019	No Build	Existing Conditions	D/35.2	D/49.3	D/49.3	D/36.8	D/48.0	D/48.0	B/19.4	B/18.8	B/18.8	B/18.7	C/21.7	C/21.7	C/31.6
		Build	Existing Conditions	E/56.5	D/37.7	D/37.7	C/32.1	E/56.6	E/56.6	C/23.1	C/23.5	C/23.5	C/21.5	C/27.8	C/27.9	D/35.1
	2029	No Build	Existing Conditions	D/36.3	D/49.6	D/49.6	D/37.4	D/48.8	D/48.8	C/20.9	C/20.4	C/20.4	C/20.1	C/24.4	C/24.4	C/32.9
		Build	Existing Conditions	E/63.7	D/38.2	D/38.2	C/32.0	E/57.4	E/57.4	C/25.6	C/25.6	C/25.6	C/22.6	C/31.1	C/31.3	D/37.3
PM Peak Hour	2019	No Build	Existing Conditions	C/30.0	D/47.3	D/47.3	C/31.7	D/44.8	D/44.8	C/25.1	C/27.7	C/27.8	C/22.7	C/30.0	C/30.2	C/34.5
		Build	Existing Conditions	D/46.2	D/36.9	D/36.9	C/29.9	E/61.2	E/61.2	C/33.6	D/35.4	D/35.5	C/26.5	D/37.7	D/38.0	D/40.3
	2029	No Build	Existing Conditions	C/30.3	D/47.6	D/47.6	C/31.7	D/45.5	D/45.5	C/30.3	C/31.5	C/31.7	C/24.5	C/34.1	C/34.3	D/36.8
		Build	Existing Conditions	D/49.5	D/35.3	D/35.3	C/29.5	E/63.6	E/63.6	D/49.7	D/42.8	D/42.9	C/31.5	D/48.6	D/49.2	D/46.1
N High St./ Wesley Blvd./ Worthington Galena Rd																
AM Peak Hour	2019	No Build	Existing Conditions	C/24.8	C/21.8	C/21.8	C/29.2	C/23.6	C/23.6	A/3.0	A/2.9	A/3.0	A/5.0	A/3.3	A/3.3	A/8.0
		Build	Existing Conditions	C/24.6	C/21.7	C/21.7	C/30.4	C/22.9	C/22.9	A/4.9	A/4.3	A/4.0	A/9.3	A/4.8	A/4.7	A/9.2
	2029	No Build	Existing Conditions	C/24.5	C/21.2	C/21.2	C/29.3	C/23.1	C/23.1	A/3.9	A/3.6	A/3.6	A/6.9	A/4.0	A/4.0	A/8.7
		Build	Existing Conditions	C/24.3	C/21.1	C/21.1	C/31.0	C/22.4	C/22.4	A/6.1	A/5.3	A/4.8	B/13.4	A/5.8	A/5.7	B/10.2
PM Peak Hour	2019	No Build	Existing Conditions	C/23.5	C/20.8	C/20.8	C/30.2	C/22.0	C/22.0	A/5.2	A/4.4	A/4.7	A/7.0	A/5.4	A/5.4	A/9.6
		Build	Existing Conditions	C/23.7	C/20.7	C/20.7	C/31.7	C/21.8	C/21.8	A/8.5	A/5.5	A/5.4	B/11.0	A/7.0	A/7.0	B/10.6
	2029	No Build	Existing Conditions	C/23.1	C/20.2	C/20.2	C/31.6	C/21.3	C/21.3	A/6.8	A/5.5	A/5.8	A/9.7	A/6.8	A/6.7	B/10.8
		Build	Existing Conditions	C/23.3	C/20.0	C/20.0	C/33.3	C/21.3	C/21.3	B/11.2	A/6.8	A/6.6	B/16.0	A/8.8	A/8.7	B/12.2
N High St./ Larrimer Ave.																
AM Peak Hour	2019	No Build	Existing Conditions	D/36.8	-	C/34.5	-	-	-	A/3.0	A/0.2	-	-	A/2.9	A/2.9	A/5.2
		Build	Existing Conditions	D/35.2	-	D/37.5	-	-	-	A/4.1	A/0.3	-	-	A/5.1	A/5.0	A/7.3
	2029	No Build	Existing Conditions	D/36.8	-	C/34.5	-	-	-	A/3.1	A/0.3	-	-	A/3.1	A/3.0	A/5.0
		Build	Existing Conditions	D/35.7	-	D/37.5	-	-	-	A/4.2	A/0.3	-	-	A/5.3	A/5.3	A/7.2
PM Peak Hour	2019	No Build	Existing Conditions	C/33.7	-	C/33.2	-	-	-	A/3.2	A/0.2	-	-	A/4.0	A/4.0	A/4.3
		Build	Existing Conditions	C/33.7	-	D/38.0	-	-	-	A/4.8	A/0.4	-	-	A/6.1	A/6.1	A/7.3
	2029	No Build	Existing Conditions	C/33.7	-	C/33.2	-	-	-	A/3.4	A/0.3	-	-	A/4.3	A/4.3	A/4.3
		Build	Existing Conditions	C/33.7	-	D/38.0	-	-	-	A/5.2	A/0.4	-	-	A/6.6	A/6.5	A/7.3
N High St./ Wilson Bridge Rd																
AM Peak Hour	2019	No Build	Existing Conditions	F/243.9	E/59.1	C/30.6	E/67.8	D/43.9	C/31.5	C/23.1	C/27.6	C/30.0	F/363.6	C/21.1	B/18.2	F/98.8
		Build	Existing Conditions	F/260.5	E/60.5	C/30.5	F/85.1	D/43.6	C/31.3	C/24.2	C/28.1	C/30.7	F/363.6	C/22.1	B/19.0	F/99.9
	2029	No Build	Existing Conditions	F/135.9	E/62.4	C/29.2	D/48.9	D/43.2	C/28.7	C/26.9	C/30.7	C/33.6	F/275.3	C/25.5	B/18.9	E/72.0
		Build	Existing Conditions	F/147.8	E/64.8	C/29.3	E/59.9	D/43.2	C/28.6	C/29.3	C/31.1	C/34.3	F/275.3	C/26.5	B/19.5	E/73.0
PM Peak Hour	2019	No Build	Existing Conditions	F/377.0	D/50.6	C/26.6	F/116.6	E/68.2	E/61.5	F/81.8	C/33.3	D/35.7	F/187.7	C/29.4	C/24.7	F/94.7
		Build	Existing Conditions	F/377.0	D/50.6	C/27.0	F/140.8	E/68.2	E/61.5	F/119.6	D/37.0	D/42.0	F/187.7	C/30.6	C/24.7	F/97.2
	2029	No Build	Existing Conditions	F/121.5	F/175.3	C/27.3	F/353.0	F/88.4	E/61.5	F/269.6	F/108.3	F/118.2	F/487.9	C/32.3	C/22.8	F/149.5
		Build	Existing Conditions	F/121.5	F/175.3	C/27.6	F/392.1	F/88.4	E/61.5	F/308.9	F/121.6	F/132.5	F/487.9	C/34.1	C/22.8	F/155.9
SR-161/ Evening St.*																
AM Peak Hour	2019	No Build	Existing Conditions	A/4.4	A/4.4	A/4.4	C/22.8	C/22.8	C/22.8	E/60.6	E/60.6	E/60.6	D/46.8	D/46.8	D/49.0	C/22.2
		Build	Existing Conditions	A/4.7	A/4.7	A/4.7	C/22.1	C/22.1	C/22.1	E/63.7	E/63.7	E/63.7	D/47.1	D/47.1	D/52.3	C/22.6
	2029	No Build	Existing Conditions	A/4.5	A/4.5	A/4.5	C/22.8	C/22.8	C/22.8	E/60.6	E/60.6	E/60.6	D/46.8	D/46.8	D/49.0	C/22.0
		Build	Existing Conditions	A/4.8	A/4.8	A/4.8	C/22.3	C/22.3	C/22.3	E/63.7	E/63.7	E/63.7	D/47.1	D/47.1	D/52.3	C/22.4
PM Peak Hour	2019	No Build	Existing Conditions	A/7.4	A/7.4	A/7.4	C/24.8	C/24.8	C/24.8	E/63.0	E/63.0	E/63.0	D/47.0	D/47.0	D/45.0	C/20.6
		Build	Existing Conditions	A/9.4	A/9.4	A/9.4	C/23.5	C/23.5	C/23.5	E/64.6	E/64.6	E/64.6	D/46.7	D/46.7	D/46.4	C/21.4
	2029	No Build	Existing Conditions	A/8.0	A/8.0	A/8.0	C/24.6	C/24.6	C/24.6	E/63.0	E/63.0	E/63.0	D/47.0	D/47.0	D/45.0	C/20.7
		Build	Existing Conditions	B/10.3	B/10.3	B/10.3	C/23.7	C/23.7	C/23.7	E/64.6	E/64.6	E/64.6	D/46.7	D/46.7	D/46.4	C/21.8
Evening St./ Highgate Ave.																
AM Peak Hour	2019	No Build	Existing Conditions	-	-	-	A/7.5	-	A/7.5	-	A/7.1	A/7.1	A/8.5	A/8.5	-	A/7.9
		Build	Existing Conditions	-	-	-	A/7.5	-	A/7.5	-	A/7.1	A/7.1	A/8.5	A/8.5	-	A/7.9
	2029	No Build	Existing Conditions	-	-	-	A/7.5	-	A/7.5	-	A/7.1	A/7.1	A/8.5	A/8.5	-	A/7.9
		Build	Existing Conditions	-	-	-	A/7.5	-	A/7.5	-	A/7.1	A/7.1	A/8.5	A/8.5	-	A/7.9
PM Peak Hour	2019	No Build	Existing Conditions	-	-	-	A/8.2	-	A/8.2	-	A/7.2	A/7.2	A/8.3	A/8.3	-	A/8.1
		Build	Existing Conditions	-	-	-	A/8.2	-	A/8.2	-	A/7.2	A/7.2	A/8.3	A/8.3	-	A/8.1
	2029	No Build	Existing Conditions	-	-	-	A/8.2	-	A/8.2	-	A/7.2	A/7.2	A/8.3	A/8.3	-	A/8.1
		Build	Existing Conditions	-	-	-	A/8.2	-	A/8.2	-	A/7.2	A/7.2	A/8.3	A/8.3	-	A/8.1
Evening St./ Longfellow Ave.																
AM Peak Hour	2019	No Build	Existing Conditions	A/7.4	A/7.4	A/7.4	A/7.8	A/7.8	A/7.8	A/7.5	A/7.5	A/7.5	A/7.8	A/7.8	A/7.8	A/7.6
		Build	Existing Conditions	A/7.4	A/7.4	A/7.4	A/7.8	A/7.8	A/7.8	A/7.5	A/7.5	A/7.5	A/7.8	A/7.8	A/7.8	A/7.6
	2029	No Build	Existing Conditions	A/7.4	A/7.4	A/7.4	A/7.8	A/7.8	A/7.8	A/7.5	A/7.5	A/7.5	A/7.8	A/7.8	A/7.8	A/7.6
		Build	Existing Conditions	A/7.4	A/7.4	A/7.4	A/7.8	A/7.8	A/7.8	A/7.5	A/7.5	A/7.5	A/7.8	A/7.8	A/7.8	A/7.6
PM Peak Hour	2019	No Build	Existing Conditions	A/7.4	A/7.4	A/7.4	A/7.9	A/7.9	A/7.9	A/8.1	A/8.1	A/8.1	A/7.5	A/7.5	A/7.5	A/7.9
		Build	Existing Conditions	A/7.4	A/7.4	A/7.4	A/7.9	A/7.9	A/7.9	A/8.1	A/8.1	A/8.1	A/7.6	A/7.6	A/7.6	A/7.9
	2029	No Build	Existing Conditions	A/7.4	A/7.4	A/7.4	A/7.9	A/7.9	A/7.9	A/8.1	A/8.1	A/8.1	A/7.5	A/7.5	A/7.5	A/7.9
		Build	Existing Conditions	A/7.4	A/7.4	A/7.4	A/7.9	A/7.9	A/7.9	A/8.1	A/8.1	A/8.1	A/7.6	A/7.6	A/7.6	A/7.9
Larrimer Ave./ Longfellow Ave.																
AM Peak Hour	2019	No Build	Existing Conditions	A/7.4	-	-	A/7.5	-	-	A/9.3	A/9.3	A/9.3	B/10.4	B/10.4	B/10.4	A/3.1
		Build	Existing Conditions	A/7.4	-	-	A/7.5	-	-	A/9.4	A/9.4	A/9.4	B/10.6	B/10.6	B/10.6	A/3.5
	2029	No Build	Existing Conditions	A/7.4	-	-	A/7.5	-	-	A/9.3	A/9.3	A/9.3	B/10.4	B/10.4	B/10.4	A/3.1
		Build	Existing Conditions	A/7.4	-	-	A/7.5	-	-	A/9.4	A/9.4	A/9.4	B/10.6	B/10.6	B/10.6	A/3.5
PM Peak Hour	2019	No Build	Existing Conditions	A/7.4	-	-	A/7.5	-	-	A/9.7	A/9.7	A/9.7	B/10.8	B/10.8	B/10.8	A/3.3
		Build	Existing Conditions	A/7.4	-	-	A/7.5	-	-	A/9.8	A/9.8	A/9.8	B/11.4	B/11.4	B/11.4	A/3.7
	2029	No Build	Existing Conditions	A/7.4	-	-	A/7.5	-	-	A/9.7	A/9.7	A/9.7	B/10.8	B/10.8	B/10.8	A/3.3
		Build	Existing Conditions	A/7.4	-	-	A/7.5	-	-	A/9.8	A/9.8	A/9.8	B/11.4	B/11.4	B/11.4	A/3.7
Worthington Galena Rd/ Crandall Dr.																
AM Peak Hour	2019	No Build	Existing Conditions	-	-	-	A/8.0	-	-	B/12.3	-	B/12.3	-	-	-	A/0.8
		Build	Existing Conditions	-	-	-	A/8.1	-	-	B/12.7	-	B/12.7	-	-	-	A/0.9
	2029	No Build	Existing Conditions	-	-	-	A/8.1	-	-	B/12.8	-	B/12.8	-	-	-	A/0.8
		Build	Existing Conditions	-	-	-	A/8.2	-	-	B/13.3	-	B/13.3	-	-	-	A/0.8
PM Peak Hour	2019	No Build	Existing Conditions	-	-	-	A/8.1	-	-	B/12.9	-	B/12.9	-	-	-	A/0.7
		Build	Existing Conditions	-	-	-	A/8.2	-	-	B/13.5	-	B/13.5	-	-	-	A/0.8
	2029	No Build	Existing Conditions	-	-	-	A/8.2	-	-	B/13.6	-	B/13.6	-	-	-	A/0.7
		Build	Existing Conditions	-	-	-	A/8.3	-	-	B/14.2	-	B/14.2	-	-	-	A/0.8
N High St./ High E Access																
AM Peak Hour	2019	Build	Existing Conditions	E/40.6	-	E/40.6	-	-	-	B/10.7	-	-	-	-	-	A/3.4
			Signal	B/17.0	-	B/19.3	-	-	-	A/6.3	A/3.9	-	-	B/11.5	B/11.4	A/8.5
	2029		Existing Conditions	E/41.3	-	E/41.3	-	-	-	B/10.7	-	-	-	-	-	A/3.4
			Signal	B/17.1	-	B/19.4	-	-	-	A/6.3	A/3.9	-	-	B/11.5	B/11.4	A/8.5
PM Peak Hour	2019	Build	Existing Conditions	F/97.0	-	F/97.0	-	-	-	B/12.0	-	-	-	-	-	A/7.7
			Signal	B/19.8	-	C/23.2	-	-	-	A/6.9	A/3.6	-	-	B/11.7	B/11.6	A/9.2
	2029		Existing Conditions	F/168.9	-	F/168.9	-	-	-	B/12.8	-	-	-	-	-	B/12.0
			Signal	C/31.5	-	D/39.0	-	-	-	A/5.9	A/3.2	-	-	B/10.5	B/10.4	A/9.2

X/X = Overall LOS / Average Delay Per Vehicle
* HCM 2000 results are shown because HCM 6th edition methodology does not support a permissive+protected left turn type from a shared lane

We analyzed the existing street network in the No-Build condition (without site generated trips) to determine whether background improvements are needed to attain acceptable performance in the pre-development condition. We analyzed the street network again with site trips added to determine whether site-related improvements are necessary to meet the performance threshold. All but two existing intersections in the Study Area operated at level of service D or better under current roadway conditions.

The intersection of High Street/Wilson Bridge Road produced overall LOS E and F during AM and PM peak hours in both 2019 and 2029 horizons. This is a background result under predevelopment conditions and not related to site generated trips. Considering the considerable size of this intersection as it exists today, and that it was recently improved, we did not introduce background improvements and attempt to attain LOS D performance at this location. Instead we reanalyzed the intersection with site-generated trips added, and compared the results. The LOS letter-grade is the same in both No Build and Build site conditions and overall delay is generally consistent. The biggest difference was an approximate 4% increase in overall delay between the No Build and Build conditions in the PM peak, 2029-horizon year.

The SR-161/Evening Street intersection operated at LOS C overall in all scenarios. Individual movements operate at LOS D or better with the exception of the northbound movements. The relatively low volume on the northbound approach (about 5 vehicles per cycle in the horizon year PM peak) incurs a certain level of delay regardless of signal timing in the model, and there is no material difference in LOS/delay with or without site-generated traffic.

The proposed site access to High Street, south of Larrimer Avenue did not meet performance criteria under stop sign control. Outbound left turn movements operate at LOS F under stop sign control while full inbound movements (left turn and right turn) and right turns outbound meet criteria at LOS D or better. All movements at this site access point meet performance criteria under traffic signal control.

Turn Lane Length and SimTraffic Queue Simulation

This study assessed anticipated horizon-year traffic queues and turn lane storage length requirements based on procedures outlined in the Location and Design Manual, Volume 1 (Ohio Department of Transportation) and SimTraffic simulation of both peak hours, including site-generated traffic. We focused on turn lane storage bay lengths and anticipated queues at the High Street/Worthington Galena Road and the relationship between that intersection and the proposed High Street/High East site access. Similarly, we evaluated traffic operations between High Street/Worthington Galena Road intersection and the Worthington Galena Road/Crandall Drive intersection. **Table 3** summarizes the results of queue modeling and lane sizing calculations.

The northbound approach to the High Street/Worthington Galena Road intersection currently provides approximately 80 feet of storage for northbound left turning vehicles entering the site. The existing left turn storage is adequate for the 95th percentile queue result in the SimTraffic model for design year, full-build conditions, but is less than the 100 feet suggested by the ODOT calculation. The SimTraffic queue in the adjacent through lanes is 250 feet in the 2029 design year suggesting that the northbound left turn lane should be lengthened to prevent blocking. We recommend converting the existing two-way-left-turn-lane (TWLTL) markings to a dedicated northbound left turn lane extending approximately 200 feet south of the stop line. This improvement should maintain a short section of TWLTL for southbound left turns into the parking lot for 1020 N. High Street

Table 3 - Turn Lane Length and Queue Simulation Results

Turn Lane		2029 Build Volume (AM/PM)	Number of Lanes	ODOT L&D Storage Avg. feet per lane (AM/PM)	Sim Traffic 95th Percentile Max Ft. in Single Lane (AM/PM)	Current Storage Length (in feet)	Recommended Length
High Street/Worthington Galena Road							
Northbound	L	24/44	1	50/100	71/81	80	200
	T	839/837	2	400/400	197/250	1000 per lane	1000 per lane
	R	202/272	1	250/275	124/142	90	90
Southbound	L	165/140	1	200/175	244/140	120	285
	T	829/1080	2	400/500	282/179	540 per lane	540 per lane
	R	7/8					
Eastbound	L	5/17	1	50/50	15/41	60	60
	T	7/4	1	100/100	69/69	350	350
	R	49/50					
Westbound	L	305/356	1	325/350	234/264*	170	170
	T	1/5	1	175/150	114/114*	170	170
	R	131/122					
High Street/High East Access							
Northbound	L	105/111	1	150/150	76/89	TWLT	100
	T	806/866	2	375/400	123/147	540 per lane	540 per lane

* Queue extends through Crandall Drive intersection. Length shown is sum of SimTraffic westbound queue at High Street + westbound queue at Crandall Drive

Similarly, the southbound left turn lane at the High Street/Worthington Galena Road intersection is approximately 125 feet long while anticipated queues extend to 177 feet without site development and up to 244 feet under horizon year Build conditions. We recommend converting the existing two-way-left-turn-lane (TWLTL) markings to a dedicated southbound left turn lane extending approximately 285 feet north of the stop line, which is long enough to prevent blocking by queued vehicles in the adjacent through lane. From that point north, the existing TWLTL should remain for approximately 150 feet in order to provide left turn access into the City fire station. Then High Street should provide a dedicated northbound left turn lane, approximately 100 feet long, on the approach to the proposed High East access point.

The westbound approach of Worthington Galena Road to High Street currently provides 2 lanes (1 for left turns and 1 planned for through-right movements) for a distance of approximately 170 feet east of the stop line at High Street or about 110 feet east of the centerline of Crandall Drive. Queues in the left turn lane extend through the Worthington Galena Road/Crandall Drive intersection under existing conditions but Crandall Drive traffic is able to enter Worthington Galena Road during gaps created by the High street signal. Site generated traffic will add to the queue in the westbound through-right lane on Worthington Galena Road where the volume and queue length is currently much less than the westbound left turn lane queue. By the 2029 design year with site traffic included, the westbound through-right queue length is 114 feet, which fits within the existing lane length, and the maximum queue length in the westbound left turn lane is 264 feet, which is about 94 feet longer than the current lane marking. Site trips do not contribute to the westbound left turn lane queue.

Sight Distance Evaluation

This study reviewed available sight distances on the westbound approach of Crandall Drive at Worthington Galena Road. The posted speed limit on Worthington Galena Road is 25 miles per hour and the Intersection Sight Distance (ISD) guideline to make a left turn and right turn is 280 feet and 240 feet, respectively. See the Location and Design Manual § 200 (Ohio Department of Transportation). In cases where ISD is not

available due to environmental or right of way constraints, the L&D Manual states Stopping Sight Distance (SSD) for vehicles on the major road should be provided. Stopping Sight Distance is 155 feet at 25 mph.

The attachments to this letter include a sight distance exhibit showing that ISD is available looking northeast from a drivers eye position on Crandall Drive. The adjacent intersection at High Street complicates sight distance to the west. ISD is available to view eastbound traffic on Wesley Boulevard west of High Street. Sight distance from Crandall Drive to traffic entering Worthington Galena Road via a left turn or right turn from High Street is less than ISD due to the proximity of the intersection (although that turning traffic is unlikely to be operating at 25 mph). Stopping Sight Distance at 25 mph is available to drivers entering Worthington Galena Road on a right turn or left turn from High Street.

ODOT guidelines call for the removal of objects 2 feet and higher within the sight triangle. The attached sight-distance exhibit shows that the alignment of roadways and grades comply with sight distance guidelines. There are existing obstructions in the sight triangles such as street trees, signs, utility poles, etc. that should be managed by City staff to the extent feasible. Site development at the UMCH property does not impact sight lines at the Worthington Galena Road/Crandall Drive intersection.

Conclusions and Recommendations

Redevelopment of the UMCH property as described above should include the following roadway improvements:

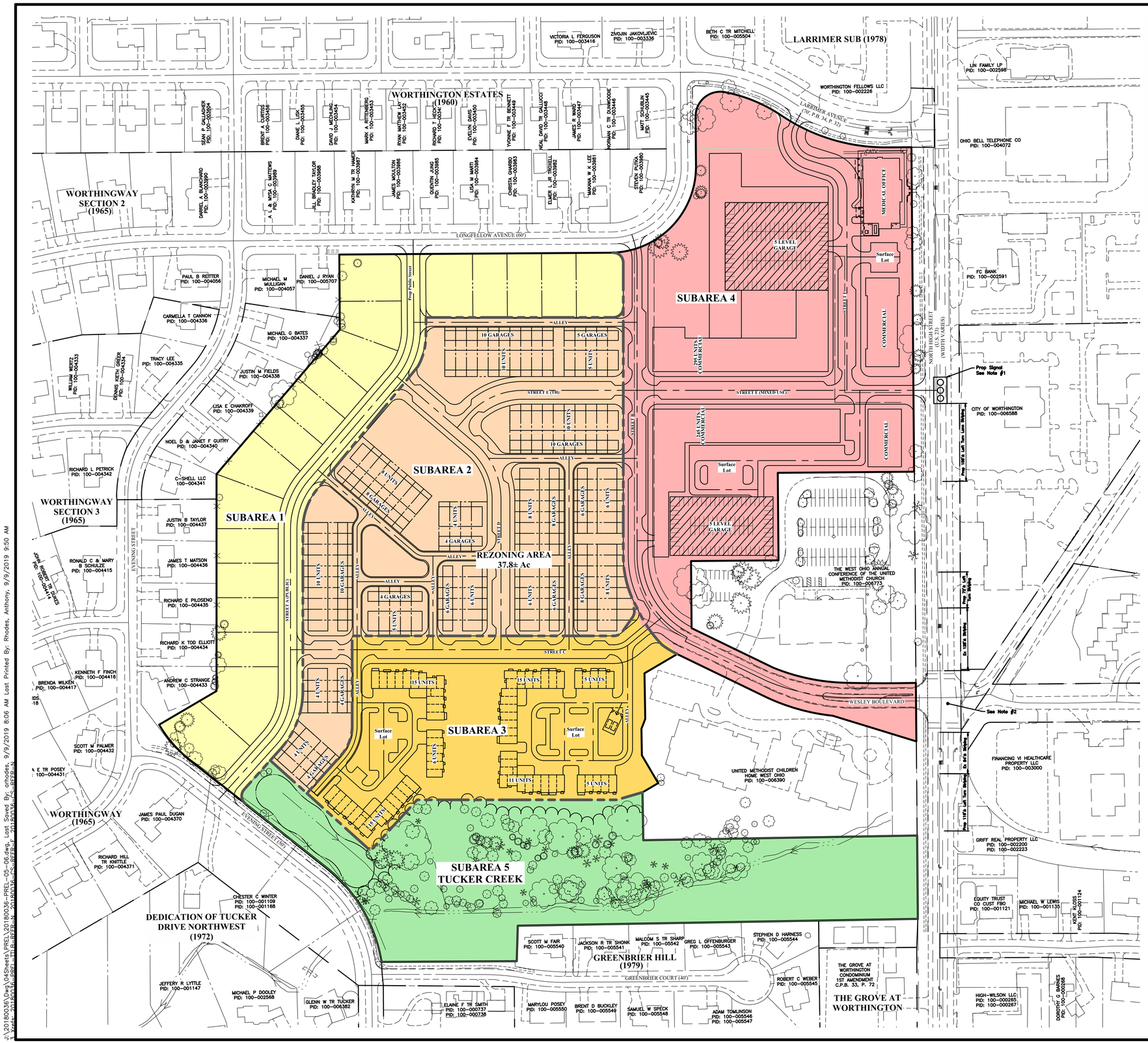
- Install a new traffic signal at the High Street/High East Access when warranted. This signalized access should be located approximately mid-way between existing signals at High Street/Worthington Galena Road and High Street/Larrimer Avenue.
- Operate the High Street/High East Access signal semi-actuated with fire preemption and remove the existing "fire signal" currently in place to control southbound traffic.
- Revise pavement marking on High Street to provide a 100-foot long northbound left turn lane at the High East access point.
- Revise pavement marking at the High Street/ Worthington Galena Road intersection to extend the length of existing northbound and southbound left turn lanes to 200 feet northbound and 285 feet southbound.
- Modify signs, pavement marking and signal operation to permit full movements eastbound and westbound (left turn, right turn and through) at the High Street/Worthington Galena Road intersection.

Should questions or comments arise during your review of this memorandum or if I may be of further assistance in this matter, please feel free to contact me at (614) 775-4640.

Sincerely,

EVANS, MECHWART, HAMBLETON & TILTON, INC.

Lawrence C. Creed, Esq., PE
Principal
Director of Traffic Engineering Services



SUBAREA		USE	LOTS/UNIT/ SQUARE FOOTAGE	ACRES	DENSITY
	Subarea 1	Single Family	19 Units	5.9± Ac	3.2 Lots/Ac
	Subareas 2	Multi-Family	94 Units	9.0± Ac	10.4 DU/Ac
	Subarea 3	Multi-Family	72 Units	5.1± Ac	14.4 DU/Ac
	Subarea 4	Multifamily Commercial Medical Office	540 Units 60,000 SF 25,000 SF	11.4± Ac	47.8 DU/Ac
	Subarea 5	Tucker Creek	–	6.4± Ac	–
TOTAL		–	725 DU	37.8± Ac	19.2 DU/Ac

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
FOR
UMCH SITE WORTHINGTON
SUBAREA PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 866.775.3648
emht.com

DATE
AUGUST 29, 2019

SCALE
1" = 100'

JOB NO.
2018-0036

SHEET
5/23

J:\20180036\Dwg\04Sheets\PREL\20180036-PREL-05-06.dwg, Last Saved By: orhodes, 9/9/2019 8:06 AM Last Printed By: Rhodes, Anthony, 9/9/2019 9:50 AM
Xrefs: 20180036-PREL-TTLB-BFFR-N, 20180036-FS-BFFR-F, 20180036-FS-BFFR-N

EMH&T
Engineers, Surveyors, Planners, Scientists

April 26, 2018

Dan Whited, PE
Director of Service and Engineering
City of Worthington
380 Highland Avenue
Worthington, Ohio 43085

Subject: United Methodist Children's Home Site Traffic Study
Memorandum of Understanding

Dear Mr. Whited,

This Memorandum of Understanding (MOU) is submitted to document the scope of the above captioned traffic study, an update to an MOU we prepared in 2015 for a previous site layout and study we worked on at that time. That traffic study was never completed and/or formally submitted. This MOU update reflects the comments received from the City of Worthington dated 1/27/17 in regards to our initial study scope and methodology. Following your concurrence, EMH&T will prepare a new traffic impact study in accordance with the methodologies and assumptions described below. Previous City MOU comments are attached for reference.

Proposed Development & Access Plan

The United Methodist Children's Home site is again being considered for redevelopment and the City of Worthington wants the site plan to comply with their Comprehensive Plan reflecting the community's vision for the property. The proposed redevelopment aligns with the mixed-use vision of the Comprehensive Plan including integration of the site into the existing street network surrounding it. While the plan is subject to refinement going forward, it will adhere to the intent of the Comprehensive Plan. Development is targeting General Commercial/Retail uses in the range of 60,000 SF, medical office of roughly 35,000 SF and a mix of around 750 residential units that includes single-family and multi-family formats.

Study Area

In addition to site access points, the following intersections will be assessed for this study:

1. High Street/Dublin-Granville Rd.
2. High Street/Wesley Boulevard/ Wor.-Gal. Rd./Crandall Dr.
3. High Street/Larrimer Ave.
4. High Street/Wilson Bridge Rd.
5. Evening St/Dublin Granville Rd.
6. Evening Street/Highgate Ave.
7. Evening Street/Longfellow Ave.
8. Larrimer Ave./Longfellow Ave.

Data Collection

Weekday peak hour manual turning movement counts were previously conducted at the locations and during the times noted below. The recently completed ODOT project to improve/redesign the I-270/US 23 interchange area has likely affected traffic patterns on High Street and Dublin-Granville Road in the City, but should not have impacted local residential traffic on Evening Street from the previous traffic counts. As a result, we anticipate completing some updated peak hour counts at up to five (5) intersections along High Street and Dublin-Granville Road to identify current traffic patterns on these two arterial corridors in Worthington (Noted with +).

The list below summarizes previous intersection counts performed in March, 2015 and hours of observation:

Count 7-9 AM/4-6 PM

1. High Street/Dublin-Granville Road +
2. High Street/Wesley Boulevard +
3. High Street/Larrimer Avenue +
4. Evening Street/Dublin Granville Road +
5. Evening Street/Highgate Avenue
6. Evening Street/Longfellow Avenue

Count 1 hr (TBD) AM and 1hr (TBD) PM

1. High Street/North Street +
2. Evening Street/Stafford Avenue
3. Evening Street/North Street
4. Evening Street/Greenbrier Court
5. Larrimer Avenue/Longfellow Avenue
6. Worthington-Galena Rd/Crandall Dr

Trip Generation

Site generated trip ends will be forecast using data and methodology contained in Trip Generation, 10th Edition (Institute of Transportation Engineers, 2017). Morning and afternoon peak hour traffic volumes will be estimated using trip generation rates published for ITE land use codes 210 (Single Family Housing), 221 (Multi-Family, Low Rise), 720 (Medical-Dental Office Building), and 820 (Shopping Center). Internal trip capture will be determined from the Trip Generation Manual, 10th Edition).

Trip Distribution

Site generated traffic volumes will be assigned to the existing street system based on observed traffic patterns and assessment of area characteristics using previous and updated count data in the study area. Traffic will be assigned to site access points and network intersections for analysis.

Traffic Projections

Traffic volumes generated by the proposed redevelopment will be combined with background traffic volumes to establish opening day (2019) and design year (2029) full build traffic volumes for use in traffic analyses. Counted traffic volumes will be forecast to horizon year conditions by the application of an annual growth factor to account for background growth not associated with site development. This rate will be obtained from the Mid-Ohio Regional Planning Commission (MORPC).

Traffic Analyses

Intersection Capacity Analyses

Synchro 9 employing HCM 2010 methodology will be used to evaluate operational characteristics of study area intersections. Opening year (2018) analysis will provide a comparison of operations with and without site-generated traffic. Design year (2029) analyses

will assess full build conditions for planning purposes. Level of Service (LOS) D for the overall Intersection will be considered acceptable performance. If the pre-development condition is worse than LOS D then mitigation will strive to restore pre-development LOS and approximate overall average delay.

A Synchro/SimTraffic analysis will be completed for the vehicular interaction between the High Street/Crandall Drive/Worthington-Galena Road intersection due to the unusual geometry and alignment challenges at this extended intersection. This study will evaluate the safe/efficient means of promoting east-west movements through this back-to-back intersection during peak signal operations. Any impacts identified at this location due to the addition of site traffic will be identified and mitigation efforts will be proposed.

Traffic Signal Warrants

Traffic signal warrants will be evaluated for one intersection only. The proposed access to High Street located between Larrimer Avenue and Wesley Boulevard will be evaluated for signalization under full site build conditions. Traffic signal warrants will be assessed using thresholds established by the Ohio Manual of Uniform Traffic Control Devices § 4C (Ohio Department of Transportation) (OMUTCD).

Count data covering 24 hours was obtained from the Ohio Department of Transportation for two locations on High Street. Counts are attached for reference and we will use them to establish a factor converting peak hour volumes projected for this study to hourly volumes for comparison to signal warrant criteria. Hourly volumes will be compared to volume criteria specified in Warrant 1, Eight-Hour Warrant. Additionally, Warrants 2 (Four-Hour Warrant) and Warrant 3 (Peak Hour Warrant) will be analyzed. A right turn reduction factor will be applied in accordance with the Traffic Engineering Manual § 402-5 (Ohio Department of Transportation, 2010) but only if capacity analysis confirms that sufficient gaps are available for uncontrolled right turn movements.

Turn Lane Length Calculations

Existing auxiliary turn lanes along the site frontage will be analyzed to determine storage capacity needed to accommodate anticipated traffic volumes. Site access points will also be analyzed to determine queue storage length required for anticipated vehicle volumes exiting the development site. Existing turn lane lengths at the High Street/Wesley Boulevard/Worthington-Galena Road intersection will also be evaluated for 2029 No Build and Build conditions. Storage requirements will be calculated using tables provided in the Location and Design Manual § 401 (Ohio Department of Transportation).

Sight Distance Evaluation

Available sight distance will be reviewed for the westbound approach of Crandall Drive at Worthington-Galena Road. The available sight distance will be compared to ODOT requirements for the appropriate speed criteria that applies to this location.

A detailed report including applicable figures and tables will be prepared to summarize study methodologies, analysis, findings and recommendations. The report will be submitted to the City of Worthington for review. Please signify your concurrence with the scope of work outlined herein by signing below and returning this Memorandum of Understanding to me. Should questions or comments arise during your review of this memorandum or if I may be of further assistance in this matter, please feel free to contact me at (614) 775-4650.

Sincerely,

Douglas A. Bender, PE, PTOE
Senior Traffic Engineer

Attachments: Traffic count data

ACCEPTANCE AND APPROVAL OF MEMORANDUM OF UNDERSTANDING

By: _____

Date: _____

Wu, Charles

From: Drew Laurent <dlaurent@cmtran.com>
Sent: Wednesday, May 9, 2018 3:34 PM
To: Bender, Douglas; Schehl, Steve
Cc: Brown, Lee; Whited, Dan; John Gallagher
Subject: RE: UM Childrens Home site TIS --- Memo of Understanding
Attachments: 180307 High and North.pdf; 180307 High and Larrimer.pdf

Doug/Steve,

We have completed our review of the revised MOU for the proposed UMCH site. We offer the following comments:

1) The Opening Year is proposed to be 2019 in the "Traffic Projections" section of the MOU on Page 2. It is also shown as 2018 in the "Traffic Analysis" section of the MOU on Page 2. It is assumed that this is a typing error and that the Opening Year of the study will be 2019.

2) Carpenter Marty Transportation has recently collected turning movement count data at the intersections of N. High Street with Larrimer Avenue and North Street. These turning movement counts are attached and can be utilized by EMH&T for the traffic study if desired.

3) The City of Worthington has indicated that the proposed retail square footage and number of residential units exceeds what Worthington expects based on their Comprehensive Plan and will likely not be approved.

With these comments noted, Carpenter Marty accepts and approves of the Memorandum of Understanding on behalf of the City of Worthington. We look forward to reviewing the full report when it is completed. Please let me know if you have any questions.

Thanks!

Drew Laurent
Carpenter Marty Transportation
D 614.656.2421

From: Bender, Douglas [mailto:dbender@emht.com]
Sent: Thursday, April 26, 2018 10:49 AM
To: Drew Laurent <dlaurent@cmtran.com>; Whited, Dan <DWhited@ci.worthington.oh.us>
Cc: Brown, Lee <LBrown@ci.worthington.oh.us>; John Gallagher <john@trafficmidwest.com>; Schehl, Steve <SSchehl@emht.com>
Subject: UM Childrens Home site TIS --- Memo of Understanding

Dan/Drew,

Please find attached the MOU we have prepared for completing an update to the UMCH site TIS that we received comments on previously (Feb. '17). It is our understanding the Drew will be reviewing on behalf of the City. Please direct any comments, questions or approval regarding the MOU to Steve Schehl who is copied here.

Sincerely,

Doug Bender

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: Drew Laurent [mailto:dlaurent@cmtran.com]
Sent: Tuesday, February 27, 2018 9:04 AM
To: Bender, Douglas <dbender@emht.com>; John Gallagher <john@trafficmidwest.com>
Cc: Brown, Lee <LBrown@ci.worthington.oh.us>; Whited, Dan <DWhited@ci.worthington.oh.us>
Subject: RE: Call

Doug,

I tried to give Lee Brown a call and it looks like he is out of the office until Monday next week. He informed us last week that you guys may be reaching out to discuss the study. It sounded like he wanted us to spearhead the conversation. I have attached the latest MOU we have on file as well as our comments on the MOU (from about a year ago). Preliminarily, I think we should stick with the study scope that is outlined. I know it is larger than a typical study, but Worthington would like all of the listed intersections evaluated as this is the largest proposed development since the shopping mall.

Let me know your thoughts. I figure it would be best if your team updated the attached MOU based on our comments and send back to us for approval. I can follow up with Lee next week to ensure that they don't have any additional comments or concerns. We should be able to get this thing going pretty quickly. If you still want to have a sit-down meeting with Worthington to discuss everything, we can try to get something set up early next week.

Thanks, Doug!

Drew Laurent
Carpenter Marty Transportation
D 614.656.2421

From: Bender, Douglas [mailto:dbender@emht.com]
Sent: Tuesday, February 27, 2018 8:20 AM
To: John Gallagher <john@trafficmidwest.com>
Cc: Drew Laurent <dlaurent@cmtran.com>
Subject: RE: Call

Drew,

Please let me know when we can discuss setting up a re-kickoff mtg. I appreciate your help getting this set up with the City of Worthington folks.

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

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File Name : 109 WILSON BRIDGE & US-23 (South of 270)
Site Code :
Start Date : 9/24/2013
Page No : 1

Groups Printed- Car - Truck

	Southbound St. From North					Westbound St. From East					Northbound St. From South					Eastbound St. From West					
Start Time	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
07:00 AM	113	162	80	0	355	21	33	64	0	118	15	88	27	0	130	69	34	15	0	118	721
07:15 AM	135	196	137	0	468	42	46	88	0	176	14	147	43	0	204	107	55	31	0	193	1041
07:30 AM	168	169	163	0	500	35	59	82	0	176	22	167	30	0	219	167	76	26	0	269	1164
07:45 AM	203	214	150	0	567	36	49	94	0	179	20	235	56	0	311	131	87	34	0	252	1309
Total	619	741	530	0	1890	134	187	328	0	649	71	637	156	0	864	474	252	106	0	832	4235
08:00 AM	176	201	148	0	525	38	53	101	0	192	36	229	48	0	313	148	78	26	0	252	1282
08:15 AM	158	213	117	0	488	41	33	95	0	169	26	177	49	0	252	194	106	47	0	347	1256
08:30 AM	158	188	133	0	479	29	38	98	0	165	26	218	49	0	293	138	89	37	0	264	1201
08:45 AM	175	230	129	0	534	29	28	79	0	136	32	122	43	0	197	129	102	56	0	287	1154
Total	667	832	527	0	2026	137	152	373	0	662	120	746	189	0	1055	609	375	166	0	1150	4893
PHF	0.95	.90	0.89			0.83	0.72	.92			.83	.81	.96			.78	.88	.74			
09:00 AM	127	178	88	0	393	33	47	74	0	154	30	187	66	0	283	99	53	22	0	174	1004
09:15 AM	105	158	64	0	327	38	38	82	0	158	31	129	35	0	195	94	66	38	0	198	878
09:30 AM	113	143	73	0	329	30	31	88	0	149	31	131	43	0	205	56	44	24	0	124	807
09:45 AM	104	159	85	0	348	36	23	71	0	130	27	133	37	0	197	77	46	26	0	149	824
Total	449	638	310	0	1397	137	139	315	0	591	119	580	181	0	880	326	209	110	0	645	3513
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	83	143	107	0	333	53	75	90	0	218	43	136	27	0	206	127	92	61	0	280	1037
12:15 PM	101	158	107	0	366	38	58	101	0	197	50	126	38	0	214	96	61	49	0	206	983
12:30 PM	78	153	102	0	333	44	55	104	0	203	58	180	53	0	291	104	57	46	0	207	1034
12:45 PM	96	139	107	0	342	40	55	75	0	170	62	155	35	0	252	121	85	39	0	245	1009
Total	358	593	423	0	1374	175	243	370	0	788	213	597	153	0	963	448	295	195	0	938	4063
01:00 PM	70	123	93	0	286	39	64	96	0	199	53	151	48	0	252	94	47	43	0	184	921
01:15 PM	79	169	102	0	350	33	57	76	0	166	50	168	44	0	262	132	50	48	0	230	1008
01:30 PM	85	156	104	0	345	25	31	92	0	148	45	183	48	0	276	103	53	38	0	194	963
01:45 PM	87	167	115	0	369	42	42	87	0	171	44	148	36	0	228	104	45	26	0	175	943
Total	321	615	414	0	1350	139	194	351	0	684	192	650	176	0	1018	433	195	155	0	783	3835
02:00 PM	58	132	99	0	289	28	39	100	0	167	45	160	31	0	236	109	38	41	0	188	880
02:15 PM	92	143	96	0	331	35	42	82	0	159	41	138	32	0	211	88	41	50	0	179	880
02:30 PM	81	168	81	0	330	42	49	106	0	197	37	169	24	0	230	85	34	42	0	161	918
02:45 PM	84	184	84	0	352	43	41	94	0	178	40	172	40	0	252	96	37	54	0	187	969
Total	315	627	360	0	1302	148	171	382	0	701	163	639	127	0	929	378	150	187	0	715	3647
03:00 PM	66	163	92	0	321	34	48	159	0	241	35	192	30	0	257	133	34	31	0	198	1017
03:15 PM	78	176	96	0	350	32	48	111	0	191	35	217	21	0	273	116	48	44	0	208	1022

File Name : 109 WILSON BRIDGE & US-23 (South of 270)
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Groups Printed- Car - Truck

	Southbound St. From North					Westbound St. From East					Northbound St. From South					Eastbound St. From West					
Start Time	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
03:30 PM	100	172	121	0	393	27	43	186	0	256	43	231	31	0	305	117	44	39	0	200	1154
03:45 PM	103	171	112	0	386	39	65	151	0	255	46	216	41	0	303	128	54	41	0	223	1167
Total	347	682	421	0	1450	132	204	607	0	943	159	856	123	0	1138	494	180	155	0	829	4360
04:00 PM	84	169	113	0	366	31	56	213	0	300	49	252	25	0	326	174	60	44	0	278	1270
04:15 PM	92	161	121	0	374	28	70	140	0	238	55	212	29	0	296	138	63	44	0	245	1153
04:30 PM	78	178	135	0	391	28	66	263	0	357	51	278	29	0	358	185	68	51	0	304	1410
04:45 PM	95	204	134	0	433	30	94	196	0	320	44	256	26	0	326	190	56	52	0	298	1377
Total	349	712	503	0	1564	117	286	812	0	1215	199	998	109	0	1306	687	247	191	0	1125	5210
05:00 PM	98	172	104	0	374	51	90	248	0	389	43	230	16	0	289	224	96	52	0	372	1424
05:15 PM	87	189	102	0	378	39	92	224	0	355	51	225	14	0	290	185	84	56	0	325	1348
05:30 PM	89	216	144	0	449	32	78	166	0	276	66	229	36	0	331	241	82	66	0	389	1445
05:45 PM	117	227	129	0	473	30	65	160	0	255	61	216	28	0	305	202	61	62	0	325	1358
Total	391	804	479	0	1674	152	325	798	0	1275	221	900	94	0	1215	852	323	236	0	1411	5575
	.84	.89	.83			.75	.88	.80			.84	.98	.65			.88	.84	.89			
06:00 PM	105	159	107	0	371	32	68	150	0	250	52	187	34	0	273	185	91	40	0	316	1210
06:15 PM	76	130	101	0	307	23	60	97	0	180	44	195	26	0	265	138	46	46	0	230	982
06:30 PM	83	149	91	0	323	39	64	110	0	213	52	142	27	0	221	126	34	29	0	189	946
06:45 PM	60	153	93	0	306	32	45	72	0	149	47	149	15	0	211	101	31	30	0	162	828
Total	324	591	392	0	1307	126	237	429	0	792	195	673	102	0	970	550	202	145	0	897	3966
07:00 PM	38	100	71	0	209	20	25	83	0	128	30	130	14	0	174	75	27	37	0	139	650
07:15 PM	28	102	66	0	196	19	32	78	0	129	24	110	21	0	155	93	34	43	0	170	650
07:30 PM	34	129	71	0	234	18	27	57	0	102	36	125	11	0	172	95	35	38	0	168	676
07:45 PM	31	114	87	0	232	17	21	48	0	86	23	126	9	0	158	76	25	28	0	129	605
Total	131	445	295	0	871	74	105	266	0	445	113	491	55	0	659	339	121	146	0	606	2581
08:00 PM	26	89	49	0	164	15	24	46	0	85	19	105	18	0	142	79	25	24	0	128	519
08:15 PM	20	81	63	0	164	11	24	47	0	82	20	89	10	0	119	69	20	20	0	109	474
08:30 PM	15	56	52	0	123	14	12	24	0	50	16	94	15	0	125	42	16	15	0	73	371
08:45 PM	23	67	50	0	140	6	12	37	0	55	18	75	6	0	99	41	13	16	0	70	364
Total	84	293	214	0	591	46	72	154	0	272	73	363	49	0	485	231	74	75	0	380	1728
Grand Total	4355	7573	4868	0	16796	1517	2315	5185	0	9017	1838	8130	1514	0	11482	5821	2623	1867	0	10311	47606
Apprch %	25.9	45.1	29	0		16.8	25.7	57.5	0		16	70.8	13.2	0		56.5	25.4	18.1	0		
Total %	9.1	15.9	10.2	0	35.3	3.2	4.9	10.9	0	18.9	3.9	17.1	3.2	0	24.1	12.2	5.5	3.9	0	21.7	
Car	4288	7405	4795	0	16488	1494	2280	5095	0	8869	1818	7969	1498	0	11285	5746	2580	1840	0	10166	46808
% Car	98.5	97.8	98.5	0	98.2	98.5	98.5	98.3	0	98.4	98.9	98	98.9	0	98.3	98.7	98.4	98.6	0	98.6	98.3
Truck	67	168	73	0	308	23	35	90	0	148	20	161	16	0	197	75	43	27	0	145	798
% Truck	1.5	2.2	1.5	0	1.8	1.5	1.5	1.7	0	1.6	1.1	2	1.1	0	1.7	1.3	1.6	1.4	0	1.4	1.7

File Name : 109 WILSON BRIDGE & US-23 (South of 270)
Site Code :
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	Southbound St. From North					Westbound St. From East					Northbound St. From South					Eastbound St. From West					
Start Time	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
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	203	214	150	0	567	36	49	94	0	179	20	235	56	0	311	131	87	34	0	252	1309
08:00 AM	176	201	148	0	525	38	53	101	0	192	36	229	48	0	313	148	78	26	0	252	1282
08:15 AM	158	213	117	0	488	41	33	95	0	169	26	177	49	0	252	194	106	47	0	347	1256
08:30 AM	158	188	133	0	479	29	38	98	0	165	26	218	49	0	293	138	89	37	0	264	1201
Total Volume	695	816	548	0	2059	144	173	388	0	705	108	859	202	0	1169	611	360	144	0	1115	5048
% App. Total	33.8	39.6	26.6	0		20.4	24.5	55	0		9.2	73.5	17.3	0		54.8	32.3	12.9	0		
PHF	.856	.953	.913	.000	.908	.878	.816	.960	.000	.918	.750	.914	.902	.000	.934	.787	.849	.766	.000	.803	.964
Peak Hour Analysis From 12:00 PM to 08:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	95	204	134	0	433	30	94	196	0	320	44	256	26	0	326	190	56	52	0	298	1377
05:00 PM	98	172	104	0	374	51	90	248	0	389	43	230	16	0	289	224	96	52	0	372	1424
05:15 PM	87	189	102	0	378	39	92	224	0	355	51	225	14	0	290	185	84	56	0	325	1348
05:30 PM	89	216	144	0	449	32	78	166	0	276	66	229	36	0	331	241	82	66	0	389	1445
Total Volume	369	781	484	0	1634	152	354	834	0	1340	204	940	92	0	1236	840	318	226	0	1384	5594
% App. Total	22.6	47.8	29.6	0		11.3	26.4	62.2	0		16.5	76.1	7.4	0		60.7	23	16.3	0		
PHF	.941	.904	.840	.000	.910	.745	.941	.841	.000	.861	.773	.918	.639	.000	.934	.871	.828	.856	.000	.889	.968

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File Name : High St - Larrimer Ave
Site Code : 00000000
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Groups Printed- Cars - Trucks - Pedestrians

	HIGH ST Southbound					Westbound					HIGH ST Northbound					LARRIMER AVE Eastbound					
Start Time	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
07:00 AM	0	145	8	2	155	0	0	0	0	0	5	103	0	0	108	19	0	16	0	35	298
07:15 AM	0	233	9	0	242	0	0	0	0	0	9	99	0	0	108	19	0	12	0	31	381
07:30 AM	0	211	10	0	221	0	0	0	0	0	9	152	0	0	161	22	0	17	0	39	421
07:45 AM	0	166	14	2	182	0	0	0	0	0	10	183	0	0	193	24	0	15	0	39	414
Total	0	755	41	4	800	0	0	0	0	0	33	537	0	0	570	84	0	60	0	144	1514
08:00 AM	0	198	17	0	215	0	0	0	0	0	11	172	0	0	183	27	0	21	0	48	446
08:15 AM	0	162	18	1	181	0	0	0	0	0	6	165	0	0	171	30	0	17	0	47	399
08:30 AM	0	156	22	0	178	0	0	0	0	0	9	136	0	0	145	20	0	33	0	53	376
08:45 AM	0	172	6	0	178	0	0	0	0	0	7	136	0	0	143	32	0	15	0	47	368
Total	0	688	63	1	752	0	0	0	0	0	33	609	0	0	642	109	0	86	0	195	1589
*** BREAK ***																					
04:00 PM	0	185	11	0	196	0	0	0	0	0	14	188	0	0	202	30	0	16	0	46	444
04:15 PM	0	176	20	0	196	0	0	0	0	0	18	208	0	0	226	12	0	15	0	27	449
04:30 PM	0	217	21	2	240	0	0	0	0	0	14	218	0	0	232	21	0	12	0	33	505
04:45 PM	0	224	17	0	241	0	0	0	0	0	16	178	0	0	194	17	0	9	0	26	461
Total	0	802	69	2	873	0	0	0	0	0	62	792	0	0	854	80	0	52	0	132	1859
		888	67								49	695			744	88		53			
05:00 PM	0	227	15	0	242	0	0	0	0	0	14	177	0	0	191	29	0	14	0	43	476
05:15 PM	0	228	22	0	250	0	0	0	0	0	8	165	0	0	173	23	0	19	0	42	465
05:30 PM	0	209	13	0	222	0	0	0	0	0	11	175	0	0	186	19	0	11	1	31	439
05:45 PM	0	205	21	0	226	0	0	0	0	0	15	150	0	0	165	12	0	13	0	25	416
Total	0	869	71	0	940	0	0	0	0	0	48	667	0	0	715	83	0	57	1	141	1796
Grand Total	0	3114	244	7	3365	0	0	0	0	0	176	2605	0	0	2781	356	0	255	1	612	6758
Apprch %	0	92.5	7.3	0.2		0	0	0	0		6.3	93.7	0	0		58.2	0	41.7	0.2		
Total %	0	46.1	3.6	0.1	49.8	0	0	0	0	0	2.6	38.5	0	0	41.2	5.3	0	3.8	0	9.1	
Cars	0	3062	237	7	3306	0	0	0	0	0	169	2574	0	0	2743	345	0	237	1	583	6632
% Cars	0	98.3	97.1	100	98.2	0	0	0	0	0	96	98.8	0	0	98.6	96.9	0	92.9	100	95.3	98.1
Trucks	0	52	7	0	59	0	0	0	0	0	7	31	0	0	38	11	0	18	0	29	126
% Trucks	0	1.7	2.9	0	1.8	0	0	0	0	0	4	1.2	0	0	1.4	3.1	0	7.1	0	4.7	1.9
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	HIGH ST Southbound					Westbound					HIGH ST Northbound					LARRIMER AVE Eastbound					
Start Time	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
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	0	**211**	10	0	**221**	0	0	0	0	0	9	152	0	0	161	22	0	17	0	39	421
07:45 AM	0	166	14	**2**	182	0	0	0	0	0	10	**183**	0	0	**193**	24	0	15	0	39	414
08:00 AM	0	198	17	0	215	0	0	0	0	0	**11**	172	0	0	183	27	0	**21**	0	**48**	**446**
08:15 AM	0	162	**18**	1	181	0	0	0	0	0	6	165	0	0	171	**30**	0	17	0	47	399
Total Volume	0	737	59	3	799	0	0	0	0	0	36	672	0	0	708	103	0	70	0	173	1680
% App. Total	0	92.2	7.4	0.4		0	0	0	0		5.1	94.9	0	0		59.5	0	40.5	0		
PHF	.000	.873	.819	.375	.904	.000	.000	.000	.000	.000	.818	.918	.000	.000	.917	.858	.000	.833	.000	.901	.942
Cars	0	720	54	3	777	0	0	0	0	0	33	660	0	0	693	103	0	69	0	172	1642
% Cars	0	97.7	91.5	100	97.2	0	0	0	0	0	91.7	98.2	0	0	97.9	100	0	98.6	0	99.4	97.7
Trucks	0	17	5	0	22	0	0	0	0	0	3	12	0	0	15	0	0	1	0	1	38
% Trucks	0	2.3	8.5	0	2.8	0	0	0	0	0	8.3	1.8	0	0	2.1	0	0	1.4	0	0.6	2.3
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	HIGH ST Southbound					Westbound					HIGH ST Northbound					LARRIMER AVE Eastbound					
Start Time	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
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	0	217	21	**2**	240	0	0	0	0	0	14	**218**	0	0	**232**	21	0	12	0	33	**505**
04:45 PM	0	224	17	0	241	0	0	0	0	0	**16**	178	0	0	194	17	0	9	0	26	461
05:00 PM	0	227	15	0	242	0	0	0	0	0	14	177	0	0	191	**29**	0	14	0	**43**	476
05:15 PM	0	**228**	**22**	0	**250**	0	0	0	0	0	8	165	0	0	173	23	0	**19**	0	42	465
Total Volume	0	896	75	2	973	0	0	0	0	0	52	738	0	0	790	90	0	54	0	144	1907
% App. Total	0	92.1	7.7	0.2		0	0	0	0		6.6	93.4	0	0		62.5	0	37.5	0		
PHF	.000	.982	.852	.250	.973	.000	.000	.000	.000	.000	.813	.846	.000	.000	.851	.776	.000	.711	.000	.837	.944
Cars	0	891	74	2	967	0	0	0	0	0	50	734	0	0	784	90	0	52	0	142	1893
% Cars	0	99.4	98.7	100	99.4	0	0	0	0	0	96.2	99.5	0	0	99.2	100	0	96.3	0	98.6	99.3
Trucks	0	5	1	0	6	0	0	0	0	0	2	4	0	0	6	0	0	2	0	2	14
% Trucks	0	0.6	1.3	0	0.6	0	0	0	0	0	3.8	0.5	0	0	0.8	0	0	3.7	0	1.4	0.7
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : High St - Wesley Blvd
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Groups Printed- Cars - Trucks - Pedestrians

	HIGH ST Southbound					WORTHINGTON-GALENA RD Westbound					HIGH ST Northbound					WESLEY BLVD Eastbound					
Start Time	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
07:00 AM	20	147	0	2	169	62	0	8	0	70	1	81	32	0	114	0	0	2	0	2	355
07:15 AM	27	231	2	0	260	122	0	12	0	134	1	121	33	0	155	0	0	1	0	1	550
07:30 AM	26	174	0	0	200	75	0	25	1	101	0	134	56	0	190	0	0	0	0	0	491
07:45 AM	39	136	6	2	183	54	0	32	0	86	3	177	51	0	231	1	0	2	0	3	503
Total	112	688	8	4	812	313	0	77	1	391	5	513	172	0	690	1	0	5	0	6	1899
	133	625	22			274		96			8	601	182			1		3			
08:00 AM	42	177	4	1	224	49	0	21	0	70	2	131	35	0	168	0	0	0	0	0	462
08:15 AM	26	138	4	0	168	96	0	18	0	114	3	159	40	0	202	0	0	1	0	1	485
08:30 AM	28	150	5	0	183	63	1	27	0	91	4	141	41	0	186	1	0	0	0	1	461
08:45 AM	11	161	7	0	179	47	0	21	0	68	5	131	34	0	170	1	0	2	0	3	420
Total	107	626	20	1	754	255	1	87	0	343	14	562	150	0	726	2	0	3	0	5	1828
*** BREAK ***																					
04:00 PM	28	179	1	0	208	50	0	23	0	73	0	179	58	0	237	1	0	6	0	7	525
04:15 PM	17	164	3	0	184	48	1	30	1	80	0	182	54	0	236	4	0	0	0	4	504
04:30 PM	23	205	0	0	228	73	0	37	1	111	1	172	43	0	216	4	0	2	0	6	561
04:45 PM	25	200	3	1	229	60	0	23	0	83	1	159	49	0	209	6	1	4	0	11	532
Total	93	748	7	1	849	231	1	113	2	347	2	692	204	0	898	15	1	12	0	28	2122
05:00 PM	35	210	0	1	246	75	0	22	0	97	0	161	64	0	225	3	0	3	0	6	574
05:15 PM	23	214	1	0	238	92	0	24	0	116	1	141	56	0	198	5	0	1	1	7	559
05:30 PM	22	202	1	0	225	94	0	24	0	118	0	164	76	0	240	0	0	2	0	2	585
05:45 PM	22	186	0	0	208	67	0	19	0	86	0	145	56	0	201	2	0	3	0	5	500
Total	102	812	2	1	917	328	0	89	0	417	1	611	252	0	864	10	0	9	1	20	2218
Grand Total	414	2874	37	7	3332	1127	2	366	3	1498	22	2378	778	0	3178	28	1	29	1	59	8067
Apprch %	12.4	86.3	1.1	0.2		75.2	0.1	24.4	0.2		0.7	74.8	24.5	0		47.5	1.7	49.2	1.7		
Total %	5.1	35.6	0.5	0.1	41.3	14	0	4.5	0	18.6	0.3	29.5	9.6	0	39.4	0.3	0	0.4	0	0.7	
Cars	385	2818	36	7	3246	1098	2	352	3	1455	22	2342	755	0	3119	27	1	29	1	58	7878
% Cars	93	98.1	97.3	100	97.4	97.4	100	96.2	100	97.1	100	98.5	97	0	98.1	96.4	100	100	100	98.3	97.7
Trucks	29	56	1	0	86	29	0	14	0	43	0	36	23	0	59	1	0	0	0	1	189
% Trucks	7	1.9	2.7	0	2.6	2.6	0	3.8	0	2.9	0	1.5	3	0	1.9	3.6	0	0	0	1.7	2.3
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	HIGH ST Southbound					WORTHINGTON-GALENA RD Westbound					HIGH ST Northbound					WESLEY BLVD Eastbound					
Start Time	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
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	27	**231**	2	0	**260**	**122**	0	12	0	**134**	1	121	33	0	155	0	0	1	0	1	**550**
07:30 AM	26	174	0	0	200	75	0	25	**1**	101	0	134	**56**	0	190	0	0	0	0	0	491
07:45 AM	39	136	**6**	**2**	183	54	0	**32**	0	86	**3**	**177**	51	0	**231**	**1**	0	**2**	0	**3**	503
08:00 AM	**42**	177	4	1	224	49	0	21	0	70	2	131	35	0	168	0	0	0	0	0	462
Total Volume	134	718	12	3	867	300	0	90	1	391	6	563	175	0	744	1	0	3	0	4	2006
% App. Total	15.5	82.8	1.4	0.3		76.7	0	23	0.3		0.8	75.7	23.5	0		25	0	75	0		
PHF	.798	.777	.500	.375	.834	.615	.000	.703	.250	.729	.500	.795	.781	.000	.805	.250	.000	.375	.000	.333	.912
Cars	127	694	11	3	835	296	0	83	1	380	6	552	166	0	724	1	0	3	0	4	1943
% Cars	94.8	96.7	91.7	100	96.3	98.7	0	92.2	100	97.2	100	98.0	94.9	0	97.3	100	0	100	0	100	96.9
Trucks	7	24	1	0	32	4	0	7	0	11	0	11	9	0	20	0	0	0	0	0	63
% Trucks	5.2	3.3	8.3	0	3.7	1.3	0	7.8	0	2.8	0	2.0	5.1	0	2.7	0	0	0	0	0	3.1
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	HIGH ST Southbound					WORTHINGTON-GALENA RD Westbound					HIGH ST Northbound					WESLEY BLVD Eastbound					
Start Time	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
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	25	200	**3**	**1**	229	60	0	23	0	83	**1**	159	49	0	209	**6**	**1**	**4**	0	**11**	532
05:00 PM	**35**	210	0	1	**246**	75	0	22	0	97	0	161	64	0	225	3	0	3	0	6	574
05:15 PM	23	**214**	1	0	238	92	0	**24**	0	116	1	141	56	0	198	5	0	1	**1**	7	559
05:30 PM	22	202	1	0	225	**94**	0	24	0	**118**	0	**164**	**76**	0	**240**	0	0	2	0	2	**585**
Total Volume	105	826	5	2	938	321	0	93	0	414	2	625	245	0	872	14	1	10	1	26	2250
% App. Total	11.2	88.1	0.5	0.2		77.5	0	22.5	0		0.2	71.7	28.1	0		53.8	3.8	38.5	3.8		
PHF	.750	.965	.417	.500	.953	.854	.000	.969	.000	.877	.500	.953	.806	.000	.908	.583	.250	.625	.250	.591	.962
Cars	101	820	5	2	928	318	0	93	0	411	2	620	241	0	863	14	1	10	1	26	2228
% Cars	96.2	99.3	100	100	98.9	99.1	0	100	0	99.3	100	99.2	98.4	0	99.0	100	100	100	100	100	99.0
Trucks	4	6	0	0	10	3	0	0	0	3	0	5	4	0	9	0	0	0	0	0	22
% Trucks	3.8	0.7	0	0	1.1	0.9	0	0	0	0.7	0	0.8	1.6	0	1.0	0	0	0	0	0	1.0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : High St - North St
Site Code : 00000000
Start Date : 11/7/2018
Page No : 1

Groups Printed- Cars - Trucks - Pedestrians

	HIGH ST Southbound					NORTH ST Westbound					HIGH ST Northbound					NORTH ST Eastbound					
Start Time	Left	Thru	Righl	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
08:00 AM	7	190	10	2	209	5	7	19	2	33	4	177	4	0	185	27	3	4	3	37	464
08:15 AM	10	168	15	0	193	13	11	20	3	47	1	155	4	0	160	31	6	4	2	43	443
08:30 AM	12	183	11	0	206	7	11	17	1	36	3	151	2	2	158	22	14	3	2	41	441
08:45 AM	2	165	15	1	183	9	7	10	2	28	3	136	3	0	142	18	9	7	1	35	388
Total	31	706	51	3	791	34	36	66	8	144	11	619	13	2	645	98	32	18	8	156	1736
*** BREAK ***																					
05:00 PM	21	242	39	1	303	11	18	23	2	54	6	173	11	0	190	47	12	1	1	61	608
05:15 PM	22	255	26	0	303	15	13	24	4	56	4	152	9	0	165	49	11	4	1	65	589
05:30 PM	28	224	20	3	275	8	10	22	5	45	4	166	3	0	173	28	7	0	2	37	530
05:45 PM	16	224	31	0	271	13	8	18	0	39	6	161	5	0	172	26	10	4	2	42	524
Total	87	945	116	4	1152	47	49	87	11	194	20	652	28	0	700	150	40	9	6	205	2251
Grand Total	118	1651	167	7	1943	81	85	153	19	338	31	1271	41	2	1345	248	72	27	14	361	3987
Apprch %	6.1	85	8.6	0.4		24	25.1	45.3	5.6		2.3	94.5	3	0.1		68.7	19.9	7.5	3.9		
Total %	3	41.4	4.2	0.2	48.7	2	2.1	3.8	0.5	8.5	0.8	31.9	1	0.1	33.7	6.2	1.8	0.7	0.4	9.1	
Cars	118	1610	164	7	1899	80	83	153	19	335	29	1241	39	2	1311	245	71	27	14	357	3902
% Cars	100	97.5	98.2	100	97.7	98.8	97.6	100	100	99.1	93.5	97.6	95.1	100	97.5	98.8	98.6	100	100	98.9	97.9
Trucks	0	41	3	0	44	1	2	0	0	3	2	30	2	0	34	3	1	0	0	4	85
% Trucks	0	2.5	1.8	0	2.3	1.2	2.4	0	0	0.9	6.5	2.4	4.9	0	2.5	1.2	1.4	0	0	1.1	2.1
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : High St - North St
Site Code : 00000000
Start Date : 11/7/2018
Page No : 2

	HIGH ST Southbound					NORTH ST Westbound					HIGH ST Northbound					NORTH ST Eastbound					
Start Time	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
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	7	**190**	10	**2**	**209**	5	7	19	2	33	**4**	**177**	**4**	0	**185**	27	3	4	**3**	37	**464**
08:15 AM	10	168	**15**	0	193	**13**	**11**	**20**	**3**	**47**	1	155	4	0	160	**31**	6	4	2	**43**	443
08:30 AM	**12**	183	**11**	0	206	7	11	17	1	36	3	151	2	**2**	158	22	**14**	3	2	41	441
08:45 AM	2	165	15	1	183	9	7	10	2	28	3	136	3	0	142	18	9	**7**	1	35	388
Total Volume	31	706	51	3	791	34	36	66	8	144	11	619	13	2	645	98	32	18	8	156	1736
% App. Total	3.9	89.3	6.4	0.4		23.6	25	45.8	5.6		1.7	96	2	0.3		62.8	20.5	11.5	5.1		
PHF	.646	.929	.850	.375	.946	.654	.818	.825	.667	.766	.688	.874	.813	.250	.872	.790	.571	.643	.667	.907	.935
Cars	31	672	48	3	754	33	34	66	8	141	9	595	12	2	618	95	31	18	8	152	1665
% Cars	100	95.2	94.1	100	95.3	97.1	94.4	100	100	97.9	81.8	96.1	92.3	100	95.8	96.9	96.9	100	100	97.4	95.9
Trucks	0	34	3	0	37	1	2	0	0	3	2	24	1	0	27	3	1	0	0	4	71
% Trucks	0	4.8	5.9	0	4.7	2.9	5.6	0	0	2.1	18.2	3.9	7.7	0	4.2	3.1	3.1	0	0	2.6	4.1
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : High St - North St
Site Code : 00000000
Start Date : 11/7/2018
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	HIGH ST Southbound					NORTH ST Westbound					HIGH ST Northbound					NORTH ST Eastbound					
Start Time	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
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	21	242	**39**	1	**303**	11	**18**	23	2	54	**6**	**173**	**11**	0	**190**	47	**12**	1	1	61	**608**
05:15 PM	22	**255**	26	0	303	**15**	13	**24**	4	**56**	4	152	9	0	165	**49**	11	**4**	1	**65**	589
05:30 PM	**28**	224	20	**3**	275	8	10	22	**5**	45	4	166	3	0	173	28	7	0	**2**	37	530
05:45 PM	16	224	31	0	271	13	8	18	0	39	6	161	5	0	172	26	10	4	2	42	524
Total Volume	87	945	116	4	1152	47	49	87	11	194	20	652	28	0	700	150	40	9	6	205	2251
% App. Total	7.6	82	10.1	0.3		24.2	25.3	44.8	5.7		2.9	93.1	4	0		73.2	19.5	4.4	2.9		
PHF	.777	.926	.744	.333	.950	.783	.681	.906	.550	.866	.833	.942	.636	.000	.921	.765	.833	.563	.750	.788	.926
Cars	87	938	116	4	1145	47	49	87	11	194	20	646	27	0	693	150	40	9	6	205	2237
% Cars	100	99.3	100	100	99.4	100	100	100	100	100	100	99.1	96.4	0	99.0	100	100	100	100	100	99.4
Trucks	0	7	0	0	7	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	14
% Trucks	0	0.7	0	0	0.6	0	0	0	0	0	0	0.9	3.6	0	1.0	0	0	0	0	0	0.6
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : SR 161 - High St
Site Code : 00000000
Start Date : 11/7/2018
Page No : 1

Groups Printed- Cars - Trucks - Pedestrians

	HIGH ST Southbound					SR161 Westbound					HIGH ST Northbound					SR161 Eastbound					
Start Time	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
07:00 AM	20	87	46	0	153	17	81	14	0	112	44	71	18	0	133	29	70	14	0	113	511
07:15 AM	19	131	47	0	197	22	97	21	0	140	38	69	21	0	128	32	82	37	0	151	616
07:30 AM	16	173	29	1	219	19	67	15	0	101	31	108	14	1	154	42	86	24	0	152	626
07:45 AM	28	96	20	0	144	29	77	18	0	124	43	138	12	0	193	50	95	25	0	170	631
Total	83	487	142	1	713	87	322	68	0	477	156	386	65	1	608	153	333	100	0	586	2384
08:00 AM	19	136	32	0	187	36	84	21	0	141	53	120	4	0	177	51	83	20	0	154	659
08:15 AM	27	105	30	6	168	24	70	27	3	124	37	99	14	2	152	55	103	35	7	200	644
08:30 AM	24	124	25	0	173	20	70	20	0	110	48	105	10	0	163	56	81	21	0	158	604
08:45 AM	38	88	22	0	148	23	96	29	0	148	45	100	15	0	160	41	105	19	0	165	621
Total	108	453	109	6	676	103	320	97	3	523	183	424	43	2	652	203	372	95	7	677	2528
*** BREAK ***																					
04:00 PM	39	116	38	3	196	22	94	20	3	139	37	128	27	1	193	53	109	23	0	185	713
04:15 PM	44	132	39	3	218	25	87	16	1	129	32	104	23	15	174	48	102	29	2	181	702
04:30 PM	44	152	40	5	241	20	106	12	1	139	31	84	33	3	151	46	97	35	2	180	711
04:45 PM	35	124	47	11	217	25	100	16	2	143	44	136	21	1	202	43	114	25	5	187	749
Total	162	524	164	22	872	92	387	64	7	550	144	452	104	20	720	190	422	112	9	733	2875
05:00 PM	41	132	51	2	226	18	106	14	0	138	54	130	28	4	216	40	117	33	0	190	770
05:15 PM	54	155	48	7	264	20	104	16	2	142	48	122	19	5	194	45	101	38	0	184	784
05:30 PM	46	141	36	5	228	20	102	13	3	138	36	109	31	1	177	48	91	38	0	177	720
05:45 PM	37	149	29	3	218	26	98	20	0	144	35	106	21	8	170	57	86	43	0	186	718
Total	178	577	164	17	936	84	410	63	5	562	173	467	99	18	757	190	395	152	0	737	2992
Grand Total	531	2041	579	46	3197	366	1439	292	15	2112	656	1729	311	41	2737	736	1522	459	16	2733	10779
Apprch %	16.6	63.8	18.1	1.4		17.3	68.1	13.8	0.7		24	63.2	11.4	1.5		26.9	55.7	16.8	0.6		
Total %	4.9	18.9	5.4	0.4	29.7	3.4	13.4	2.7	0.1	19.6	6.1	16	2.9	0.4	25.4	6.8	14.1	4.3	0.1	25.4	
Cars	524	1997	561	46	3128	362	1418	284	15	2079	646	1699	301	41	2687	722	1494	443	16	2675	10569
% Cars	98.7	97.8	96.9	100	97.8	98.9	98.5	97.3	100	98.4	98.5	98.3	96.8	100	98.2	98.1	98.2	96.5	100	97.9	98.1
Trucks	7	44	18	0	69	4	21	8	0	33	10	30	10	0	50	14	28	16	0	58	210
% Trucks	1.3	2.2	3.1	0	2.2	1.1	1.5	2.7	0	1.6	1.5	1.7	3.2	0	1.8	1.9	1.8	3.5	0	2.1	1.9
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : SR 161 - High St
Site Code : 00000000
Start Date : 11/7/2018
Page No : 2

	HIGH ST Southbound					SR161 Westbound					HIGH ST Northbound					SR161 Eastbound					
Start Time	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
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	16	**173**	29	1	**219**	19	67	15	0	101	31	108	**14**	1	154	42	86	24	0	152	626
07:45 AM	**28**	96	20	0	144	29	77	18	0	124	43	**138**	12	0	**193**	50	95	25	0	170	631
08:00 AM	19	136	**32**	0	187	**36**	**84**	21	0	**141**	**53**	120	4	0	177	51	83	20	0	154	**659**
08:15 AM	27	105	30	**6**	168	24	70	**27**	**3**	124	37	99	14	**2**	152	**55**	**103**	**35**	**7**	**200**	644
Total Volume	90	510	111	7	718	108	298	81	3	490	164	465	44	3	676	198	367	104	7	676	2560
% App. Total	12.5	71	15.5	1		22	60.8	16.5	0.6		24.3	68.8	6.5	0.4		29.3	54.3	15.4	1		
PHF	.804	.737	.867	.292	.820	.750	.887	.750	.250	.869	.774	.842	.786	.375	.876	.900	.891	.743	.250	.845	.971
Cars	87	498	109	7	701	105	289	79	3	476	158	449	42	3	652	194	361	93	7	655	2484
% Cars	96.7	97.6	98.2	100	97.6	97.2	97.0	97.5	100	97.1	96.3	96.6	95.5	100	96.4	98.0	98.4	89.4	100	96.9	97.0
Trucks	3	12	2	0	17	3	9	2	0	14	6	16	2	0	24	4	6	11	0	21	76
% Trucks	3.3	2.4	1.8	0	2.4	2.8	3.0	2.5	0	2.9	3.7	3.4	4.5	0	3.6	2.0	1.6	10.6	0	3.1	3.0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : SR 161 - High St
Site Code : 00000000
Start Date : 11/7/2018
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	HIGH ST Southbound					SR161 Westbound					HIGH ST Northbound					SR161 Eastbound					
Start Time	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
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	35	124	47	**11**	217	**25**	100	**16**	2	**143**	44	**136**	21	1	202	43	114	25	**5**	187	749
05:00 PM	41	132	**51**	2	226	18	**106**	14	0	138	**54**	130	28	4	**216**	40	**117**	33	0	**190**	770
05:15 PM	**54**	**155**	48	7	**264**	20	104	16	2	142	48	122	19	**5**	194	45	101	**38**	0	184	**784**
05:30 PM	46	141	36	5	228	20	102	13	**3**	138	36	109	**31**	1	177	**48**	91	38	0	177	720
Total Volume	176	552	182	25	935	83	412	59	7	561	182	497	99	11	789	176	423	134	5	738	3023
% App. Total	18.8	59	19.5	2.7		14.8	73.4	10.5	1.2		23.1	63	12.5	1.4		23.8	57.3	18.2	0.7		
PHF	.815	.890	.892	.568	.885	.830	.972	.922	.583	.981	.843	.914	.798	.550	.913	.917	.904	.882	.250	.971	.964
Cars	176	545	182	25	928	83	411	59	7	560	182	491	97	11	781	176	420	133	5	734	3003
% Cars	100	98.7	100	100	99.3	100	99.8	100	100	99.8	100	98.8	98.0	100	99.0	100	99.3	99.3	100	99.5	99.3
Trucks	0	7	0	0	7	0	1	0	0	1	0	6	2	0	8	0	3	1	0	4	20
% Trucks	0	1.3	0	0	0.7	0	0.2	0	0	0.2	0	1.2	2.0	0	1.0	0	0.7	0.7	0	0.5	0.7
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : ~~Worthington Rd~~ - Evening St
Site Code : 00000000
Start Date : 11/14/2018
Page No : 1

Groups Printed- Cars - Trucks - Pedestrians

	EVENING ST Southbound					SR 161 Westbound					EVENING ST Northbound					SR 161 Eastbound					
Start Time	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
07:00 AM	4	5	127	0	136	0	176	2	3	181	25	2	0	2	29	25	138	13	1	177	523
07:15 AM	3	10	195	0	208	0	163	4	4	171	29	14	1	6	50	32	155	22	0	209	638
07:30 AM	2	6	79	0	87	1	151	3	0	155	32	9	1	6	48	33	186	28	3	250	540
07:45 AM	4	18	54	2	78	0	144	3	0	147	20	28	1	21	70	21	145	15	6	187	482
Total	13	39	455	2	509	1	634	12	7	654	106	53	3	35	197	111	624	78	10	823	2183
	12	56	274			1	600	13		614	86	52	4			87	665	79		843	1992
08:00 AM	5	20	70	9	104	0	154	3	0	157	19	8	2	12	41	25	156	17	3	201	503
08:15 AM	1	12	71	0	84	0	151	4	0	155	15	7	0	1	23	8	178	19	0	205	467
08:30 AM	1	8	38	0	47	0	164	1	0	165	17	6	1	1	25	22	172	26	1	221	458
08:45 AM	0	7	39	0	46	2	129	1	0	132	17	9	1	0	27	18	173	21	0	212	417
Total	7	47	218	9	281	2	598	9	0	609	68	30	4	14	116	73	679	83	4	839	1845
*** BREAK ***																					
04:00 PM	3	10	64	4	81	0	165	2	0	167	42	14	3	0	59	37	196	45	7	285	592
04:15 PM	1	17	41	0	59	0	174	3	0	177	25	8	0	0	33	43	193	43	1	280	549
04:30 PM	4	8	43	1	56	0	165	4	0	169	25	7	2	1	35	52	185	26	0	263	523
04:45 PM	1	8	47	0	56	0	202	2	0	204	28	9	1	1	39	55	206	29	0	290	589
Total	9	43	195	5	252	0	706	11	0	717	120	38	6	2	166	187	780	143	8	1118	2253
05:00 PM	4	18	55	0	77	0	151	3	0	154	39	12	1	3	55	57	218	27	0	302	588
05:15 PM	2	11	54	0	67	0	218	2	0	220	32	10	2	0	44	53	191	22	0	266	597
05:30 PM	1	11	58	0	70	0	173	7	0	180	31	16	0	0	47	55	179	28	0	262	559
05:45 PM	1	13	42	2	58	0	164	6	0	170	36	16	1	0	53	55	177	54	0	286	567
Total	8	53	209	2	272	0	706	18	0	724	138	54	4	3	199	220	765	131	0	1116	2311
Grand Total	37	182	1077	18	1314	3	2644	50	7	2704	432	175	17	54	678	591	2848	435	22	3896	8592
Apprch %	2.8	13.9	82	1.4		0.1	97.8	1.8	0.3		63.7	25.8	2.5	8		15.2	73.1	11.2	0.6		
Total %	0.4	2.1	12.5	0.2	15.3	0	30.8	0.6	0.1	31.5	5	2	0.2	0.6	7.9	6.9	33.1	5.1	0.3	45.3	
Cars	36	181	1071	18	1306	3	2574	50	7	2634	428	174	15	54	671	589	2764	431	22	3806	8417
% Cars	97.3	99.5	99.4	100	99.4	100	97.4	100	100	97.4	99.1	99.4	88.2	100	99	99.7	97.1	99.1	100	97.7	98
Trucks	1	1	6	0	8	0	70	0	0	70	4	1	2	0	7	2	84	4	0	90	175
% Trucks	2.7	0.5	0.6	0	0.6	0	2.6	0	0	2.6	0.9	0.6	11.8	0	1	0.3	2.9	0.9	0	2.3	2
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : ~~Worthington Rd~~ - Evening St
Site Code : 00000000
Start Date : 11/14/2018
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	EVENING ST Southbound					SR 161 Westbound					EVENING ST Northbound					SR 161 Eastbound					
Start Time	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
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	**4**	5	127	0	136	0	**176**	2	3	**181**	25	2	0	2	29	25	138	13	1	177	523
07:15 AM	3	10	**195**	0	**208**	0	163	**4**	**4**	171	29	14	**1**	6	50	32	155	22	0	209	**638**
07:30 AM	2	6	79	0	87	1	151	3	0	155	**32**	9	1	6	48	**33**	**186**	**28**	3	**250**	540
07:45 AM	4	**18**	54	**2**	78	0	144	3	0	147	20	**28**	1	**21**	**70**	21	145	15	**6**	187	482
Total Volume	13	39	455	2	509	1	634	12	7	654	106	53	3	35	197	111	624	78	10	823	2183
% App. Total	2.6	7.7	89.4	0.4		0.2	96.9	1.8	1.1		53.8	26.9	1.5	17.8		13.5	75.8	9.5	1.2		
PHF	.813	.542	.583	.250	.612	.250	.901	.750	.438	.903	.828	.473	.750	.417	.704	.841	.839	.696	.417	.823	.855
Cars	12	39	453	2	506	1	617	12	7	637	106	53	3	35	197	111	605	76	10	802	2142
% Cars	92.3	100	99.6	100	99.4	100	97.3	100	100	97.4	100	100	100	100	100	100	97.0	97.4	100	97.4	98.1
Trucks	1	0	2	0	3	0	17	0	0	17	0	0	0	0	0	0	19	2	0	21	41
% Trucks	7.7	0	0.4	0	0.6	0	2.7	0	0	2.6	0	0	0	0	0	0	3.0	2.6	0	2.6	1.9
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : ~~Washington Rd~~ - Evening St
Site Code : 00000000
Start Date : 11/14/2018
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	EVENING ST Southbound					SR 161 Westbound					EVENING ST Northbound					SR 161 Eastbound					
Start Time	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
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	1	8	47	0	56	0	202	2	0	204	28	9	1	1	39	55	206	**29**	0	290	589
05:00 PM	**4**	**18**	55	0	**77**	0	151	3	0	154	**39**	12	1	**3**	**55**	**57**	**218**	27	0	**302**	588
05:15 PM	2	11	54	0	67	0	**218**	2	0	**220**	32	10	**2**	0	44	53	191	22	0	266	**597**
05:30 PM	1	11	**58**	0	70	0	173	**7**	0	180	31	**16**	0	0	47	55	179	28	0	262	559
Total Volume	8	48	214	0	270	0	744	14	0	758	130	47	4	4	185	220	794	106	0	1120	2333
% App. Total	3	17.8	79.3	0		0	98.2	1.8	0		70.3	25.4	2.2	2.2		19.6	70.9	9.5	0		
PHF	.500	.667	.922	.000	.877	.000	.853	.500	.000	.861	.833	.734	.500	.333	.841	.965	.911	.914	.000	.927	.977
Cars	8	48	214	0	270	0	737	14	0	751	128	47	4	4	183	220	779	105	0	1104	2308
% Cars	100	100	100	0	100	0	99.1	100	0	99.1	98.5	100	100	100	98.9	100	98.1	99.1	0	98.6	98.9
Trucks	0	0	0	0	0	0	7	0	0	7	2	0	0	0	2	0	15	1	0	16	25
% Trucks	0	0	0	0	0	0	0.9	0	0	0.9	1.5	0	0	0	1.1	0	1.9	0.9	0	1.4	1.1
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : Evening - Greenbriar
Site Code : 00000000
Start Date : 3/18/2015
Page No : 1

Groups Printed- Cars - Trucks

	EVENING ST Southbound					GREENBRIAR CT Westbound					EVENING ST Northbound					Eastbound					
Start Time	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
07:30 AM	0	51	0	0	51	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	67
07:45 AM	0	31	0	0	31	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	45
Total	0	82	0	0	82	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	112
08:00 AM	0	48	0	0	48	0	0	0	4	4	0	22	0	0	22	0	0	0	0	0	74
08:15 AM	0	39	0	0	39	1	0	1	0	2	0	24	2	0	26	0	0	0	0	0	67
*** BREAK ***																					
Total	0	87	0	0	87	1	0	1	4	6	0	46	2	0	48	0	0	0	0	0	141
*** BREAK ***																					
05:00 PM	0	35	0	0	35	1	0	0	0	1	0	47	0	1	48	0	0	0	0	0	84
05:15 PM	0	39	0	0	39	0	0	1	0	1	0	39	3	0	42	0	0	0	0	0	82
05:30 PM	0	28	0	0	28	1	0	0	0	1	0	53	0	2	55	0	0	0	0	0	84
05:45 PM	2	37	0	0	39	1	0	1	0	2	0	56	0	2	58	0	0	0	0	0	99
Total	2	139	0	0	141	3	0	2	0	5	0	195	3	5	203	0	0	0	0	0	349
Grand Total	2	308	0	0	310	4	0	3	4	11	0	271	5	5	281	0	0	0	0	0	602
Apprch %	0.6	99.4	0	0		36.4	0	27.3	36.4		0	96.4	1.8	1.8		0	0	0	0		
Total %	0.3	51.2	0	0	51.5	0.7	0	0.5	0.7	1.8	0	45	0.8	0.8	46.7	0	0	0	0	0	
Cars	0	307	0	0	307	3	0	3	4	10	0	269	4	5	278	0	0	0	0	0	595
% Cars	0	99.7	0	0	99	75	0	100	100	90.9	0	99.3	80	100	98.9	0	0	0	0	0	98.8
Trucks	2	1	0	0	3	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	7
% Trucks	100	0.3	0	0	1	25	0	0	0	9.1	0	0.7	20	0	1.1	0	0	0	0	0	1.2

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File Name : Evening - Greenbriar
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	EVENING ST Southbound					GREENBRIAR CT Westbound					EVENING ST Northbound					Eastbound					
Start Time	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
Peak Hour Analysis From 07:30 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	**51**	0	0	**51**	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	67
07:45 AM	0	31	0	0	31	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	45
08:00 AM	0	48	0	0	48	0	0	0	**4**	**4**	0	22	0	0	22	0	0	0	0	0	**74**
08:15 AM	0	39	0	0	39	**1**	0	**1**	0	2	0	**24**	**2**	0	**26**	0	0	0	0	0	67
Total Volume	0	169	0	0	169	1	0	1	4	6	0	76	2	0	78	0	0	0	0	0	253
% App. Total	0	100	0	0		16.7	0	16.7	66.7		0	97.4	2.6	0		0	0	0	0		
PHF	.000	.828	.000	.000	.828	.250	.000	.250	.250	.375	.000	.792	.250	.000	.750	.000	.000	.000	.000	.000	.855

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File Name : Evening - Greenbriar
Site Code : 00000000
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	EVENING ST Southbound					GREENBRIAR CT Westbound					EVENING ST Northbound					Eastbound					
Start Time	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
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	0	35	0	0	35	**1**	0	0	0	1	0	47	0	1	48	0	0	0	0	0	84
05:15 PM	0	**39**	0	0	**39**	0	0	**1**	0	1	0	39	**3**	0	42	0	0	0	0	0	82
05:30 PM	0	28	0	0	28	1	0	0	0	1	0	53	0	**2**	55	0	0	0	0	0	84
05:45 PM	**2**	37	0	0	39	1	0	1	0	**2**	0	**56**	0	2	**58**	0	0	0	0	0	**99**
Total Volume	2	139	0	0	141	3	0	2	0	5	0	195	3	5	203	0	0	0	0	0	349
% App. Total	1.4	98.6	0	0		60	0	40	0		0	96.1	1.5	2.5		0	0	0	0		
PHF	.250	.891	.000	.000	.904	.750	.000	.500	.000	.625	.000	.871	.250	.625	.875	.000	.000	.000	.000	.000	.881

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File Name : Highgate - Evening
Site Code : 00000000
Start Date : 3/11/2015
Page No : 1

Groups Printed- Cars - Trucks

	HIGHGATE AVE Southbound					EVENING ST Westbound					HIGHGATE AVE Northbound					EVENING ST Eastbound					
Start Time	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
07:00 AM	31	0	0	0	31	1	0	9	0	10	0	2	11	0	13	0	0	0	0	0	54
07:15 AM	39	1	0	0	40	0	0	10	0	10	0	3	24	0	27	0	0	0	0	0	77
07:30 AM	64	0	0	2	66	3	0	18	0	21	0	0	16	0	16	0	0	0	0	0	103
07:45 AM	35	0	0	0	35	4	0	14	0	18	0	1	17	0	18	0	0	0	5	5	76
Total	169	1	0	2	172	8	0	51	0	59	0	6	68	0	74	0	0	0	5	5	310
08:00 AM	22	1	0	0	23	5	0	20	0	25	0	2	25	0	27	0	0	0	17	17	92
08:15 AM	27	1	0	0	28	6	0	15	8	29	0	0	21	1	22	0	0	0	1	1	80
08:30 AM	24	0	0	0	24	2	0	22	0	24	0	2	11	0	13	0	0	0	0	0	61
08:45 AM	14	0	0	0	14	4	0	11	1	16	0	0	11	0	11	0	0	0	0	0	41
Total	87	2	0	0	89	17	0	68	9	94	0	4	68	1	73	0	0	0	18	18	274
*** BREAK ***																					
04:00 PM	12	1	0	3	16	15	0	20	0	35	0	0	4	1	5	0	0	0	0	0	56
04:15 PM	12	2	0	1	15	7	0	19	0	26	0	1	7	2	10	0	0	0	1	1	52
04:30 PM	15	0	0	1	16	10	0	23	1	34	0	0	2	0	2	0	0	0	1	1	53
04:45 PM	16	0	0	0	16	12	0	27	1	40	0	1	6	1	8	0	0	0	0	0	64
Total	55	3	0	5	63	44	0	89	2	135	0	2	19	4	25	0	0	0	2	2	225
05:00 PM	25	3	0	0	28	21	0	27	0	48	0	1	9	0	10	0	0	0	0	0	86
05:15 PM	18	0	0	1	19	8	0	32	4	44	0	0	11	0	11	0	0	0	1	1	75
05:30 PM	18	3	0	0	21	18	0	50	0	68	0	2	9	1	12	0	0	0	0	0	101
05:45 PM	21	2	0	0	23	15	0	46	2	63	0	0	9	0	9	0	0	0	0	0	95
Total	82	8	0	1	91	62	0	155	6	223	0	3	38	1	42	0	0	0	1	1	357
Grand Total	393	14	0	8	415	131	0	363	17	511	0	15	193	6	214	0	0	0	26	26	1166
Apprch %	94.7	3.4	0	1.9		25.6	0	71	3.3		0	7	90.2	2.8		0	0	0	100		
Total %	33.7	1.2	0	0.7	35.6	11.2	0	31.1	1.5	43.8	0	1.3	16.6	0.5	18.4	0	0	0	2.2	2.2	
Cars	389	14	0	8	411	131	0	360	17	508	0	15	191	6	212	0	0	0	26	26	1157
% Cars	99	100	0	100	99	100	0	99.2	100	99.4	0	100	99	100	99.1	0	0	0	100	100	99.2
Trucks	4	0	0	0	4	0	0	3	0	3	0	0	2	0	2	0	0	0	0	0	9
% Trucks	1	0	0	0	1	0	0	0.8	0	0.6	0	0	1	0	0.9	0	0	0	0	0	0.8

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File Name : Highgate - Evening
Site Code : 00000000
Start Date : 3/11/2015
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	HIGHGATE AVE Southbound					EVENING ST Westbound					HIGHGATE AVE Northbound					EVENING ST Eastbound					
Start Time	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
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	**64**	0	0	**2**	**66**	3	0	18	0	21	0	0	16	0	16	0	0	0	0	0	**103**
07:45 AM	35	0	0	0	35	4	0	14	0	18	0	1	17	0	18	0	0	0	5	5	76
08:00 AM	22	**1**	0	0	23	5	0	**20**	0	25	0	**2**	**25**	0	**27**	0	0	0	**17**	**17**	92
08:15 AM	27	1	0	0	28	**6**	0	15	**8**	**29**	0	0	21	**1**	22	0	0	0	1	1	80
Total Volume	148	2	0	2	152	18	0	67	8	93	0	3	79	1	83	0	0	0	23	23	351
% App. Total	97.4	1.3	0	1.3		19.4	0	72	8.6		0	3.6	95.2	1.2		0	0	0	100		
PHF	.578	.500	.000	.250	.576	.750	.000	.838	.250	.802	.000	.375	.790	.250	.769	.000	.000	.000	.338	.338	.852

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File Name : Highgate - Evening
Site Code : 00000000
Start Date : 3/11/2015
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	HIGHGATE AVE Southbound					EVENING ST Westbound					HIGHGATE AVE Northbound					EVENING ST Eastbound					
Start Time	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
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	**25**	**3**	0	0	**28**	**21**	0	27	0	48	0	1	9	0	10	0	0	0	0	0	86
05:15 PM	18	0	0	**1**	19	8	0	32	**4**	44	0	0	**11**	0	11	0	0	0	**1**	**1**	75
05:30 PM	18	3	0	0	21	18	0	**50**	0	**68**	0	**2**	9	**1**	**12**	0	0	0	0	0	**101**
05:45 PM	21	2	0	0	23	15	0	46	2	63	0	0	9	0	9	0	0	0	0	0	95
Total Volume	82	8	0	1	91	62	0	155	6	223	0	3	38	1	42	0	0	0	1	1	357
% App. Total	90.1	8.8	0	1.1		27.8	0	69.5	2.7		0	7.1	90.5	2.4		0	0	0	100		
PHF	.820	.667	.000	.250	.813	.738	.000	.775	.375	.820	.000	.375	.864	.250	.875	.000	.000	.000	.250	.250	.884

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File Name : Larrimer - Longfellow
Site Code : 00000000
Start Date : 3/19/2015
Page No : 1

Groups Printed- Cars - Trucks

	LONGFELLOW AVE Southbound					LARRIMER AVE Westbound					LONGFELLOW AVE Northbound					LARRIMER AVE Eastbound					
Start Time	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
07:30 AM	1	10	2	0	13	1	14	1	0	16	0	1	6	0	7	2	15	0	1	18	54
07:45 AM	6	4	5	0	15	2	25	1	0	28	0	1	13	0	14	1	20	0	0	21	78
Total	7	14	7	0	28	3	39	2	0	44	0	2	19	0	21	3	35	0	1	39	132
08:00 AM	2	5	11	0	18	0	35	1	0	36	1	0	9	0	10	3	37	0	0	40	104
08:15 AM	1	2	4	1	8	3	27	0	2	32	0	0	4	0	4	0	34	1	0	35	79
*** BREAK ***																					
Total	3	7	15	1	26	3	62	1	2	68	1	0	13	0	14	3	71	1	0	75	183
*** BREAK ***																					
05:00 PM	2	1	1	0	4	8	22	1	0	31	0	3	7	1	11	4	13	0	0	17	63
05:15 PM	0	3	0	2	5	7	16	2	1	26	0	2	4	0	6	0	15	0	0	15	52
05:30 PM	3	3	2	0	8	7	28	2	0	37	0	2	7	0	9	2	23	0	0	25	79
05:45 PM	2	1	3	0	6	9	50	2	0	61	0	3	6	0	9	1	24	0	1	26	102
Total	7	8	6	2	23	31	116	7	1	155	0	10	24	1	35	7	75	0	1	83	296
Grand Total	17	29	28	3	77	37	217	10	3	267	1	12	56	1	70	13	181	1	2	197	611
Apprch %	22.1	37.7	36.4	3.9		13.9	81.3	3.7	1.1		1.4	17.1	80	1.4		6.6	91.9	0.5	1		
Total %	2.8	4.7	4.6	0.5	12.6	6.1	35.5	1.6	0.5	43.7	0.2	2	9.2	0.2	11.5	2.1	29.6	0.2	0.3	32.2	
Cars	17	29	25	3	74	37	204	10	3	254	1	12	56	1	70	12	177	1	2	192	590
% Cars	100	100	89.3	100	96.1	100	94	100	100	95.1	100	100	100	100	100	92.3	97.8	100	100	97.5	96.6
Trucks	0	0	3	0	3	0	13	0	0	13	0	0	0	0	0	1	4	0	0	5	21
% Trucks	0	0	10.7	0	3.9	0	6	0	0	4.9	0	0	0	0	0	7.7	2.2	0	0	2.5	3.4

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File Name : Larrimer - Longfellow
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	LONGFELLOW AVE Southbound					LARRIMER AVE Westbound					LONGFELLOW AVE Northbound					LARRIMER AVE Eastbound					
Start Time	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
Peak Hour Analysis From 07:30 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	1	**10**	2	0	13	1	14	**1**	0	16	0	**1**	6	0	7	2	15	0	**1**	18	54
07:45 AM	**6**	4	5	0	15	2	25	1	0	28	0	1	**13**	0	**14**	1	20	0	0	21	78
08:00 AM	2	5	**11**	0	**18**	0	**35**	1	0	**36**	**1**	0	9	0	10	**3**	**37**	0	0	**40**	**104**
08:15 AM	1	2	4	**1**	8	**3**	27	0	**2**	32	0	0	4	0	4	0	34	**1**	0	35	79
Total Volume	10	21	22	1	54	6	101	3	2	112	1	2	32	0	35	6	106	1	1	114	315
% App. Total	18.5	38.9	40.7	1.9		5.4	90.2	2.7	1.8		2.9	5.7	91.4	0		5.3	93	0.9	0.9		
PHF	.417	.525	.500	.250	.750	.500	.721	.750	.250	.778	.250	.500	.615	.000	.625	.500	.716	.250	.250	.713	.757

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	LONGFELLOW AVE Southbound					LARRIMER AVE Westbound					LONGFELLOW AVE Northbound					LARRIMER AVE Eastbound					
Start Time	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
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	2	1	1	0	4	8	22	1	0	31	0	**3**	**7**	**1**	**11**	**4**	13	0	0	17	63
05:15 PM	0	**3**	0	**2**	5	7	16	**2**	**1**	26	0	2	4	0	6	0	15	0	0	15	52
05:30 PM	**3**	3	2	0	**8**	7	28	2	0	37	0	2	7	0	9	2	23	0	0	25	79
05:45 PM	2	1	**3**	0	6	**9**	**50**	2	0	**61**	0	3	6	0	9	1	**24**	0	**1**	**26**	**102**
Total Volume	7	8	6	2	23	31	116	7	1	155	0	10	24	1	35	7	75	0	1	83	296
% App. Total	30.4	34.8	26.1	8.7		20	74.8	4.5	0.6		0	28.6	68.6	2.9		8.4	90.4	0	1.2		
PHF	.583	.667	.500	.250	.719	.861	.580	.875	.250	.635	.000	.833	.857	.250	.795	.438	.781	.000	.250	.798	.725

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Groups Printed- Cars - Trucks

	EVENING Southbound					LONFELLOW Westbound					EVENING Northbound					LONFELLOW Eastbound					
Start Time	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
07:00 AM	0	22	1	0	23	4	1	0	0	5	2	8	3	0	13	0	6	1	0	7	48
07:15 AM	0	25	1	0	26	11	0	0	0	11	0	10	3	0	13	3	8	5	0	16	66
07:30 AM	0	29	0	0	29	15	1	0	2	18	0	16	4	0	20	0	5	9	0	14	81
07:45 AM	0	19	1	0	20	2	0	0	0	2	3	9	2	0	14	1	6	6	0	13	49
Total	0	95	3	0	98	32	2	0	2	36	5	43	12	0	60	4	25	21	0	50	244
08:00 AM	0	9	0	0	9	3	2	0	0	5	3	11	3	1	18	0	7	4	0	11	43
08:15 AM	0	11	0	0	11	6	0	1	0	7	2	10	1	0	13	1	2	6	0	9	40
08:30 AM	0	13	2	0	15	5	2	0	0	7	5	13	5	0	23	0	4	4	0	8	53
08:45 AM	0	4	0	0	4	4	1	0	2	7	2	8	2	2	14	0	4	3	0	7	32
Total	0	37	2	0	39	18	5	1	2	26	12	42	11	3	68	1	17	17	0	35	168
*** BREAK ***																					
04:00 PM	0	5	0	0	5	2	1	0	0	3	3	13	4	0	20	0	0	4	0	4	32
04:15 PM	0	10	0	0	10	4	3	2	0	9	2	12	2	0	16	0	3	2	2	7	42
04:30 PM	0	11	2	0	13	2	1	0	0	3	0	17	1	1	19	1	1	3	1	6	41
04:45 PM	0	12	0	0	12	4	6	0	0	10	7	12	5	2	26	0	2	5	1	8	56
Total	0	38	2	0	40	12	11	2	0	25	12	54	12	3	81	1	6	14	4	25	171
05:00 PM	0	10	0	1	11	6	6	0	2	14	3	16	5	0	24	3	2	5	0	10	59
05:15 PM	1	10	2	0	13	5	5	0	4	14	11	20	1	3	35	0	2	4	4	10	72
05:30 PM	1	13	0	0	14	9	6	1	0	16	3	36	10	1	50	1	4	1	0	6	86
05:45 PM	0	7	2	1	10	11	3	1	0	15	5	32	6	0	43	0	4	2	1	7	75
Total	2	40	4	2	48	31	20	2	6	59	22	104	22	4	152	4	12	12	5	33	292
Grand Total	2	210	11	2	225	93	38	5	10	146	51	243	57	10	361	10	60	64	9	143	875
Apprch %	0.9	93.3	4.9	0.9		63.7	26	3.4	6.8		14.1	67.3	15.8	2.8		7	42	44.8	6.3		
Total %	0.2	24	1.3	0.2	25.7	10.6	4.3	0.6	1.1	16.7	5.8	27.8	6.5	1.1	41.3	1.1	6.9	7.3	1	16.3	
Cars	2	207	9	2	220	93	38	5	10	146	51	240	57	10	358	10	58	61	9	138	862
% Cars	100	98.6	81.8	100	97.8	100	100	100	100	100	100	98.8	100	100	99.2	100	96.7	95.3	100	96.5	98.5
Trucks	0	3	2	0	5	0	0	0	0	0	0	3	0	0	3	0	2	3	0	5	13
% Trucks	0	1.4	18.2	0	2.2	0	0	0	0	0	0	1.2	0	0	0.8	0	3.3	4.7	0	3.5	1.5

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	EVENING Southbound					LONFELLOW Westbound					EVENING Northbound					LONFELLOW Eastbound					
Start Time	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
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	0	22	**1**	0	23	4	**1**	0	0	5	2	8	3	0	13	0	6	1	0	7	48
07:15 AM	0	25	1	0	26	11	0	0	0	11	0	10	3	0	13	**3**	**8**	5	0	**16**	66
07:30 AM	0	**29**	0	0	**29**	**15**	1	0	**2**	**18**	0	**16**	**4**	0	**20**	0	5	**9**	0	14	**81**
07:45 AM	0	19	1	0	20	2	0	0	0	2	**3**	9	2	0	14	1	6	6	0	13	49
Total Volume	0	95	3	0	98	32	2	0	2	36	5	43	12	0	60	4	25	21	0	50	244
% App. Total	0	96.9	3.1	0		88.9	5.6	0	5.6		8.3	71.7	20	0		8	50	42	0		
PHF	.000	.819	.750	.000	.845	.533	.500	.000	.250	.500	.417	.672	.750	.000	.750	.333	.781	.583	.000	.781	.753

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	EVENING Southbound					LONFELLOW Westbound					EVENING Northbound					LONFELLOW Eastbound					
Start Time	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
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	0	10	0	**1**	11	6	**6**	0	2	14	3	16	5	0	24	**3**	2	**5**	0	**10**	59
05:15 PM	**1**	10	**2**	0	13	5	5	0	**4**	14	**11**	20	1	**3**	35	0	2	4	**4**	10	72
05:30 PM	1	**13**	0	0	**14**	9	6	**1**	0	**16**	3	**36**	**10**	1	**50**	1	**4**	1	0	6	**86**
05:45 PM	0	7	2	1	10	**11**	3	1	0	15	5	32	6	0	43	0	4	2	1	7	75
Total Volume	2	40	4	2	48	31	20	2	6	59	22	104	22	4	152	4	12	12	5	33	292
% App. Total	4.2	83.3	8.3	4.2		52.5	33.9	3.4	10.2		14.5	68.4	14.5	2.6		12.1	36.4	36.4	15.2		
PHF	.500	.769	.500	.500	.857	.705	.833	.500	.375	.922	.500	.722	.550	.333	.760	.333	.750	.600	.313	.825	.849

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Groups Printed- Cars - Trucks

	EVENING Southbound					STAFFORD Westbound					EVENING Northbound					Eastbound					
Start Time	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
07:30 AM	5	65	0	0	70	38	0	1	0	39	0	33	2	0	35	0	0	0	2	2	146
07:45 AM	4	41	0	1	46	7	0	3	9	19	0	41	1	0	42	0	0	0	0	0	107
Total	9	106	0	1	116	45	0	4	9	58	0	74	3	0	77	0	0	0	2	2	253
08:00 AM	15	35	0	0	50	11	0	4	42	57	0	73	11	0	84	0	0	0	2	2	193
08:15 AM	12	49	0	0	61	7	0	7	13	27	0	41	6	1	48	0	0	0	4	4	140
*** BREAK ***																					
Total	27	84	0	0	111	18	0	11	55	84	0	114	17	1	132	0	0	0	6	6	333
*** BREAK ***																					
05:00 PM	2	82	0	0	84	17	0	3	0	20	0	80	5	0	85	0	0	0	1	1	190
05:15 PM	0	73	0	1	74	17	0	4	0	21	0	73	4	0	77	0	0	0	0	0	172
05:30 PM	0	57	0	0	57	15	0	6	0	21	0	109	2	0	111	0	0	0	0	0	189
05:45 PM	9	61	0	0	70	6	0	5	4	15	0	86	11	0	97	0	0	0	1	1	183
Total	11	273	0	1	285	55	0	18	4	77	0	348	22	0	370	0	0	0	2	2	734
Grand Total	47	463	0	2	512	118	0	33	68	219	0	536	42	1	579	0	0	0	10	10	1320
Apprch %	9.2	90.4	0	0.4		53.9	0	15.1	31.1		0	92.6	7.3	0.2		0	0	0	100		
Total %	3.6	35.1	0	0.2	38.8	8.9	0	2.5	5.2	16.6	0	40.6	3.2	0.1	43.9	0	0	0	0.8	0.8	
Cars	40	458	0	2	500	118	0	33	68	219	0	533	42	1	576	0	0	0	10	10	1305
% Cars	85.1	98.9	0	100	97.7	100	0	100	100	100	0	99.4	100	100	99.5	0	0	0	100	100	98.9
Trucks	7	5	0	0	12	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	15
% Trucks	14.9	1.1	0	0	2.3	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	1.1

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	EVENING Southbound					STAFFORD Westbound					EVENING Northbound					Eastbound					
Start Time	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
Peak Hour Analysis From 07:30 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	5	**65**	0	0	**70**	**38**	0	1	0	39	0	33	2	0	35	0	0	0	2	2	146
07:45 AM	4	41	0	**1**	46	7	0	3	9	19	0	41	1	0	42	0	0	0	0	0	107
08:00 AM	**15**	35	0	0	50	11	0	4	**42**	**57**	0	**73**	**11**	0	**84**	0	0	0	2	2	**193**
08:15 AM	12	49	0	0	61	7	0	**7**	13	27	0	41	6	**1**	48	0	0	0	**4**	**4**	140
Total Volume	36	190	0	1	227	63	0	15	64	142	0	188	20	1	209	0	0	0	8	8	586
% App. Total	15.9	83.7	0	0.4		44.4	0	10.6	45.1		0	90	9.6	0.5		0	0	0	100		
PHF	.600	.731	.000	.250	.811	.414	.000	.536	.381	.623	.000	.644	.455	.250	.622	.000	.000	.000	.500	.500	.759

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	EVENING Southbound					STAFFORD Westbound					EVENING Northbound					Eastbound					
Start Time	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
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	2	**82**	0	0	**84**	**17**	0	3	0	20	0	80	5	0	85	0	0	0	**1**	**1**	**190**
05:15 PM	0	73	0	**1**	74	17	0	4	0	**21**	0	73	4	0	77	0	0	0	0	0	172
05:30 PM	0	57	0	0	57	15	0	**6**	0	21	0	**109**	2	0	**111**	0	0	0	0	0	189
05:45 PM	**9**	61	0	0	70	6	0	5	**4**	15	0	86	**11**	0	97	0	0	0	1	1	183
Total Volume	11	273	0	1	285	55	0	18	4	77	0	348	22	0	370	0	0	0	2	2	734
% App. Total	3.9	95.8	0	0.4		71.4	0	23.4	5.2		0	94.1	5.9	0		0	0	0	100		
PHF	.306	.832	.000	.250	.848	.809	.000	.750	.250	.917	.000	.798	.500	.000	.833	.000	.000	.000	.500	.500	.966

Wu, Charles

From: Chandra Parasa <cparasa@morpc.org>
Sent: Thursday, March 26, 2015 9:52 AM
To: Wu, Charles
Cc: Creed, Larry; Bender, Douglas; Zhuojun Jiang; Hwashik Jang; Nick Gill
Subject: RE: Request traffic growth rate for United Methodist Children's Home site

Categories: Filed by Newforma

Charles,
We have completed processing growth rate request for the study area at United Methodist Children's Home site.
Please use the following linear annual growth rates as tabulated here:

Location	Linear annual Growth rate
High Street, n/o Worthington Galena Rd	1.00%
High Street, s/o Worthington Galena Rd	1.00%
Worthington Galena Rd, e/o High Street	1.00%
Wesley Blvd, w/o High Street	1.00%
High Street, n/o SR 161	0.75%
High Street, s/o SR 161	0.75%
SR 161, e/o High Street	0.50%
SR 161, w/o High Street	0.50%

Thanks,
Chad

From: Wu, Charles [mailto:cwu@emht.com]
Sent: Thursday, March 12, 2015 2:26 PM
To: Chandra Parasa
Cc: Creed, Larry; Bender, Douglas
Subject: Request traffic growth rate for United Methodist Children's Home site

Hi Chad,

I know, we have been requesting traffic growth rate for a lot of projects.
Isn't it good that development industry is booming!
This one is for United Methodist Children's Home site in Worthington.

The required information is as follow:

- We will apply the request growth rate from the attached traffic count data.
- The opening day is 2018 and design year is 2028.
- There is no known roadway network changes in the vicinity.
- The proposed site plan is attached. The site is the redevelopment of existing United Methodist Children's Home on west side of N High Street.
- The land use assumption is as follow.
  General Commercial/Retail uses in the range of 40,000 SF

Medical office of roughly 70,000 SF
Around 425 residential units comprised of a variety of single-family and multi-family formats.

- Contact person with City of Worthington is William Watterson
- Intersections for analysis are
  High Street/SR161, High Street/Wesley Blvd/Worthington Galena, High Street/Larrimer Ave, High Street/Wilson Bridge Rd
  Evening Street/SR161, Evening Street/Highgate Ave, Evening Street/Longfellow Ave, Larrimer Ave/Longfellow Ave
- We would like to request the growth rate for SR161, High Street, and Worthington Galena Road. The rest of the streets in the area are residential streets and are well developed. However, if there is growth for other streets. Please let us know as well.

As always, if there is any other addition information is needed, please feel free to let me know.

Thanks

Charles Wu, P.E.
Traffic Engineer

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United Methodist Children's Home
Traffic Impact Study
Trip Generation Calculations
Institute of Transportation Engineers, 10th Edition

Land Use	Square Feet or Units	ITE Code	Time Period	ITE Formula	Total Trips	Trips Entering	Trips Exiting
Single Family - Detached	19 units	210	ADT	Ln(T)=0.92Ln(x)+2.71	226	113	113
			AM Peak	T=0.71(x)+4.8	18	5	13
			PM Peak	Ln(T)=0.96Ln(x)+0.2	21	13	8
Multifamily Housing Low-Rise (One or two floors)	166 units	220	ADT	T=7.56(x) - 40.86	1,214	607	607
			AM Peak	Ln(T)=0.95Ln(x)-0.51	77	18	59
			PM Peak	Ln(T)=0.89Ln(x)-0.02	93	59	34
Multifamily Housing Mid-Rise (3-10 floors)	540 units	221	ADT	T=5.45(x) - 1.75	2,942	1,471	1,471
			AM Peak	Ln(T)=0.98Ln(x)-0.98	179	47	132
			PM Peak	Ln(T)=0.96Ln(x)-0.63	224	137	87
Medical-Dental Office	35,000 sf	720	ADT	T=38.42(x) -87.62	1,258	629	629
			AM Peak	Ln(T)=0.89Ln(x)+1.31	88	69	19
			PM Peak	T=3.39(x)+2.02	121	34	87
Shopping Center	30,000 sf	820	ADT	Ln(T)=0.68Ln(x)+5.57	2,652	1,326	1,326
			AM Peak	T=0.5(x)+151.78	167	See Below	
			PM Peak	Ln(T)=0.74Ln(x)+2.89	223	See Below	
			100%	AM Primary Trips	167	104	63
			0%	AM Pass-By Trips	0	0	0
			66%	PM Primary Trips	147	71	76
			34%	PM Pass-By Trips	76	38	38
Office	30,000 sf	710	ADT	Ln(T)=0.97Ln(x)+2.50	330	165	165
			AM Peak	T=0.94(x)+26.49	55	47	8
			PM Peak	Ln(T)=0.95Ln(x)+0.36	36	6	30

Trip Generation Handbook
Institute of Transportation Engineers, 2nd Edition
"Multi-Use Development Trip Generation And Internal Capture Summary"

Table 7.1 Unconstrained Internal Capture Rates for Trip ORIGINS within a Multi-Use Development

		P.M. Peak Hour of Adjacent Street Traffic	Daily
from OFFICE	to Office	1%	2%
	to Retail	23%	22%
	to Residential	2%	2%
from RETAIL	to Office	3%	3%
	to Retail	20%	30%
	to Residential	12%	11%
from RESIDENTIAL	to Office	N/A	N/A
	to Retail	53%	38%
	to Residential	N/A	N/A

Table 7.2 Unconstrained Internal Capture Rates for Trip DESTINATIONS within a Multi-Use Development

		P.M. Peak Hour of Adjacent Street Traffic	Daily
to OFFICE	from Office	6%	2%
	from Retail	31%	15%
	from Residential	0%	N/A
to RETAIL	from Office	2%	4%
	from Retail	20%	28%
	from Residential	9%	9%
to RESIDENTIAL	from Office	2%	3%
	from Retail	31%	33%
	from Residential	N/A	N/A

* AM Office with Residential interaction rates were assumed to be reversed

Trip Generation Handbook
Institute of Transportation Engineers, 2nd Edition
"Multi-Use Development Trip Generation And Internal Capture Summary"

AM Peak Hour of Adjacent Street Traffic

Retail	Total	Internal	External
In	104	0	104
Out	63	0	63
Total	167	0	167
%	100%	0%	100%

0%	0
Balanced	0
31%	15

0%	0
Balanced	0
23%	2

0%	0
Balanced	0
53%	108

0%	0
Balanced	0
31%	22

Office	Total	Internal	External
In	47	1	46
Out	8	0	8
Total	55	1	54
%	100%	2%	98%

2%	Balanced	2%
1	1	4

0%	Balanced	0%
0	0	0

Residential	Total	Internal	External
In	70	0	70
Out	204	1	203
Total	274	1	273
%	100%	0%	100%

Net External Trips for Multi-Use Development	Retail	Office	Residential	Total
In	104	46	70	220
Out	63	8	203	274
Total	167	54	273	494
Single-Use Trip Gen. Est.	167	55	274	496
			INTERNAL CAPTURE RATE	**0%**

Trip Generation Handbook
Institute of Transportation Engineers, 2nd Edition
"Multi-Use Development Trip Generation And Internal Capture Summary"

PM Peak Hour of Adjacent Street Traffic

Retail			
	Total	Internal	External
In	109	12	97
Out	114	16	98
Total	223	28	195
%	100%	13%	87%

3%	3
Balanced	2
31%	2

2%	2
Balanced	2
23%	7

9%	10
Balanced	10
53%	68

12%	14
Balanced	14
31%	65

	Total	Internal	External
In	6	2	4
Out	30	3	27
Total	36	5	31
%	100%	14%	86%
Office			

0%	Balanced	0%
0	0	0

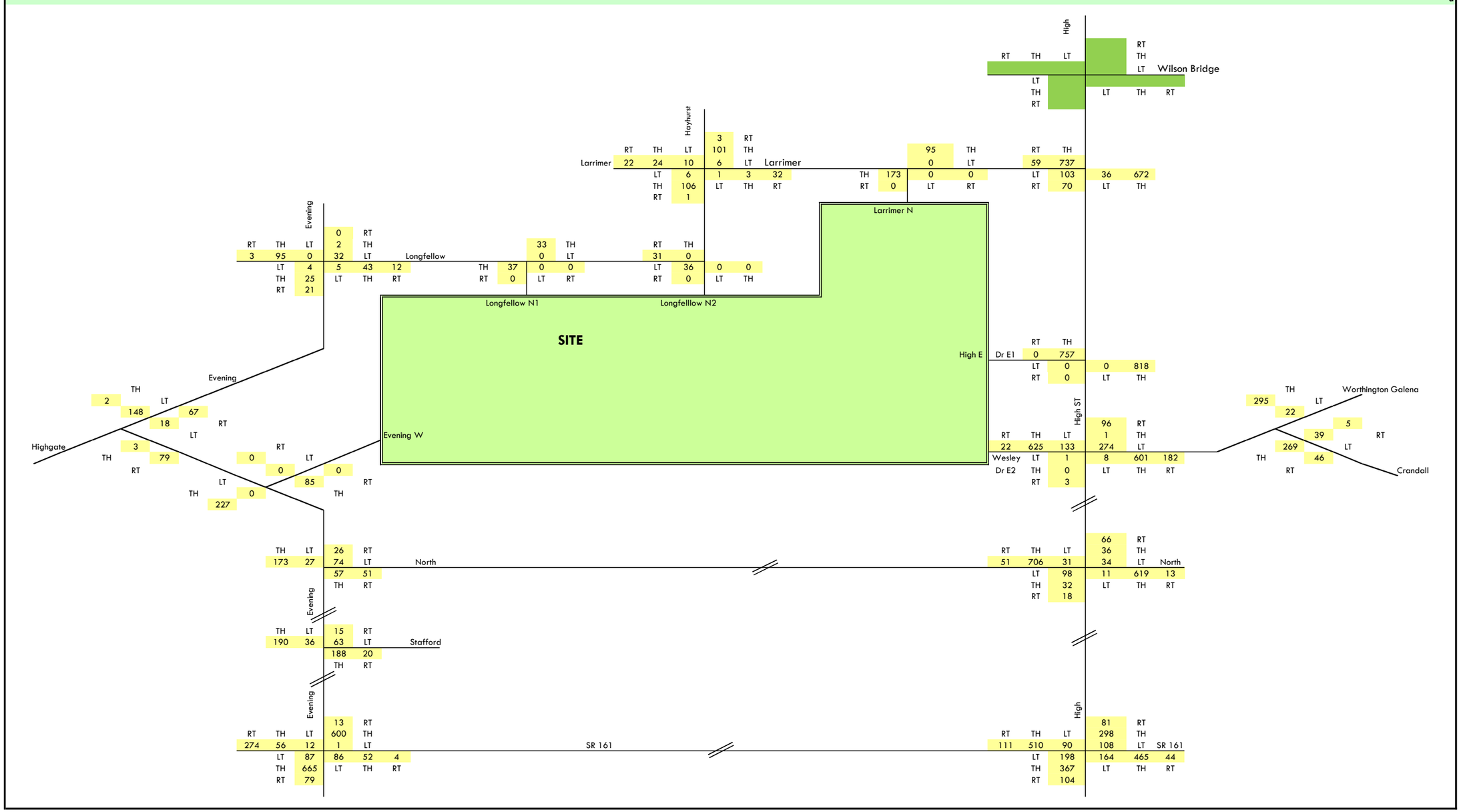
2%	Balanced	2%
1	1	4

	Total	Internal	External
In	209	15	194
Out	129	10	119
Total	338	25	313
%	100%	7%	93%
Residential			

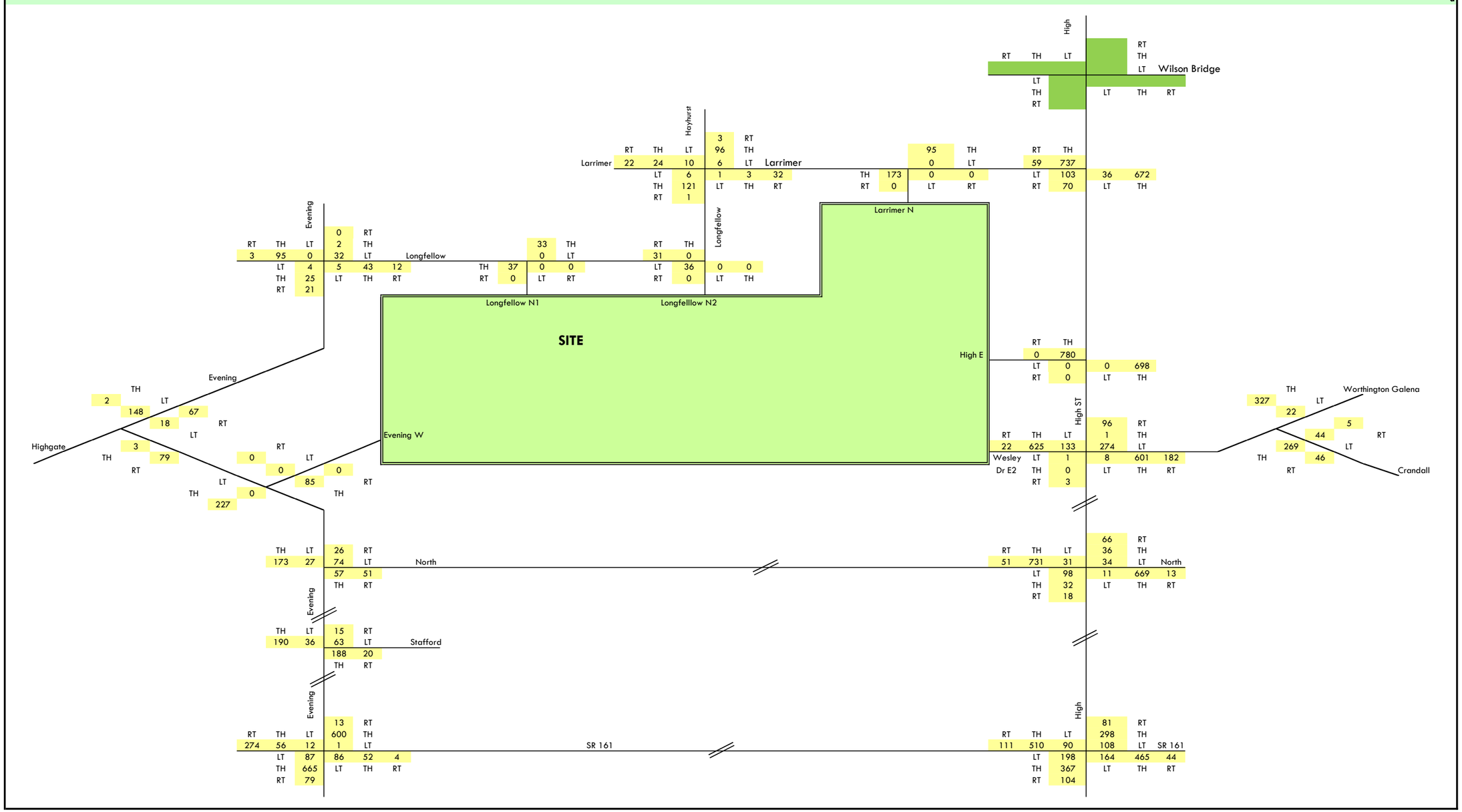
Net External Trips for Multi-Use Development				
	Retail	Office	Residential	Total
In	97	4	194	295
Out	98	27	119	244
Total	195	31	313	539
Single-Use Trip Gen. Est.	223	36	338	597
INTERNAL CAPTURE RATE				**10%**

Traffic Volume Calculations

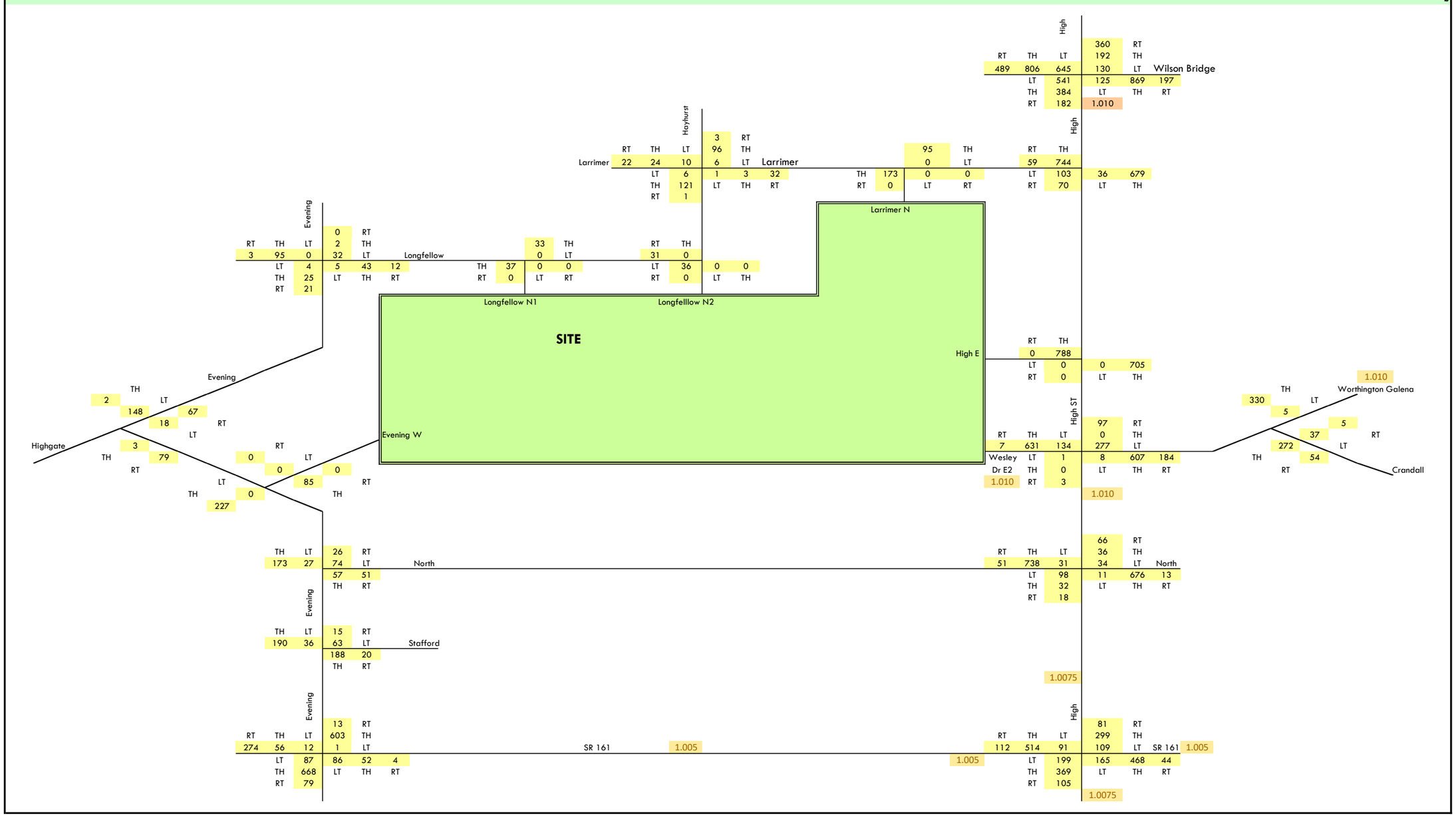
Counted Traffic Volumes — **AM Peak Hour**



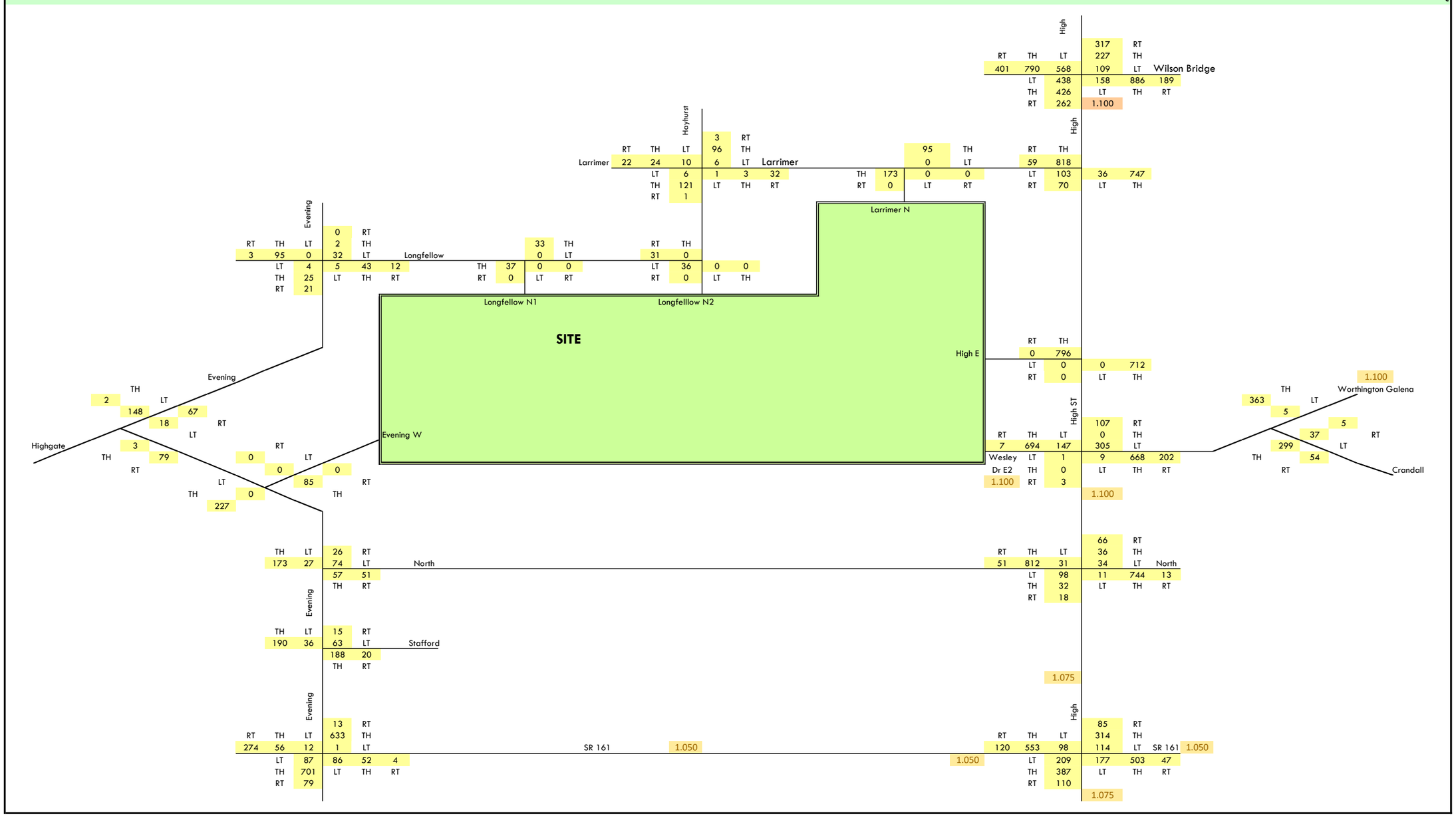
2018 Adjusted Counted Traffic Volumes — **AM Peak Hour**



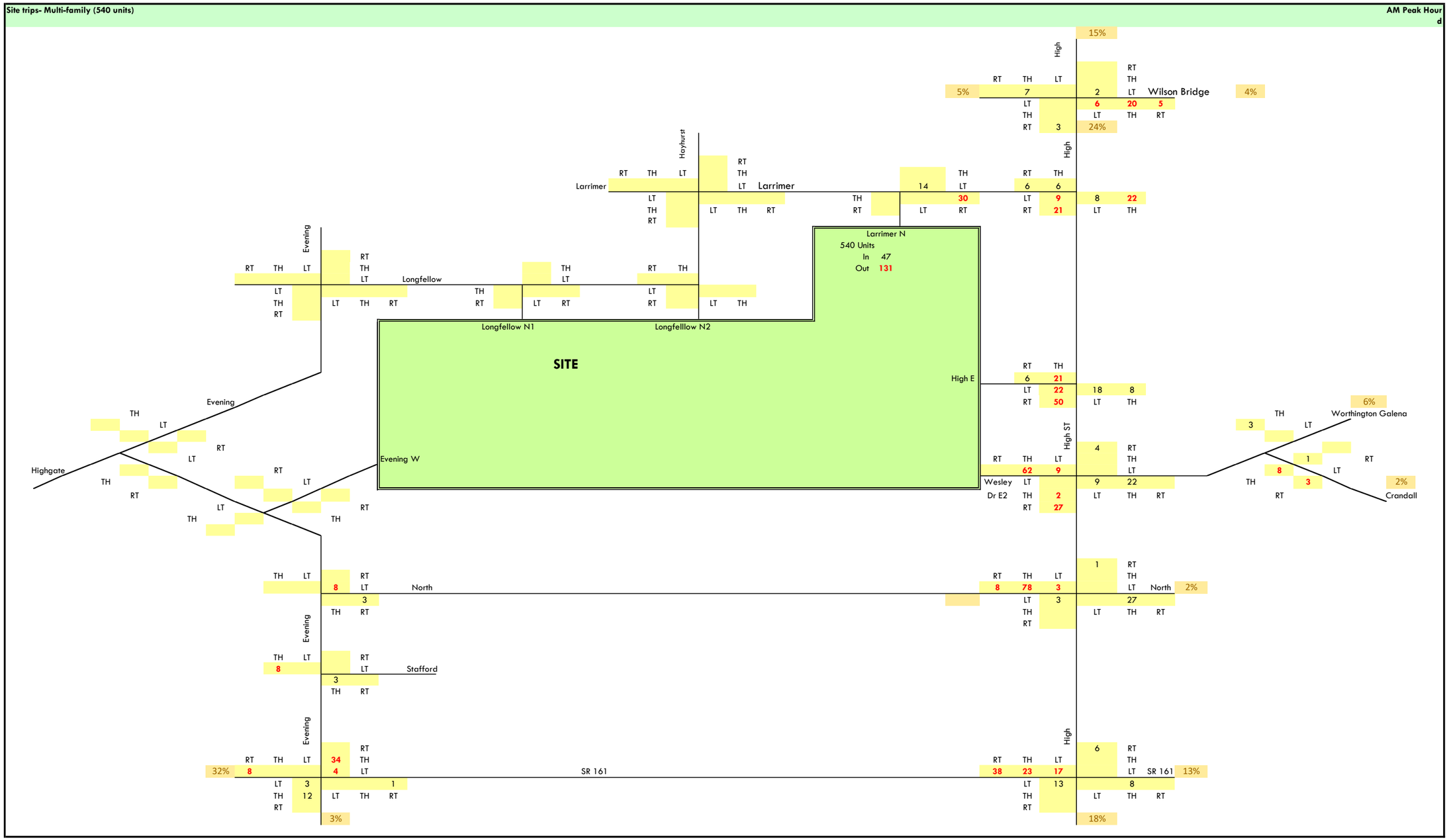
2019 Background Traffic Volumes — **AM Peak Hour** — **b**



2029 Background Traffic Volumes — **AM Peak Hour**

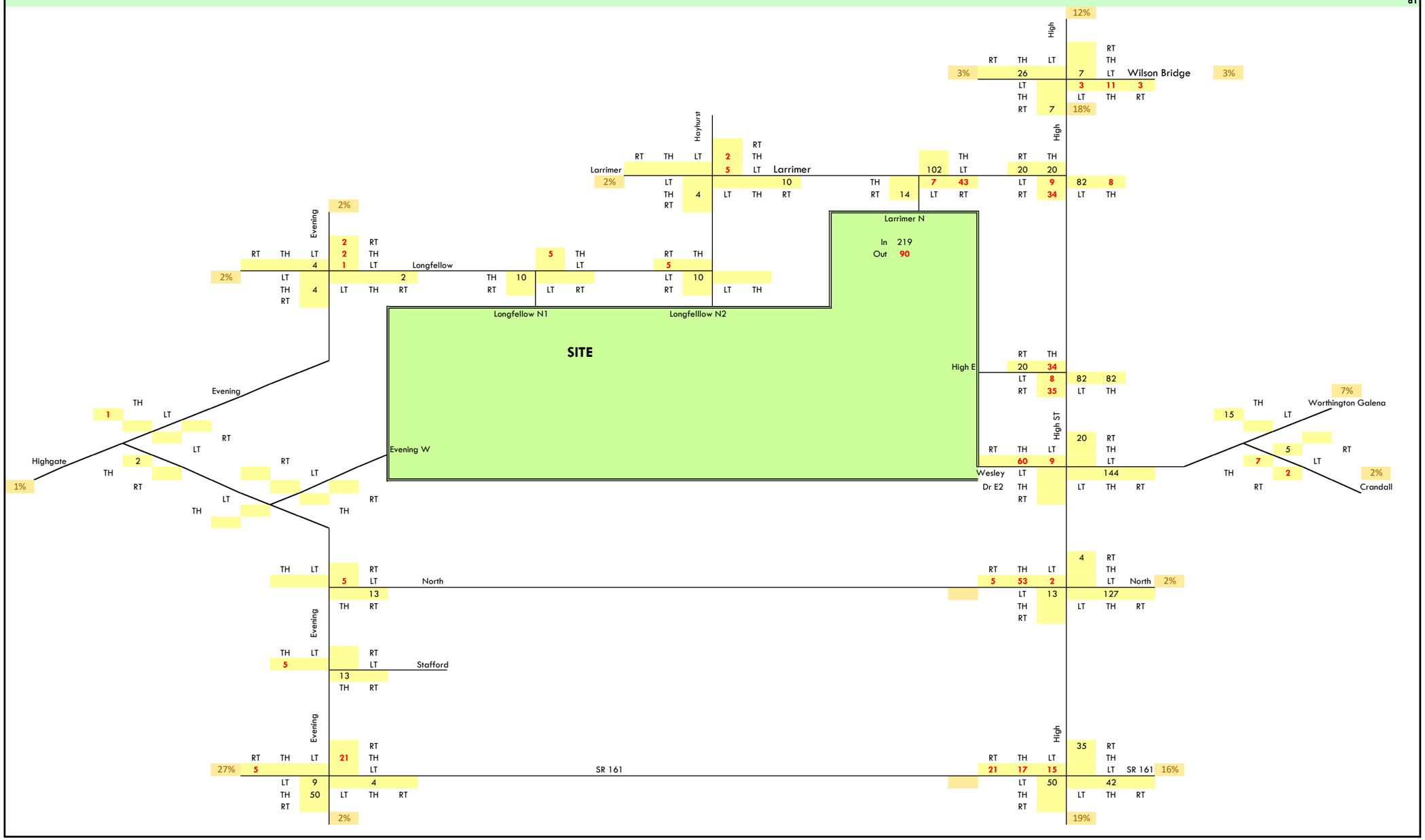


Site trips- Multi-family (540 units) **AM Peak Hour**



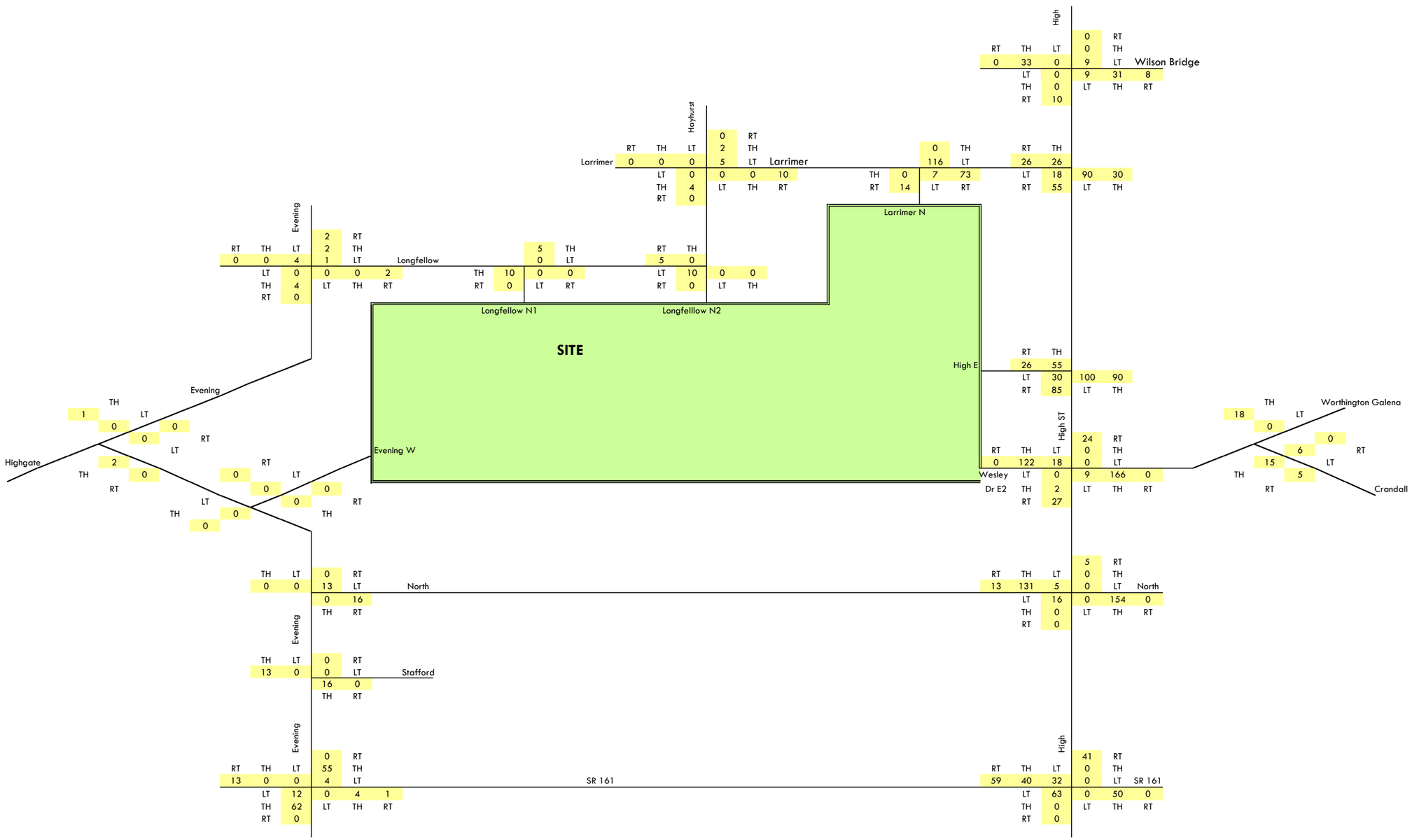
Traffic Volume Calculations

Site trips- Retail, Office, and Medical office — **AM Peak Hour** — **d1**

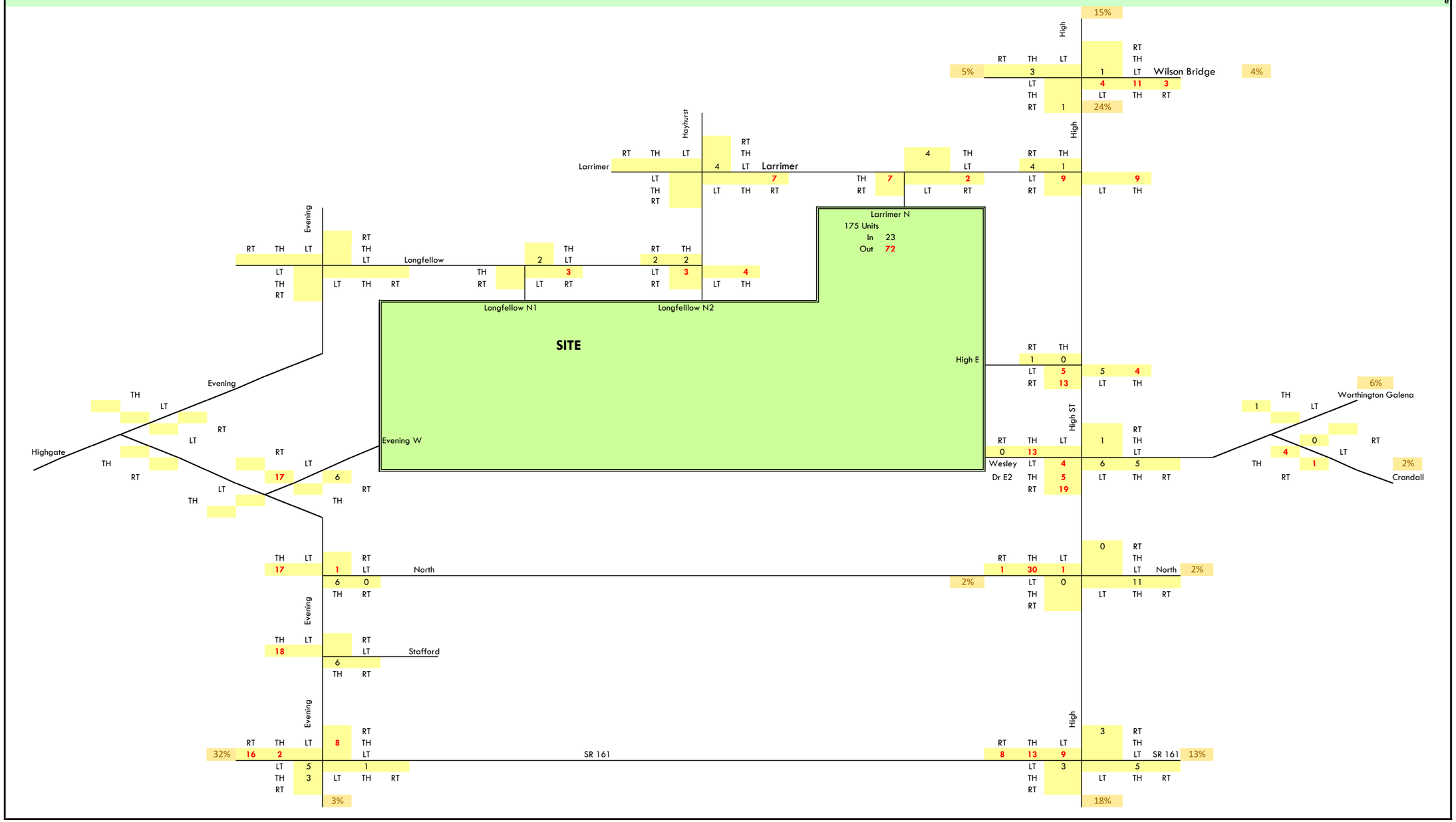


Traffic Volume Calculations

Total site trips for Area A — **AM Peak Hour** — **d2=d+d1**

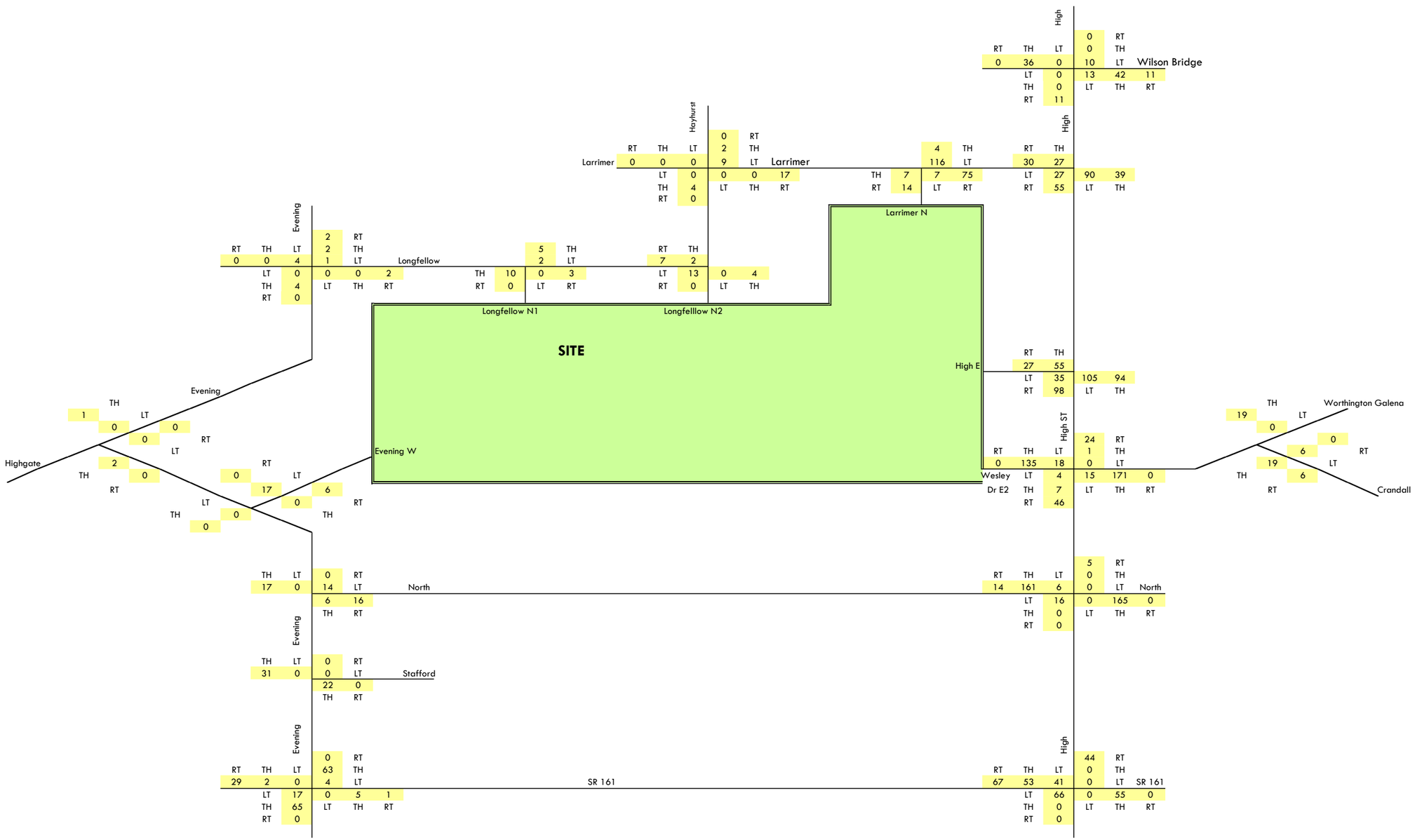


Site trips- Area B Single-family (19 units) & Multi-family (166 units) **AM Peak Hour**



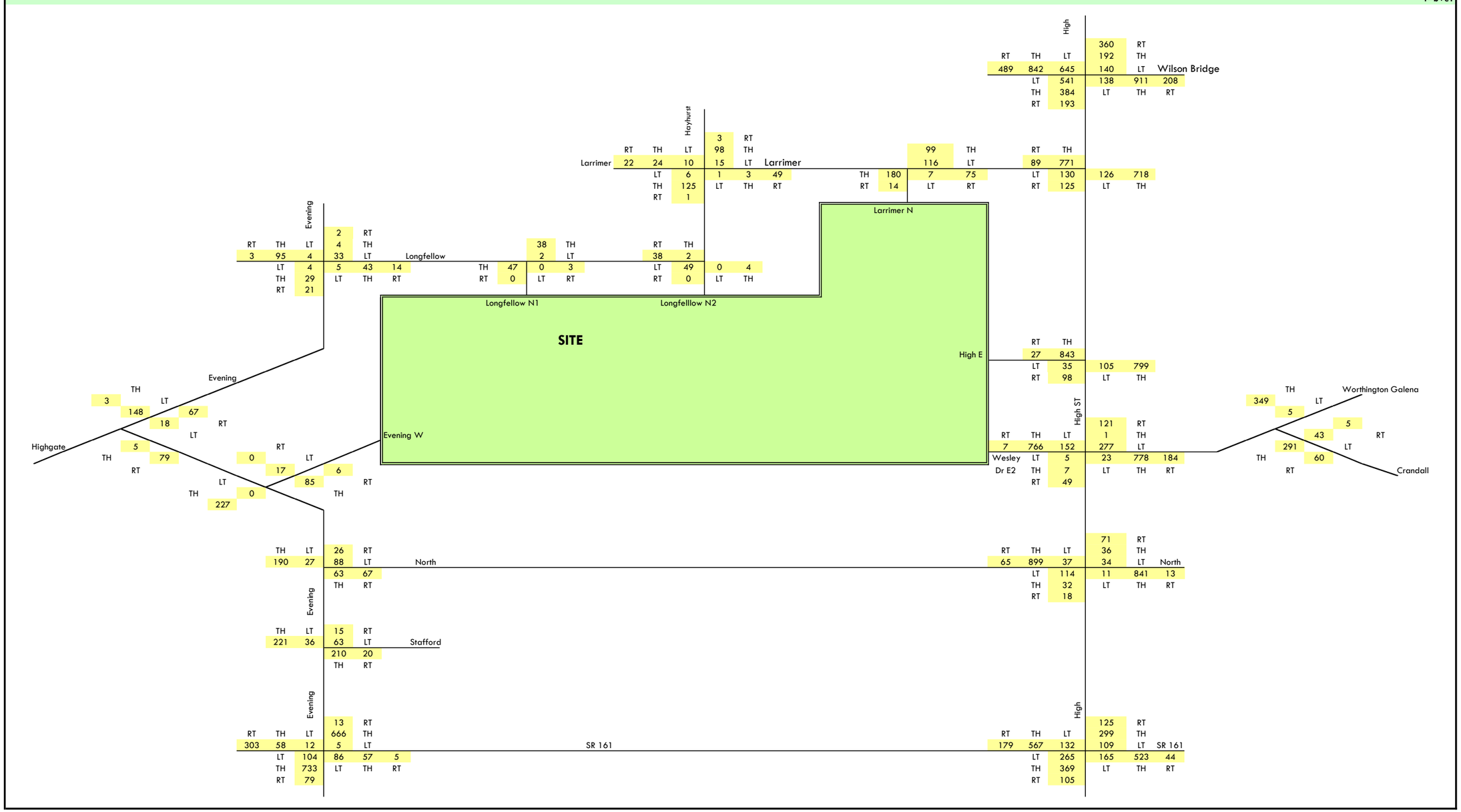
Traffic Volume Calculations

Total Site Trips | **AM Peak Hour** | **e1=d2+e**



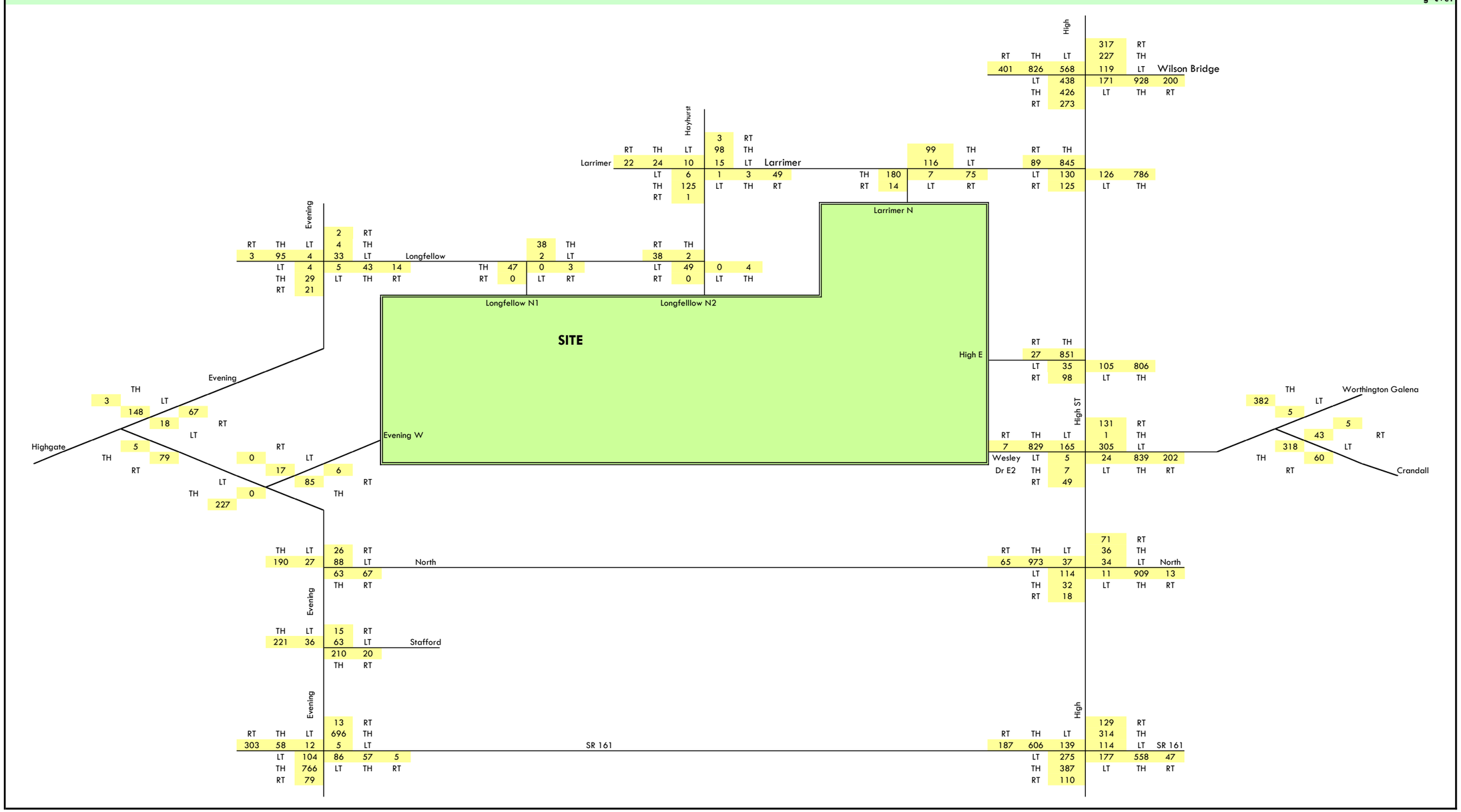
Traffic Volume Calculations

2019 Build Traffic Volumes | **AM Peak Hour** **f=b+e1**



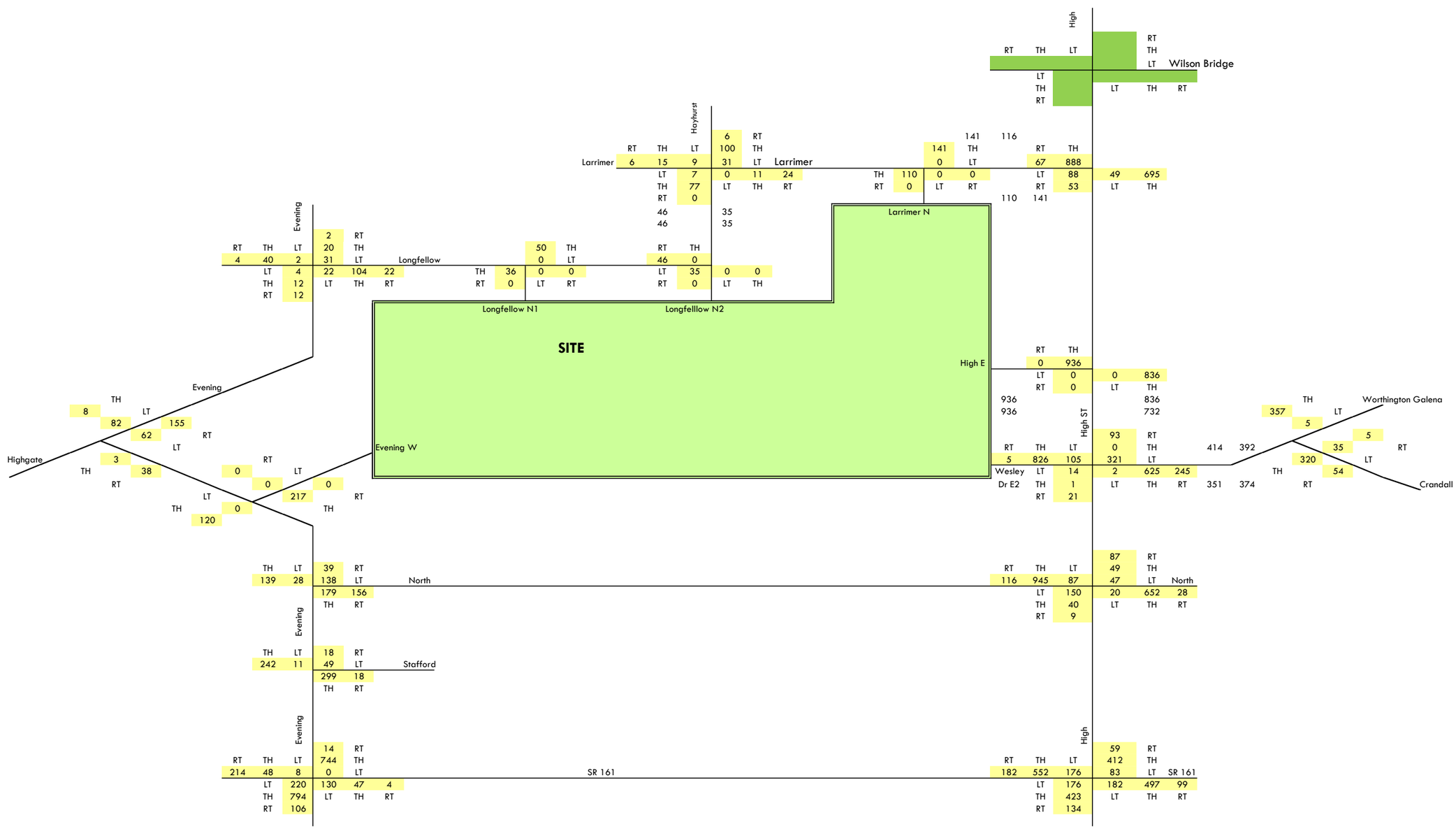
Traffic Volume Calculations

2029 Build Traffic Volumes | **AM Peak Hour** | **g=c+e1**

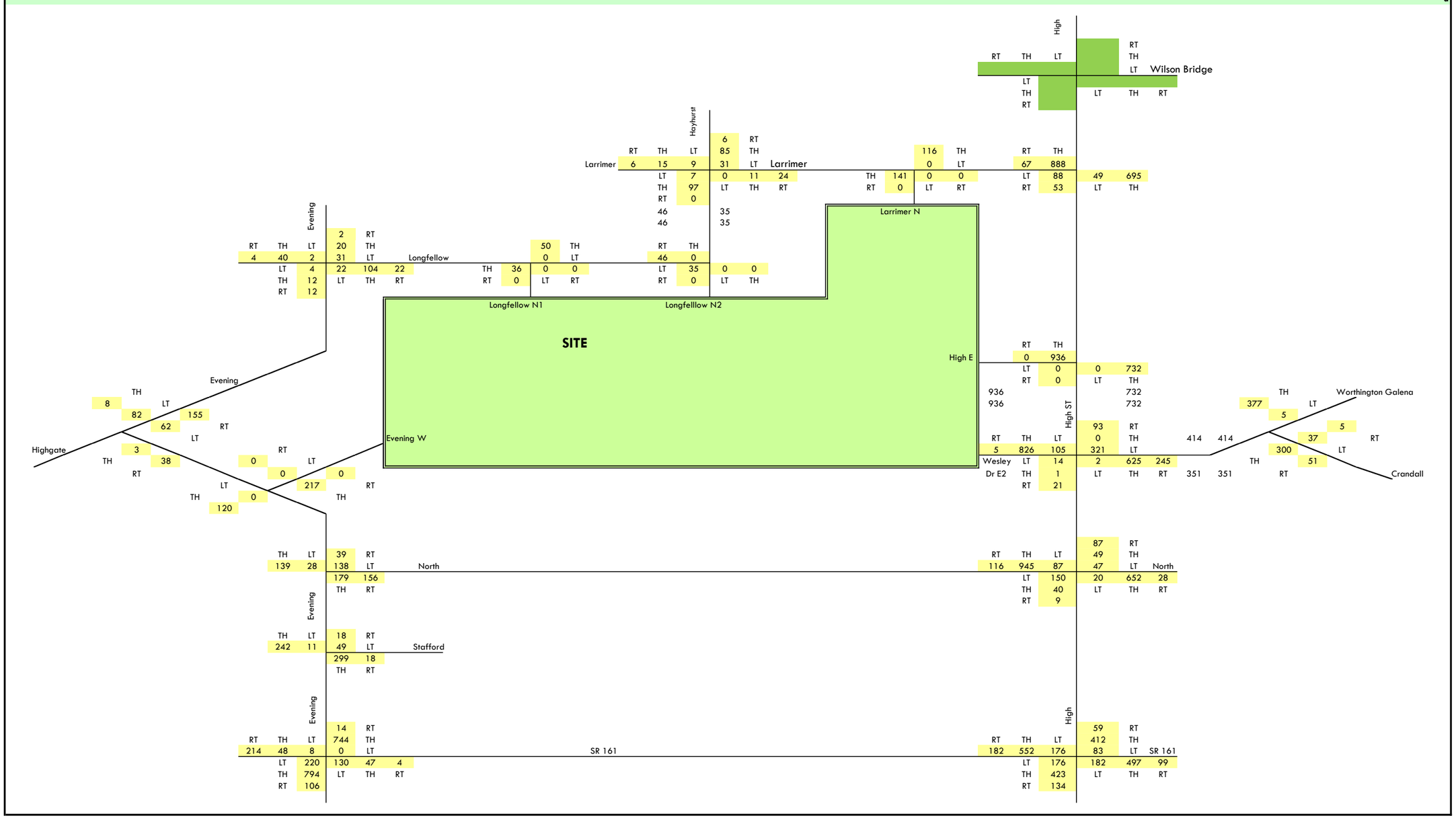


Traffic Volume Calculations

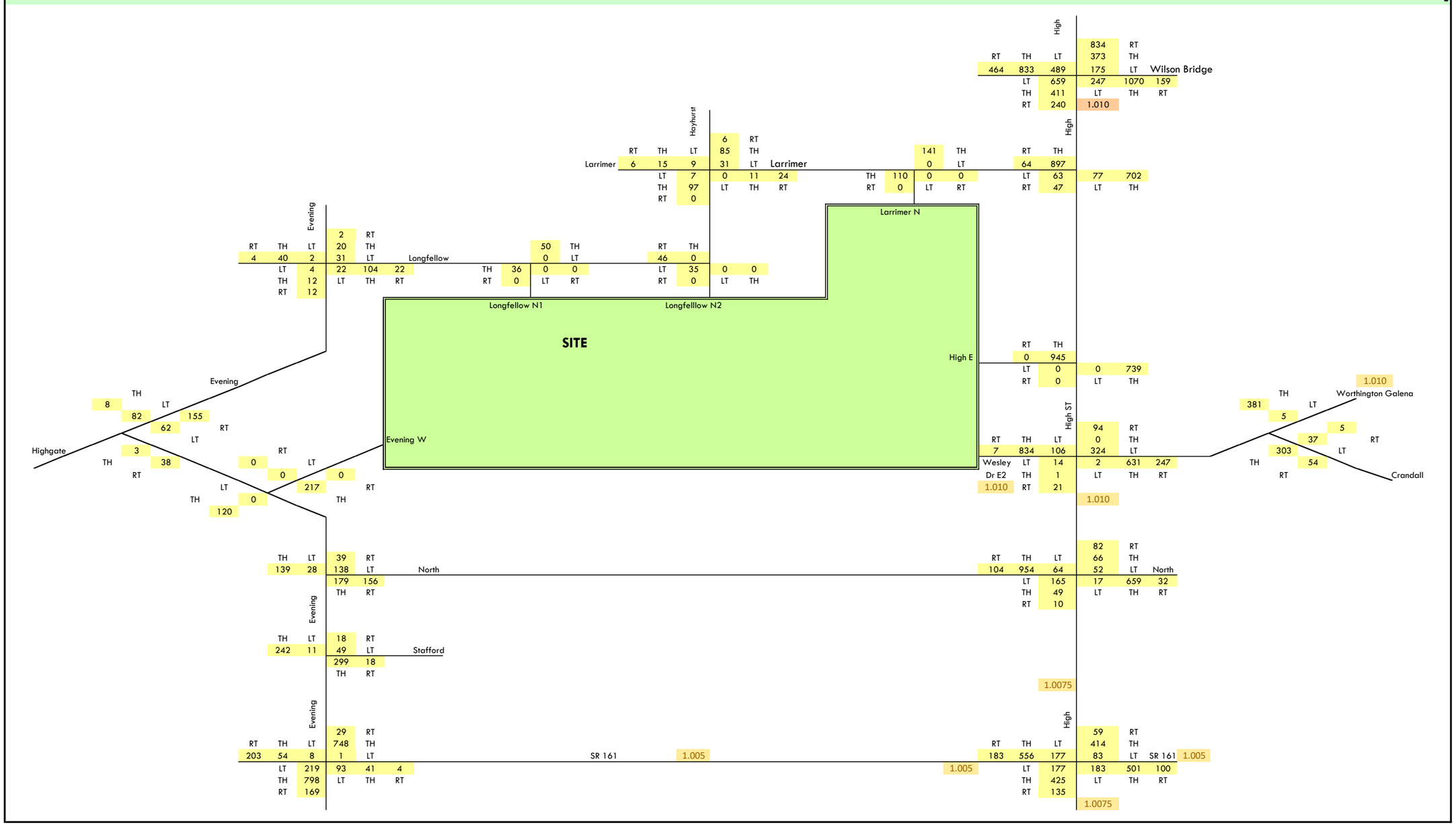
Counted Traffic Volumes | **PM Peak Hour**
a



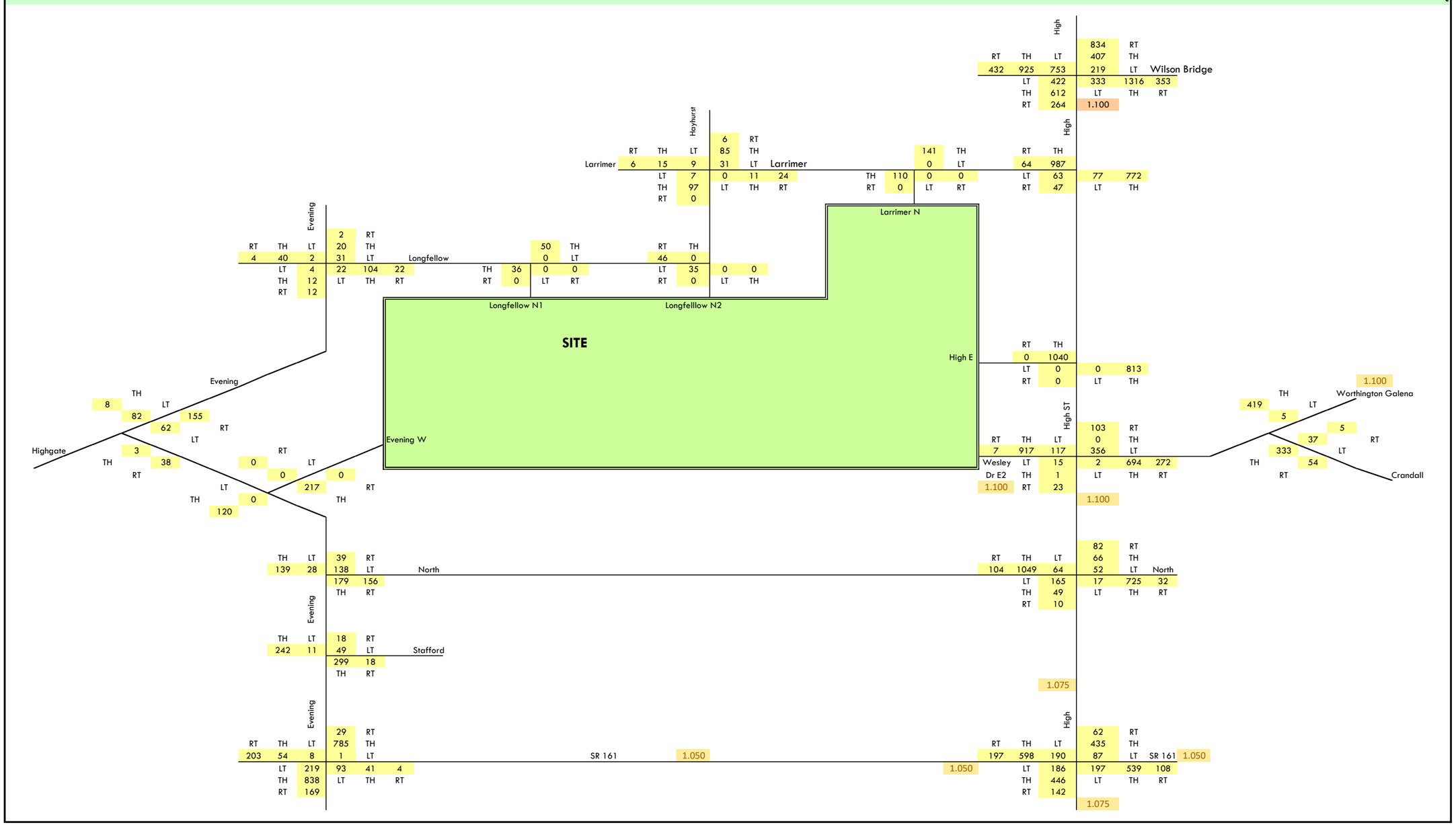
2018 Adjusted Counted Traffic Volumes | **PM Peak Hour**
a



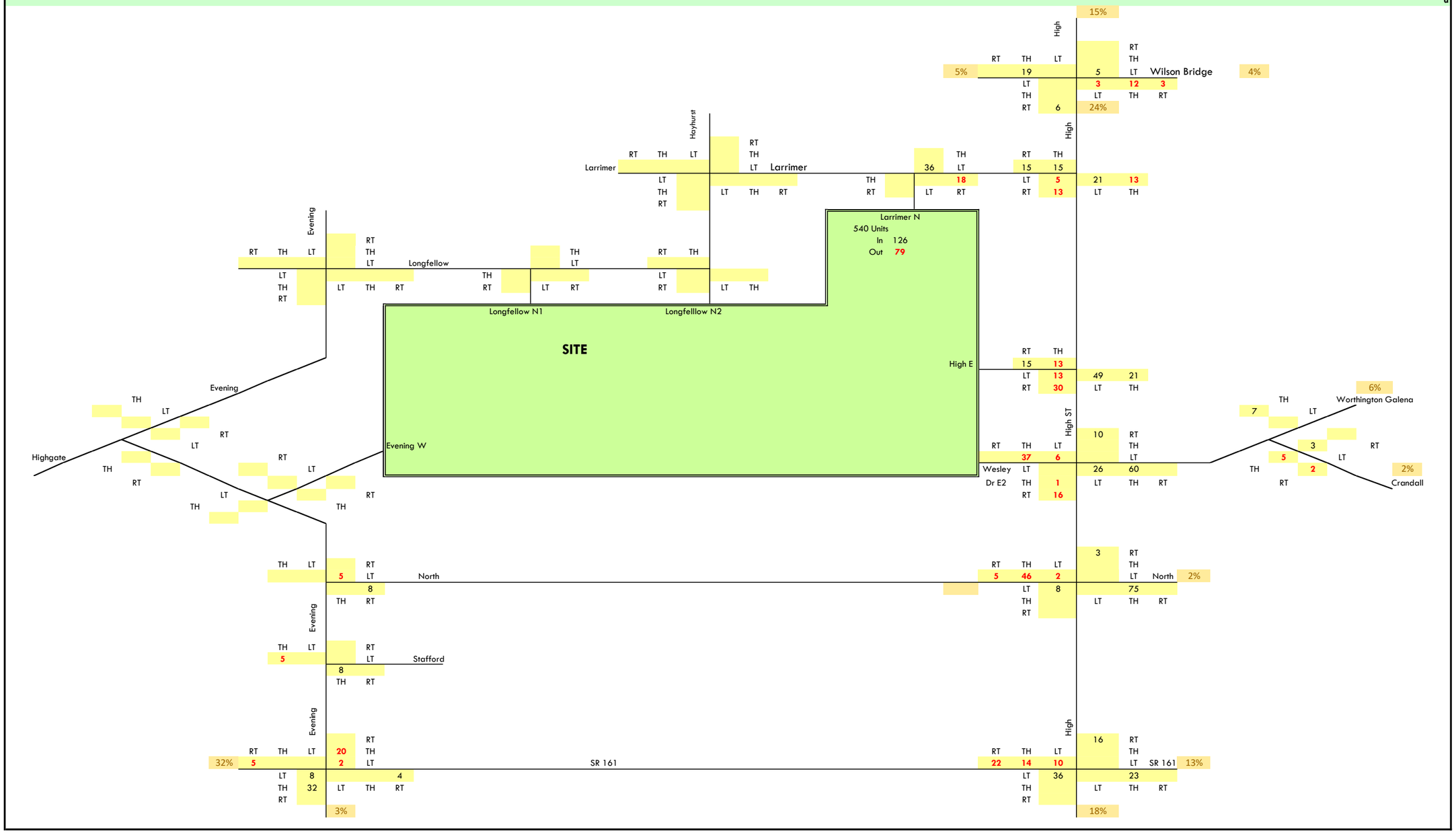
2019 Background Traffic Volumes | **PM Peak Hour**
b



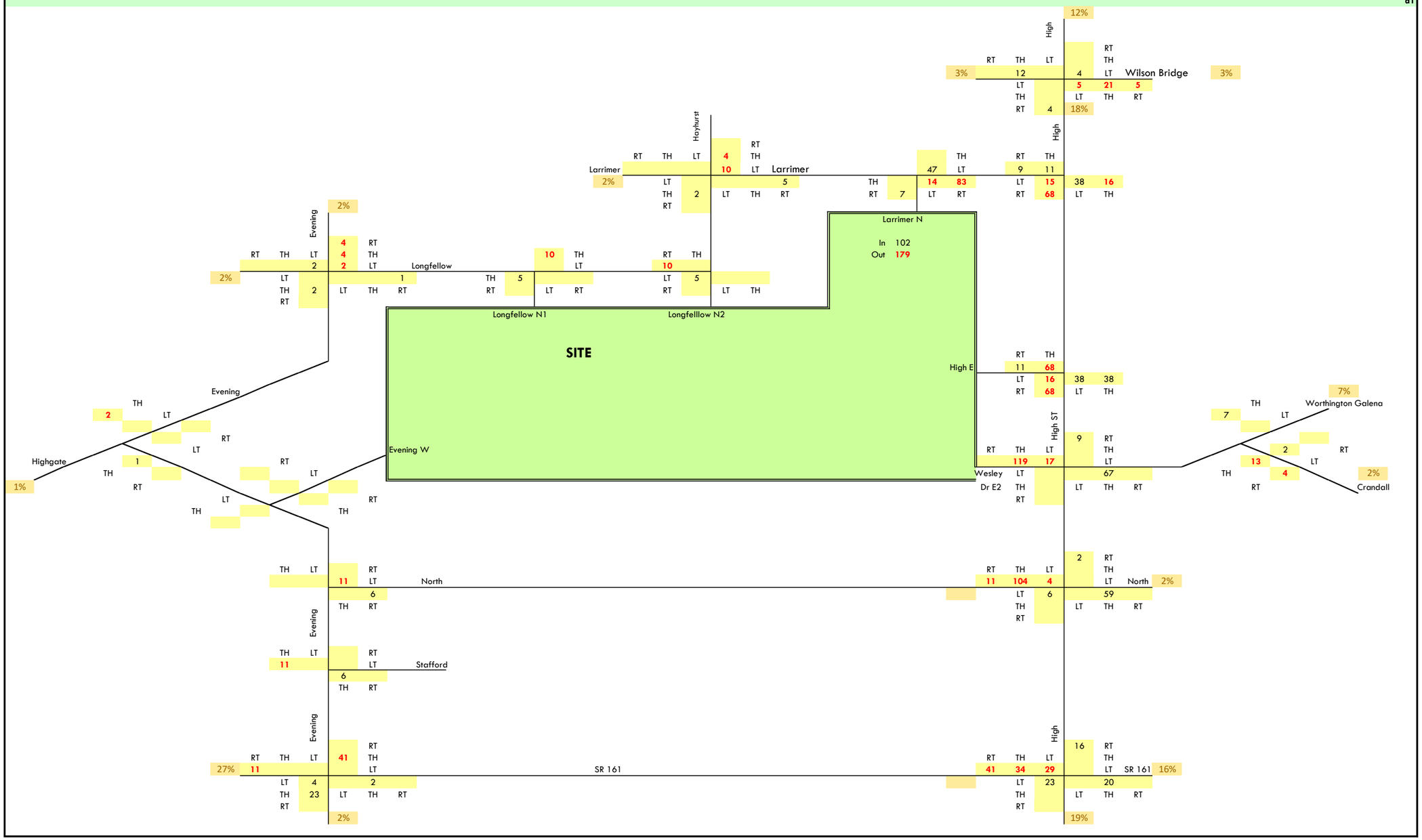
2029 Background Traffic Volumes | **PM Peak Hour**
c



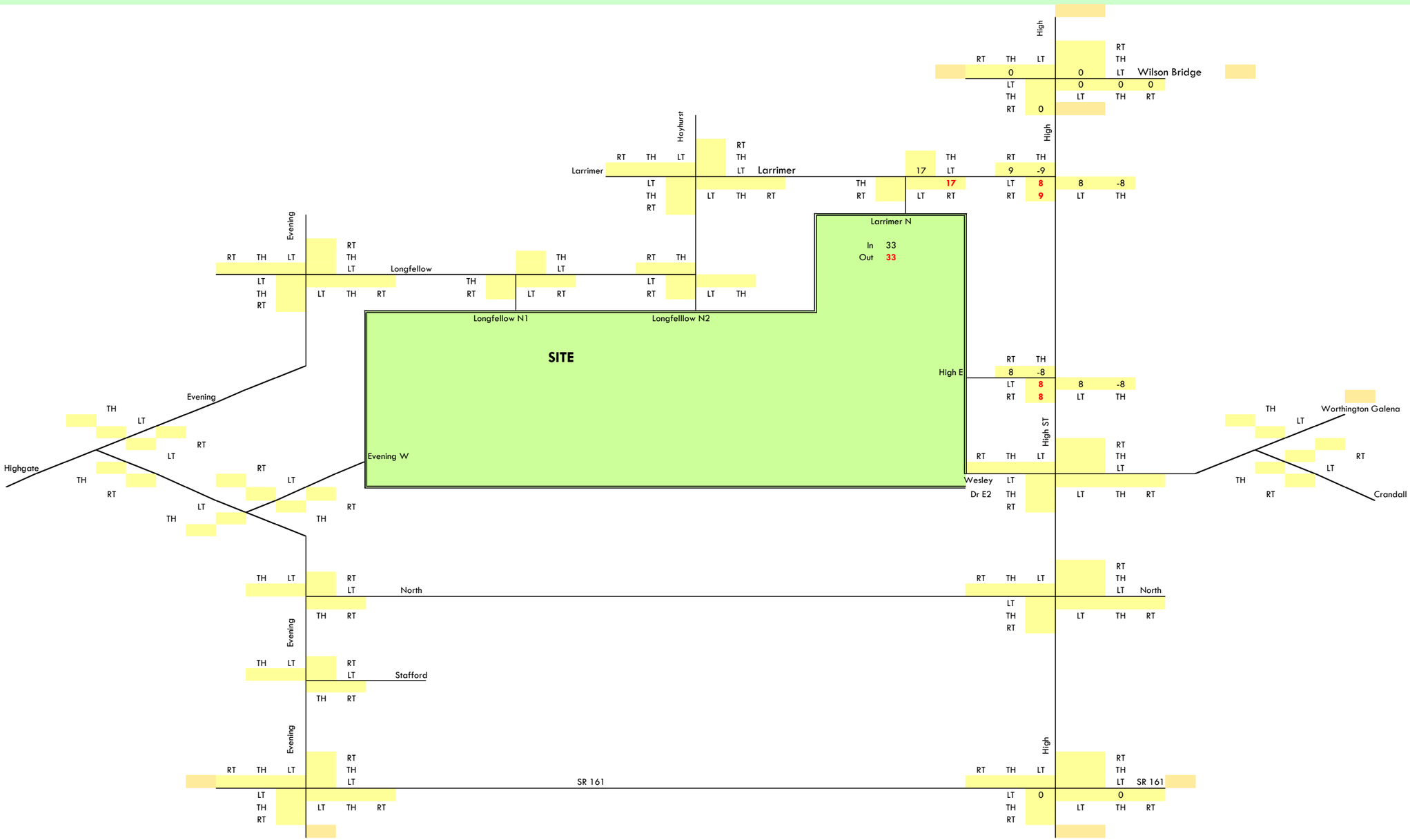
Site trips- Multi-family (540 units) **PM Peak Hour**
d



Site trips- Retail, Office, and Medical office — **PM Peak Hour** — **d1**

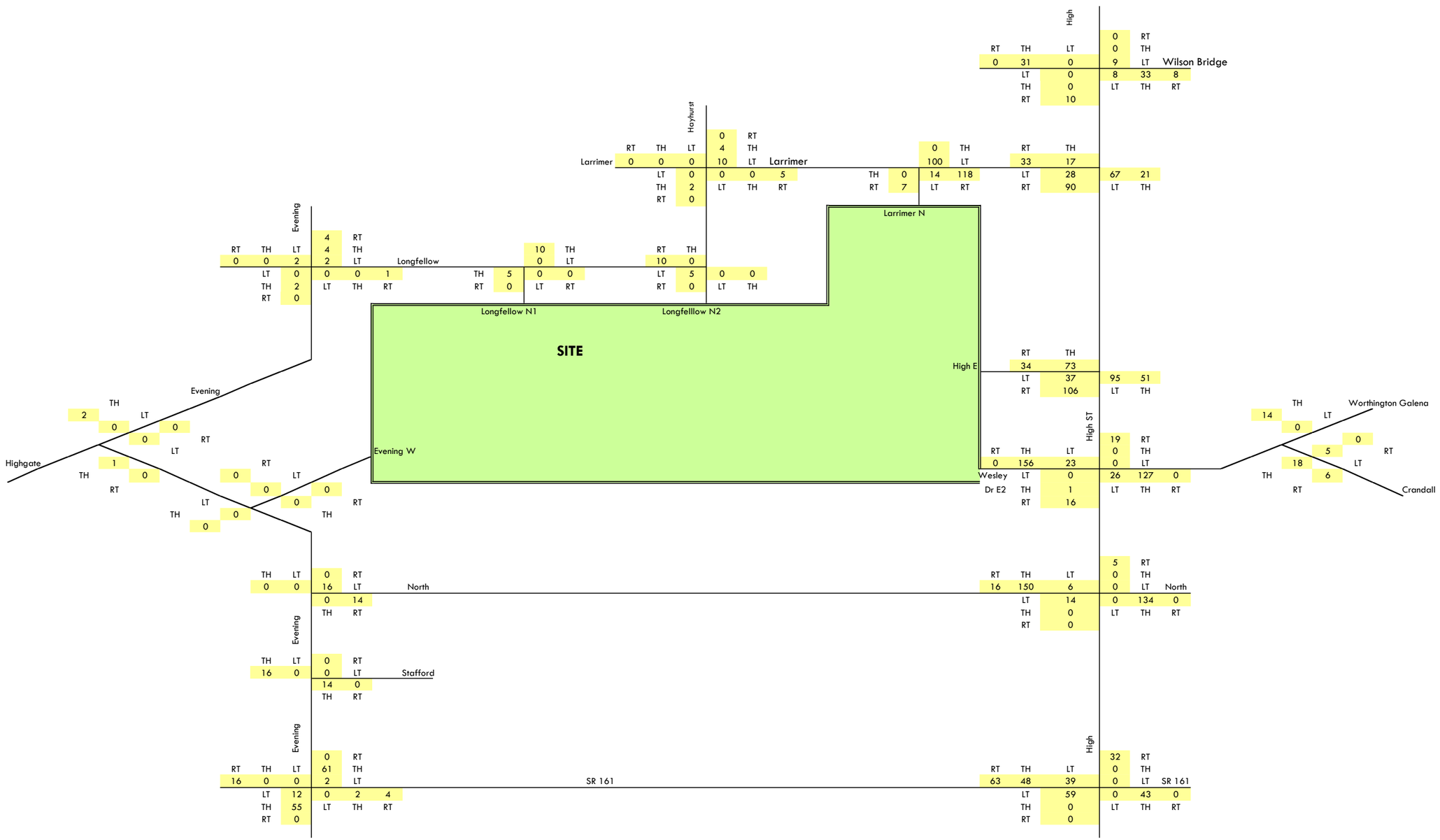


Site trips- Retail pass-by | **PM Peak Hour** | **d2**

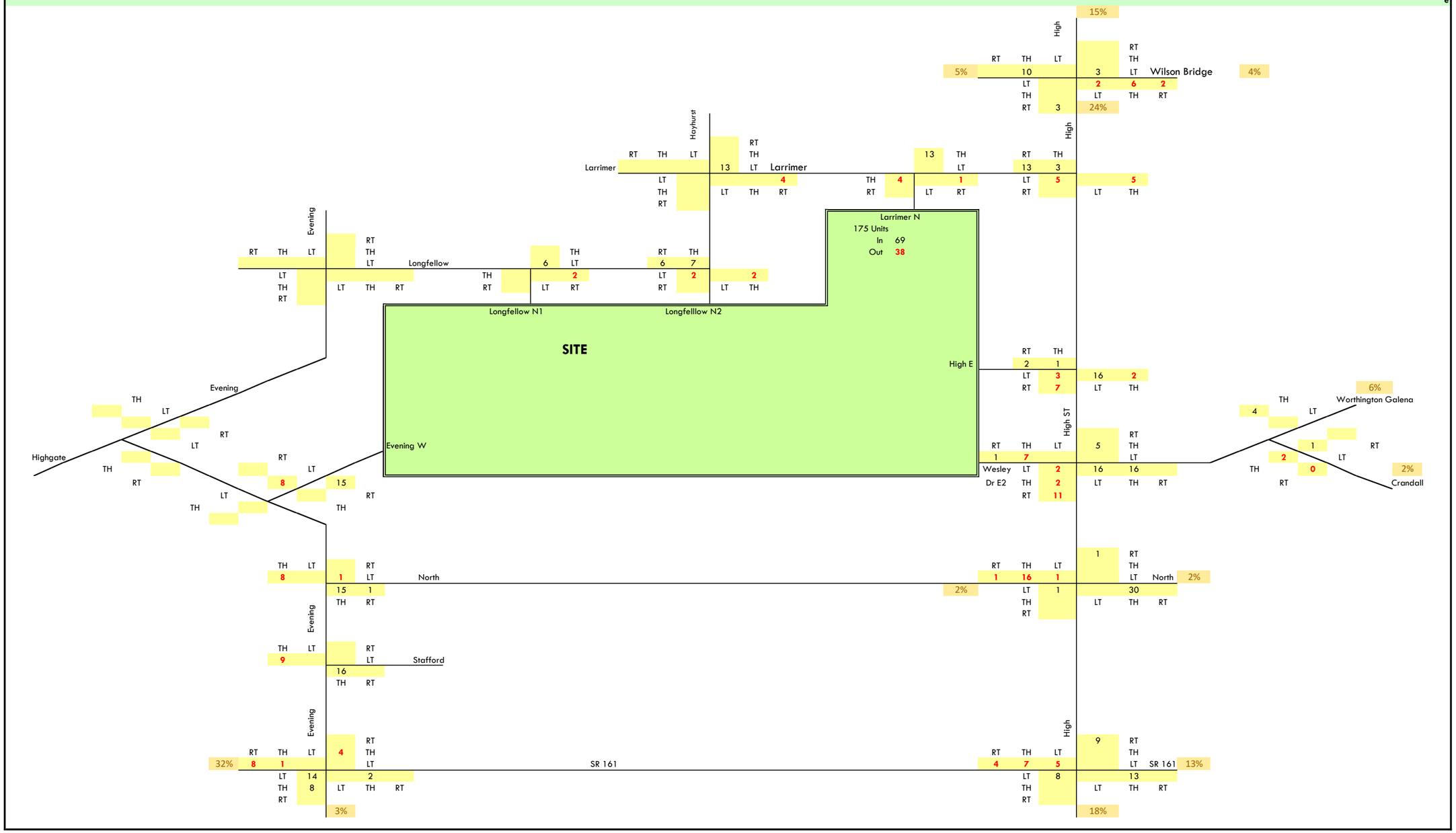


Traffic Volume Calculations

Total site trips for Area A — **PM Peak Hour d3=d+d1+d2**

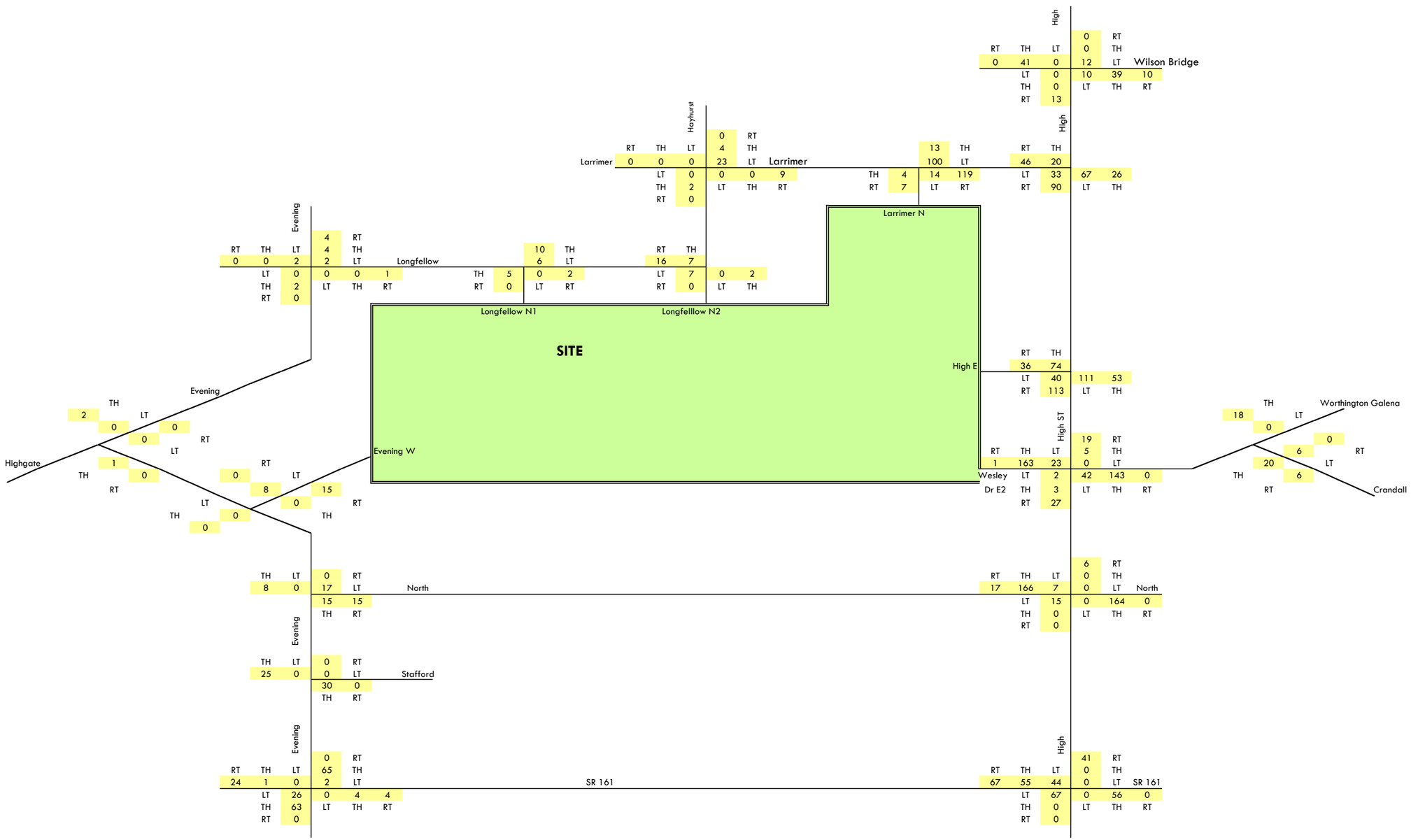


Site trips- Area B Single-family (19 units) & Multi-family (166 units) **PM Peak Hour**



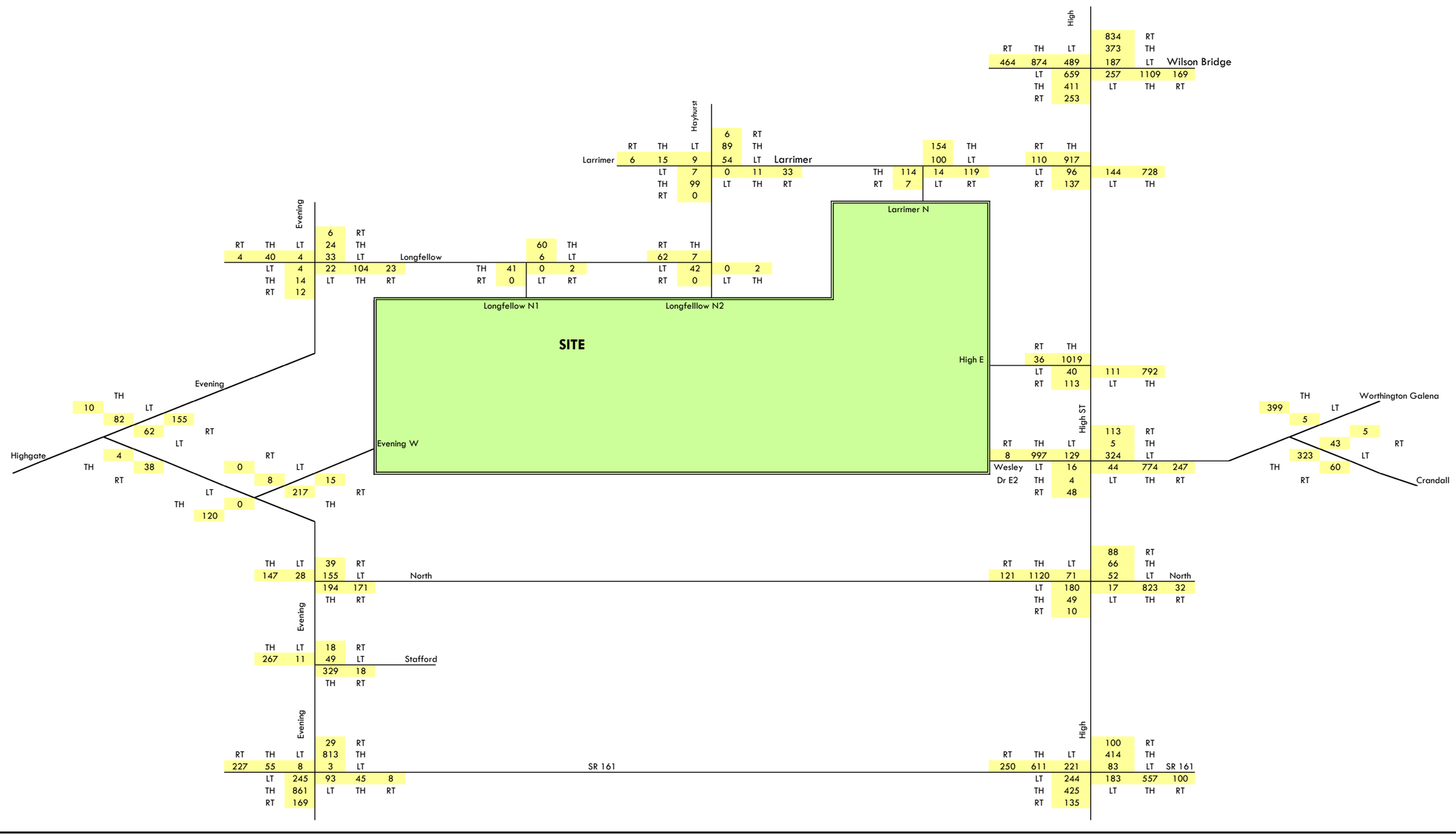
Traffic Volume Calculations

Total Site Trips | **PM Peak Hour** | **e1=d3+e**

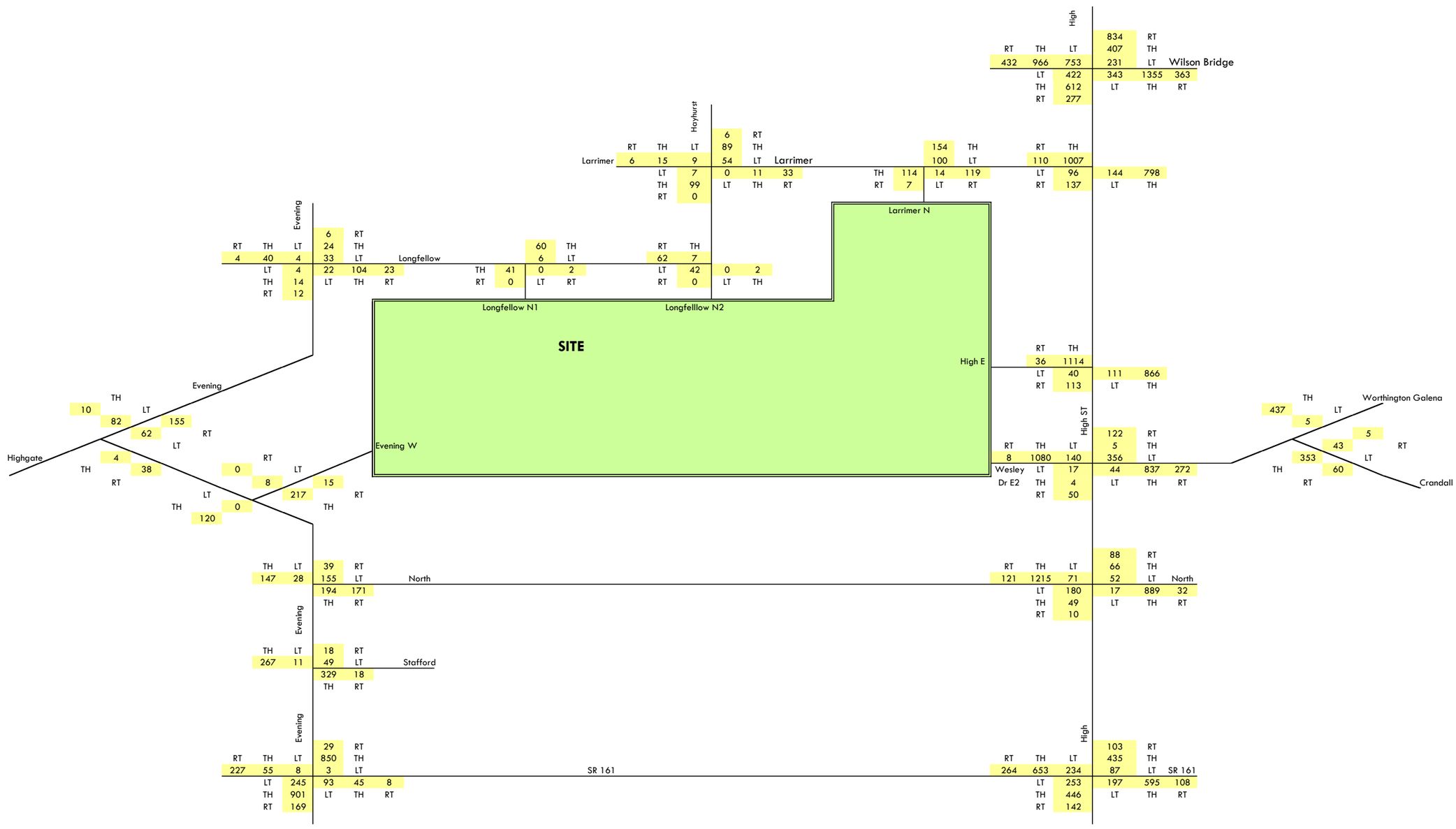


UMCH
Traffic Impact Study
Traffic Volume Calculations

2019 Build Traffic Volumes | **PM Peak Hour** | **f=b+e1**



2029 Build Traffic Volumes | **PM Peak Hour** | **g=c+e1**



2013 AM Peak Hour traffic count

		High Street			
			388	RT	
RT	TH	LT	173	TH	
548	816	695	144	LT	Wilson Bridge
	LT	611	108	859	202
	TH	360	LT	TH	RT
	RT	144			

2013 PM Peak Hour traffic count

		High Street			
			834	RT	
RT	TH	LT	354	TH	
484	781	369	152	LT	Wilson Bridge
	LT	840	204	940	92
	TH	318	LT	TH	RT
	RT	226			

ODOT 2028 AM DHV

		High Street			
			320	RT	
RT	TH	LT	220	TH	
400	790	570	110	LT	Wilson Bridge
	LT	440	150	890	190
	TH	420	LT	TH	RT
	RT	240			

ODOT 2028 PM DHV

		High Street			
			840	RT	
RT	TH	LT	400	TH	
430	910	670	210	LT	Wilson Bridge
	LT	390	310	1260	260
	TH	550	LT	TH	RT
	RT	260			

Growth rates

		High Street			
			-1.2%	RT	
RT	TH	LT	1.8%	TH	
-1.8%	-0.2%	-1.2%	-1.6%	LT	Wilson Bridge
	LT	-1.9%	2.6%	0.2%	-0.4%
	TH	1.1%	LT	TH	RT
	RT	4.4%			

Growth rates

		High Street			
			0.0%	RT	
RT	TH	LT	0.9%	TH	
-0.7%	1.1%	5.4%	2.5%	LT	Wilson Bridge
	LT	-3.6%	3.5%	2.3%	12.2%
	TH	4.9%	LT	TH	RT
	RT	1.0%			

Projected 2019 AM DHV

		High Street			
			360	RT	
RT	TH	LT	192	TH	
489	806	645	130	LT	Wilson Bridge
	LT	541	125	869	197
	TH	384	LT	TH	RT
	RT	182			

Projected 2019 PM DHV

		High Street			
			834	RT	
RT	TH	LT	373	TH	
464	833	489	175	LT	Wilson Bridge
	LT	659	247	1070	159
	TH	411	LT	TH	RT
	RT	240			

Projected 2029 AM DHV

		High Street			
			317	RT	
RT	TH	LT	227	TH	
401	790	568	109	LT	Wilson Bridge
	LT	438	158	886	189
	TH	426	LT	TH	RT
	RT	262			

Projected 2029 PM DHV

		High Street			
			834	RT	
RT	TH	LT	407	TH	
432	925	753	219	LT	Wilson Bridge
	LT	422	333	1316	353
	TH	612	LT	TH	RT
	RT	264			

SIGNAL WARRANT WORKSHEET

Warrant 1
Ohio Manual of Uniform Traffic Control Devices

2019 Build

High Street & High E Access

CONDITION	# OF LANES	MAJOR STREET 1-WAY	MAJOR STREET 1-WAY	MAJOR STREET 2-WAY	MINOR STREET 1-WAY	MINOR STREET 1-WAY	MINOR STREET 1-WAY	Condition A MAJ	Condition A MIN	Condition A MAJ	Condition A MIN	Condition B MAJ	Condition B MIN	Condition B MAJ	Condition B MIN
										80%	80%			80%	80%
Standard	1						X	500	**150**	400	**120**	750	**75**	600	**60**
Standard	2+			X				**600**	200	**480**	160	**900**	100	**720**	80
High Speed	1							350	105	280	84	525	53	420	42
High Speed	2+							420	140	336	112	630	70	504	56
7-8 AM		881	894	**1774**	99		**99**	YES	NO	YES	NO	YES	YES	YES	YES
8-9 AM		870	904	**1774**	133		**133**	YES	NO	YES	YES	YES	YES	YES	YES
9-10 AM		687	686	**1373**	57		**57**	YES	NO	YES	NO	YES	NO	YES	NO
10-11 AM		636	641	**1277**	64		**64**	YES	NO	YES	NO	YES	NO	YES	YES
11-12 NOON		730	735	**1465**	73		**73**	YES	NO	YES	NO	YES	NO	YES	YES
12-1 PM		788	659	**1447**	87		**87**	YES	NO	YES	NO	YES	YES	YES	YES
1-2 PM		750	631	**1381**	88		**88**	YES	NO	YES	NO	YES	YES	YES	YES
2-3 PM		801	675	**1476**	96		**96**	YES	NO	YES	NO	YES	YES	YES	YES
3-4 PM		921	778	**1699**	114		**114**	YES	NO	YES	NO	YES	YES	YES	YES
4-5 PM		989	835	**1824**	122		**122**	YES	NO	YES	YES	YES	YES	YES	YES
5-6 PM		1055	903	**1958**	153		**153**	YES	YES	YES	YES	YES	YES	YES	YES
6-7 PM		731	647	**1378**	145		**145**	YES	NO	YES	YES	YES	YES	YES	YES
7-8 PM				**0**			**0**	NO	NO	NO	NO	NO	NO	NO	NO
						Hours Met		**12**	**1**	**12**	**4**	**12**	**9**	**12**	**11**
						Hours Warrant Met		**1**		**4**		**9**		**11**	
						Warrant Satisfied ?		**NO**		**NO**		**YES**		**YES**	

Condition A : NOT MET
Condition B : MET
80% of Condition A and B : NOT APPLICABLE

SIGNAL WARRANT WORKSHEET

Warrant 1
Ohio Manual of Uniform Traffic Control Devices

2029 Build

High Street & High E Access

CONDITION	# OF LANES	MAJOR STREET 1-WAY	MAJOR STREET 1-WAY	MAJOR STREET 2-WAY	MINOR STREET 1-WAY	MINOR STREET 1-WAY	MINOR STREET 1-WAY	Condition A MAJ	Condition A MIN	Condition A MAJ	Condition A MIN	Condition B MAJ	Condition B MIN	Condition B MAJ	Condition B MIN
										80%	80%			80%	80%
Standard	1						X	500	**150**	400	**120**	750	**75**	600	**60**
Standard	2+			X				**600**	200	**480**	160	**900**	100	**720**	80
High Speed	1							350	105	280	84	525	53	420	42
High Speed	2+							420	140	336	112	630	70	504	56
7-8 AM		889	901	**1790**	59		**59**	YES	NO	YES	NO	YES	NO	YES	NO
8-9 AM		878	911	**1789**	79		**79**	YES	NO	YES	NO	YES	YES	YES	YES
9-10 AM		694	691	**1385**	32		**32**	YES	NO	YES	NO	YES	NO	YES	NO
10-11 AM		642	646	**1288**	36		**36**	YES	NO	YES	NO	YES	NO	YES	NO
11-12 NOON		737	741	**1478**	41		**41**	YES	NO	YES	NO	YES	NO	YES	NO
12-1 PM		859	715	**1574**	52		**52**	YES	NO	YES	NO	YES	NO	YES	NO
1-2 PM		818	684	**1502**	52		**52**	YES	NO	YES	NO	YES	NO	YES	NO
2-3 PM		874	731	**1605**	57		**57**	YES	NO	YES	NO	YES	NO	YES	NO
3-4 PM		1005	843	**1848**	72		**72**	YES	NO	YES	NO	YES	NO	YES	YES
4-5 PM		1079	905	**1983**	77		**77**	YES	NO	YES	NO	YES	YES	YES	YES
5-6 PM		1150	977	**2127**	97		**97**	YES	NO	YES	NO	YES	YES	YES	YES
6-7 PM		796	697	**1494**	81		**81**	YES	NO	YES	NO	YES	YES	YES	YES
7-8 PM				**0**			**0**	NO	NO	NO	NO	NO	NO	NO	NO
							Hours Met	**12**	**0**	**12**	**0**	**12**	**4**	**12**	**5**
							Hours Warrant Met	**0**		**0**		**4**		**5**	
							Warrant Satisfied ?	**NO**		**NO**		**NO**		**NO**	

Note: Right turn reduction on minor st applied.

Condition A : NOT MET
Condition B : NOT MET
80% of Condition A and B : NOT MET

SIGNAL WARRANT WORKSHEET

Warrant 1
Ohio Manual of Uniform Traffic Control Devices

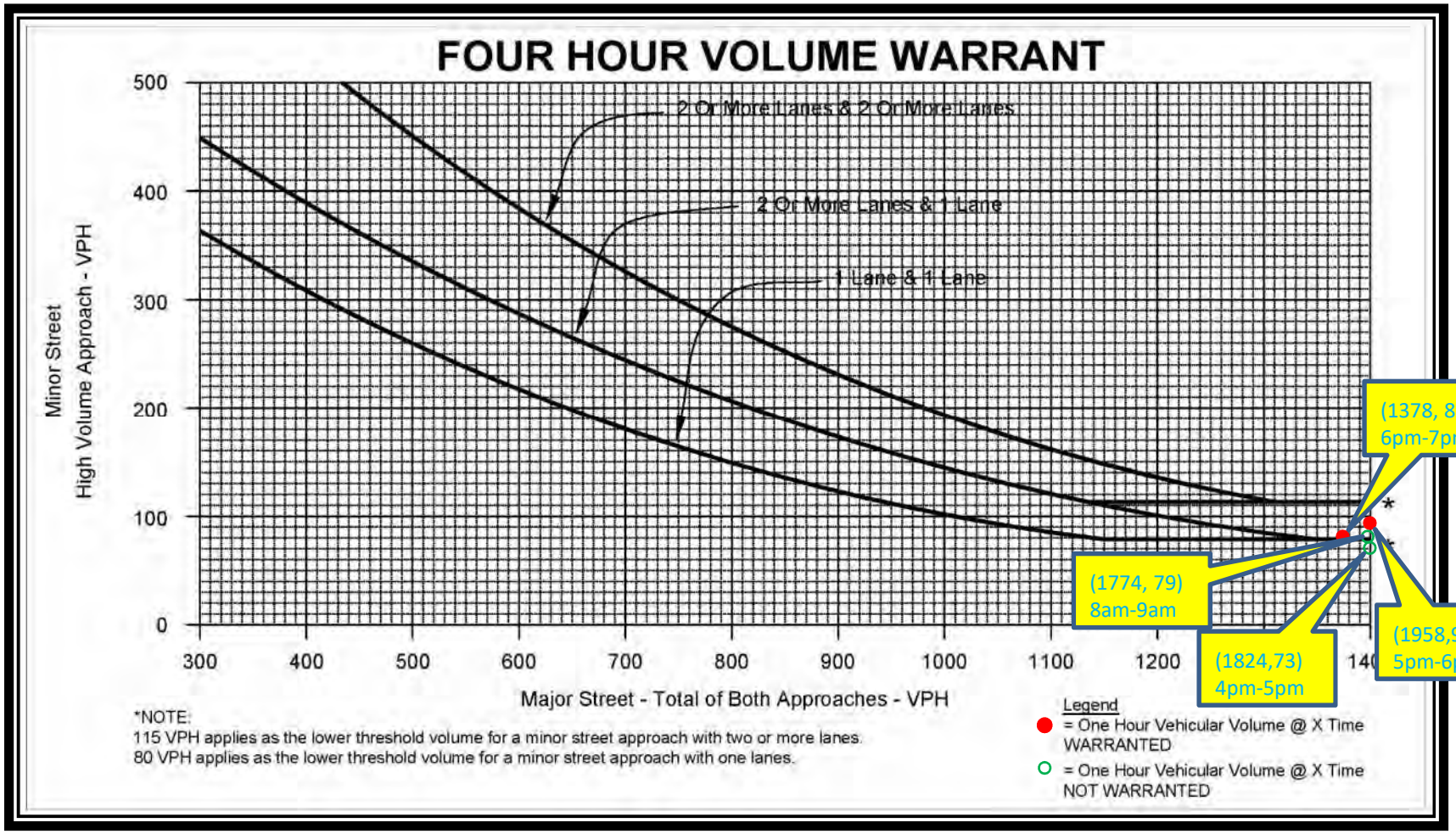
2019 Build

High Street & High E Access

CONDITION	# OF LANES	MAJOR STREET			MINOR STREET			Condition A				Condition B			
		1-WAY	1-WAY	2-WAY	1-WAY	1-WAY	1-WAY	MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN
										80%	80%			80%	80%
Standard	1						**X**	500	**150**	400	**120**	750	**75**	600	**60**
Standard	2+			**X**				**600**	200	**480**	160	**900**	100	**720**	80
High Speed	1							350	105	280	84	525	53	420	42
High Speed	2+							420	140	336	112	630	70	504	56
7-8 AM		881	894	**1774**	59		**59**	YES	NO	YES	NO	YES	NO	YES	NO
8-9 AM		870	904	**1774**	79		**79**	YES	NO	YES	NO	YES	YES	YES	YES
9-10 AM		687	686	**1373**	32		**32**	YES	NO	YES	NO	YES	NO	YES	NO
10-11 AM		636	641	**1277**	36		**36**	YES	NO	YES	NO	YES	NO	YES	NO
11-12 NOON		730	735	**1465**	41		**41**	YES	NO	YES	NO	YES	NO	YES	NO
12-1 PM		788	659	**1447**	49		**49**	YES	NO	YES	NO	YES	NO	YES	NO
1-2 PM		750	631	**1381**	49		**49**	YES	NO	YES	NO	YES	NO	YES	NO
2-3 PM		801	675	**1476**	57		**57**	YES	NO	YES	NO	YES	NO	YES	NO
3-4 PM		921	778	**1699**	68		**68**	YES	NO	YES	NO	YES	NO	YES	YES
4-5 PM		989	835	**1824**	73		**73**	YES	NO	YES	NO	YES	NO	YES	YES
5-6 PM		1055	903	**1958**	97		**97**	YES	NO	YES	NO	YES	YES	YES	YES
6-7 PM		731	647	**1378**	81		**81**	YES	NO	YES	NO	YES	YES	YES	YES
7-8 PM				**0**			**0**	NO	NO	NO	NO	NO	NO	NO	NO
							Hours Met	**12**	**0**	**12**	**0**	**12**	**3**	**12**	**5**
							Hours Warrant Met	**0**		**0**		**3**		**5**	
							Warrant Satisfied ?	**NO**		**NO**		**NO**		**NO**	

Note: Right turn reduction on minor st applied.

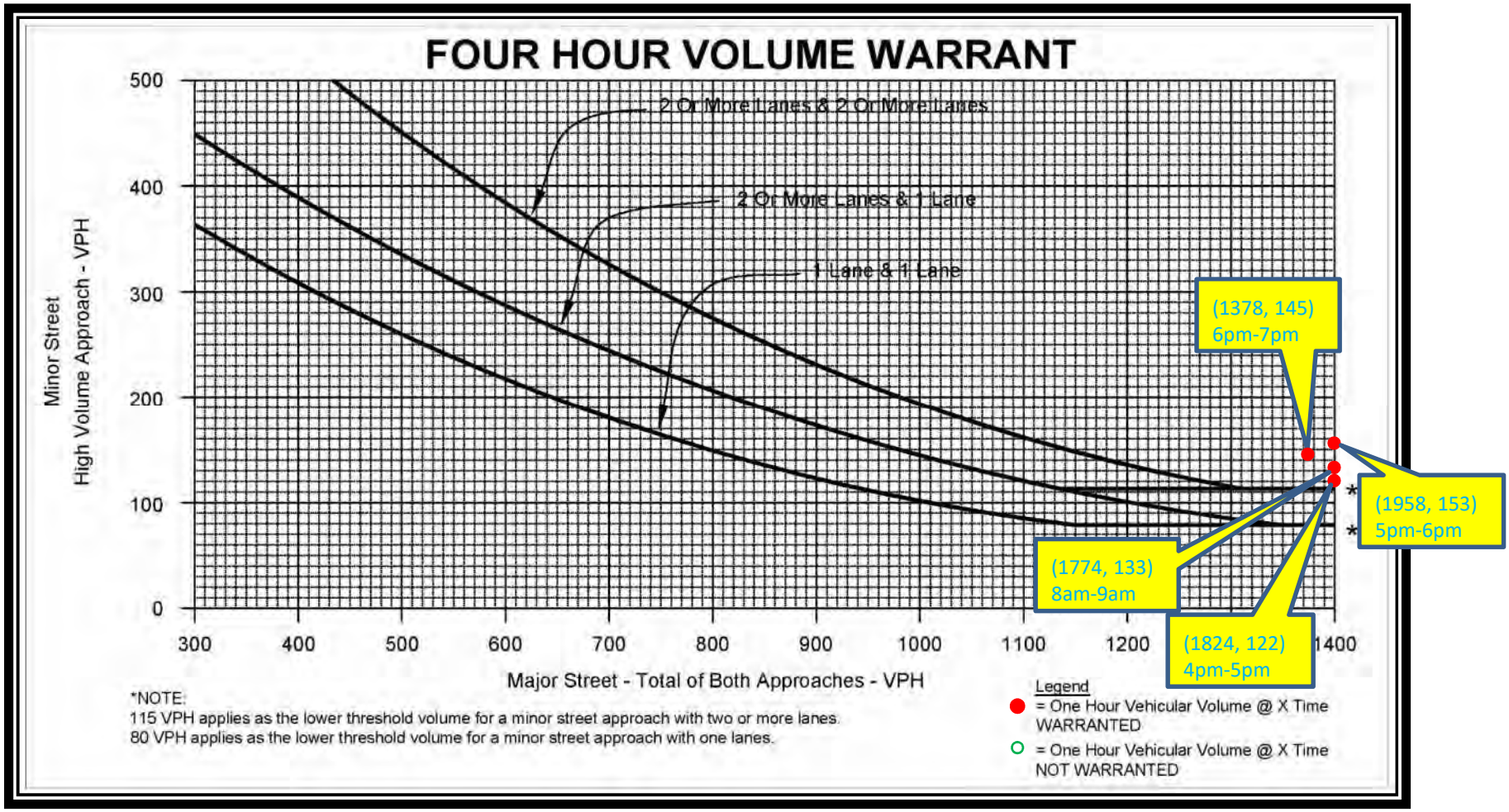
Condition A : NOT MET
Condition B : NOT MET
80% of Condition A and B : NOT MET



N High Street & High E Access
2019 Build

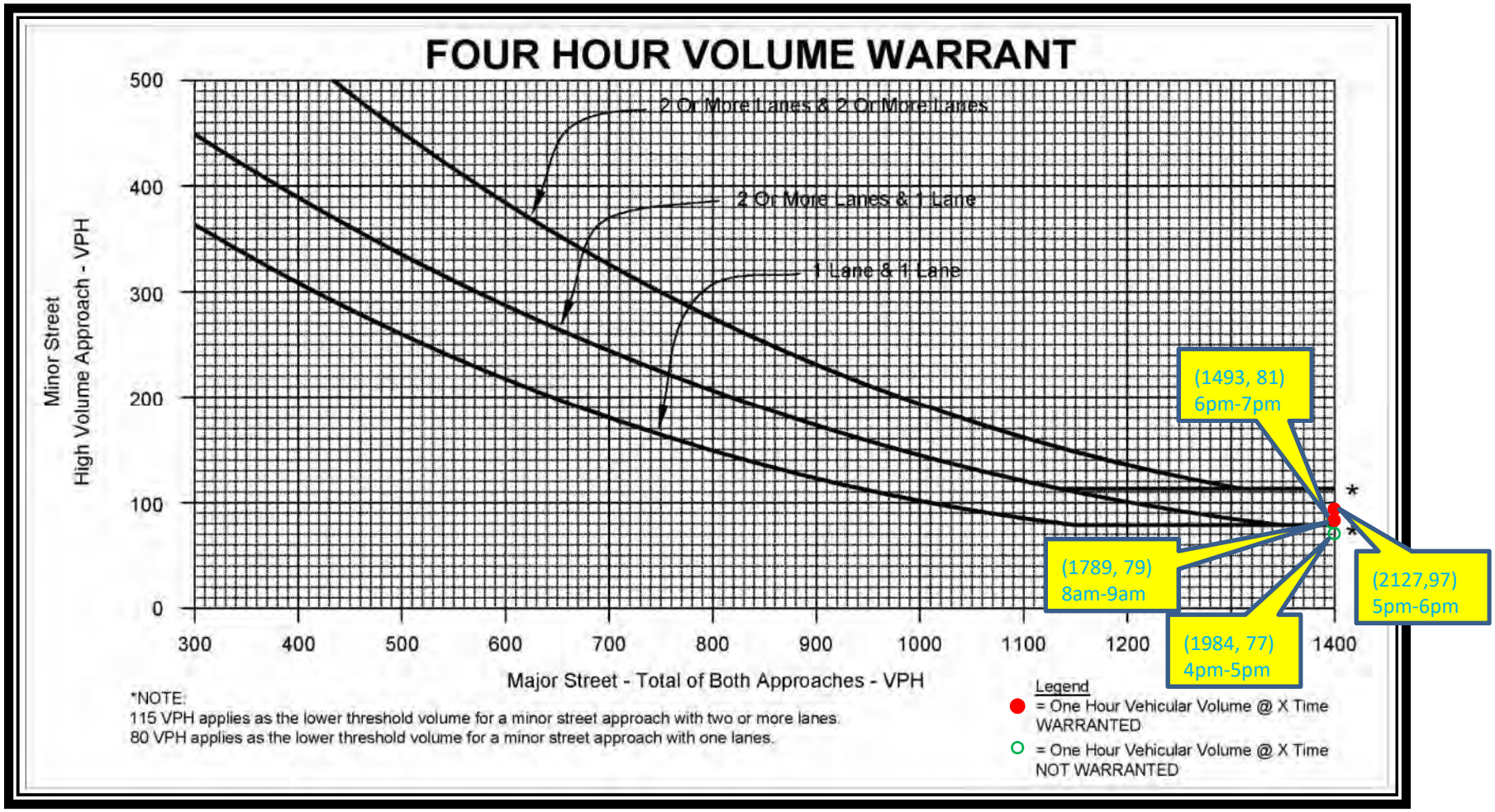
Note: Right turn reduction on High E access applied

Warranted: No



N High Street & High E Access
2019 Build

Warranted: Yes



N High Street & High E Access
2029 Build

Note: Right turn reduction on High E access applied

Warranted: No

Warrant 3, Peak Hour
Ohio Manual of Uniform Traffic Control Devices
Analyzed Intersection: N High Street & High E Access
2019 PM Peak Hour

Description of Warrant Requirements

Warrant 3 requires that criteria in either of the following two categories be met to justify need for a traffic control signal:

CATEGORY A

1. Stopped Time Delay Component

Minor-Street Stopped Time Delay Requirements from OMUTCD 4C.04		
One-Lane Minor Street Approach Delay	4	Vehicle-Hours
Two-Lane Minor Street Approach Delay	5	Vehicle-Hours

Number of Minor-Street Approach Lanes	1	Lanes	
Minor-Street Approach Delay (EB)	97.0	Seconds/Vehicle	
Minor-Street Approach Volume (EB)	153	Vehicles/Hour	
Minor-Street Total Stopped Time Delay	14,841	Vehicle Seconds	Approach Delay X Approach Volume
Minor- Street Total Stopped Time Delay	**4.1**	**Vehicle Hours**	(Approach Delay X Approach Volume)/3600
Is Component Satisfied?	**Yes**		

2. Minor Street Volume Component

Minor-Street Approach Volume Requirements from OMUTCD 4C.04		
One-Lane Minor Street Approach Volume	100	vehicles/hour
Two-Lane Minor Street Approach Volume	150	vehicles/hour

Moving Lanes on Minor-Street Approach	1	Lanes
High E Access EB Approach Volume	153	Vehicles/Hour
Is Component Satisfied?	**Yes**	

3. Total Entering Volume Component

Entering Volume Requirements from OMUTCD 4C.04		
Intersections with Three Approaches	650	vehicles/hour
Intersecctions with Four Approaches	800	vehicles/hour

Number of Approaches	3	Approaches
Intersection Entering Volume	2,111	Vehicles/Hour
Is Component Satisfied?	**Yes**	

CATEGORY B

The plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any consecutive 15-minute periods) of an average day falls above the applicable curbe in Figure 4C-3 for the existing combination of approach lanes.

Is Component Satisfied?	**Yes**	See Attached Graphs

Final Warrant Results

Is Warrant 3 Met?	**Yes**
Based on Which Category	**Category B**

SMART SERVICES, INC.
88 W. Church Street
Newark, OH 43055
(740) 345-4700
www.smartservices-inc.com

Date: 4/16/2015 Site Code:

Larrimer Ave Between High St & Longfellow Ave

Time	WB	EB	WB-EB Total	
12:00 AM	1	1	2	
12:15 AM	0	0	0	
12:30 AM	3	1	4	
12:45 AM	1	0	1	
1:00 AM	0	0	0	
1:15 AM	0	0	0	
1:30 AM	0	0	0	
1:45 AM	0	0	0	
2:00 AM	1	0	1	
2:15 AM	0	0	0	
2:30 AM	0	0	0	
2:45 AM	0	0	0	
3:00 AM	0	0	0	
3:15 AM	0	1	1	
3:30 AM	0	0	0	
3:45 AM	0	0	0	
4:00 AM	0	0	0	
4:15 AM	1	0	1	
4:30 AM	0	1	1	
4:45 AM	1	2	3	
5:00 AM	0	1	1	
5:15 AM	1	4	5	
5:30 AM	1	4	5	
5:45 AM	1	2	3	
6:00 AM	1	3	4	
6:15 AM	4	5	9	
6:30 AM	2	11	13	
6:45 AM	6	15	21	
7:00 AM	7	31	38	
7:15 AM	17	28	45	
7:30 AM	23	49	72	228
7:45 AM	34	39	73	
8:00 AM	44	55	99	
8:15 AM	24	38	62	306
8:30 AM	32	51	83	
8:45 AM	21	41	62	
9:00 AM	14	21	35	
9:15 AM	19	19	38	
9:30 AM	9	13	22	131
9:45 AM	16	20	36	
10:00 AM	16	19	35	
10:15 AM	16	19	35	
10:30 AM	18	15	33	147
10:45 AM	18	26	44	
11:00 AM	17	16	33	
11:15 AM	17	29	46	
11:30 AM	21	27	48	168
11:45 AM	26	15	41	
AM TOTAL	**433**	**622**	**1055**	

Time	WB	EB	WB-EB Total	
12:00 PM	27	22	49	
12:15 PM	12	20	32	
12:30 PM	22	17	39	160
12:45 PM	15	25	40	
1:00 PM	15	24	39	
1:15 PM	17	22	39	
1:30 PM	20	18	38	163
1:45 PM	27	20	47	
2:00 PM	15	13	28	
2:15 PM	15	23	38	
2:30 PM	28	23	51	177
2:45 PM	25	35	60	
3:00 PM	22	28	50	
3:15 PM	21	25	46	
3:30 PM	33	15	48	211
3:45 PM	31	36	67	
4:00 PM	18	44	62	
4:15 PM	25	17	42	
4:30 PM	32	28	60	225
4:45 PM	36	25	61	
5:00 PM	28	26	54	
5:15 PM	33	26	59	
5:30 PM	40	39	79	283
5:45 PM	50	41	91	
6:00 PM	41	67	108	
6:15 PM	41	29	70	
6:30 PM	27	23	50	267
6:45 PM	21	18	39	
7:00 PM	20	20	40	
7:15 PM	33	20	53	
7:30 PM	25	30	55	
7:45 PM	20	12	32	
8:00 PM	27	9	36	
8:15 PM	24	20	44	
8:30 PM	13	16	29	
8:45 PM	13	2	15	
9:00 PM	10	11	21	
9:15 PM	10	10	20	
9:30 PM	8	7	15	
9:45 PM	7	7	14	
10:00 PM	5	3	8	
10:15 PM	3	4	7	
10:30 PM	6	6	12	
10:45 PM	6	1	7	
11:00 PM	3	2	5	
11:15 PM	4	5	9	
11:30 PM	4	3	7	
11:45 PM	2	2	4	
PM TOTAL	**980**	**939**	**1919**	

24HR TOTAL	WB-EB Total		WB	EB
	2974		**1413**	**1561**

Volume Count Report

LOCATION INFO

Location ID	4525
Type	SPOT
Fnct'l Class	3
Located On	N HIGH ST
Direction	2-WAY
County	FRANKLIN
Community	WORTHINGTON
MPO ID	
HPMS ID	
Agency	ODOT

COUNT DATA INFO

Count Status	Accepted
Start Date	Wed 12/7/2016
End Date	Thu 12/8/2016
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	odot
Station	000045251050
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	34	25	20	19	98
1:00-2:00	18	31	25	40	114
2:00-3:00	15	21	7	12	55
3:00-4:00	17	15	24	15	71
4:00-5:00	23	27	34	42	126
5:00-6:00	40	70	86	126	322
6:00-7:00	161	232	342	447	1,182
7:00-8:00	561	719	820	851	√ 2,951
8:00-9:00	801	745	687	658	√ 2,891
9:00-10:00	654	514	592	558	√ 2,318
10:00-11:00	547	538	497	554	√ 2,136
11:00-12:00	581	548	625	698	√ 2,452
12:00-13:00	688	597	583	670	√ 2,538
13:00-14:00	646	578	563	626	√ 2,413
14:00-15:00	625	595	670	685	√ 2,575
15:00-16:00	778	717	695	768	√ 2,958
16:00-17:00	763	763	858	793	√ 3,177
17:00-18:00	907	907	832	724	√ 3,370
18:00-19:00	680	617	541	468	√ 2,306
19:00-20:00	408	452	384	383	1,627
20:00-21:00	338	329	280	275	1,222
21:00-22:00	292	230	205	193	920
22:00-23:00	178	174	150	101	603
23:00-24:00	123	121	92	73	409
Total					38,834
AADT					35,112
AM Peak					07:30-08:30 3,217
PM Peak					16:30-17:30 3,465

Hourly Two-way Volumes

	Larrimer Ave.	Percent	US23	Percent
7am	228	75%	2951	102.1%
8am	306	100%	2891	100.0%
9am	131	43%	2318	80.2%
10am	147	48%	2136	73.9%
11am	168	55%	2452	84.8%
noon	160	57%	2538	75.3%
1pm	163	58%	2413	71.6%
2pm	177	63%	2575	76.4%
3pm	211	75%	2958	87.8%
4pm	225	80%	3177	94.3%
5pm	283	100%	3370	100.0%
6pm	267	94%	2306	68.4%

Source:

US23: ODOT count data on December 7, 2016

Larrimer Ave.: Smart Services count data on April 16, 2015

Year 2019 Build Traffic Volumes
High Street & High E Access

	EBLT	EBRT	NBLT	NBTH	SBTH	SBRT	SB Total	NB Total
7am	26	73	78	816	860	20	881	894
8am	35	98	105	799	843	27	870	904
9am	15	42	45	641	676	12	687	686
10am	17	47	50	590	623	13	636	641
11am	19	54	58	678	715	15	730	735
noon	23	64	63	596	767	20	788	659
1pm	23	65	64	567	730	21	750	631
2pm	25	71	69	605	779	23	801	675
3pm	30	84	83	695	894	27	921	778
4pm	32	90	88	747	961	29	989	835
5pm	40	113	111	792	1019	36	1055	903
6pm	38	107	105	542	697	34	731	647

United Methodist Children's Home Site

2018-1457

(Taken From TEM Section 402-5, Ohio Department of Transportation)

HOUR BEGIN	MINOR STREET				MAINLINE VOLUME (CONFLICTING WITH RIGHT TURN)	MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
	Approach A: High E Access										
	Config. "A": 2										
	Mainline Lanes: 2										
	Volumes										
	LEFT	THROUGH	RIGHT	TOTAL (A)							
6:00 AM						0	20%	0%	20%	0	0
7:00	26	0	73	99	881	441	60%	5%	55%	33	59
8:00	35	0	98	133	870	435	60%	5%	55%	44	79
9:00	15	0	42	57	687	344	60%	0%	60%	17	32
10:00	17	0	47	64	636	318	60%	0%	60%	19	36
11:00	19	0	54	73	730	365	60%	0%	60%	22	41
Noon	23	0	64	87	788	394	60%	0%	60%	26	49
1:00 PM	23	0	65	88	750	375	60%	0%	60%	26	49
2:00	25	0	71	96	801	401	60%	5%	55%	32	57
3:00	30	0	84	114	921	461	60%	5%	55%	38	68
4:00	32	0	90	122	989	495	60%	5%	55%	41	73
5:00	40	0	113	153	1055	528	60%	10%	50%	57	97
6:00	38	0	107	145	731	366	60%	0%	60%	43	81
7:00						0	20%	0%	20%	0	0
8:00						0	20%	0%	20%	0	0
9:00						0	20%	0%	20%	0	0
2019 Build											

Hourly Two-way Volumes

	Larrimer Ave.	Percent	US23	Percent
7am	228	75%	2951	102.1%
8am	306	100%	2891	100.0%
9am	131	43%	2318	80.2%
10am	147	48%	2136	73.9%
11am	168	55%	2452	84.8%
noon	160	57%	2538	75.3%
1pm	163	58%	2413	71.6%
2pm	177	63%	2575	76.4%
3pm	211	75%	2958	87.8%
4pm	225	80%	3177	94.3%
5pm	283	100%	3370	100.0%
6pm	267	94%	2306	68.4%
Source:				

US23: ODOT count data on December 7, 2016

Larrimer Ave.: Smart Services count data on April 16, 2015

Year 2029 Build Traffic Volumes
High Street & High E Access

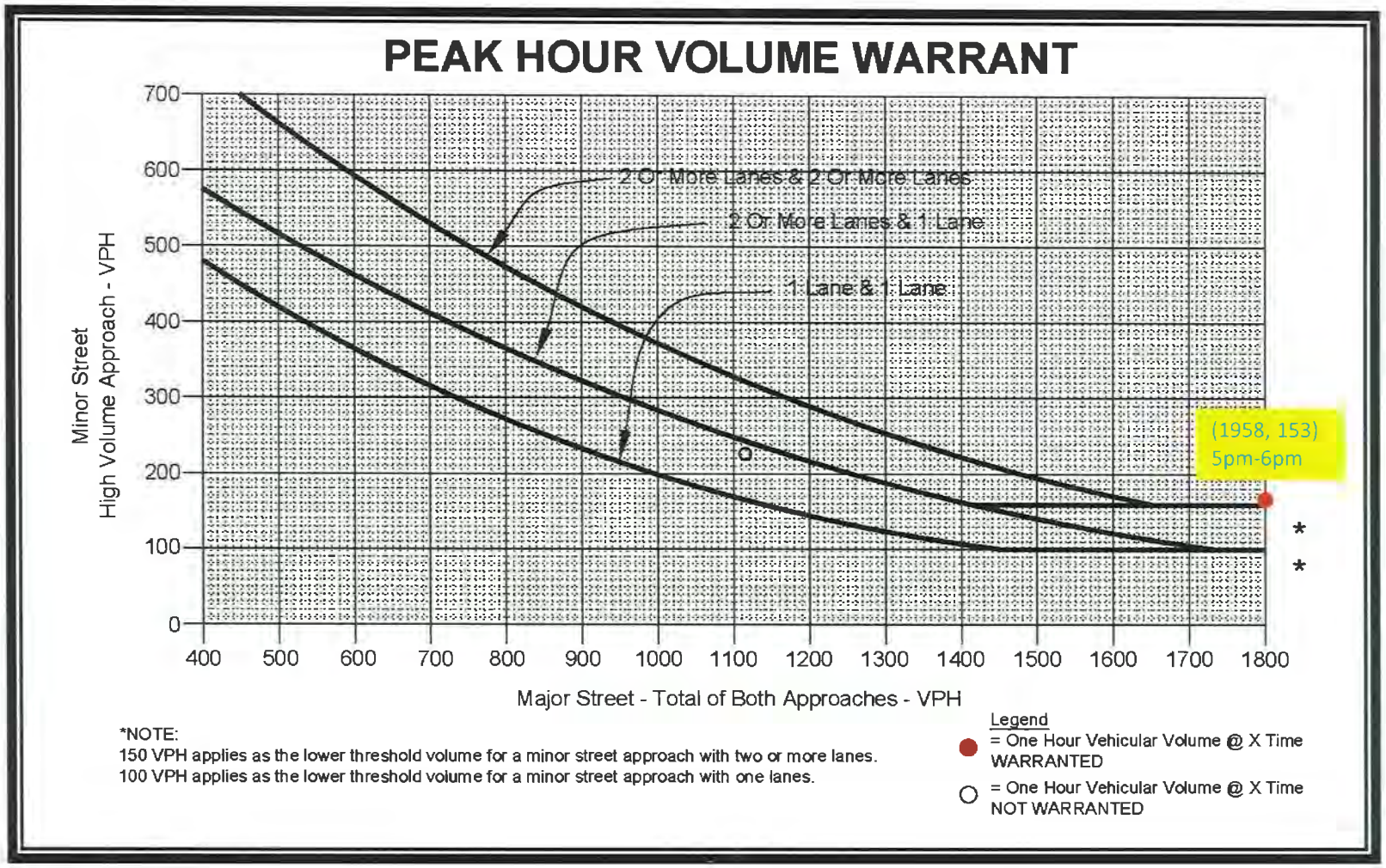
	EBLT	EBRT	NBLT	NBTH	SBTH	SBRT	SB Total	NB Total
7am	26	73	78	823	869	20	889	901
8am	35	98	105	806	851	27	878	911
9am	15	42	45	646	682	12	694	691
10am	17	47	50	596	629	13	642	646
11am	19	54	58	684	722	15	737	741
noon	23	64	63	652	839	20	859	715
1pm	23	65	64	620	798	21	818	684
2pm	25	71	69	662	851	23	874	731
3pm	30	84	83	760	978	27	1005	843
4pm	32	90	88	816	1050	29	1079	905
5pm	40	113	111	866	1114	36	1150	977
6pm	38	107	105	593	762	34	796	697

United Methodist Children's Home Site

2018-1457

(Taken From TEM Section 402-5, Ohio Department of Transportation)

HOUR BEGIN	MINOR STREET				MAINLINE VOLUME (CONFLICTING WITH RIGHT TURN)	MAINLINE APPROACH VOLUME PER LANE	BASE RIGHT TURN	MAINLINE CONGESTION FACTOR %	ADJUSTED RIGHT TURN REDUCTION %	ADJUSTED RIGHT TURNS	ADJUSTED MINOR STREET VOLUMES
	Approach A:	High E Access									
	Config. "A":	2									
	Mainline Lanes:	2									
	Volumes										
	LEFT	THROUGH	RIGHT	TOTAL (A)							
6:00 AM						0	20%	0%	20%	0	0
7:00	26	0	73	99	889	445	60%	5%	55%	33	59
8:00	35	0	98	133	878	439	60%	5%	55%	44	79
9:00	15	0	42	57	694	347	60%	0%	60%	17	32
10:00	17	0	47	64	642	321	60%	0%	60%	19	36
11:00	19	0	54	73	737	369	60%	0%	60%	22	41
Noon	23	0	64	87	859	430	60%	5%	55%	29	52
1:00 PM	23	0	65	88	818	409	60%	5%	55%	29	52
2:00	25	0	71	96	874	437	60%	5%	55%	32	57
3:00	30	0	84	114	1005	503	60%	10%	50%	42	72
4:00	32	0	90	122	1079	540	60%	10%	50%	45	77
5:00	40	0	113	153	1150	575	60%	10%	50%	57	97
6:00	38	0	107	145	796	398	60%	0%	60%	43	81
7:00						0	20%	0%	20%	0	0
8:00						0	20%	0%	20%	0	0
9:00						0	20%	0%	20%	0	0
2029 Build											



Warranted: Yes

N High Street & High E Access
2019 PM Build
Traffic Signal Warrant #3
Ohio Manual of Uniform Traffic Control Devices

UMCH TIS

Turn Lane Length Calculations

AM Peak Hour

2029 No Build

N High St. & Worthington Galena Rd		
Movement	**NBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	668	vph
Number of Through Lanes	2	
Turning Volume	9	vph
Number of Turning Lanes	1	
Turning Percentage	1%	
Vehicles Per Cycle	0.2	
Storage Length	50	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	100	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	350	feet
No Block Turn Lane Length	400	feet

AM Peak Hour

2029 Build

N High St. & Worthington Galena Rd		
Movement	**NBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	839	vph
Number of Through Lanes	2	
Turning Volume	24	vph
Number of Turning Lanes	1	
Turning Percentage	3%	
Vehicles Per Cycle	0.6	
Storage Length	50	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	100	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	400	feet
No Block Turn Lane Length	450	feet

PM Peak Hour

2029 No Build

N High St. & Worthington Galena Rd		
Movement	**NBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	694	vph
Number of Through Lanes	2	
Turning Volume	2	vph
Number of Turning Lanes	1	
Turning Percentage	0%	
Vehicles Per Cycle	0.1	
Storage Length	50	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	100	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	350	feet
No Block Turn Lane Length	400	feet

PM Peak Hour

2029 Build

N High St. & Worthington Galena Rd		
Movement	**NBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	837	vph
Number of Through Lanes	2	
Turning Volume	44	vph
Number of Turning Lanes	1	
Turning Percentage	5%	
Vehicles Per Cycle	1.1	
Storage Length	100	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	150	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	400	feet
No Block Turn Lane Length	450	feet

AM Peak Hour		
2029 No Build		
N High St. & Worthington Galena Rd		
Movement	**SBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	694	vph
Number of Through Lanes	2	
Turning Volume	147	vph
Number of Turning Lanes	1	
Turning Percentage	17%	
Vehicles Per Cycle	3.7	
Storage Length	175	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	225	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	350	feet
No Block Turn Lane Length	400	feet

AM Peak Hour		
2029 Build		
N High St. & Worthington Galena Rd		
Movement	**SBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	829	vph
Number of Through Lanes	2	
Turning Volume	165	vph
Number of Turning Lanes	1	
Turning Percentage	17%	
Vehicles Per Cycle	4.1	
Storage Length	200	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	250	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	400	feet
No Block Turn Lane Length	450	feet

PM Peak Hour		
2029 No Build		
N High St. & Worthington Galena Rd		
Movement	**SBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	917	vph
Number of Through Lanes	2	
Turning Volume	117	vph
Number of Turning Lanes	1	
Turning Percentage	11%	
Vehicles Per Cycle	2.9	
Storage Length	150	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	200	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	450	feet
No Block Turn Lane Length	500	feet

PM Peak Hour		
2029 Build		
N High St. & Worthington Galena Rd		
Movement	**SBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	1080	vph
Number of Through Lanes	2	
Turning Volume	140	vph
Number of Turning Lanes	1	
Turning Percentage	11%	
Vehicles Per Cycle	3.5	
Storage Length	175	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	225	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	500	feet
No Block Turn Lane Length	550	feet

AM Peak Hour		
2029 No Build		
N High St. & Worthington Galena Rd		
Movement	**WBLT**	
Design Speed	25	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	107	vph
Number of Through Lanes	1	
Turning Volume	305	vph
Number of Turning Lanes	1	
Turning Percentage	74%	
Vehicles Per Cycle	7.6	
Storage Length	325	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	375	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	150	feet
No Block Turn Lane Length	200	feet

AM Peak Hour		
2029 Build		
N High St. & Worthington Galena Rd		
Movement	**WBLT**	
Design Speed	25	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	131	vph
Number of Through Lanes	1	
Turning Volume	305	vph
Number of Turning Lanes	1	
Turning Percentage	70%	
Vehicles Per Cycle	7.6	
Storage Length	325	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	375	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	175	feet
No Block Turn Lane Length	225	feet

PM Peak Hour		
2029 No Build		
N High St. & Worthington Galena Rd		
Movement	**WBLT**	
Design Speed	25	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	103	vph
Number of Through Lanes	1	
Turning Volume	356	vph
Number of Turning Lanes	1	
Turning Percentage	78%	
Vehicles Per Cycle	8.9	
Storage Length	350	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	400	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	150	feet
No Block Turn Lane Length	200	feet

PM Peak Hour		
2029 Build		
N High St. & Worthington Galena Rd		
Movement	**WBLT**	
Design Speed	25	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	122	vph
Number of Through Lanes	1	
Turning Volume	356	vph
Number of Turning Lanes	1	
Turning Percentage	74%	
Vehicles Per Cycle	8.9	
Storage Length	350	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	400	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	150	feet
No Block Turn Lane Length	200	feet

AM Peak Hour		
2029 Build		
N High St. & High E Access		
Movement	**NBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	806	vph
Number of Through Lanes	2	
Turning Volume	105	vph
Number of Turning Lanes	1	
Turning Percentage	12%	
Vehicles Per Cycle	2.6	
Storage Length	150	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	200	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	375	feet
No Block Turn Lane Length	425	feet

PM Peak Hour		
2029 Build		
N High St. & High E Access		
Movement	**NBLT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	866	vph
Number of Through Lanes	2	
Turning Volume	111	vph
Number of Turning Lanes	1	
Turning Percentage	11%	
Vehicles Per Cycle	2.8	
Storage Length	150	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	200	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	400	feet
No Block Turn Lane Length	450	feet

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Turn Lane Length Calculations

AM Peak Hour

2029 No Build

N High St. & Worthington Galena Rd		
Movement	**NBRT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	668	vph
Number of Through Lanes	2	
Turning Volume	202	vph
Number of Turning Lanes	1	
Turning Percentage	23%	
Vehicles Per Cycle	5.1	
Storage Length	250	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	300	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	350	feet
No Block Turn Lane Length	400	feet

AM Peak Hour

2029 Build

N High St. & Worthington Galena Rd		
Movement	**NBRT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	839	vph
Number of Through Lanes	2	
Turning Volume	202	vph
Number of Turning Lanes	1	
Turning Percentage	19%	
Vehicles Per Cycle	5.1	
Storage Length	250	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	300	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	400	feet
No Block Turn Lane Length	450	feet

PM Peak Hour

2029 No Build

N High St. & Worthington Galena Rd		
Movement	**NBRT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	694	vph
Number of Through Lanes	2	
Turning Volume	272	vph
Number of Turning Lanes	1	
Turning Percentage	28%	
Vehicles Per Cycle	6.8	
Storage Length	275	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	325	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	350	feet
No Block Turn Lane Length	400	feet

PM Peak Hour

2029 Build

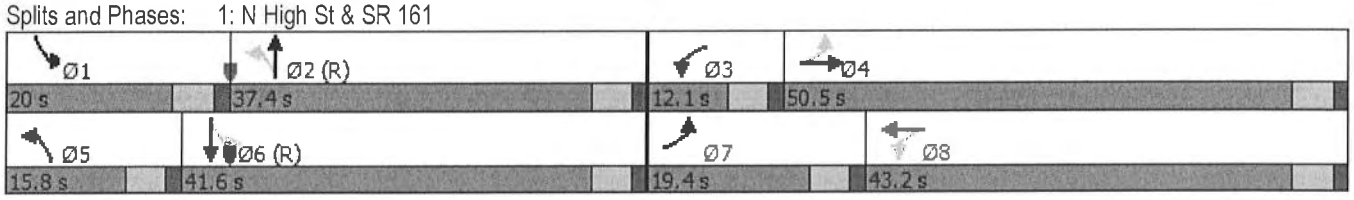
N High St. & Worthington Galena Rd		
Movement	**NBRT**	
Design Speed	35	mph
Cycle Length	90	seconds
Control (Stop or Signal)	Signal	
Through Volume	837	vph
Number of Through Lanes	2	
Turning Volume	272	vph
Number of Turning Lanes	1	
Turning Percentage	25%	
Vehicles Per Cycle	6.8	
Storage Length	275	feet
Calculated Turn Lane Length		
Storage Only (Condition A)	325	feet
Deceleration/Taper (Condition B)	N.A.	feet
Deceleration/Taper (Condition C)	N.A.	feet
No Block Distance		
No Block Distance	400	feet
No Block Turn Lane Length	450	feet

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	199	369	109	299	165	468	91	514
Future Volume (vph)	199	369	109	299	165	468	91	514
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	31.1	12.1	31.1	12.1	29.1	12.1	29.1
Total Split (s)	19.4	50.5	12.1	43.2	15.8	37.4	20.0	41.6
Total Split (%)	16.2%	42.1%	10.1%	36.0%	13.2%	31.2%	16.7%	34.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 1: N High St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	369	105	109	299	81	165	468	44	91	514	112
Future Volume (veh/h)	199	369	105	109	299	81	165	468	44	91	514	112
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	207	384	109	114	311	84	172	488	46	95	535	117
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	291	418	119	199	363	98	419	1390	131	457	1178	257
Arrive On Green	0.13	0.39	0.39	0.08	0.34	0.34	0.10	0.56	0.56	0.07	0.54	0.54
Sat Flow, veh/h	1795	1412	401	1795	1430	386	1795	3309	311	1795	2924	637
Grp Volume(v), veh/h	207	0	493	114	0	395	172	263	271	95	327	325
Grp Sat Flow(s),veh/h/ln	1795	0	1813	1795	0	1816	1795	1791	1829	1795	1791	1771
Q Serve(g_s), s	9.9	0.0	31.0	5.6	0.0	24.3	6.7	9.7	9.8	3.6	13.4	13.5
Cycle Q Clear(g_c), s	9.9	0.0	31.0	5.6	0.0	24.3	6.7	9.7	9.8	3.6	13.4	13.5
Prop In Lane	1.00		0.22	1.00		0.21	1.00		0.17	1.00		0.36
Lane Grp Cap(c), veh/h	291	0	536	199	0	461	419	752	768	457	721	713
V/C Ratio(X)	0.71	0.00	0.92	0.57	0.00	0.86	0.41	0.35	0.35	0.21	0.45	0.46
Avail Cap(c_a), veh/h	325	0	686	199	0	576	448	752	768	580	721	713
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.93	0.00	0.93	1.00	0.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	29.4	0.0	35.0	32.8	0.0	37.7	18.7	17.5	17.5	18.5	19.8	19.8
Incr Delay (d2), s/veh	5.9	0.0	14.3	4.0	0.0	10.2	0.6	1.3	1.3	0.2	1.9	2.0
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	4.5	0.0	14.5	2.6	0.0	11.3	2.8	4.0	4.1	1.5	5.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	49.3	36.8	0.0	48.0	19.4	18.8	18.8	18.7	21.7	21.7
LnGrp LOS	D	A	D	D	A	D	B	B	B	B	C	C
Approach Vol, veh/h		700			509			706			747	
Approach Delay, s/veh		45.2			45.5			18.9			21.3	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	55.5	12.1	40.6	13.9	53.4	17.1	35.6
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	14.9	32.3	7.0	45.4	10.7	36.5	14.3	38.1
Max Q Clear Time (g_c+I1), s	5.6	11.8	7.6	33.0	8.7	15.5	11.9	26.3
Green Ext Time (p_c), s	0.1	3.4	0.0	2.5	0.1	4.3	0.1	1.8

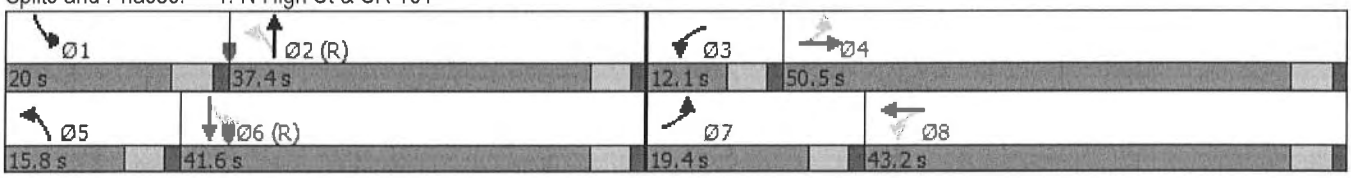
Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	265	369	109	299	165	523	132	567
Future Volume (vph)	265	369	109	299	165	523	132	567
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	31.1	12.1	31.1	12.1	29.1	12.1	29.1
Total Split (s)	19.4	50.5	12.1	43.2	15.8	37.4	20.0	41.6
Total Split (%)	16.2%	42.1%	10.1%	36.0%	13.2%	31.2%	16.7%	34.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 1: N High St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	369	105	109	299	125	165	523	44	132	567	179
Future Volume (veh/h)	265	369	105	109	299	125	165	523	44	132	567	179
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	276	384	109	114	311	130	172	545	46	138	591	186
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	303	463	131	244	337	141	343	1268	107	406	986	310
Arrive On Green	0.16	0.44	0.44	0.08	0.35	0.35	0.10	0.50	0.50	0.09	0.49	0.49
Sat Flow, veh/h	1795	1412	401	1795	1262	528	1795	3344	282	1795	2682	842
Grp Volume(v), veh/h	276	0	493	114	0	441	172	291	300	138	394	383
Grp Sat Flow(s),veh/h/ln	1795	0	1813	1795	0	1790	1795	1791	1834	1795	1791	1734
Q Serve(g_s), s	13.2	0.0	28.8	5.5	0.0	28.4	7.1	12.4	12.4	5.7	19.1	19.2
Cycle Q Clear(g_c), s	13.2	0.0	28.8	5.5	0.0	28.4	7.1	12.4	12.4	5.7	19.1	19.2
Prop In Lane	1.00		0.22	1.00		0.29	1.00		0.15	1.00		0.49
Lane Grp Cap(c), veh/h	303	0	594	244	0	477	343	679	695	406	659	637
V/C Ratio(X)	0.91	0.00	0.83	0.47	0.00	0.92	0.50	0.43	0.43	0.34	0.60	0.60
Avail Cap(c_a), veh/h	303	0	686	244	0	568	366	679	695	512	659	637
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.90	0.00	0.90	1.00	0.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	28.6	0.0	30.9	30.8	0.0	37.5	21.9	21.5	21.5	21.0	24.3	24.3
Incr Delay (d2), s/veh	27.8	0.0	6.8	1.4	0.0	19.0	1.1	2.0	1.9	0.4	3.5	3.7
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	7.5	0.0	12.5	2.4	0.0	13.9	3.0	5.2	5.3	2.4	8.2	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	0.0	37.7	32.1	0.0	56.6	23.1	23.5	23.5	21.5	27.8	27.9
LnGrp LOS	E	A	D	C	A	E	C	C	C	C	C	C
Approach Vol, veh/h		769			555			763			915	
Approach Delay, s/veh		44.5			51.5			23.4			26.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	50.6	12.1	44.4	14.3	49.2	19.4	37.1
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	14.9	32.3	7.0	45.4	10.7	36.5	14.3	38.1
Max Q Clear Time (g_c+I1), s	7.7	14.4	7.5	30.8	9.1	21.2	15.2	30.4
Green Ext Time (p_c), s	0.2	3.6	0.0	2.7	0.1	4.7	0.0	1.6

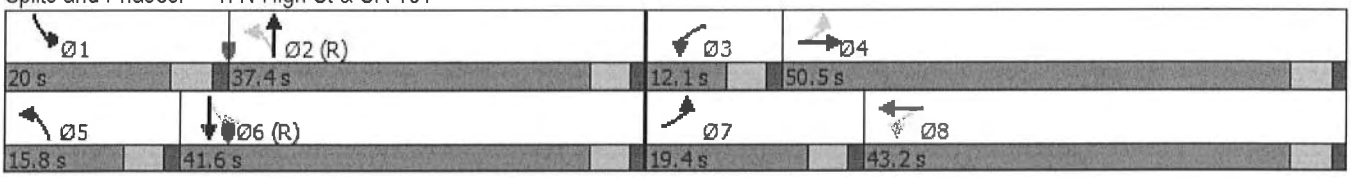
Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	209	387	114	314	177	503	98	553
Future Volume (vph)	209	387	114	314	177	503	98	553
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	31.1	12.1	31.1	12.1	29.1	12.1	29.1
Total Split (s)	19.4	50.5	12.1	43.2	15.8	37.4	20.0	41.6
Total Split (%)	16.2%	42.1%	10.1%	36.0%	13.2%	31.2%	16.7%	34.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 1: N High St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	387	110	114	314	85	177	503	47	98	553	120
Future Volume (veh/h)	209	387	110	114	314	85	177	503	47	98	553	120
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	218	403	115	119	327	89	184	524	49	102	576	125
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	294	435	124	198	376	102	392	1346	126	427	1124	243
Arrive On Green	0.14	0.41	0.41	0.08	0.35	0.35	0.11	0.54	0.54	0.07	0.51	0.51
Sat Flow, veh/h	1795	1410	402	1795	1427	388	1795	3312	309	1795	2928	634
Grp Volume(v), veh/h	218	0	518	119	0	416	184	283	290	102	352	349
Grp Sat Flow(s),veh/h/ln	1795	0	1813	1795	0	1815	1795	1791	1830	1795	1791	1771
Q Serve(g_s), s	10.3	0.0	32.6	5.8	0.0	25.7	7.4	11.0	11.1	4.0	15.6	15.7
Cycle Q Clear(g_c), s	10.3	0.0	32.6	5.8	0.0	25.7	7.4	11.0	11.1	4.0	15.6	15.7
Prop In Lane	1.00		0.22	1.00		0.21	1.00		0.17	1.00		0.36
Lane Grp Cap(c), veh/h	294	0	560	198	0	479	392	728	744	427	688	680
V/C Ratio(X)	0.74	0.00	0.93	0.60	0.00	0.87	0.47	0.39	0.39	0.24	0.51	0.51
Avail Cap(c_a), veh/h	322	0	686	198	0	576	410	728	744	549	688	680
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.92	0.00	0.92	1.00	0.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	28.8	0.0	34.1	32.4	0.0	37.0	20.1	18.9	18.9	19.9	21.9	21.9
Incr Delay (d2), s/veh	7.5	0.0	15.5	5.0	0.0	11.8	0.9	1.6	1.5	0.3	2.5	2.5
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	4.7	0.0	15.4	2.7	0.0	12.0	3.1	4.6	4.7	1.7	6.6	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	49.6	37.4	0.0	48.8	20.9	20.4	20.4	20.1	24.4	24.5
LnGrp LOS	D	A	D	D	A	D	C	C	C	C	C	C
Approach Vol, veh/h		736			535			757			803	
Approach Delay, s/veh		45.6			46.3			20.6			23.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	53.9	12.1	42.1	14.6	51.2	17.5	36.7
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	14.9	32.3	7.0	45.4	10.7	36.5	14.3	38.1
Max Q Clear Time (g_c+I1), s	6.0	13.1	7.8	34.6	9.4	17.7	12.3	27.7
Green Ext Time (p_c), s	0.1	3.6	0.0	2.4	0.1	4.5	0.1	1.8

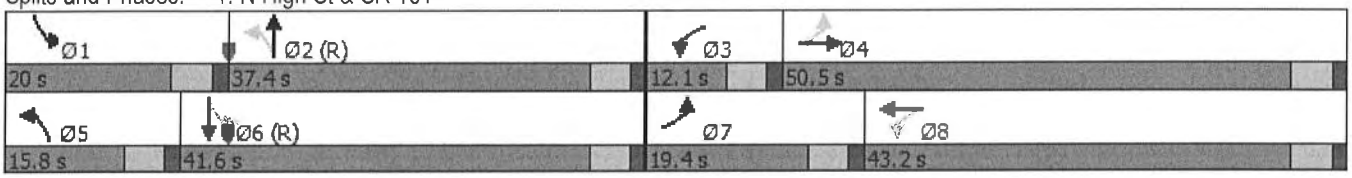
Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	275	387	114	314	177	558	139	606
Future Volume (vph)	275	387	114	314	177	558	139	606
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	31.1	12.1	31.1	12.1	29.1	12.1	29.1
Total Split (s)	19.4	50.5	12.1	43.2	15.8	37.4	20.0	41.6
Total Split (%)	16.2%	42.1%	10.1%	36.0%	13.2%	31.2%	16.7%	34.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 1: N High St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	387	110	114	314	129	177	558	47	139	606	187
Future Volume (veh/h)	275	387	110	114	314	129	177	558	47	139	606	187
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	286	403	115	119	327	134	184	581	49	145	631	195
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	301	476	136	239	352	144	322	1222	103	383	949	293
Arrive On Green	0.16	0.45	0.45	0.08	0.37	0.37	0.11	0.49	0.49	0.09	0.47	0.47
Sat Flow, veh/h	1795	1410	402	1795	1271	521	1795	3344	282	1795	2695	832
Grp Volume(v), veh/h	286	0	518	119	0	461	184	311	319	145	419	407
Grp Sat Flow(s),veh/h/ln	1795	0	1813	1795	0	1791	1795	1791	1835	1795	1791	1735
Q Serve(g_s), s	13.6	0.0	30.5	5.7	0.0	29.7	7.8	13.9	14.0	6.1	21.7	21.7
Cycle Q Clear(g_c), s	13.6	0.0	30.5	5.7	0.0	29.7	7.8	13.9	14.0	6.1	21.7	21.7
Prop In Lane	1.00		0.22	1.00		0.29	1.00		0.15	1.00		0.48
Lane Grp Cap(c), veh/h	301	0	612	239	0	496	322	654	670	383	631	611
V/C Ratio(X)	0.95	0.00	0.85	0.50	0.00	0.93	0.57	0.47	0.48	0.38	0.66	0.67
Avail Cap(c_a), veh/h	301	0	686	239	0	569	334	654	670	483	631	611
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.88	0.00	0.88	1.00	0.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	28.4	0.0	30.3	30.4	0.0	36.8	23.4	23.1	23.2	22.1	26.4	26.4
Incr Delay (d2), s/veh	35.3	0.0	7.9	1.6	0.0	20.6	2.2	2.5	2.4	0.5	4.7	4.9
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	8.3	0.0	13.2	2.5	0.0	14.7	3.4	5.9	6.1	2.6	9.5	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	0.0	38.2	32.0	0.0	57.4	25.6	25.6	25.6	22.6	31.1	31.3
LnGrp LOS	E	A	D	C	A	E	C	C	C	C	C	C
Approach Vol, veh/h		804			580			814			971	
Approach Delay, s/veh		47.3			52.2			25.6			29.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	48.9	12.1	45.6	14.9	47.4	19.4	38.3
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	14.9	32.3	7.0	45.4	10.7	36.5	14.3	38.1
Max Q Clear Time (g_c+I1), s	8.1	16.0	7.7	32.5	9.8	23.7	15.6	31.7
Green Ext Time (p_c), s	0.2	3.7	0.0	2.7	0.0	4.6	0.0	1.5

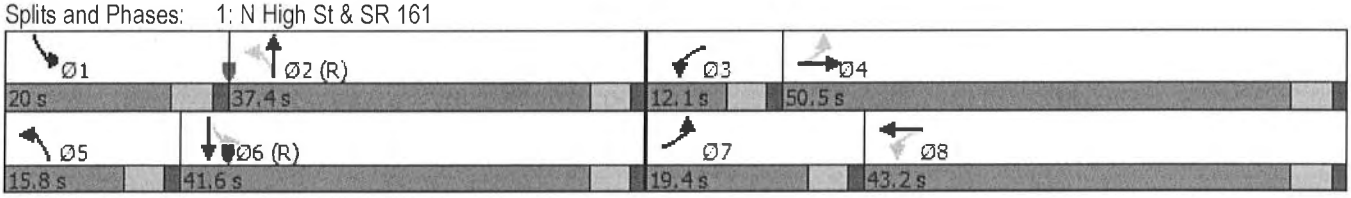
Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	177	425	83	414	183	501	177	556
Future Volume (vph)	177	425	83	414	183	501	177	556
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	31.1	12.1	31.1	12.1	29.1	12.1	29.1
Total Split (s)	19.4	50.5	12.1	43.2	15.8	37.4	20.0	41.6
Total Split (%)	16.2%	42.1%	10.1%	36.0%	13.2%	31.2%	16.7%	34.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 1: N High St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	425	135	83	414	59	183	501	100	177	556	183
Future Volume (veh/h)	177	425	135	83	414	59	183	501	100	177	556	183
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	184	443	141	86	431	61	191	522	104	184	579	191
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	277	469	149	187	502	71	340	1040	206	392	921	303
Arrive On Green	0.12	0.46	0.46	0.07	0.41	0.41	0.11	0.46	0.46	0.11	0.46	0.46
Sat Flow, veh/h	1795	1370	436	1795	1615	229	1795	2979	591	1795	2648	871
Grp Volume(v), veh/h	184	0	584	86	0	492	191	313	313	184	391	379
Grp Sat Flow(s),veh/h/ln	1795	0	1807	1795	0	1844	1795	1791	1779	1795	1791	1728
Q Serve(g_s), s	8.2	0.0	37.1	3.8	0.0	29.1	8.2	14.6	14.8	7.9	19.9	20.0
Cycle Q Clear(g_c), s	8.2	0.0	37.1	3.8	0.0	29.1	8.2	14.6	14.8	7.9	19.9	20.0
Prop In Lane	1.00		0.24	1.00		0.12	1.00		0.33	1.00		0.50
Lane Grp Cap(c), veh/h	277	0	618	187	0	573	340	625	621	392	623	601
V/C Ratio(X)	0.66	0.00	0.94	0.46	0.00	0.86	0.56	0.50	0.50	0.47	0.63	0.63
Avail Cap(c_a), veh/h	336	0	684	193	0	585	348	625	621	465	623	601
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.67	0.00	0.67	1.00	0.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	27.6	0.0	31.6	29.9	0.0	32.8	23.1	24.8	24.9	22.1	26.4	26.4
Incr Delay (d2), s/veh	2.4	0.0	15.7	1.8	0.0	12.0	2.0	2.9	2.9	0.7	3.6	3.8
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	3.5	0.0	17.1	1.7	0.0	13.7	3.5	6.3	6.4	3.3	8.5	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	47.3	31.7	0.0	44.8	25.1	27.7	27.8	22.7	30.0	30.2
LnGrp LOS	C	A	D	C	A	D	C	C	C	C	C	C
Approach Vol, veh/h		768			578			817			954	
Approach Delay, s/veh		43.2			42.9			27.1			28.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	47.0	11.7	46.2	15.3	46.8	15.5	42.4
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	14.9	32.3	7.0	45.4	10.7	36.5	14.3	38.1
Max Q Clear Time (g_c+I1), s	9.9	16.8	5.8	39.1	10.2	22.0	10.2	31.1
Green Ext Time (p_c), s	0.2	3.7	0.0	2.0	0.0	4.5	0.2	1.7

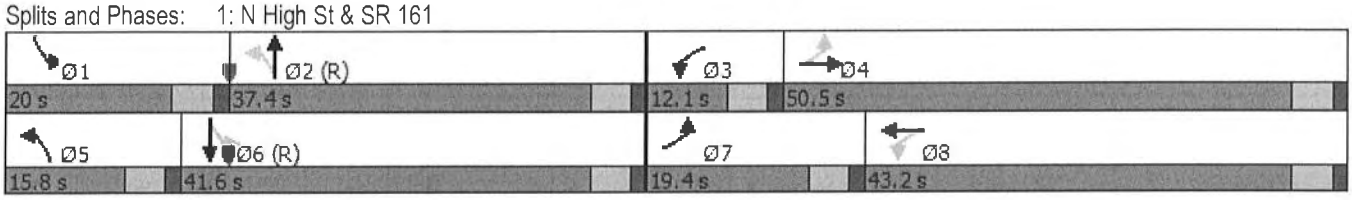
Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	244	425	83	414	183	557	221	611
Future Volume (vph)	244	425	83	414	183	557	221	611
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	31.1	12.1	31.1	12.1	29.1	12.1	29.1
Total Split (s)	19.4	50.5	12.1	43.2	15.8	37.4	20.0	41.6
Total Split (%)	16.2%	42.1%	10.1%	36.0%	13.2%	31.2%	16.7%	34.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 1: N High St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	425	135	83	414	100	183	557	100	221	611	250
Future Volume (veh/h)	244	425	135	83	414	100	183	557	100	221	611	250
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	254	443	141	86	431	104	191	580	104	230	636	260
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	280	499	159	218	451	109	282	928	166	366	799	326
Arrive On Green	0.15	0.48	0.48	0.07	0.41	0.41	0.12	0.41	0.41	0.14	0.43	0.43
Sat Flow, veh/h	1795	1370	436	1795	1467	354	1795	3036	543	1795	2480	1013
Grp Volume(v), veh/h	254	0	584	86	0	535	191	342	342	230	459	437
Grp Sat Flow(s),veh/h/ln	1795	0	1807	1795	0	1821	1795	1791	1787	1795	1791	1703
Q Serve(g_s), s	11.3	0.0	35.1	3.8	0.0	34.2	8.7	18.2	18.3	10.5	26.7	26.7
Cycle Q Clear(g_c), s	11.3	0.0	35.1	3.8	0.0	34.2	8.7	18.2	18.3	10.5	26.7	26.7
Prop In Lane	1.00		0.24	1.00		0.19	1.00		0.30	1.00		0.60
Lane Grp Cap(c), veh/h	280	0	657	218	0	560	282	548	547	366	577	549
V/C Ratio(X)	0.91	0.00	0.89	0.39	0.00	0.96	0.68	0.62	0.63	0.63	0.80	0.80
Avail Cap(c_a), veh/h	293	0	684	224	0	578	282	548	547	400	577	549
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.56	0.00	0.56	1.00	0.00	1.00	1.00	1.00	1.00	0.60	0.60	0.60
Uniform Delay (d), s/veh	27.3	0.0	28.8	28.8	0.0	34.7	27.3	30.1	30.1	24.8	30.9	30.9
Incr Delay (d2), s/veh	19.2	0.0	8.1	1.2	0.0	26.5	6.3	5.3	5.3	1.6	6.8	7.1
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	5.9	0.0	14.9	1.7	0.0	17.8	4.1	8.2	8.3	4.4	11.9	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	0.0	36.9	29.9	0.0	61.2	33.6	35.4	35.5	26.5	37.7	38.0
LnGrp LOS	D	A	D	C	A	E	C	D	D	C	D	D
Approach Vol, veh/h		838			621			875			1126	
Approach Delay, s/veh		39.8			56.8			35.0			35.5	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	41.8	11.7	48.8	15.8	43.8	18.5	42.0
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	14.9	32.3	7.0	45.4	10.7	36.5	14.3	38.1
Max Q Clear Time (g_c+I1), s	12.5	20.3	5.8	37.1	10.7	28.7	13.3	36.2
Green Ext Time (p_c), s	0.2	3.5	0.0	2.4	0.0	3.6	0.1	0.7

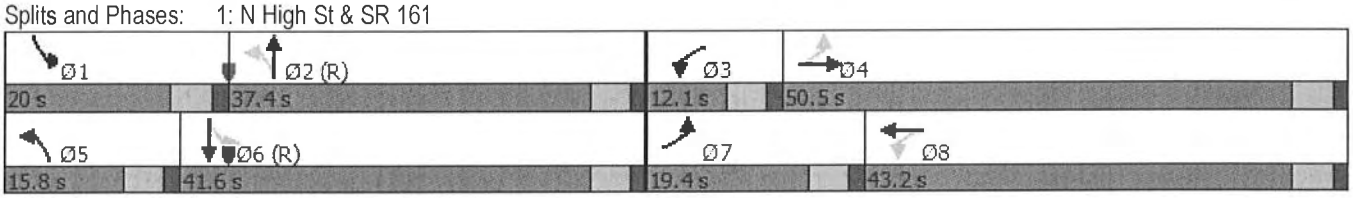
Intersection Summary	
HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	186	446	87	435	197	539	190	598
Future Volume (vph)	186	446	87	435	197	539	190	598
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	31.1	12.1	31.1	12.1	29.1	12.1	29.1
Total Split (s)	19.4	50.5	12.1	43.2	15.8	37.4	20.0	41.6
Total Split (%)	16.2%	42.1%	10.1%	36.0%	13.2%	31.2%	16.7%	34.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 1: N High St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	446	142	87	435	62	197	539	108	190	598	197
Future Volume (veh/h)	186	446	142	87	435	62	197	539	108	190	598	197
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	194	465	148	91	453	65	205	561	112	198	623	205
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	278	487	155	184	519	75	312	976	194	366	873	287
Arrive On Green	0.12	0.47	0.47	0.07	0.43	0.43	0.12	0.44	0.44	0.12	0.44	0.44
Sat Flow, veh/h	1795	1370	436	1795	1612	231	1795	2977	592	1795	2649	871
Grp Volume(v), veh/h	194	0	613	91	0	518	205	337	336	198	421	407
Grp Sat Flow(s),veh/h/ln	1795	0	1807	1795	0	1844	1795	1791	1779	1795	1791	1728
Q Serve(g_s), s	8.5	0.0	39.1	4.0	0.0	30.8	9.1	17.0	17.1	8.7	23.0	23.1
Cycle Q Clear(g_c), s	8.5	0.0	39.1	4.0	0.0	30.8	9.1	17.0	17.1	8.7	23.0	23.1
Prop In Lane	1.00		0.24	1.00		0.13	1.00		0.33	1.00		0.50
Lane Grp Cap(c), veh/h	278	0	642	184	0	594	312	587	583	366	590	570
V/C Ratio(X)	0.70	0.00	0.95	0.49	0.00	0.87	0.66	0.57	0.58	0.54	0.71	0.71
Avail Cap(c_a), veh/h	332	0	684	189	0	594	312	587	583	426	590	570
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.63	0.00	0.63	1.00	0.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69
Uniform Delay (d), s/veh	27.1	0.0	30.7	29.6	0.0	32.0	25.3	27.5	27.6	23.6	29.1	29.1
Incr Delay (d2), s/veh	3.2	0.0	16.9	2.1	0.0	13.4	5.0	4.0	4.1	0.9	5.0	5.2
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	3.7	0.0	18.0	1.8	0.0	14.6	4.2	7.5	7.5	3.7	10.1	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	0.0	47.6	31.7	0.0	45.5	30.3	31.5	31.7	24.5	34.1	34.3
LnGrp LOS	C	A	D	C	A	D	C	C	C	C	C	C
Approach Vol, veh/h		807			609			878			1026	
Approach Delay, s/veh		43.4			43.4			31.3			32.3	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	44.5	11.8	47.8	15.8	44.7	15.8	43.8
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	14.9	32.3	7.0	45.4	10.7	36.5	14.3	38.1
Max Q Clear Time (g_c+I1), s	10.7	19.1	6.0	41.1	11.1	25.1	10.5	32.8
Green Ext Time (p_c), s	0.2	3.7	0.0	1.6	0.0	4.3	0.2	1.5

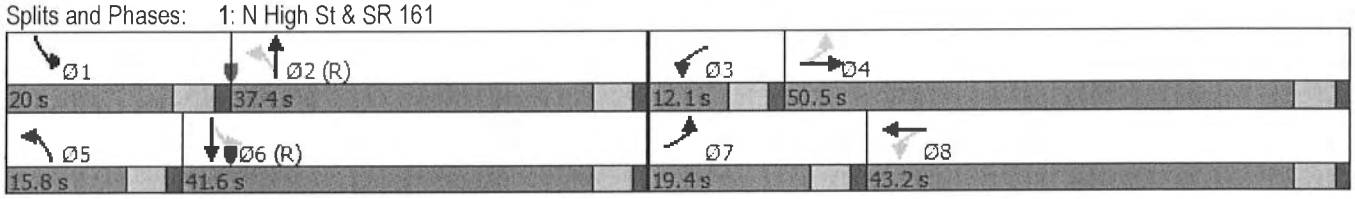
Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	253	446	87	435	197	595	234	653
Future Volume (vph)	253	446	87	435	197	595	234	653
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	31.1	12.1	31.1	12.1	29.1	12.1	29.1
Total Split (s)	19.4	50.5	12.1	43.2	15.8	37.4	20.0	41.6
Total Split (%)	16.2%	42.1%	10.1%	36.0%	13.2%	31.2%	16.7%	34.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 1: N High St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	446	142	87	435	103	197	595	108	234	653	264
Future Volume (veh/h)	253	446	142	87	435	103	197	595	108	234	653	264
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	264	465	148	91	453	107	205	620	112	244	680	275
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	288	522	166	221	468	110	249	849	153	340	758	307
Arrive On Green	0.16	0.51	0.51	0.07	0.42	0.42	0.12	0.37	0.37	0.15	0.41	0.41
Sat Flow, veh/h	1795	1370	436	1795	1474	348	1795	3031	547	1795	2489	1006
Grp Volume(v), veh/h	264	0	613	91	0	560	205	366	366	244	489	466
Grp Sat Flow(s),veh/h/ln	1795	0	1807	1795	0	1822	1795	1791	1787	1795	1791	1704
Q Serve(g_s), s	12.3	0.0	36.6	4.0	0.0	36.0	9.9	21.1	21.2	11.6	30.6	30.6
Cycle Q Clear(g_c), s	12.3	0.0	36.6	4.0	0.0	36.0	9.9	21.1	21.2	11.6	30.6	30.6
Prop In Lane	1.00		0.24	1.00		0.19	1.00		0.31	1.00		0.59
Lane Grp Cap(c), veh/h	288	0	688	221	0	578	249	501	500	340	546	519
V/C Ratio(X)	0.92	0.00	0.89	0.41	0.00	0.97	0.82	0.73	0.73	0.72	0.90	0.90
Avail Cap(c_a), veh/h	288	0	688	226	0	579	249	501	500	358	546	519
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.52	0.00	0.52	1.00	0.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Uniform Delay (d), s/veh	29.4	0.0	27.4	28.2	0.0	34.1	30.2	33.7	33.8	27.1	33.9	33.9
Incr Delay (d2), s/veh	20.1	0.0	8.0	1.2	0.0	29.5	19.4	9.0	9.1	4.4	14.6	15.2
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	6.4	0.0	15.3	1.7	0.0	19.1	5.4	10.0	10.0	5.1	14.7	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	0.0	35.3	29.5	0.0	63.6	49.7	42.8	42.9	31.5	48.6	49.2
LnGrp LOS	D	A	D	C	A	E	D	D	D	C	D	D
Approach Vol, veh/h		877			651			937			1199	
Approach Delay, s/veh		39.6			58.8			44.3			45.3	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	38.7	11.8	50.8	15.8	41.7	19.4	43.2
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	14.9	32.3	7.0	45.4	10.7	36.5	14.3	38.1
Max Q Clear Time (g_c+I1), s	13.6	23.2	6.0	38.6	11.9	32.6	14.3	38.0
Green Ext Time (p_c), s	0.1	3.2	0.0	2.2	0.0	2.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1	0	277	0	8	607	184	134	631
Future Volume (vph)	1	0	277	0	8	607	184	134	631
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.1	32.1	32.1	32.1	40.1	40.1	40.1	31.1	31.1
Total Split (s)	38.0	38.0	38.0	38.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 2: N High St & Wesley/WG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	3	277	0	97	8	607	184	134	631	7
Future Volume (veh/h)	1	0	3	277	0	97	8	607	184	134	631	7
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	3	289	0	101	8	632	192	140	657	7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	0	378	431	0	378	547	2222	991	486	2252	24
Arrive On Green	0.24	0.00	0.24	0.24	0.00	0.24	0.83	0.83	0.83	0.83	0.83	0.83
Sat Flow, veh/h	1294	0	1585	1414	0	1585	772	3554	1585	665	3602	38
Grp Volume(v), veh/h	1	0	3	289	0	101	8	632	192	140	324	340
Grp Sat Flow(s),veh/h/ln	1294	0	1585	1414	0	1585	772	1777	1585	665	1777	1863
Q Serve(g_s), s	0.0	0.0	0.1	14.7	0.0	3.9	0.2	2.9	1.8	4.8	3.0	3.0
Cycle Q Clear(g_c), s	3.9	0.0	0.1	14.8	0.0	3.9	3.2	2.9	1.8	7.8	3.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	338	0	378	431	0	378	547	2222	991	486	1111	1165
V/C Ratio(X)	0.00	0.00	0.01	0.67	0.00	0.27	0.01	0.28	0.19	0.29	0.29	0.29
Avail Cap(c_a), veh/h	596	0	695	714	0	695	547	2222	991	486	1111	1165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	21.8	27.4	0.0	23.2	3.0	2.6	2.5	3.5	2.6	2.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.8	0.0	0.4	0.0	0.3	0.4	1.5	0.7	0.6
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	0.0	0.0	0.0	5.0	0.0	1.5	0.0	0.8	0.5	0.6	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	0.0	21.8	29.2	0.0	23.6	3.0	2.9	3.0	5.0	3.3	3.3
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		4			390			832			804	
Approach Delay, s/veh		22.5			27.8			2.9			3.6	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		23.0		52.0		23.0				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		46.9		32.9		46.9		32.9				
Max Q Clear Time (g_c+I1), s		5.2		5.9		9.8		16.8				
Green Ext Time (p_c), s		5.6		0.0		6.0		1.1				

Intersection Summary			
HCM 6th Ctrl Delay		8.0	
HCM 6th LOS		A	

Notes

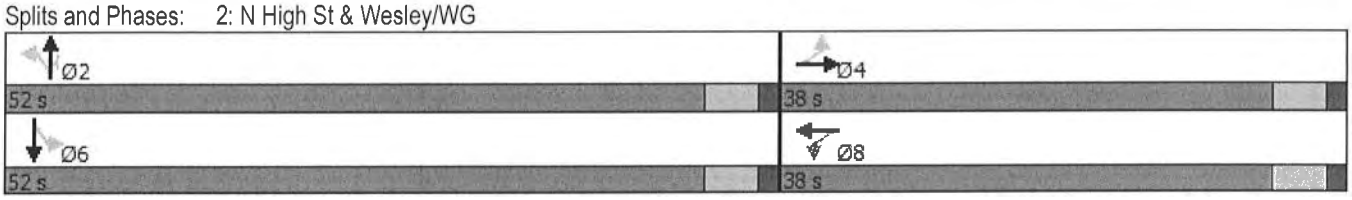
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	5	7	277	1	23	778	184	152	766
Future Volume (vph)	5	7	277	1	23	778	184	152	766
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.1	32.1	32.1	32.1	40.1	40.1	40.1	31.1	31.1
Total Split (s)	38.0	38.0	38.0	38.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 79.6
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 2: N High St & Wesley/WG



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	7	49	277	1	121	23	778	184	152	766	7
Future Volume (veh/h)	5	7	49	277	1	121	23	778	184	152	766	7
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	7	51	289	1	126	24	810	192	158	798	7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	357	53	388	423	3	430	452	2121	946	389	2155	19
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.79	0.79	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1264	195	1420	1345	12	1574	677	3554	1585	562	3610	32
Grp Volume(v), veh/h	5	0	58	289	0	127	24	810	192	158	393	412
Grp Sat Flow(s),veh/h/ln	1264	0	1615	1345	0	1587	677	1777	1585	562	1777	1865
Q Serve(g_s), s	0.2	0.0	2.1	16.2	0.0	5.0	0.9	5.3	2.3	10.4	5.1	5.1
Cycle Q Clear(g_c), s	5.2	0.0	2.1	18.3	0.0	5.0	5.9	5.3	2.3	15.7	5.1	5.1
Prop In Lane	1.00		0.88	1.00		0.99	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	357	0	441	423	0	434	452	2121	946	389	1061	1113
V/C Ratio(X)	0.01	0.00	0.13	0.68	0.00	0.29	0.05	0.38	0.20	0.41	0.37	0.37
Avail Cap(c_a), veh/h	541	0	676	618	0	664	452	2121	946	389	1061	1113
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	21.5	28.4	0.0	22.6	4.7	3.8	3.5	6.1	3.8	3.8
Incr Delay (d2), s/veh	0.0	0.0	0.1	2.0	0.0	0.4	0.2	0.5	0.5	3.1	1.0	0.9
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	0.8	5.3	0.0	1.9	0.1	1.5	0.7	1.0	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	21.7	30.4	0.0	22.9	4.9	4.3	4.0	9.3	4.8	4.7
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		63			416			1026			963	
Approach Delay, s/veh		21.9			28.1			4.3			5.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		26.6		52.0		26.6				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		46.9		32.9		46.9		32.9				
Max Q Clear Time (g_c+I1), s		7.9		7.2		17.7		20.3				
Green Ext Time (p_c), s		7.6		0.2		7.6		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1	0	305	1	9	668	202	147	694
Future Volume (vph)	1	0	305	1	9	668	202	147	694
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.1	32.1	32.1	32.1	40.1	40.1	40.1	31.1	31.1
Total Split (s)	38.0	38.0	38.0	38.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 80.2
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 2: N High St & Wesley/WG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	3	305	1	107	9	668	202	147	694	7
Future Volume (veh/h)	1	0	3	305	1	107	9	668	202	147	694	7
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	3	318	1	111	9	696	210	153	723	7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	0	410	457	4	406	498	2165	966	437	2197	21
Arrive On Green	0.26	0.00	0.26	0.26	0.26	0.26	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1281	0	1585	1414	14	1573	726	3554	1585	615	3606	35
Grp Volume(v), veh/h	1	0	3	318	0	112	9	696	210	153	356	374
Grp Sat Flow(s),veh/h/ln	1281	0	1585	1414	0	1587	726	1777	1585	615	1777	1864
Q Serve(g_s), s	0.0	0.0	0.1	16.6	0.0	4.3	0.3	3.9	2.4	7.3	4.0	4.0
Cycle Q Clear(g_c), s	4.4	0.0	0.1	16.7	0.0	4.3	4.2	3.9	2.4	11.2	4.0	4.0
Prop In Lane	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	352	0	410	457	0	410	498	2165	966	437	1082	1135
V/C Ratio(X)	0.00	0.00	0.01	0.70	0.00	0.27	0.02	0.32	0.22	0.35	0.33	0.33
Avail Cap(c_a), veh/h	569	0	677	696	0	678	498	2165	966	437	1082	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	21.2	27.4	0.0	22.8	3.8	3.2	3.1	4.7	3.2	3.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.9	0.0	0.4	0.1	0.4	0.5	2.2	0.8	0.8
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	0.0	0.0	0.0	5.7	0.0	1.6	0.0	1.1	0.7	0.8	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.5	0.0	21.2	29.3	0.0	23.1	3.9	3.6	3.6	6.9	4.0	4.0
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		4			430			915			883	
Approach Delay, s/veh		22.1			27.7			3.6			4.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		25.0		52.0		25.0				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		46.9		32.9		46.9		32.9				
Max Q Clear Time (g_c+I1), s		6.2		6.4		13.2		18.7				
Green Ext Time (p_c), s		6.3		0.0		6.8		1.2				

Intersection Summary			
HCM 6th Ctrl Delay		8.7	
HCM 6th LOS		A	

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	5	7	305	1	24	839	202	165	829
Future Volume (vph)	5	7	305	1	24	839	202	165	829
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.1	32.1	32.1	32.1	40.1	40.1	40.1	31.1	31.1
Total Split (s)	38.0	38.0	38.0	38.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 81
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 2: N High St & Wesley/WG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	7	49	305	1	131	24	839	202	165	829	7
Future Volume (veh/h)	5	7	49	305	1	131	24	839	202	165	829	7
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	7	51	318	1	136	25	874	210	172	864	7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	57	416	448	3	461	408	2064	921	348	2099	17
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1252	195	1420	1345	12	1575	636	3554	1585	520	3613	29
Grp Volume(v), veh/h	5	0	58	318	0	137	25	874	210	172	425	446
Grp Sat Flow(s),veh/h/ln	1252	0	1615	1345	0	1587	636	1777	1585	520	1777	1865
Q Serve(g_s), s	0.3	0.0	2.1	18.3	0.0	5.4	1.1	6.7	3.0	16.1	6.4	6.4
Cycle Q Clear(g_c), s	5.6	0.0	2.1	20.5	0.0	5.4	7.6	6.7	3.0	22.8	6.4	6.4
Prop In Lane	1.00		0.88	1.00		0.99	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	372	0	473	448	0	465	408	2064	921	348	1032	1083
V/C Ratio(X)	0.01	0.00	0.12	0.71	0.00	0.29	0.06	0.42	0.23	0.49	0.41	0.41
Avail Cap(c_a), veh/h	516	0	658	602	0	647	408	2064	921	348	1032	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	0.0	20.9	28.4	0.0	22.1	5.8	4.6	4.2	8.5	4.6	4.6
Incr Delay (d2), s/veh	0.0	0.0	0.1	2.5	0.0	0.3	0.3	0.6	0.6	4.9	1.2	1.2
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	0.8	6.1	0.0	2.0	0.1	1.9	0.9	1.5	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	0.0	21.1	31.0	0.0	22.4	6.1	5.3	4.8	13.4	5.8	5.7
LnGrp LOS	C	A	C	C	A	C	A	A	A	B	A	A
Approach Vol, veh/h		63			455			1109			1043	
Approach Delay, s/veh		21.3			28.4			5.2			7.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		28.7		52.0		28.7				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		46.9		32.9		46.9		32.9				
Max Q Clear Time (g_c+I1), s		9.6		7.6		24.8		22.5				
Green Ext Time (p_c), s		8.4		0.2		7.9		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	1	324	0	2	631	247	106	834
Future Volume (vph)	14	1	324	0	2	631	247	106	834
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.1	32.1	32.1	32.1	40.1	40.1	40.1	31.1	31.1
Total Split (s)	38.0	38.0	38.0	38.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 81.6
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 2: N High St & Wesley/WG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1	21	324	0	94	2	631	247	106	834	7
Future Volume (veh/h)	14	1	21	324	0	94	2	631	247	106	834	7
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1	22	338	0	98	2	657	257	110	869	7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	20	433	470	0	450	414	2091	933	417	2126	17
Arrive On Green	0.28	0.28	0.28	0.28	0.00	0.28	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	1297	69	1526	1388	0	1585	633	3554	1585	611	3613	29
Grp Volume(v), veh/h	15	0	23	338	0	98	2	657	257	110	427	449
Grp Sat Flow(s),veh/h/ln	1297	0	1596	1388	0	1585	633	1777	1585	611	1777	1865
Q Serve(g_s), s	0.7	0.0	0.8	18.6	0.0	3.8	0.1	4.2	3.6	5.4	6.1	6.1
Cycle Q Clear(g_c), s	4.5	0.0	0.8	19.5	0.0	3.8	6.2	4.2	3.6	9.7	6.1	6.1
Prop In Lane	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	397	0	453	470	0	450	414	2091	933	417	1046	1097
V/C Ratio(X)	0.04	0.00	0.05	0.72	0.00	0.22	0.00	0.31	0.28	0.26	0.41	0.41
Avail Cap(c_a), veh/h	565	0	659	649	0	654	414	2091	933	417	1046	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	0.0	20.8	27.8	0.0	21.8	5.2	4.0	4.0	5.4	4.2	4.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.4	0.0	0.2	0.0	0.4	0.7	1.5	1.2	1.1
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	0.2	0.0	0.3	6.3	0.0	1.4	0.0	1.3	1.1	0.6	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	20.8	30.2	0.0	22.0	5.2	4.4	4.7	7.0	5.4	5.4
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		38			436			916			986	
Approach Delay, s/veh		21.9			28.4			4.5			5.6	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		27.7		52.0		27.7				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		46.9		32.9		46.9		32.9				
Max Q Clear Time (g_c+I1), s		8.2		6.5		11.7		21.5				
Green Ext Time (p_c), s		6.1		0.1		7.7		1.1				

Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									

Notes

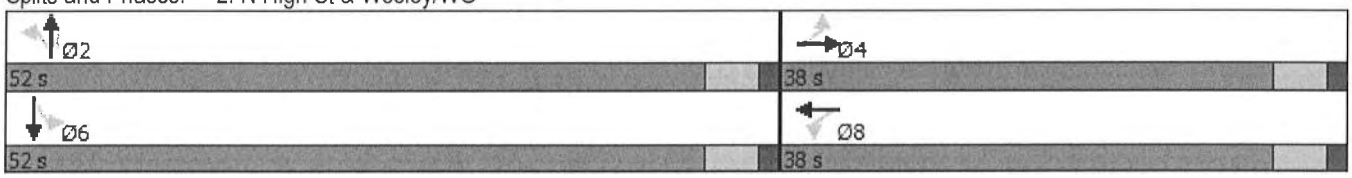
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	16	4	324	5	44	774	247	129	997
Future Volume (vph)	16	4	324	5	44	774	247	129	997
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.1	32.1	32.1	32.1	40.1	40.1	40.1	31.1	31.1
Total Split (s)	38.0	38.0	38.0	38.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 82.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 2: N High St & Wesley/WG



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	4	48	324	5	113	44	774	247	129	997	8
Future Volume (veh/h)	16	4	48	324	5	113	44	774	247	129	997	8
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	4	50	338	5	118	46	806	257	134	1039	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	36	450	464	20	464	336	2034	907	351	2069	16
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.76	0.76	0.76	0.76	0.76	0.76
Sat Flow, veh/h	1268	119	1484	1350	65	1530	539	3554	1585	531	3614	28
Grp Volume(v), veh/h	17	0	54	338	0	123	46	806	257	134	511	536
Grp Sat Flow(s),veh/h/ln	1268	0	1603	1350	0	1595	539	1777	1585	531	1777	1865
Q Serve(g_s), s	0.8	0.0	2.0	19.7	0.0	4.8	3.1	6.4	4.0	10.6	9.1	9.1
Cycle Q Clear(g_c), s	5.6	0.0	2.0	21.7	0.0	4.8	12.2	6.4	4.0	17.0	9.1	9.1
Prop In Lane	1.00		0.93	1.00		0.96	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	398	0	486	464	0	484	336	2034	907	351	1017	1068
V/C Ratio(X)	0.04	0.00	0.11	0.73	0.00	0.25	0.14	0.40	0.28	0.38	0.50	0.50
Avail Cap(c_a), veh/h	523	0	644	597	0	640	336	2034	907	351	1017	1068
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	20.6	28.4	0.0	21.6	7.6	4.9	4.7	7.8	5.3	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.1	3.2	0.0	0.3	0.8	0.6	0.8	3.1	1.8	1.7
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	0.3	0.0	0.8	6.6	0.0	1.8	0.3	1.9	1.2	1.0	2.8	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	20.7	31.7	0.0	21.8	8.5	5.5	5.4	11.0	7.0	7.0
LnGrp LOS	C	A	C	C	A	C	A	A	A	B	A	A
Approach Vol, veh/h		71			461			1109			1181	
Approach Delay, s/veh		21.4			29.0			5.6			7.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		29.9		52.0		29.9				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		46.9		32.9		46.9		32.9				
Max Q Clear Time (g_c+I1), s		14.2		7.6		19.0		23.7				
Green Ext Time (p_c), s		8.1		0.2		9.6		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	15	1	356	0	2	694	272	117	917
Future Volume (vph)	15	1	356	0	2	694	272	117	917
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.1	32.1	32.1	32.1	40.1	40.1	40.1	31.1	31.1
Total Split (s)	38.0	38.0	38.0	38.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 83.8
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 2: N High St & Wesley/WG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1	23	356	0	103	2	694	272	117	917	7
Future Volume (veh/h)	15	1	23	356	0	103	2	694	272	117	917	7
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	1	24	371	0	107	2	723	283	122	955	7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	20	469	497	0	486	362	2024	903	369	2060	15
Arrive On Green	0.31	0.31	0.31	0.31	0.00	0.31	0.76	0.76	0.76	0.76	0.76	0.76
Sat Flow, veh/h	1287	64	1531	1386	0	1585	584	3554	1585	560	3616	27
Grp Volume(v), veh/h	16	0	25	371	0	107	2	723	283	122	469	493
Grp Sat Flow(s),veh/h/ln	1287	0	1595	1386	0	1585	584	1777	1585	560	1777	1866
Q Serve(g_s), s	0.8	0.0	0.9	21.2	0.0	4.1	0.1	5.6	4.7	8.4	8.1	8.1
Cycle Q Clear(g_c), s	4.9	0.0	0.9	22.1	0.0	4.1	8.2	5.6	4.7	14.0	8.1	8.1
Prop In Lane	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	417	0	489	497	0	486	362	2024	903	369	1012	1063
V/C Ratio(X)	0.04	0.00	0.05	0.75	0.00	0.22	0.01	0.36	0.31	0.33	0.46	0.46
Avail Cap(c_a), veh/h	537	0	637	626	0	633	362	2024	903	369	1012	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	20.1	27.9	0.0	21.2	6.8	5.0	4.9	7.3	5.3	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.7	0.0	0.2	0.0	0.5	0.9	2.4	1.5	1.5
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	0.2	0.0	0.3	7.3	0.0	1.5	0.0	1.7	1.4	0.9	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	0.0	20.2	31.6	0.0	21.5	6.8	5.5	5.8	9.7	6.8	6.7
LnGrp LOS	C	A	C	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		41			478			1008			1084	
Approach Delay, s/veh		21.3			29.4			5.5			7.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		30.3		52.0		30.3				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		46.9		32.9		46.9		32.9				
Max Q Clear Time (g_c+I1), s		10.2		6.9		16.0		24.1				
Green Ext Time (p_c), s		6.8		0.1		8.7		1.1				

Intersection Summary												
HCM 6th Ctrl Delay			10.8									
HCM 6th LOS			B									

Notes

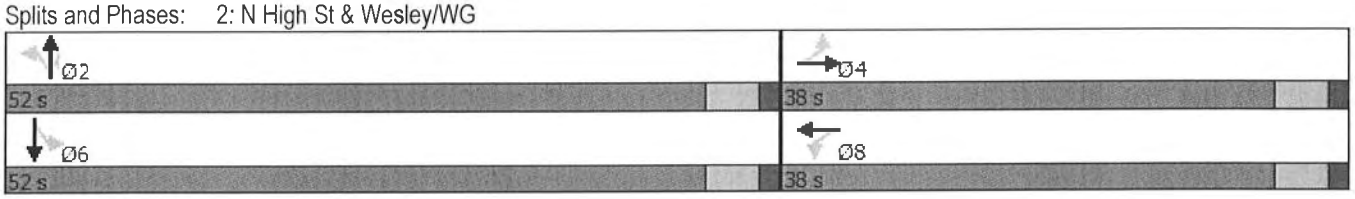
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	17	4	356	5	44	837	272	140	1080
Future Volume (vph)	17	4	356	5	44	837	272	140	1080
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.1	32.1	32.1	32.1	40.1	40.1	40.1	31.1	31.1
Total Split (s)	38.0	38.0	38.0	38.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 84.4
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 2: N High St & Wesley/WG



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	4	50	356	5	122	44	837	272	140	1080	8
Future Volume (veh/h)	17	4	50	356	5	122	44	837	272	140	1080	8
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	4	52	371	5	127	46	872	283	146	1125	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	37	484	491	20	499	291	1969	878	308	2004	14
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1258	114	1488	1348	60	1534	497	3554	1585	487	3617	26
Grp Volume(v), veh/h	18	0	56	371	0	132	46	872	283	146	553	580
Grp Sat Flow(s),veh/h/ln	1258	0	1603	1348	0	1594	497	1777	1585	487	1777	1866
Q Serve(g_s), s	0.9	0.0	2.1	22.5	0.0	5.2	4.0	8.1	5.2	16.5	11.8	11.8
Cycle Q Clear(g_c), s	6.1	0.0	2.1	24.5	0.0	5.2	15.8	8.1	5.2	24.6	11.8	11.8
Prop In Lane	1.00		0.93	1.00		0.96	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	418	0	522	491	0	519	291	1969	878	308	984	1034
V/C Ratio(X)	0.04	0.00	0.11	0.76	0.00	0.25	0.16	0.44	0.32	0.47	0.56	0.56
Avail Cap(c_a), veh/h	497	0	623	576	0	620	291	1969	878	308	984	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	20.0	28.5	0.0	21.0	10.1	6.0	5.7	10.8	6.5	6.5
Incr Delay (d2), s/veh	0.0	0.0	0.1	4.8	0.0	0.3	1.2	0.7	1.0	5.2	2.3	2.2
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	0.3	0.0	0.8	7.7	0.0	1.9	0.4	2.4	1.6	1.7	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	20.0	33.3	0.0	21.3	11.2	6.8	6.6	16.0	8.8	8.7
LnGrp LOS	C	A	C	C	A	C	B	A	A	B	A	A
Approach Vol, veh/h		74			503			1201			1279	
Approach Delay, s/veh		20.8			30.2			6.9			9.6	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	52.0	32.7	52.0	32.7
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	46.9	32.9	46.9	32.9
Max Q Clear Time (g_c+I1), s	17.8	8.1	26.6	26.5
Green Ext Time (p_c), s	8.8	0.2	9.4	1.0

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	103	70	36	679	744
Future Volume (vph)	103	70	36	679	744
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.1	28.1	12.1	12.1	23.1
Total Split (s)	28.1	28.1	15.3	61.9	46.6
Total Split (%)	31.2%	31.2%	17.0%	68.8%	51.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 77.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: N High St & Larrimer

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	103	70	36	679	744	59
Future Volume (veh/h)	103	70	36	679	744	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	110	74	38	722	791	63
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	166	148	582	2755	2180	174
Arrive On Green	0.09	0.09	0.07	1.00	0.86	0.86
Sat Flow, veh/h	1795	1598	1795	3676	3455	268
Grp Volume(v), veh/h	110	74	38	722	421	433
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1837
Q Serve(g_s), s	4.4	3.3	0.4	0.0	3.5	3.5
Cycle Q Clear(g_c), s	4.4	3.3	0.4	0.0	3.5	3.5
Prop In Lane	1.00	1.00	1.00			0.15
Lane Grp Cap(c), veh/h	166	148	582	2755	1162	1192
V/C Ratio(X)	0.66	0.50	0.07	0.26	0.36	0.36
Avail Cap(c_a), veh/h	559	498	738	2755	1162	1192
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	31.9	3.0	0.0	2.0	2.0
Incr Delay (d2), s/veh	4.4	2.6	0.0	0.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.1	0.1	0.1	1.0	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.8	34.5	3.0	0.2	2.9	2.9
LnGrp LOS	D	C	A	A	A	A
Approach Vol, veh/h	184			760	854	
Approach Delay, s/veh	35.9			0.4	2.9	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		11.9	8.9	53.0
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	10.2	41.5
Max Q Clear Time (g_c+I1), s		2.0		6.4	2.4	5.5
Green Ext Time (p_c), s		5.7		0.5	0.0	6.0

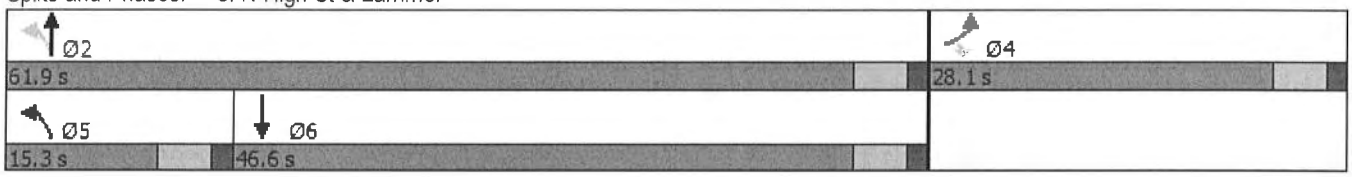
Intersection Summary	
HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	130	125	126	718	771
Future Volume (vph)	130	125	126	718	771
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.1	28.1	12.1	12.1	23.1
Total Split (s)	28.1	28.1	15.3	61.9	46.6
Total Split (%)	31.2%	31.2%	17.0%	68.8%	51.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: N High St & Larrimer



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	130	125	126	718	771	89
Future Volume (veh/h)	130	125	126	718	771	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	138	133	134	764	820	95
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	208	185	568	2685	1926	223
Arrive On Green	0.12	0.12	0.12	1.00	0.79	0.79
Sat Flow, veh/h	1795	1598	1795	3676	3328	375
Grp Volume(v), veh/h	138	133	134	764	454	461
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1818
Q Serve(g_s), s	5.6	6.1	1.8	0.1	6.0	6.0
Cycle Q Clear(g_c), s	5.6	6.1	1.8	0.1	6.0	6.0
Prop In Lane	1.00	1.00	1.00			0.21
Lane Grp Cap(c), veh/h	208	185	568	2685	1066	1082
V/C Ratio(X)	0.66	0.72	0.24	0.28	0.43	0.43
Avail Cap(c_a), veh/h	545	485	654	2685	1066	1082
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	32.3	3.9	0.0	3.8	3.8
Incr Delay (d2), s/veh	3.6	5.2	0.2	0.3	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.5	0.4	0.1	1.8	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.7	37.5	4.1	0.3	5.1	5.0
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	271			898	915	
Approach Delay, s/veh	36.6			0.9	5.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		13.9	11.7	50.2
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	10.2	41.5
Max Q Clear Time (g_c+I1), s		2.1		8.1	3.8	8.0
Green Ext Time (p_c), s		6.1		0.7	0.2	6.6

Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	103	70	36	747	818
Future Volume (vph)	103	70	36	747	818
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.1	28.1	12.1	12.1	23.1
Total Split (s)	28.1	28.1	15.3	61.9	46.6
Total Split (%)	31.2%	31.2%	17.0%	68.8%	51.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 77.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: N High St & Larrimer

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	103	70	36	747	818	59
Future Volume (veh/h)	103	70	36	747	818	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	110	74	38	795	870	63
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	166	148	550	2755	2197	159
Arrive On Green	0.09	0.09	0.07	1.00	0.86	0.86
Sat Flow, veh/h	1795	1598	1795	3676	3481	245
Grp Volume(v), veh/h	110	74	38	795	460	473
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1841
Q Serve(g_s), s	4.4	3.3	0.4	0.0	3.9	3.9
Cycle Q Clear(g_c), s	4.4	3.3	0.4	0.0	3.9	3.9
Prop In Lane	1.00	1.00	1.00			0.13
Lane Grp Cap(c), veh/h	166	148	550	2755	1162	1195
V/C Ratio(X)	0.66	0.50	0.07	0.29	0.40	0.40
Avail Cap(c_a), veh/h	559	498	706	2755	1162	1195
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	31.9	3.0	0.0	2.0	2.0
Incr Delay (d2), s/veh	4.4	2.6	0.1	0.3	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.1	0.1	0.1	1.1	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.8	34.5	3.1	0.3	3.1	3.0
LnGrp LOS	D	C	A	A	A	A
Approach Vol, veh/h	184			833	933	
Approach Delay, s/veh	35.9			0.4	3.0	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		11.9	8.9	53.0
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	10.2	41.5
Max Q Clear Time (g_c+I1), s		2.0		6.4	2.4	5.9
Green Ext Time (p_c), s		6.5		0.5	0.0	6.8

Intersection Summary	
HCM 6th Ctrl Delay	5.0
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	130	125	126	786	845
Future Volume (vph)	130	125	126	786	845
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.1	28.1	12.1	12.1	23.1
Total Split (s)	28.1	28.1	15.3	61.9	46.6
Total Split (%)	31.2%	31.2%	17.0%	68.8%	51.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: N High St & Larrimer

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	130	125	126	786	845	89
Future Volume (veh/h)	130	125	126	786	845	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	138	133	134	836	899	95
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	208	185	539	2685	1946	206
Arrive On Green	0.12	0.12	0.12	1.00	0.79	0.79
Sat Flow, veh/h	1795	1598	1795	3676	3363	345
Grp Volume(v), veh/h	138	133	134	836	493	501
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1823
Q Serve(g_s), s	5.6	6.1	1.8	0.1	6.8	6.8
Cycle Q Clear(g_c), s	5.6	6.1	1.8	0.1	6.8	6.8
Prop In Lane	1.00	1.00	1.00			0.19
Lane Grp Cap(c), veh/h	208	185	539	2685	1066	1085
V/C Ratio(X)	0.66	0.72	0.25	0.31	0.46	0.46
Avail Cap(c_a), veh/h	545	485	625	2685	1066	1085
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	32.3	4.0	0.0	3.9	3.9
Incr Delay (d2), s/veh	3.6	5.2	0.2	0.3	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.5	0.5	0.1	2.0	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.7	37.5	4.2	0.3	5.3	5.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	271			970	994	
Approach Delay, s/veh	36.6			0.9	5.3	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		13.9	11.7	50.2
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	10.2	41.5
Max Q Clear Time (g_c+I1), s		2.1		8.1	3.8	8.8
Green Ext Time (p_c), s		6.9		0.7	0.2	7.4

Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	63	47	77	702	897
Future Volume (vph)	63	47	77	702	897
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.1	28.1	12.1	12.1	23.1
Total Split (s)	28.1	28.1	15.3	61.9	46.6
Total Split (%)	31.2%	31.2%	17.0%	68.8%	51.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 76.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: N High St & Larrimer

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	47	77	702	897	64
Future Volume (veh/h)	63	47	77	702	897	64
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	67	50	82	747	954	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	156	138	545	2773	2127	152
Arrive On Green	0.09	0.09	0.10	1.00	0.83	0.83
Sat Flow, veh/h	1795	1598	1795	3676	3485	242
Grp Volume(v), veh/h	67	50	82	747	504	518
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1842
Q Serve(g_s), s	2.6	2.2	0.9	0.0	5.5	5.5
Cycle Q Clear(g_c), s	2.6	2.2	0.9	0.0	5.5	5.5
Prop In Lane	1.00	1.00	1.00			0.13
Lane Grp Cap(c), veh/h	156	138	545	2773	1123	1155
V/C Ratio(X)	0.43	0.36	0.15	0.27	0.45	0.45
Avail Cap(c_a), veh/h	563	501	655	2773	1123	1155
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	31.6	3.1	0.0	2.7	2.7
Incr Delay (d2), s/veh	1.9	1.6	0.1	0.2	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.0	0.2	0.1	1.6	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.7	33.2	3.2	0.2	4.0	4.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	117			829	1022	
Approach Delay, s/veh	33.5			0.5	4.0	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		11.5	10.8	51.1
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	10.2	41.5
Max Q Clear Time (g_c+I1), s		2.0		4.6	2.9	7.5
Green Ext Time (p_c), s		6.0		0.3	0.1	7.7

Intersection Summary	
HCM 6th Ctrl Delay	4.3
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	96	137	144	728	917
Future Volume (vph)	96	137	144	728	917
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.1	28.1	12.1	12.1	23.1
Total Split (s)	28.1	28.1	15.3	61.9	46.6
Total Split (%)	31.2%	31.2%	17.0%	68.8%	51.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 79.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: N High St & Larrimer

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	96	137	144	728	917	110
Future Volume (veh/h)	96	137	144	728	917	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	102	146	153	774	976	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	220	195	502	2665	1897	227
Arrive On Green	0.12	0.12	0.12	0.99	0.78	0.78
Sat Flow, veh/h	1795	1598	1795	3676	3315	386
Grp Volume(v), veh/h	102	146	153	774	543	550
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1816
Q Serve(g_s), s	4.0	6.7	2.1	0.2	8.4	8.4
Cycle Q Clear(g_c), s	4.0	6.7	2.1	0.2	8.4	8.4
Prop In Lane	1.00	1.00	1.00			0.21
Lane Grp Cap(c), veh/h	220	195	502	2665	1055	1070
V/C Ratio(X)	0.46	0.75	0.30	0.29	0.51	0.51
Avail Cap(c_a), veh/h	541	481	583	2665	1055	1070
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	32.4	4.5	0.1	4.3	4.3
Incr Delay (d2), s/veh	1.5	5.6	0.3	0.3	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.3	0.6	0.1	2.4	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.7	38.0	4.8	0.4	6.1	6.1
LnGrp LOS	C	D	A	A	A	A
Approach Vol, veh/h	248			927	1093	
Approach Delay, s/veh	35.8			1.1	6.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		14.4	11.8	50.1
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	10.2	41.5
Max Q Clear Time (g_c+I1), s		2.2		8.7	4.1	10.4
Green Ext Time (p_c), s		6.2		0.6	0.2	8.3

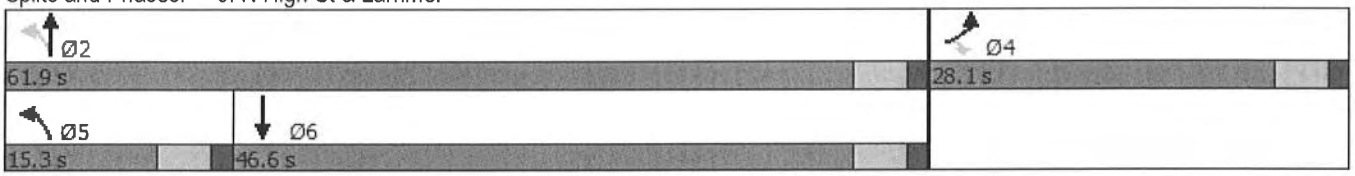
Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	63	47	77	772	987
Future Volume (vph)	63	47	77	772	987
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.1	28.1	12.1	12.1	23.1
Total Split (s)	28.1	28.1	15.3	61.9	46.6
Total Split (%)	31.2%	31.2%	17.0%	68.8%	51.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 76.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: N High St & Larrimer



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	47	77	772	987	64
Future Volume (veh/h)	63	47	77	772	987	64
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	67	50	82	821	1050	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	156	138	512	2773	2142	139
Arrive On Green	0.09	0.09	0.10	1.00	0.83	0.83
Sat Flow, veh/h	1795	1598	1795	3676	3509	221
Grp Volume(v), veh/h	67	50	82	821	550	568
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1845
Q Serve(g_s), s	2.6	2.2	0.9	0.0	6.3	6.3
Cycle Q Clear(g_c), s	2.6	2.2	0.9	0.0	6.3	6.3
Prop In Lane	1.00	1.00	1.00			0.12
Lane Grp Cap(c), veh/h	156	138	512	2773	1123	1158
V/C Ratio(X)	0.43	0.36	0.16	0.30	0.49	0.49
Avail Cap(c_a), veh/h	563	501	623	2773	1123	1158
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	31.6	3.2	0.0	2.8	2.8
Incr Delay (d2), s/veh	1.9	1.6	0.1	0.3	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.0	0.2	0.1	1.7	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.7	33.2	3.4	0.3	4.3	4.3
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	117			903	1118	
Approach Delay, s/veh	33.5			0.6	4.3	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		11.5	10.8	51.1
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	10.2	41.5
Max Q Clear Time (g_c+I1), s		2.0		4.6	2.9	8.3
Green Ext Time (p_c), s		6.8		0.3	0.1	8.7

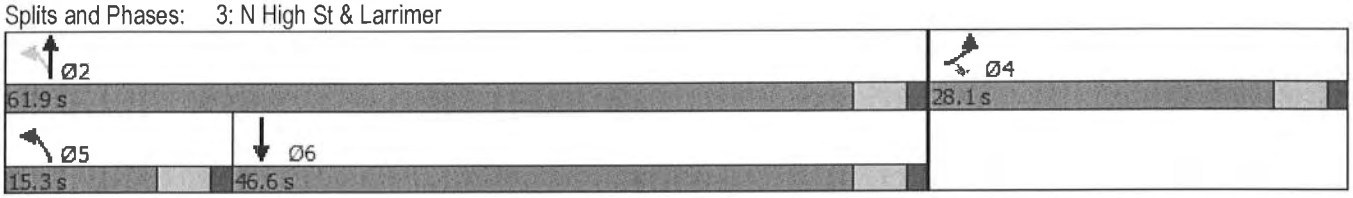
Intersection Summary	
HCM 6th Ctrl Delay	4.3
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	**96**	**137**	**144**	**798**	**1007**
Future Volume (vph)	96	137	144	798	1007
Turn Type	**Prot**	**Perm**	**pm+pt**	**NA**	**NA**
Protected Phases	4		5	2	6
Permitted Phases		**4**	**2**		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	**28.1**	**28.1**	**12.1**	**12.1**	**23.1**
Total Split (s)	28.1	28.1	15.3	61.9	46.6
Total Split (%)	**31.2%**	**31.2%**	**17.0%**	**68.8%**	**51.8%**
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	**5.1**	**5.1**	**5.1**	**5.1**	**5.1**
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 79.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: N High St & Larrimer



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	96	137	144	798	1007	110
Future Volume (veh/h)	96	137	144	798	1007	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	102	146	153	849	1071	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	220	195	472	2665	1919	209
Arrive On Green	0.12	0.12	0.12	0.99	0.78	0.78
Sat Flow, veh/h	1795	1598	1795	3676	3351	355
Grp Volume(v), veh/h	102	146	153	849	589	599
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1821
Q Serve(g_s), s	4.0	6.7	2.1	0.3	9.6	9.7
Cycle Q Clear(g_c), s	4.0	6.7	2.1	0.3	9.6	9.7
Prop In Lane	1.00	1.00	1.00			0.20
Lane Grp Cap(c), veh/h	220	195	472	2665	1055	1073
V/C Ratio(X)	0.46	0.75	0.32	0.32	0.56	0.56
Avail Cap(c_a), veh/h	541	481	554	2665	1055	1073
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	32.4	4.8	0.1	4.4	4.4
Incr Delay (d2), s/veh	1.5	5.6	0.4	0.3	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.3	0.6	0.2	2.7	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.7	38.0	5.2	0.4	6.6	6.5
LnGrp LOS	C	D	A	A	A	A
Approach Vol, veh/h	248			1002	1188	
Approach Delay, s/veh	35.8			1.1	6.6	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		14.4	11.8	50.1
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	10.2	41.5
Max Q Clear Time (g_c+I1), s		2.3		8.7	4.1	11.7
Green Ext Time (p_c), s		7.1		0.6	0.2	9.3

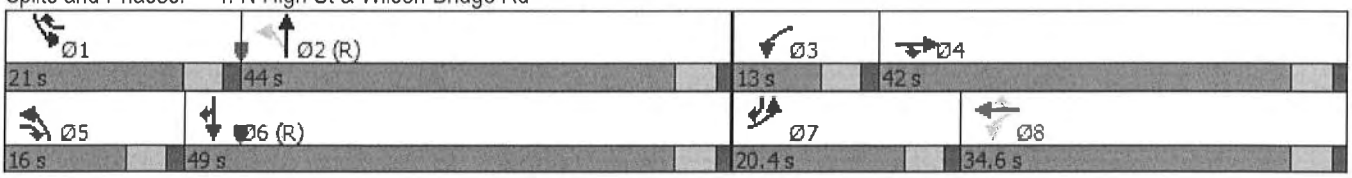
Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	541	384	182	130	192	360	125	869	645	806	489
Future Volume (vph)	541	384	182	130	192	360	125	869	645	806	489
Turn Type	Prot	NA	pt+ov	pm+pt	NA	pm+ov	pm+pt	NA	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	1	5	2	1	6	6 7
Permitted Phases				8		8	2				
Detector Phase	7	4	4 5	3	8	1	5	2	1	6	6 7
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	10.0	7.0	10.0	
Minimum Split (s)	12.1	37.1		12.1	23.1	12.1	12.1	34.1	12.1	37.1	
Total Split (s)	20.4	42.0		13.0	34.6	21.0	16.0	44.0	21.0	49.0	
Total Split (%)	17.0%	35.0%		10.8%	28.8%	17.5%	13.3%	36.7%	17.5%	40.8%	
Yellow Time (s)	3.6	3.6		3.6	3.6	3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 4: N High St & Wilson Bridge Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	541	384	182	130	192	360	125	869	197	645	806	489
Future Volume (veh/h)	541	384	182	130	192	360	125	869	197	645	806	489
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	615	457	204	173	218	450	149	887	303	768	906	589
Peak Hour Factor	0.88	0.84	0.89	0.75	0.88	0.80	0.84	0.98	0.65	0.84	0.89	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	504	537	203	389	950	274	1363	464	458	1512	876
Arrive On Green	0.13	0.27	0.27	0.07	0.21	0.21	0.09	0.48	0.48	0.18	0.57	0.57
Sat Flow, veh/h	3456	1870	1585	1781	1870	2790	1781	3763	1281	3456	3554	1585
Grp Volume(v), veh/h	615	457	204	173	218	450	149	802	388	768	906	589
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1395	1781	1702	1640	1728	1777	1585
Q Serve(g_s), s	15.3	28.3	11.7	7.9	12.5	15.2	6.3	21.3	21.5	15.9	20.1	29.8
Cycle Q Clear(g_c), s	15.3	28.3	11.7	7.9	12.5	15.2	6.3	21.3	21.5	15.9	20.1	29.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	441	504	537	203	389	950	274	1233	594	458	1512	876
V/C Ratio(X)	1.40	0.91	0.38	0.85	0.56	0.47	0.54	0.65	0.65	1.68	0.60	0.67
Avail Cap(c_a), veh/h	441	575	597	203	460	1055	313	1233	594	458	1512	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	42.4	30.1	40.1	42.6	31.1	21.8	25.4	25.4	49.4	19.3	14.1
Incr Delay (d2), s/veh	191.5	16.8	0.4	27.6	1.3	0.4	1.4	2.2	4.6	314.2	1.8	4.1
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	18.3	15.3	4.5	2.9	5.9	5.2	2.6	8.2	8.4	26.5	7.7	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	243.9	59.1	30.6	67.8	43.9	31.5	23.1	27.6	30.0	363.6	21.1	18.2
LnGrp LOS	F	E	C	E	D	C	C	C	C	F	C	B
Approach Vol, veh/h		1276			841			1339			2263	
Approach Delay, s/veh		143.6			42.2			27.8			136.6	
Approach LOS		F			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	48.6	13.0	37.4	13.4	56.2	20.4	30.0
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	15.9	38.9	7.9	36.9	10.9	43.9	15.3	29.5
Max Q Clear Time (g_c+I1), s	17.9	23.5	9.9	30.3	8.3	31.8	17.3	17.2
Green Ext Time (p_c), s	0.0	7.4	0.0	2.0	0.1	6.8	0.0	2.6

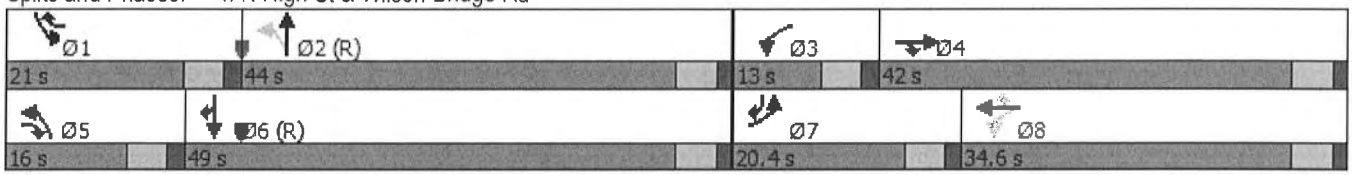
Intersection Summary	
HCM 6th Ctrl Delay	98.8
HCM 6th LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	541	384	193	140	192	360	138	911	645	842	489
Future Volume (vph)	541	384	193	140	192	360	138	911	645	842	489
Turn Type	Prot	NA	pt+ov	pm+pt	NA	pm+ov	pm+pt	NA	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	1	5	2	1	6	6 7
Permitted Phases				8		8	2				
Detector Phase	7	4	4 5	3	8	1	5	2	1	6	6 7
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	10.0	7.0	10.0	
Minimum Split (s)	12.1	37.1		12.1	23.1	12.1	12.1	34.1	12.1	37.1	
Total Split (s)	20.4	42.0		13.0	34.6	21.0	16.0	44.0	21.0	49.0	
Total Split (%)	17.0%	35.0%		10.8%	28.8%	17.5%	13.3%	36.7%	17.5%	40.8%	
Yellow Time (s)	3.6	3.6		3.6	3.6	3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 4: N High St & Wilson Bridge Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	541	384	193	140	192	360	138	911	208	645	842	489
Future Volume (veh/h)	541	384	193	140	192	360	138	911	208	645	842	489
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	615	457	217	187	218	450	164	930	320	768	946	589
Peak Hour Factor	0.88	0.84	0.89	0.75	0.88	0.80	0.84	0.98	0.65	0.84	0.89	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	505	546	203	389	950	273	1358	466	458	1492	868
Arrive On Green	0.13	0.27	0.27	0.07	0.21	0.21	0.10	0.48	0.48	0.18	0.56	0.56
Sat Flow, veh/h	3456	1870	1585	1781	1870	2790	1781	3754	1289	3456	3554	1585
Grp Volume(v), veh/h	615	457	217	187	218	450	164	843	407	768	946	589
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1395	1781	1702	1638	1728	1777	1585
Q Serve(g_s), s	15.3	28.3	12.5	7.9	12.5	15.2	6.9	23.0	23.1	15.9	21.8	30.4
Cycle Q Clear(g_c), s	15.3	28.3	12.5	7.9	12.5	15.2	6.9	23.0	23.1	15.9	21.8	30.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.79	1.00		1.00
Lane Grp Cap(c), veh/h	441	505	546	203	389	950	273	1232	593	458	1492	868
V/C Ratio(X)	1.40	0.91	0.40	0.92	0.56	0.47	0.60	0.68	0.69	1.68	0.63	0.68
Avail Cap(c_a), veh/h	441	575	606	203	460	1055	302	1232	593	458	1492	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	42.3	29.9	41.6	42.6	31.1	22.1	25.8	25.8	49.4	20.2	14.6
Incr Delay (d2), s/veh	191.5	16.7	0.5	41.7	1.3	0.4	2.2	2.5	5.1	314.2	2.1	4.3
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	18.3	15.3	4.8	4.1	5.9	5.2	2.9	8.9	9.0	26.5	8.4	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	243.9	59.0	30.4	83.3	43.9	31.5	24.3	28.3	30.9	363.6	22.3	18.9
LnGrp LOS	F	E	C	F	D	C	C	C	C	F	C	B
Approach Vol, veh/h		1289			855			1414			2303	
Approach Delay, s/veh		142.4			46.0			28.6			135.2	
Approach LOS		F			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	48.5	13.0	37.5	14.0	55.5	20.4	30.1
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	15.9	38.9	7.9	36.9	10.9	43.9	15.3	29.5
Max Q Clear Time (g_c+I1), s	17.9	25.1	9.9	30.3	8.9	32.4	17.3	17.2
Green Ext Time (p_c), s	0.0	7.2	0.0	2.0	0.1	6.7	0.0	2.6

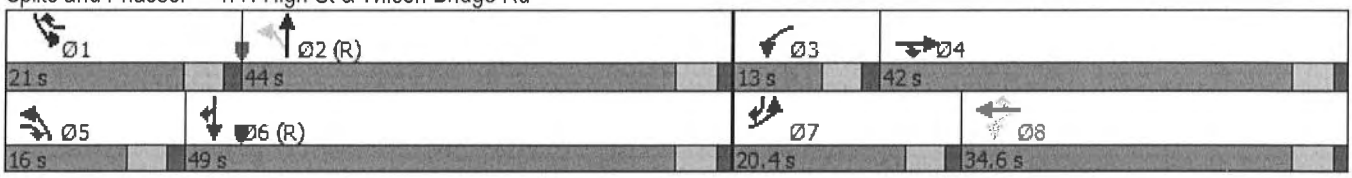
Intersection Summary	
HCM 6th Ctrl Delay	98.1
HCM 6th LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	438	426	262	109	227	317	158	886	568	790	401
Future Volume (vph)	438	426	262	109	227	317	158	886	568	790	401
Turn Type	Prot	NA	pt+ov	pm+pt	NA	pm+ov	pm+pt	NA	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	1	5	2	1	6	6 7
Permitted Phases				8		8	2				
Detector Phase	7	4	4 5	3	8	1	5	2	1	6	6 7
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	10.0	7.0	10.0	
Minimum Split (s)	12.1	37.1		12.1	23.1	12.1	12.1	34.1	12.1	37.1	
Total Split (s)	20.4	42.0		13.0	34.6	21.0	16.0	44.0	21.0	49.0	
Total Split (%)	17.0%	35.0%		10.8%	28.8%	17.5%	13.3%	36.7%	17.5%	40.8%	
Yellow Time (s)	3.6	3.6		3.6	3.6	3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 4: N High St & Wilson Bridge Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	438	426	262	109	227	317	158	886	189	568	790	401
Future Volume (veh/h)	438	426	262	109	227	317	158	886	189	568	790	401
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	498	507	294	145	258	396	188	904	291	676	888	483
Peak Hour Factor	0.88	0.84	0.89	0.75	0.88	0.80	0.84	0.98	0.65	0.84	0.89	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	546	598	197	430	1012	293	1300	417	458	1376	816
Arrive On Green	0.13	0.29	0.29	0.07	0.23	0.23	0.11	0.45	0.45	0.18	0.51	0.51
Sat Flow, veh/h	3456	1870	1585	1781	1870	2790	1781	3826	1227	3456	3554	1585
Grp Volume(v), veh/h	498	507	294	145	258	396	188	804	391	676	888	483
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1395	1781	1702	1649	1728	1777	1585
Q Serve(g_s), s	15.3	31.6	17.0	7.5	14.8	12.7	8.2	22.6	22.8	15.9	21.8	23.6
Cycle Q Clear(g_c), s	15.3	31.6	17.0	7.5	14.8	12.7	8.2	22.6	22.8	15.9	21.8	23.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	441	546	598	197	430	1012	293	1157	561	458	1376	816
V/C Ratio(X)	1.13	0.93	0.49	0.74	0.60	0.39	0.64	0.69	0.70	1.48	0.65	0.59
Avail Cap(c_a), veh/h	441	575	622	197	460	1055	303	1157	561	458	1376	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	41.3	28.6	35.3	41.3	28.4	23.4	27.9	27.9	49.4	23.1	15.7
Incr Delay (d2), s/veh	83.5	21.2	0.6	13.6	1.9	0.2	3.5	2.8	5.7	225.9	2.3	3.1
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	11.7	17.6	6.6	4.0	7.0	4.3	3.6	8.9	9.1	20.9	8.7	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.9	62.4	29.2	48.9	43.2	28.7	26.9	30.7	33.6	275.3	25.5	18.9
LnGrp LOS	F	E	C	D	D	C	C	C	C	F	C	B
Approach Vol, veh/h		1299			799			1383			2047	
Approach Delay, s/veh		83.1			37.0			31.0			106.4	
Approach LOS		F			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	45.9	13.0	40.1	15.3	51.6	20.4	32.7
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	15.9	38.9	7.9	36.9	10.9	43.9	15.3	29.5
Max Q Clear Time (g_c+I1), s	17.9	24.8	9.5	33.6	10.2	25.6	17.3	16.8
Green Ext Time (p_c), s	0.0	7.0	0.0	1.4	0.0	8.0	0.0	2.6

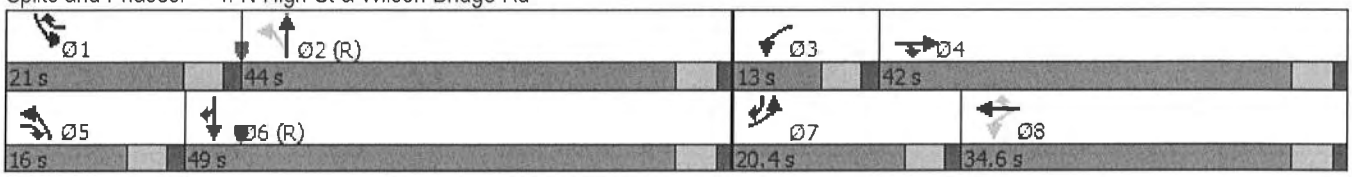
Intersection Summary	
HCM 6th Ctrl Delay	72.0
HCM 6th LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	438	426	273	119	227	317	171	928	568	826	401
Future Volume (vph)	438	426	273	119	227	317	171	928	568	826	401
Turn Type	Prot	NA	pt+ov	pm+pt	NA	pm+ov	pm+pt	NA	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	1	5	2	1	6	6 7
Permitted Phases				8		8	2				
Detector Phase	7	4	4 5	3	8	1	5	2	1	6	6 7
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	10.0	7.0	10.0	
Minimum Split (s)	12.1	37.1		12.1	23.1	12.1	12.1	34.1	12.1	37.1	
Total Split (s)	20.4	42.0		13.0	34.6	21.0	16.0	44.0	21.0	49.0	
Total Split (%)	17.0%	35.0%		10.8%	28.8%	17.5%	13.3%	36.7%	17.5%	40.8%	
Yellow Time (s)	3.6	3.6		3.6	3.6	3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 4: N High St & Wilson Bridge Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	438	426	273	119	227	317	171	928	200	568	826	401
Future Volume (veh/h)	438	426	273	119	227	317	171	928	200	568	826	401
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	498	507	307	159	258	396	204	947	308	676	928	483
Peak Hour Factor	0.88	0.84	0.89	0.75	0.88	0.80	0.84	0.98	0.65	0.84	0.89	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	546	607	196	431	1012	292	1296	421	458	1356	807
Arrive On Green	0.13	0.29	0.29	0.07	0.23	0.23	0.12	0.45	0.45	0.18	0.51	0.51
Sat Flow, veh/h	3456	1870	1585	1781	1870	2790	1781	3814	1238	3456	3554	1585
Grp Volume(v), veh/h	498	507	307	159	258	396	204	845	410	676	928	483
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1395	1781	1702	1648	1728	1777	1585
Q Serve(g_s), s	15.3	31.6	17.8	7.9	14.8	12.7	8.9	24.4	24.5	15.9	23.7	24.0
Cycle Q Clear(g_c), s	15.3	31.6	17.8	7.9	14.8	12.7	8.9	24.4	24.5	15.9	23.7	24.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		1.00
Lane Grp Cap(c), veh/h	441	546	607	196	431	1012	292	1157	560	458	1356	807
V/C Ratio(X)	1.13	0.93	0.51	0.81	0.60	0.39	0.70	0.73	0.73	1.48	0.68	0.60
Avail Cap(c_a), veh/h	441	575	631	196	460	1055	292	1157	560	458	1356	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	41.3	28.4	36.5	41.2	28.4	24.2	28.4	28.4	49.4	24.1	16.2
Incr Delay (d2), s/veh	83.5	21.1	0.7	21.8	1.9	0.2	5.6	3.2	6.4	225.9	2.8	3.3
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	11.7	17.6	6.8	4.8	7.0	4.3	4.0	9.6	9.8	20.9	9.5	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.9	62.4	29.0	58.3	43.2	28.6	29.7	31.6	34.8	275.3	26.9	19.5
LnGrp LOS	F	E	C	E	D	C	C	C	C	F	C	B
Approach Vol, veh/h		1312			813			1459			2087	
Approach Delay, s/veh		82.5			39.0			32.2			105.7	
Approach LOS		F			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	45.9	13.0	40.1	16.0	50.9	20.4	32.7
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	15.9	38.9	7.9	36.9	10.9	43.9	15.3	29.5
Max Q Clear Time (g_c+I1), s	17.9	26.5	9.9	33.6	10.9	26.0	17.3	16.8
Green Ext Time (p_c), s	0.0	6.8	0.0	1.4	0.0	8.2	0.0	2.6

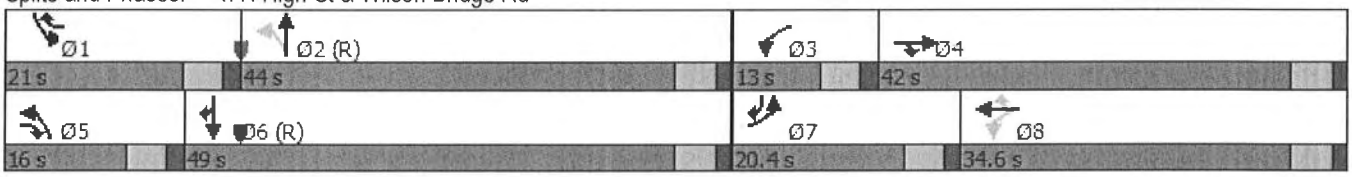
Intersection Summary	
HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	659	411	240	175	373	834	247	1070	489	833	464
Future Volume (vph)	659	411	240	175	373	834	247	1070	489	833	464
Turn Type	Prot	NA	pt+ov	pm+pt	NA	pm+ov	pm+pt	NA	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	1	5	2	1	6	6 7
Permitted Phases				8		8	2				
Detector Phase	7	4	4 5	3	8	1	5	2	1	6	6 7
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	10.0	7.0	10.0	
Minimum Split (s)	12.1	37.1		12.1	23.1	12.1	12.1	34.1	12.1	37.1	
Total Split (s)	20.4	42.0		13.0	34.6	21.0	16.0	44.0	21.0	49.0	
Total Split (%)	17.0%	35.0%		10.8%	28.8%	17.5%	13.3%	36.7%	17.5%	40.8%	
Yellow Time (s)	3.6	3.6		3.6	3.6	3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 4: N High St & Wilson Bridge Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	659	411	240	175	373	834	247	1070	159	489	833	464
Future Volume (veh/h)	659	411	240	175	373	834	247	1070	159	489	833	464
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	749	489	270	233	424	1042	294	1092	245	582	936	559
Peak Hour Factor	0.88	0.84	0.89	0.75	0.88	0.80	0.84	0.98	0.65	0.84	0.89	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	575	631	221	460	1055	277	1352	303	458	1300	782
Arrive On Green	0.13	0.31	0.31	0.07	0.25	0.25	0.12	0.43	0.43	0.18	0.49	0.49
Sat Flow, veh/h	3456	1870	1585	1781	1870	2790	1781	4171	935	3456	3554	1585
Grp Volume(v), veh/h	749	489	270	233	424	1042	294	891	446	582	936	559
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1395	1781	1702	1702	1728	1777	1585
Q Serve(g_s), s	15.3	29.4	14.8	7.9	26.5	29.5	10.9	27.4	27.4	15.9	25.0	32.7
Cycle Q Clear(g_c), s	15.3	29.4	14.8	7.9	26.5	29.5	10.9	27.4	27.4	15.9	25.0	32.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	441	575	631	221	460	1055	277	1103	552	458	1300	782
V/C Ratio(X)	1.70	0.85	0.43	1.05	0.92	0.99	1.06	0.81	0.81	1.27	0.72	0.71
Avail Cap(c_a), veh/h	441	575	631	221	460	1055	277	1103	552	458	1300	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.37	0.37	0.37	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	39.0	26.2	41.5	44.1	37.0	31.7	30.9	30.9	49.4	25.9	19.2
Incr Delay (d2), s/veh	324.6	11.6	0.5	75.1	24.1	24.5	50.1	2.5	4.8	138.2	3.5	5.5
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	26.5	15.2	5.7	7.4	15.3	18.4	9.1	10.7	11.1	15.3	10.2	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	377.0	50.6	26.6	116.6	68.2	61.5	81.8	33.3	35.7	187.7	29.4	24.7
LnGrp LOS	F	D	C	F	E	E	F	C	D	F	C	C
Approach Vol, veh/h		1508			1699			1631			2077	
Approach Delay, s/veh		208.4			70.8			42.7			72.5	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	44.0	13.0	42.0	16.0	49.0	20.4	34.6
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	15.9	38.9	7.9	36.9	10.9	43.9	15.3	29.5
Max Q Clear Time (g_c+I1), s	17.9	29.4	9.9	31.4	12.9	34.7	17.3	31.5
Green Ext Time (p_c), s	0.0	5.9	0.0	2.0	0.0	5.6	0.0	0.0

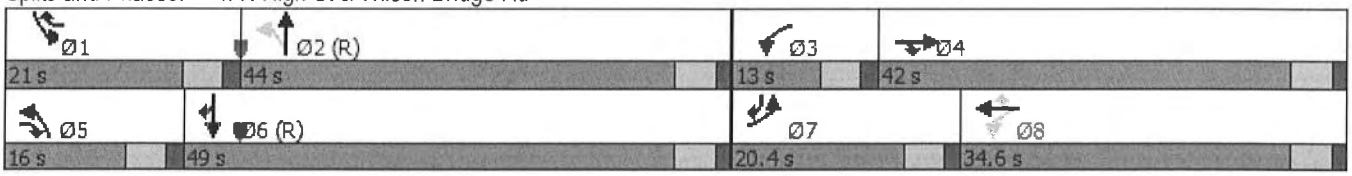
Intersection Summary	
HCM 6th Ctrl Delay	94.7
HCM 6th LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	659	411	253	187	373	834	257	1109	489	874	464
Future Volume (vph)	659	411	253	187	373	834	257	1109	489	874	464
Turn Type	Prot	NA	pt+ov	pm+pt	NA	pm+ov	pm+pt	NA	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	1	5	2	1	6	6 7
Permitted Phases				8		8	2				
Detector Phase	7	4	4 5	3	8	1	5	2	1	6	6 7
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	10.0	7.0	10.0	
Minimum Split (s)	12.1	37.1		12.1	23.1	12.1	12.1	34.1	12.1	37.1	
Total Split (s)	20.4	42.0		13.0	34.6	21.0	16.0	44.0	21.0	49.0	
Total Split (%)	17.0%	35.0%		10.8%	28.8%	17.5%	13.3%	36.7%	17.5%	40.8%	
Yellow Time (s)	3.6	3.6		3.6	3.6	3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 4: N High St & Wilson Bridge Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	659	411	253	187	373	834	257	1109	169	489	874	464
Future Volume (veh/h)	659	411	253	187	373	834	257	1109	169	489	874	464
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	749	489	284	249	424	1042	306	1132	260	582	982	559
Peak Hour Factor	0.88	0.84	0.89	0.75	0.88	0.80	0.84	0.98	0.65	0.84	0.89	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	575	631	221	460	1055	269	1345	309	458	1300	782
Arrive On Green	0.13	0.31	0.31	0.07	0.25	0.25	0.12	0.43	0.43	0.18	0.49	0.49
Sat Flow, veh/h	3456	1870	1585	1781	1870	2790	1781	4150	953	3456	3554	1585
Grp Volume(v), veh/h	749	489	284	249	424	1042	306	929	463	582	982	559
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1395	1781	1702	1699	1728	1777	1585
Q Serve(g_s), s	15.3	29.4	15.8	7.9	26.5	29.5	10.9	29.2	29.2	15.9	26.9	32.7
Cycle Q Clear(g_c), s	15.3	29.4	15.8	7.9	26.5	29.5	10.9	29.2	29.2	15.9	26.9	32.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.56	1.00		1.00
Lane Grp Cap(c), veh/h	441	575	631	221	460	1055	269	1103	551	458	1300	782
V/C Ratio(X)	1.70	0.85	0.45	1.13	0.92	0.99	1.14	0.84	0.84	1.27	0.76	0.71
Avail Cap(c_a), veh/h	441	575	631	221	460	1055	269	1103	551	458	1300	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	39.0	26.5	41.5	44.1	37.0	31.3	31.4	31.4	49.4	26.4	19.2
Incr Delay (d2), s/veh	324.6	11.6	0.5	99.3	24.1	24.5	88.2	5.6	10.6	138.2	4.1	5.5
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	26.5	15.2	6.0	8.9	15.3	18.4	11.7	11.9	12.6	15.3	11.0	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	377.0	50.6	27.0	140.8	68.2	61.5	119.6	37.0	42.0	187.7	30.6	24.7
LnGrp LOS	F	D	C	F	E	E	F	D	D	F	C	C
Approach Vol, veh/h		1522			1715			1698			2123	
Approach Delay, s/veh		206.8			74.7			53.2			72.1	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	44.0	13.0	42.0	16.0	49.0	20.4	34.6
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	15.9	38.9	7.9	36.9	10.9	43.9	15.3	29.5
Max Q Clear Time (g_c+I1), s	17.9	31.2	9.9	31.4	12.9	34.7	17.3	31.5
Green Ext Time (p_c), s	0.0	5.1	0.0	2.0	0.0	5.8	0.0	0.0

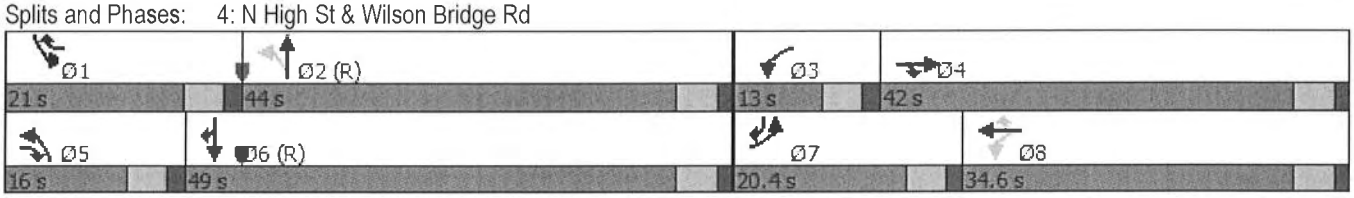
Intersection Summary	
HCM 6th Ctrl Delay	97.2
HCM 6th LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	422	612	264	219	407	834	333	1316	753	925	432
Future Volume (vph)	422	612	264	219	407	834	333	1316	753	925	432
Turn Type	Prot	NA	pt+ov	pm+pt	NA	pm+ov	pm+pt	NA	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	1	5	2	1	6	6 7
Permitted Phases				8		8	2				
Detector Phase	7	4	4 5	3	8	1	5	2	1	6	6 7
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	10.0	7.0	10.0	
Minimum Split (s)	12.1	37.1		12.1	23.1	12.1	12.1	34.1	12.1	37.1	
Total Split (s)	20.4	42.0		13.0	34.6	21.0	16.0	44.0	21.0	49.0	
Total Split (%)	17.0%	35.0%		10.8%	28.8%	17.5%	13.3%	36.7%	17.5%	40.8%	
Yellow Time (s)	3.6	3.6		3.6	3.6	3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 4: N High St & Wilson Bridge Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	612	264	219	407	834	333	1316	353	753	925	432
Future Volume (veh/h)	422	612	264	219	407	834	333	1316	353	753	925	432
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	480	729	297	292	462	1042	396	1343	543	896	1039	520
Peak Hour Factor	0.88	0.84	0.89	0.75	0.88	0.80	0.84	0.98	0.65	0.84	0.89	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	575	631	177	460	1055	262	1162	464	458	1300	782
Arrive On Green	0.13	0.31	0.31	0.07	0.25	0.25	0.12	0.43	0.43	0.18	0.49	0.49
Sat Flow, veh/h	3456	1870	1585	1781	1870	2790	1781	3584	1433	3456	3554	1585
Grp Volume(v), veh/h	480	729	297	292	462	1042	396	1275	611	896	1039	520
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1395	1781	1702	1612	1728	1777	1585
Q Serve(g_s), s	15.3	36.9	16.6	7.9	29.5	29.5	10.9	38.9	38.9	15.9	29.5	28.6
Cycle Q Clear(g_c), s	15.3	36.9	16.6	7.9	29.5	29.5	10.9	38.9	38.9	15.9	29.5	28.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.89	1.00		1.00
Lane Grp Cap(c), veh/h	441	575	631	177	460	1055	262	1103	523	458	1300	782
V/C Ratio(X)	1.09	1.27	0.47	1.65	1.00	0.99	1.51	1.16	1.17	1.96	0.80	0.66
Avail Cap(c_a), veh/h	441	575	631	177	460	1055	262	1103	523	458	1300	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.37	0.37	0.37	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	41.5	26.7	37.9	45.3	37.0	31.0	34.1	34.1	49.4	27.1	18.3
Incr Delay (d2), s/veh	69.2	133.7	0.5	315.1	43.2	24.5	238.6	74.1	84.1	438.5	5.2	4.4
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	10.8	38.1	6.4	17.0	19.1	18.4	22.2	26.0	26.1	34.4	12.2	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.5	175.3	27.3	353.0	88.4	61.5	269.6	108.3	118.2	487.9	32.3	22.8
LnGrp LOS	F	F	C	F	F	E	F	F	F	F	C	C
Approach Vol, veh/h		1506			1796			2282			2455	
Approach Delay, s/veh		129.0			115.8			138.9			196.6	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	44.0	13.0	42.0	16.0	49.0	20.4	34.6
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	15.9	38.9	7.9	36.9	10.9	43.9	15.3	29.5
Max Q Clear Time (g_c+I1), s	17.9	40.9	9.9	38.9	12.9	31.5	17.3	31.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0

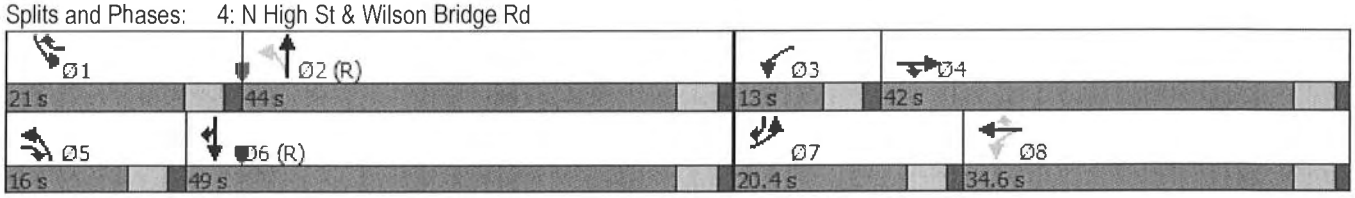
Intersection Summary	
HCM 6th Ctrl Delay	149.5
HCM 6th LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	422	612	277	231	407	834	343	1355	753	966	432
Future Volume (vph)	422	612	277	231	407	834	343	1355	753	966	432
Turn Type	Prot	NA	pt+ov	pm+pt	NA	pm+ov	pm+pt	NA	Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	1	5	2	1	6	6 7
Permitted Phases				8		8	2				
Detector Phase	7	4	4 5	3	8	1	5	2	1	6	6 7
Switch Phase											
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	10.0	7.0	10.0	
Minimum Split (s)	12.1	37.1		12.1	23.1	12.1	12.1	34.1	12.1	37.1	
Total Split (s)	20.4	42.0		13.0	34.6	21.0	16.0	44.0	21.0	49.0	
Total Split (%)	17.0%	35.0%		10.8%	28.8%	17.5%	13.3%	36.7%	17.5%	40.8%	
Yellow Time (s)	3.6	3.6		3.6	3.6	3.6	3.6	3.6	3.6	3.6	
All-Red Time (s)	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	None	C-Max	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 4: N High St & Wilson Bridge Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	612	277	231	407	834	343	1355	363	753	966	432
Future Volume (veh/h)	422	612	277	231	407	834	343	1355	363	753	966	432
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	480	729	311	308	462	1042	408	1383	558	896	1085	520
Peak Hour Factor	0.88	0.84	0.89	0.75	0.88	0.80	0.84	0.98	0.65	0.84	0.89	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	575	631	177	460	1055	254	1164	463	458	1300	782
Arrive On Green	0.13	0.31	0.31	0.07	0.25	0.25	0.12	0.43	0.43	0.18	0.49	0.49
Sat Flow, veh/h	3456	1870	1585	1781	1870	2790	1781	3590	1428	3456	3554	1585
Grp Volume(v), veh/h	480	729	311	308	462	1042	408	1310	631	896	1085	520
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1395	1781	1702	1613	1728	1777	1585
Q Serve(g_s), s	15.3	36.9	17.6	7.9	29.5	29.5	10.9	38.9	38.9	15.9	31.7	28.6
Cycle Q Clear(g_c), s	15.3	36.9	17.6	7.9	29.5	29.5	10.9	38.9	38.9	15.9	31.7	28.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		1.00
Lane Grp Cap(c), veh/h	441	575	631	177	460	1055	254	1103	523	458	1300	782
V/C Ratio(X)	1.09	1.27	0.49	1.74	1.00	0.99	1.61	1.19	1.21	1.96	0.83	0.66
Avail Cap(c_a), veh/h	441	575	631	177	460	1055	254	1103	523	458	1300	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	41.5	27.0	37.9	45.3	37.0	30.5	34.1	34.1	49.4	27.7	18.3
Incr Delay (d2), s/veh	69.2	133.7	0.6	354.3	43.2	24.5	278.5	87.5	98.4	438.5	6.4	4.4
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	10.8	38.1	6.7	18.9	19.1	18.4	24.4	28.1	28.2	34.4	13.3	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.5	175.3	27.6	392.1	88.4	61.5	308.9	121.6	132.5	487.9	34.1	22.8
LnGrp LOS	F	F	C	F	F	E	F	F	F	F	C	C
Approach Vol, veh/h		1520			1812			2349			2501	
Approach Delay, s/veh		128.1			124.6			157.1			194.3	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	44.0	13.0	42.0	16.0	49.0	20.4	34.6
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Max Green Setting (Gmax), s	15.9	38.9	7.9	36.9	10.9	43.9	15.3	29.5
Max Q Clear Time (g_c+I1), s	17.9	40.9	9.9	38.9	12.9	33.7	17.3	31.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	155.9
HCM 6th LOS	F

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	87	668	1	603	86	52	12	56	274
Future Volume (vph)	87	668	1	603	86	52	12	56	274
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2		6		8		4	5
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	12.1
Total Split (s)	13.0	95.0	82.0	82.0	25.0	25.0	25.0	25.0	13.0
Total Split (%)	10.8%	79.2%	68.3%	68.3%	20.8%	20.8%	20.8%	20.8%	10.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.1		5.1		5.1		5.1	5.1
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 5: Evening St & SR 161

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	668	79	1	603	13	86	52	4	12	56	274
Future Volume (vph)	87	668	79	1	603	13	86	52	4	12	56	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1			5.1			5.1	5.1
Lane Util. Factor		0.95			1.00			1.00			1.00	1.00
Frt		0.99			1.00			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			0.99	1.00
Satd. Flow (prot)		3505			1876			1819			1865	1599
Flt Permitted		0.79			1.00			0.77			0.94	1.00
Satd. Flow (perm)		2800			1875			1451			1771	1599
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	89	682	81	1	615	13	88	53	4	12	57	280
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	852	0	0	629	0	0	145	0	0	69	280
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		93.5			80.4			16.3			16.3	24.3
Effective Green, g (s)		93.5			80.4			16.3			16.3	24.3
Actuated g/C Ratio		0.78			0.67			0.14			0.14	0.20
Clearance Time (s)		5.1			5.1			5.1			5.1	5.1
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		2228			1256			197			240	391
v/s Ratio Prot		0.03										c0.05
v/s Ratio Perm		0.27			c0.34			0.10			0.04	0.13
v/c Ratio		0.38			0.50			0.74			0.29	0.72
Uniform Delay, d1		4.2			9.8			49.8			46.6	44.6
Progression Factor		1.00			2.25			1.00			1.00	1.00
Incremental Delay, d2		0.1			1.2			13.3			0.7	6.1
Delay (s)		4.3			23.3			63.1			47.3	50.8
Level of Service		A			C			E			D	D
Approach Delay (s)		4.3			23.3			63.1			50.1	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	104	733	5	666	86	57	12	58	303
Future Volume (vph)	104	733	5	666	86	57	12	58	303
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2		6		8		4	5
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	12.1
Total Split (s)	13.0	95.0	82.0	82.0	25.0	25.0	25.0	25.0	13.0
Total Split (%)	10.8%	79.2%	68.3%	68.3%	20.8%	20.8%	20.8%	20.8%	10.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.1		5.1		5.1		5.1	5.1
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 5: Evening St & SR 161

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	733	79	5	666	13	86	57	5	12	58	303
Future Volume (vph)	104	733	79	5	666	13	86	57	5	12	58	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1			5.1			5.1	5.1
Lane Util. Factor		0.95			1.00			1.00			1.00	1.00
Frt		0.99			1.00			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			0.99	1.00
Satd. Flow (prot)		3508			1876			1820			1865	1599
Flt Permitted		0.74			0.99			0.78			0.94	1.00
Satd. Flow (perm)		2623			1866			1461			1771	1599
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	106	748	81	5	680	13	88	58	5	12	59	309
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	935	0	0	698	0	0	151	0	0	71	309
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		93.2			79.2			16.6			16.6	25.5
Effective Green, g (s)		93.2			79.2			16.6			16.6	25.5
Actuated g/C Ratio		0.78			0.66			0.14			0.14	0.21
Clearance Time (s)		5.1			5.1			5.1			5.1	5.1
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		2102			1231			202			244	407
v/s Ratio Prot		0.03										c0.06
v/s Ratio Perm		0.31			c0.37			0.10			0.04	0.14
v/c Ratio		0.44			0.57			0.75			0.29	0.76
Uniform Delay, d1		4.6			11.1			49.7			46.4	44.4
Progression Factor		1.00			1.86			1.00			1.00	1.00
Incremental Delay, d2		0.2			1.4			14.0			0.7	7.9
Delay (s)		4.7			22.1			63.7			47.1	52.3
Level of Service		A			C			E			D	D
Approach Delay (s)		4.7			22.1			63.7			51.3	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	87	701	1	633	86	52	12	56	274
Future Volume (vph)	87	701	1	633	86	52	12	56	274
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2		6		8		4	5
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	12.1
Total Split (s)	13.0	95.0	82.0	82.0	25.0	25.0	25.0	25.0	13.0
Total Split (%)	10.8%	79.2%	68.3%	68.3%	20.8%	20.8%	20.8%	20.8%	10.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.1		5.1		5.1		5.1	5.1
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 5: Evening St & SR 161

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	701	79	1	633	13	86	52	4	12	56	274
Future Volume (vph)	87	701	79	1	633	13	86	52	4	12	56	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1			5.1			5.1	5.1
Lane Util. Factor		0.95			1.00			1.00			1.00	1.00
Frt		0.99			1.00			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			0.99	1.00
Satd. Flow (prot)		3508			1876			1819			1865	1599
Flt Permitted		0.79			1.00			0.77			0.94	1.00
Satd. Flow (perm)		2788			1875			1451			1771	1599
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	89	715	81	1	646	13	88	53	4	12	57	280
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	885	0	0	660	0	0	145	0	0	69	280
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		93.5			80.4			16.3			16.3	24.3
Effective Green, g (s)		93.5			80.4			16.3			16.3	24.3
Actuated g/C Ratio		0.78			0.67			0.14			0.14	0.20
Clearance Time (s)		5.1			5.1			5.1			5.1	5.1
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		2220			1256			197			240	391
v/s Ratio Prot		0.03										c0.05
v/s Ratio Perm		0.28			c0.35			0.10			0.04	0.13
v/c Ratio		0.40			0.53			0.74			0.29	0.72
Uniform Delay, d1		4.2			10.1			49.8			46.6	44.6
Progression Factor		1.00			2.19			1.00			1.00	1.00
Incremental Delay, d2		0.1			1.2			13.3			0.7	6.1
Delay (s)		4.4			23.3			63.1			47.3	50.8
Level of Service		A			C			E			D	D
Approach Delay (s)		4.4			23.3			63.1			50.1	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

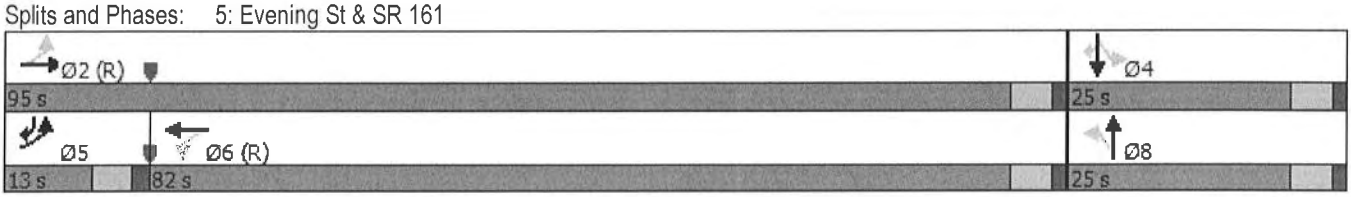
HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	104	766	5	696	86	57	12	58	303
Future Volume (vph)	104	766	5	696	86	57	12	58	303
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2		6		8		4	5
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	12.1
Total Split (s)	13.0	95.0	82.0	82.0	25.0	25.0	25.0	25.0	13.0
Total Split (%)	10.8%	79.2%	68.3%	68.3%	20.8%	20.8%	20.8%	20.8%	10.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.1		5.1		5.1		5.1	5.1
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 5: Evening St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	766	79	5	696	13	86	57	5	12	58	303
Future Volume (vph)	104	766	79	5	696	13	86	57	5	12	58	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1			5.1			5.1	5.1
Lane Util. Factor		0.95			1.00			1.00			1.00	1.00
Frt		0.99			1.00			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			0.99	1.00
Satd. Flow (prot)		3510			1876			1820			1865	1599
Flt Permitted		0.74			0.99			0.78			0.94	1.00
Satd. Flow (perm)		2609			1866			1461			1771	1599
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	106	782	81	5	710	13	88	58	5	12	59	309
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	969	0	0	728	0	0	151	0	0	71	309
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		93.2			79.2			16.6			16.6	25.5
Effective Green, g (s)		93.2			79.2			16.6			16.6	25.5
Actuated g/C Ratio		0.78			0.66			0.14			0.14	0.21
Clearance Time (s)		5.1			5.1			5.1			5.1	5.1
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		2093			1231			202			244	407
v/s Ratio Prot		0.03										c0.06
v/s Ratio Perm		0.33			c0.39			0.10			0.04	0.14
v/c Ratio		0.46			0.59			0.75			0.29	0.76
Uniform Delay, d1		4.7			11.4			49.7			46.4	44.4
Progression Factor		1.00			1.83			1.00			1.00	1.00
Incremental Delay, d2		0.2			1.4			14.0			0.7	7.9
Delay (s)		4.8			22.3			63.7			47.1	52.3
Level of Service		A			C			E			D	D
Approach Delay (s)		4.8			22.3			63.7			51.3	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

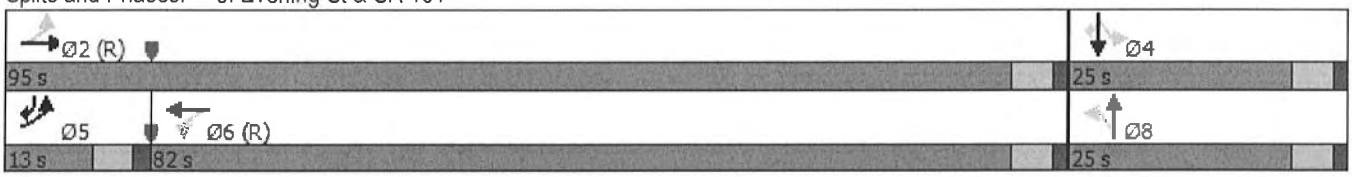
HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	219	798	1	748	93	41	8	54	203
Future Volume (vph)	219	798	1	748	93	41	8	54	203
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2		6		8		4	5
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	12.1
Total Split (s)	13.0	95.0	82.0	82.0	25.0	25.0	25.0	25.0	13.0
Total Split (%)	10.8%	79.2%	68.3%	68.3%	20.8%	20.8%	20.8%	20.8%	10.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.1		5.1		5.1		5.1	5.1
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 5: Evening St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	798	169	1	748	29	93	41	4	8	54	203
Future Volume (vph)	219	798	169	1	748	29	93	41	4	8	54	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1			5.1			5.1	5.1
Lane Util. Factor		0.95			1.00			1.00			1.00	1.00
Frt		0.98			0.99			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			0.99	1.00
Satd. Flow (prot)		3466			1871			1813			1869	1599
Flt Permitted		0.62			1.00			0.76			0.96	1.00
Satd. Flow (perm)		2169			1870			1423			1814	1599
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	223	814	172	1	763	30	95	42	4	8	55	207
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1209	0	0	794	0	0	141	0	0	63	207
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		93.5			81.2			16.3			16.3	23.5
Effective Green, g (s)		93.5			81.2			16.3			16.3	23.5
Actuated g/C Ratio		0.78			0.68			0.14			0.14	0.20
Clearance Time (s)		5.1			5.1			5.1			5.1	5.1
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1767			1265			193			246	381
v/s Ratio Prot		c0.04										0.03
v/s Ratio Perm		c0.49			0.42			c0.10			0.03	0.10
v/c Ratio		0.68			0.63			0.73			0.26	0.54
Uniform Delay, d1		6.3			10.9			49.7			46.4	43.4
Progression Factor		1.00			2.13			1.00			1.00	1.00
Incremental Delay, d2		1.1			1.5			13.3			0.6	1.6
Delay (s)		7.4			24.8			63.0			47.0	45.0
Level of Service		A			C			E			D	D
Approach Delay (s)		7.4			24.8			63.0			45.5	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

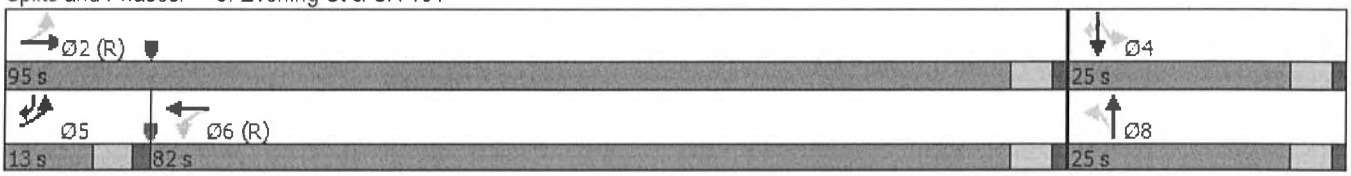
HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	245	861	3	813	93	45	8	55	227
Future Volume (vph)	245	861	3	813	93	45	8	55	227
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2		6		8		4	5
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	12.1
Total Split (s)	13.0	95.0	82.0	82.0	25.0	25.0	25.0	25.0	13.0
Total Split (%)	10.8%	79.2%	68.3%	68.3%	20.8%	20.8%	20.8%	20.8%	10.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.1		5.1		5.1		5.1	5.1
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 5: Evening St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	861	169	3	813	29	93	45	8	8	55	227
Future Volume (vph)	245	861	169	3	813	29	93	45	8	8	55	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1			5.1			5.1	5.1
Lane Util. Factor		0.95			1.00			1.00			1.00	1.00
Frt		0.98			1.00			0.99			1.00	0.85
Flt Protected		0.99			1.00			0.97			0.99	1.00
Satd. Flow (prot)		3470			1872			1810			1870	1599
Flt Permitted		0.60			1.00			0.77			0.96	1.00
Satd. Flow (perm)		2098			1866			1435			1813	1599
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	250	879	172	3	830	30	95	46	8	8	56	232
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1301	0	0	863	0	0	149	0	0	64	232
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		93.2			80.9			16.6			16.6	23.8
Effective Green, g (s)		93.2			80.9			16.6			16.6	23.8
Actuated g/C Ratio		0.78			0.67			0.14			0.14	0.20
Clearance Time (s)		5.1			5.1			5.1			5.1	5.1
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1711			1257			198			250	385
v/s Ratio Prot		c0.05										0.04
v/s Ratio Perm		c0.54			0.46			c0.10			0.04	0.11
v/c Ratio		0.76			0.69			0.75			0.26	0.60
Uniform Delay, d1		7.3			11.9			49.7			46.2	43.8
Progression Factor		1.00			1.87			1.00			1.00	1.00
Incremental Delay, d2		2.0			1.4			14.9			0.5	2.7
Delay (s)		9.4			23.5			64.6			46.7	46.4
Level of Service		A			C			E			D	D
Approach Delay (s)		9.4			23.5			64.6			46.5	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

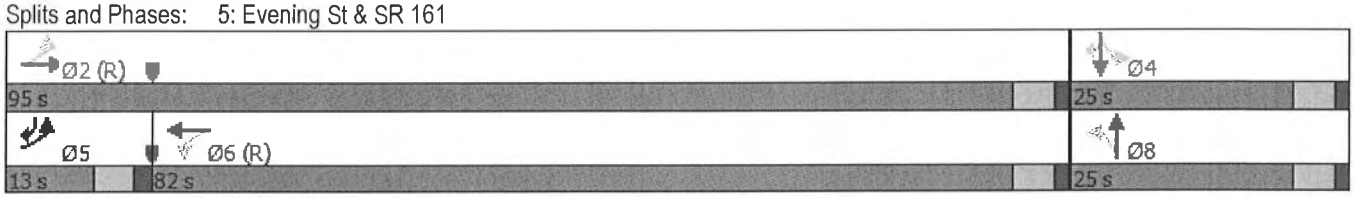
HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	219	838	1	785	93	41	8	54	203
Future Volume (vph)	219	838	1	785	93	41	8	54	203
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2		6		8		4	5
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	12.1
Total Split (s)	13.0	95.0	82.0	82.0	25.0	25.0	25.0	25.0	13.0
Total Split (%)	10.8%	79.2%	68.3%	68.3%	20.8%	20.8%	20.8%	20.8%	10.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.1		5.1		5.1		5.1	5.1
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 5: Evening St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	838	169	1	785	29	93	41	4	8	54	203
Future Volume (vph)	219	838	169	1	785	29	93	41	4	8	54	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1			5.1			5.1	5.1
Lane Util. Factor		0.95			1.00			1.00			1.00	1.00
Frt		0.98			1.00			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			0.99	1.00
Satd. Flow (prot)		3470			1872			1813			1869	1599
Flt Permitted		0.61			1.00			0.76			0.96	1.00
Satd. Flow (perm)		2150			1871			1423			1814	1599
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	223	855	172	1	801	30	95	42	4	8	55	207
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1250	0	0	832	0	0	141	0	0	63	207
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		93.5			81.2			16.3			16.3	23.5
Effective Green, g (s)		93.5			81.2			16.3			16.3	23.5
Actuated g/C Ratio		0.78			0.68			0.14			0.14	0.20
Clearance Time (s)		5.1			5.1			5.1			5.1	5.1
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1754			1266			193			246	381
v/s Ratio Prot		c0.04										0.03
v/s Ratio Perm		c0.51			0.44			c0.10			0.03	0.10
v/c Ratio		0.71			0.66			0.73			0.26	0.54
Uniform Delay, d1		6.6			11.3			49.7			46.4	43.4
Progression Factor		1.00			2.05			1.00			1.00	1.00
Incremental Delay, d2		1.4			1.4			13.3			0.6	1.6
Delay (s)		8.0			24.6			63.0			47.0	45.0
Level of Service		A			C			E			D	D
Approach Delay (s)		8.0			24.6			63.0			45.5	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

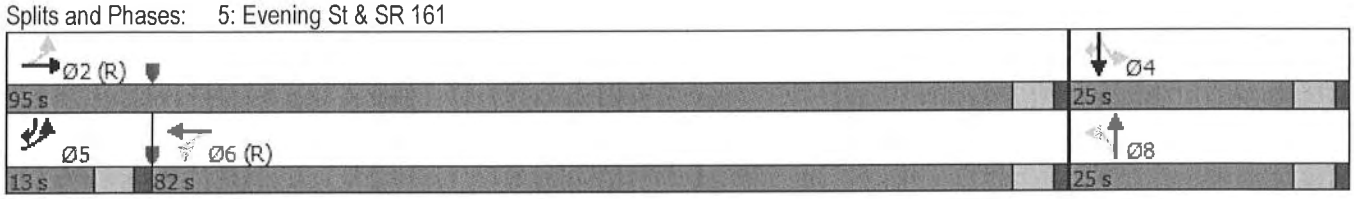
HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	245	901	3	850	93	45	8	55	227
Future Volume (vph)	245	901	3	850	93	45	8	55	227
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2		6		8		4	5
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	12.1
Total Split (s)	13.0	95.0	82.0	82.0	25.0	25.0	25.0	25.0	13.0
Total Split (%)	10.8%	79.2%	68.3%	68.3%	20.8%	20.8%	20.8%	20.8%	10.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		5.1		5.1		5.1		5.1	5.1
Lead/Lag	Lead		Lag	Lag					Lead
Lead-Lag Optimize?	Yes		Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 5: Evening St & SR 161



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	901	169	3	850	29	93	45	8	8	55	227
Future Volume (vph)	245	901	169	3	850	29	93	45	8	8	55	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1			5.1			5.1			5.1	5.1
Lane Util. Factor		0.95			1.00			1.00			1.00	1.00
Frt		0.98			1.00			0.99			1.00	0.85
Flt Protected		0.99			1.00			0.97			0.99	1.00
Satd. Flow (prot)		3473			1872			1810			1870	1599
Flt Permitted		0.59			1.00			0.77			0.96	1.00
Satd. Flow (perm)		2080			1866			1435			1813	1599
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	250	919	172	3	867	30	95	46	8	8	56	232
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1341	0	0	900	0	0	149	0	0	64	232
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		93.2			80.9			16.6			16.6	23.8
Effective Green, g (s)		93.2			80.9			16.6			16.6	23.8
Actuated g/C Ratio		0.78			0.67			0.14			0.14	0.20
Clearance Time (s)		5.1			5.1			5.1			5.1	5.1
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1699			1257			198			250	385
v/s Ratio Prot		c0.05										0.04
v/s Ratio Perm		c0.57			0.48			c0.10			0.04	0.11
v/c Ratio		0.79			0.72			0.75			0.26	0.60
Uniform Delay, d1		7.7			12.3			49.7			46.2	43.8
Progression Factor		1.00			1.82			1.00			1.00	1.00
Incremental Delay, d2		2.5			1.2			14.9			0.5	2.7
Delay (s)		10.3			23.7			64.6			46.7	46.4
Level of Service		B			C			E			D	D
Approach Delay (s)		10.3			23.7			64.6			46.5	
Approach LOS		B			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	111.5%	**ICU Level of Service**	H
Analysis Period (min)	15		
c **Critical Lane Group**			

HCM 6th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	67	3	79	148	2
Future Vol, veh/h	18	67	3	79	148	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	73	3	86	161	2
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Righ	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.5	7.1	8.5
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	21%	99%
Vol Thru, %	4%	0%	1%
Vol Right, %	96%	79%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	82	85	150
LT Vol	0	18	148
Through Vol	3	0	2
RT Vol	79	67	0
Lane Flow Rate	89	92	163
Geometry Grp	1	1	1
Degree of Util (X)	0.09	0.104	0.198
Departure Headway (Hd)	3.642	4.052	4.362
Convergence, Y/N	Yes	Yes	Yes
Cap	965	890	817
Service Time	1.733	2.052	2.416
HCM Lane V/C Ratio	0.092	0.103	0.2
HCM Control Delay	7.1	7.5	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.3	0.7

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	67	5	79	148	3
Future Vol, veh/h	18	67	5	79	148	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	73	5	86	161	3
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Righ	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.5	7.1	8.5
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	21%	98%
Vol Thru, %	6%	0%	2%
Vol Right, %	94%	79%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	84	85	151
LT Vol	0	18	148
Through Vol	5	0	3
RT Vol	79	67	0
Lane Flow Rate	91	92	164
Geometry Grp	1	1	1
Degree of Util (X)	0.093	0.104	0.199
Departure Headway (Hd)	3.657	4.059	4.363
Convergence, Y/N	Yes	Yes	Yes
Cap	962	888	817
Service Time	1.747	2.059	2.417
HCM Lane V/C Ratio	0.095	0.104	0.201
HCM Control Delay	7.1	7.5	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.3	0.7

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	67	3	79	148	2
Future Vol, veh/h	18	67	3	79	148	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	73	3	86	161	2
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Righ	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.5	7.1	8.5
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	21%	99%
Vol Thru, %	4%	0%	1%
Vol Right, %	96%	79%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	82	85	150
LT Vol	0	18	148
Through Vol	3	0	2
RT Vol	79	67	0
Lane Flow Rate	89	92	163
Geometry Grp	1	1	1
Degree of Util (X)	0.09	0.104	0.198
Departure Headway (Hd)	3.642	4.052	4.362
Convergence, Y/N	Yes	Yes	Yes
Cap	965	890	817
Service Time	1.733	2.052	2.416
HCM Lane V/C Ratio	0.092	0.103	0.2
HCM Control Delay	7.1	7.5	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.3	0.7

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	67	5	79	148	3
Future Vol, veh/h	18	67	5	79	148	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	73	5	86	161	3
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Righ	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.5	7.1	8.5
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	21%	98%
Vol Thru, %	6%	0%	2%
Vol Right, %	94%	79%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	84	85	151
LT Vol	0	18	148
Through Vol	5	0	3
RT Vol	79	67	0
Lane Flow Rate	91	92	164
Geometry Grp	1	1	1
Degree of Util (X)	0.093	0.104	0.199
Departure Headway (Hd)	3.657	4.059	4.363
Convergence, Y/N	Yes	Yes	Yes
Cap	962	888	817
Service Time	1.747	2.059	2.417
HCM Lane V/C Ratio	0.095	0.104	0.201
HCM Control Delay	7.1	7.5	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.3	0.7

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	155	3	38	82	8
Future Vol, veh/h	62	155	3	38	82	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	168	3	41	89	9
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Righ	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.2	7.2	8.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	29%	91%
Vol Thru, %	7%	0%	9%
Vol Right, %	93%	71%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	41	217	90
LT Vol	0	62	82
Through Vol	3	0	8
RT Vol	38	155	0
Lane Flow Rate	45	236	98
Geometry Grp	1	1	1
Degree of Util (X)	0.049	0.249	0.124
Departure Headway (Hd)	3.982	3.808	4.568
Convergence, Y/N	Yes	Yes	Yes
Cap	905	927	775
Service Time	1.982	1.895	2.654
HCM Lane V/C Ratio	0.05	0.255	0.126
HCM Control Delay	7.2	8.2	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	1	0.4

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	155	4	38	82	10
Future Vol, veh/h	62	155	4	38	82	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	168	4	41	89	11
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Righ	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.2	7.2	8.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	29%	89%
Vol Thru, %	10%	0%	11%
Vol Right, %	90%	71%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	42	217	92
LT Vol	0	62	82
Through Vol	4	0	10
RT Vol	38	155	0
Lane Flow Rate	46	236	100
Geometry Grp	1	1	1
Degree of Util (X)	0.051	0.25	0.127
Departure Headway (Hd)	4	3.813	4.565
Convergence, Y/N	Yes	Yes	Yes
Cap	901	925	775
Service Time	2	1.905	2.654
HCM Lane V/C Ratio	0.051	0.255	0.129
HCM Control Delay	7.2	8.2	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	1	0.4

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	155	3	38	82	8
Future Vol, veh/h	62	155	3	38	82	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	168	3	41	89	9
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Righ	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.2	7.2	8.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	29%	91%
Vol Thru, %	7%	0%	9%
Vol Right, %	93%	71%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	41	217	90
LT Vol	0	62	82
Through Vol	3	0	8
RT Vol	38	155	0
Lane Flow Rate	45	236	98
Geometry Grp	1	1	1
Degree of Util (X)	0.049	0.249	0.124
Departure Headway (Hd)	3.982	3.808	4.568
Convergence, Y/N	Yes	Yes	Yes
Cap	905	927	775
Service Time	1.982	1.895	2.654
HCM Lane V/C Ratio	0.05	0.255	0.126
HCM Control Delay	7.2	8.2	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	1	0.4

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	**A**

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	**62**	**155**	**4**	**38**	**82**	**10**
Future Vol, veh/h	62	155	4	38	82	10
Peak Hour Factor	**0.92**	**0.92**	**0.92**	**0.92**	**0.92**	**0.92**
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	**67**	**168**	**4**	**41**	**89**	**11**
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	**0**	**1**	**1**
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	**1**	**0**	**1**
Conflicting Approach Righ	SB	WB	
Conflicting Lanes Right	**1**	**1**	**0**
HCM Control Delay	8.2	7.2	8.3
HCM LOS	**A**	**A**	**A**

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	29%	89%
Vol Thru, %	**10%**	**0%**	**11%**
Vol Right, %	90%	71%	0%
Sign Control	**Stop**	**Stop**	**Stop**
Traffic Vol by Lane	42	217	92
LT Vol	**0**	**62**	**82**
Through Vol	4	0	10
RT Vol	**38**	**155**	**0**
Lane Flow Rate	46	236	100
Geometry Grp	**1**	**1**	**1**
Degree of Util (X)	0.051	0.25	0.127
Departure Headway (Hd)	**4**	**3.813**	**4.565**
Convergence, Y/N	Yes	Yes	Yes
Cap	**901**	**925**	**775**
Service Time	2	1.905	2.654
HCM Lane V/C Ratio	**0.051**	**0.255**	**0.129**
HCM Control Delay	7.2	8.2	8.3
HCM Lane LOS	**A**	**A**	**A**
HCM 95th-tile Q	0.2	1	0.4

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	25	21	32	2	0	5	43	12	0	95	3
Future Vol, veh/h	4	25	21	32	2	0	5	43	12	0	95	3
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	27	23	35	2	0	5	47	13	0	103	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.8	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	8%	94%	0%
Vol Thru, %	72%	50%	6%	97%
Vol Right, %	20%	42%	0%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	50	34	98
LT Vol	5	4	32	0
Through Vol	43	25	2	95
RT Vol	12	21	0	3
Lane Flow Rate	65	54	37	107
Geometry Grp	1	1	1	1
Degree of Util (X)	0.074	0.061	0.046	0.122
Departure Headway (Hd)	4.071	4.023	4.462	4.124
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	869	875	790	861
Service Time	2.146	2.118	2.558	2.189
HCM Lane V/C Ratio	0.075	0.062	0.047	0.124
HCM Control Delay	7.5	7.4	7.8	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.4

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	4	29	21	33	4	2	5	43	14	4	95	3
Future Vol, veh/h	4	29	21	33	4	2	5	43	14	4	95	3
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	32	23	36	4	2	5	47	15	4	103	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.8	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	7%	85%	4%
Vol Thru, %	69%	54%	10%	93%
Vol Right, %	23%	39%	5%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	54	39	102
LT Vol	5	4	33	4
Through Vol	43	29	4	95
RT Vol	14	21	2	3
Lane Flow Rate	67	59	42	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.076	0.066	0.052	0.128
Departure Headway (Hd)	4.076	4.057	4.428	4.152
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	867	867	796	855
Service Time	2.157	2.156	2.528	2.221
HCM Lane V/C Ratio	0.077	0.068	0.053	0.13
HCM Control Delay	7.5	7.4	7.8	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.4

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	25	21	32	2	0	5	43	12	0	95	3
Future Vol, veh/h	4	25	21	32	2	0	5	43	12	0	95	3
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	27	23	35	2	0	5	47	13	0	103	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.8	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	8%	94%	0%
Vol Thru, %	72%	50%	6%	97%
Vol Right, %	20%	42%	0%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	50	34	98
LT Vol	5	4	32	0
Through Vol	43	25	2	95
RT Vol	12	21	0	3
Lane Flow Rate	65	54	37	107
Geometry Grp	1	1	1	1
Degree of Util (X)	0.074	0.061	0.046	0.122
Departure Headway (Hd)	4.071	4.023	4.462	4.124
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	869	875	790	861
Service Time	2.146	2.118	2.558	2.189
HCM Lane V/C Ratio	0.075	0.062	0.047	0.124
HCM Control Delay	7.5	7.4	7.8	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.4

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	29	21	33	4	2	5	43	14	4	95	3
Future Vol, veh/h	4	29	21	33	4	2	5	43	14	4	95	3
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	32	23	36	4	2	5	47	15	4	103	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.8	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	7%	85%	4%
Vol Thru, %	69%	54%	10%	93%
Vol Right, %	23%	39%	5%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	54	39	102
LT Vol	5	4	33	4
Through Vol	43	29	4	95
RT Vol	14	21	2	3
Lane Flow Rate	67	59	42	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.076	0.066	0.052	0.128
Departure Headway (Hd)	4.076	4.057	4.428	4.152
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	867	867	796	855
Service Time	2.157	2.156	2.528	2.221
HCM Lane V/C Ratio	0.077	0.068	0.053	0.13
HCM Control Delay	7.5	7.4	7.8	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.4

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	12	12	31	20	2	22	104	22	2	40	4
Future Vol, veh/h	4	12	12	31	20	2	22	104	22	2	40	4
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	13	13	34	22	2	24	113	24	2	43	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	8.1	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	14%	58%	4%
Vol Thru, %	70%	43%	38%	87%
Vol Right, %	15%	43%	4%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	148	28	53	46
LT Vol	22	4	31	2
Through Vol	104	12	20	40
RT Vol	22	12	2	4
Lane Flow Rate	161	30	58	50
Geometry Grp	1	1	1	1
Degree of Util (X)	0.182	0.036	0.072	0.058
Departure Headway (Hd)	4.065	4.235	4.525	4.167
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	874	850	796	846
Service Time	2.136	2.236	2.526	2.261
HCM Lane V/C Ratio	0.184	0.035	0.073	0.059
HCM Control Delay	8.1	7.4	7.9	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.2	0.2

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	14	12	33	24	6	22	104	23	4	40	4
Future Vol, veh/h	4	14	12	33	24	6	22	104	23	4	40	4
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	15	13	36	26	7	24	113	25	4	43	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	8.1	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	13%	52%	8%
Vol Thru, %	70%	47%	38%	83%
Vol Right, %	15%	40%	10%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	30	63	48
LT Vol	22	4	33	4
Through Vol	104	14	24	40
RT Vol	23	12	6	4
Lane Flow Rate	162	33	68	52
Geometry Grp	1	1	1	1
Degree of Util (X)	0.184	0.039	0.085	0.062
Departure Headway (Hd)	4.086	4.271	4.491	4.305
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	843	803	837
Service Time	2.167	2.275	2.493	2.305
HCM Lane V/C Ratio	0.187	0.039	0.085	0.062
HCM Control Delay	8.1	7.4	7.9	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.3	0.2

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	12	12	31	20	2	22	104	22	2	40	4
Future Vol, veh/h	4	12	12	31	20	2	22	104	22	2	40	4
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	13	13	34	22	2	24	113	24	2	43	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	8.1	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	14%	58%	4%
Vol Thru, %	70%	43%	38%	87%
Vol Right, %	15%	43%	4%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	148	28	53	46
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RT Vol	22	12	2	4
Lane Flow Rate	161	30	58	50
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Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	874	850	796	846
Service Time	2.136	2.236	2.526	2.261
HCM Lane V/C Ratio	0.184	0.035	0.073	0.059
HCM Control Delay	8.1	7.4	7.9	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.2	0.2

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	14	12	33	24	6	22	104	23	4	40	4
Future Vol, veh/h	4	14	12	33	24	6	22	104	23	4	40	4
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	15	13	36	26	7	24	113	25	4	43	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Righ	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	8.1	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	13%	52%	8%
Vol Thru, %	70%	47%	38%	83%
Vol Right, %	15%	40%	10%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	30	63	48
LT Vol	22	4	33	4
Through Vol	104	14	24	40
RT Vol	23	12	6	4
Lane Flow Rate	162	33	68	52
Geometry Grp	1	1	1	1
Degree of Util (X)	0.184	0.039	0.085	0.062
Departure Headway (Hd)	4.086	4.271	4.491	4.305
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	843	803	837
Service Time	2.167	2.275	2.493	2.305
HCM Lane V/C Ratio	0.187	0.039	0.085	0.062
HCM Control Delay	8.1	7.4	7.9	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.3	0.2

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	6	121	1	6	96	3	1	3	32	10	24	22
Future Vol, veh/h	6	121	1	6	96	3	1	3	32	10	24	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	132	1	7	104	3	1	3	35	11	26	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	133	0	0	292	268	133	286	267	106
Stage 1	-	-	-	-	-	-	147	147	-	120	120	-
Stage 2	-	-	-	-	-	-	145	121	-	166	147	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1484	-	-	1452	-	-	660	638	916	666	639	948
Stage 1	-	-	-	-	-	-	856	775	-	884	796	-
Stage 2	-	-	-	-	-	-	858	796	-	836	775	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1484	-	-	1452	-	-	618	632	916	633	633	948
Mov Cap-2 Maneuver	-	-	-	-	-	-	618	632	-	633	633	-
Stage 1	-	-	-	-	-	-	852	771	-	880	792	-
Stage 2	-	-	-	-	-	-	805	792	-	797	771	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	9.3	10.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	872	1484	-	-	1452	-	-	728
HCM Lane V/C Ratio	0.045	0.004	-	-	0.004	-	-	0.084
HCM Control Delay (s)	9.3	7.4	0	-	7.5	0	-	10.4
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	6	125	1	15	98	3	1	3	49	10	24	22
Future Vol, veh/h	6	125	1	15	98	3	1	3	49	10	24	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	136	1	16	107	3	1	3	53	11	26	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	110	0	0	137	0	0	317	293	137	320	292	109
Stage 1	-	-	-	-	-	-	151	151	-	141	141	-
Stage 2	-	-	-	-	-	-	166	142	-	179	151	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1480	-	-	1447	-	-	636	618	911	633	619	945
Stage 1	-	-	-	-	-	-	851	772	-	862	780	-
Stage 2	-	-	-	-	-	-	836	779	-	823	772	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1480	-	-	1447	-	-	592	607	911	586	608	945
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	607	-	586	608	-
Stage 1	-	-	-	-	-	-	847	768	-	858	771	-
Stage 2	-	-	-	-	-	-	778	770	-	768	768	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	9.4	10.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	877	1480	-	-	1447	-	-	702
HCM Lane V/C Ratio	0.066	0.004	-	-	0.011	-	-	0.087
HCM Control Delay (s)	9.4	7.4	0	-	7.5	0	-	10.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	6	121	1	6	96	3	1	3	32	10	24	22
Future Vol, veh/h	6	121	1	6	96	3	1	3	32	10	24	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	132	1	7	104	3	1	3	35	11	26	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	133	0	0	292	268	133	286	267	106
Stage 1	-	-	-	-	-	-	147	147	-	120	120	-
Stage 2	-	-	-	-	-	-	145	121	-	166	147	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1484	-	-	1452	-	-	660	638	916	666	639	948
Stage 1	-	-	-	-	-	-	856	775	-	884	796	-
Stage 2	-	-	-	-	-	-	858	796	-	836	775	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1484	-	-	1452	-	-	618	632	916	633	633	948
Mov Cap-2 Maneuver	-	-	-	-	-	-	618	632	-	633	633	-
Stage 1	-	-	-	-	-	-	852	771	-	880	792	-
Stage 2	-	-	-	-	-	-	805	792	-	797	771	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	9.3	10.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	872	1484	-	-	1452	-	-	728
HCM Lane V/C Ratio	0.045	0.004	-	-	0.004	-	-	0.084
HCM Control Delay (s)	9.3	7.4	0	-	7.5	0	-	10.4
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	125	1	15	98	3	1	3	49	10	24	22
Future Vol, veh/h	6	125	1	15	98	3	1	3	49	10	24	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	136	1	16	107	3	1	3	53	11	26	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	110	0	0	137	0	0	317	293	137	320	292	109
Stage 1	-	-	-	-	-	-	151	151	-	141	141	-
Stage 2	-	-	-	-	-	-	166	142	-	179	151	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1480	-	-	1447	-	-	636	618	911	633	619	945
Stage 1	-	-	-	-	-	-	851	772	-	862	780	-
Stage 2	-	-	-	-	-	-	836	779	-	823	772	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1480	-	-	1447	-	-	592	607	911	586	608	945
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	607	-	586	608	-
Stage 1	-	-	-	-	-	-	847	768	-	858	771	-
Stage 2	-	-	-	-	-	-	778	770	-	768	768	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	9.4	10.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	877	1480	-	-	1447	-	-	702
HCM Lane V/C Ratio	0.066	0.004	-	-	0.011	-	-	0.087
HCM Control Delay (s)	9.4	7.4	0	-	7.5	0	-	10.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	7	97	0	31	85	6	0	11	24	9	15	6
Future Vol, veh/h	7	97	0	31	85	6	0	11	24	9	15	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	105	0	34	92	7	0	12	26	10	16	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	99	0	0	105	0	0	296	288	105	304	285	96
Stage 1	-	-	-	-	-	-	121	121	-	164	164	-
Stage 2	-	-	-	-	-	-	175	167	-	140	121	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1494	-	-	1486	-	-	656	622	949	648	624	960
Stage 1	-	-	-	-	-	-	883	796	-	838	762	-
Stage 2	-	-	-	-	-	-	827	760	-	863	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1494	-	-	1486	-	-	624	603	949	607	605	960
Mov Cap-2 Maneuver	-	-	-	-	-	-	624	603	-	607	605	-
Stage 1	-	-	-	-	-	-	878	791	-	833	744	-
Stage 2	-	-	-	-	-	-	784	742	-	822	791	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.9	9.7	10.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	804	1494	-	-	1486	-	-	654
HCM Lane V/C Ratio	0.047	0.005	-	-	0.023	-	-	0.05
HCM Control Delay (s)	9.7	7.4	0	-	7.5	0	-	10.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⊕			⊕			⊕			⊕	
Traffic Vol, veh/h	7	99	0	54	89	6	0	11	33	9	15	6
Future Vol, veh/h	7	99	0	54	89	6	0	11	33	9	15	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	108	0	59	97	7	0	12	36	10	16	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	104	0	0	108	0	0	354	346	108	367	343	101
Stage 1	-	-	-	-	-	-	124	124	-	219	219	-
Stage 2	-	-	-	-	-	-	230	222	-	148	124	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1488	-	-	1483	-	-	601	577	946	589	579	954
Stage 1	-	-	-	-	-	-	880	793	-	783	722	-
Stage 2	-	-	-	-	-	-	773	720	-	855	793	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1483	-	-	562	549	946	537	551	954
Mov Cap-2 Maneuver	-	-	-	-	-	-	562	549	-	537	551	-
Stage 1	-	-	-	-	-	-	875	788	-	778	692	-
Stage 2	-	-	-	-	-	-	718	690	-	805	788	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	2.7	9.8	11.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	801	1488	-	-	1483	-	-	597
HCM Lane V/C Ratio	0.06	0.005	-	-	0.04	-	-	0.055
HCM Control Delay (s)	9.8	7.4	0	-	7.5	0	-	11.4
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	7	97	0	31	85	6	0	11	24	9	15	6
Future Vol, veh/h	7	97	0	31	85	6	0	11	24	9	15	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	105	0	34	92	7	0	12	26	10	16	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	99	0	0	105	0	0	296	288	105	304	285	96
Stage 1	-	-	-	-	-	-	121	121	-	164	164	-
Stage 2	-	-	-	-	-	-	175	167	-	140	121	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1494	-	-	1486	-	-	656	622	949	648	624	960
Stage 1	-	-	-	-	-	-	883	796	-	838	762	-
Stage 2	-	-	-	-	-	-	827	760	-	863	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1494	-	-	1486	-	-	624	603	949	607	605	960
Mov Cap-2 Maneuver	-	-	-	-	-	-	624	603	-	607	605	-
Stage 1	-	-	-	-	-	-	878	791	-	833	744	-
Stage 2	-	-	-	-	-	-	784	742	-	822	791	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.9	9.7	10.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	804	1494	-	-	1486	-	-	654
HCM Lane V/C Ratio	0.047	0.005	-	-	0.023	-	-	0.05
HCM Control Delay (s)	9.7	7.4	0	-	7.5	0	-	10.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	7	99	0	54	89	6	0	11	33	9	15	6
Future Vol, veh/h	7	99	0	54	89	6	0	11	33	9	15	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	108	0	59	97	7	0	12	36	10	16	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	104	0	0	108	0	0	354	346	108	367	343	101
Stage 1	-	-	-	-	-	-	124	124	-	219	219	-
Stage 2	-	-	-	-	-	-	230	222	-	148	124	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1488	-	-	1483	-	-	601	577	946	589	579	954
Stage 1	-	-	-	-	-	-	880	793	-	783	722	-
Stage 2	-	-	-	-	-	-	773	720	-	855	793	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1483	-	-	562	549	946	537	551	954
Mov Cap-2 Maneuver	-	-	-	-	-	-	562	549	-	537	551	-
Stage 1	-	-	-	-	-	-	875	788	-	778	692	-
Stage 2	-	-	-	-	-	-	718	690	-	805	788	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	2.7	9.8	11.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	801	1488	-	-	1483	-	-	597
HCM Lane V/C Ratio	0.06	0.005	-	-	0.04	-	-	0.055
HCM Control Delay (s)	9.8	7.4	0	-	7.5	0	-	11.4
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑	↱		↰↑	↰↱	
Traffic Vol, veh/h	272	54	5	330	37	5
Future Vol, veh/h	272	54	5	330	37	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	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	296	59	5	359	40	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	355	0	486	296
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	190	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1202	-	525	743
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	824	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1202	-	522	743
Mov Cap-2 Maneuver	-	-	-	-	522	-
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	541	-	-	1202	-
HCM Lane V/C Ratio	0.084	-	-	0.005	-
HCM Control Delay (s)	12.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑	↱		↰↑	↰↱	
Traffic Vol, veh/h	291	60	5	349	43	5
Future Vol, veh/h	291	60	5	349	43	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	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	316	65	5	379	47	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	381	0	516	316
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1176	-	504	724
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1176	-	501	724
Mov Cap-2 Maneuver	-	-	-	-	501	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	811	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	518	-	-	1176	-
HCM Lane V/C Ratio	0.101	-	-	0.005	-
HCM Control Delay (s)	12.7	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑	↱		↰↑	↰↱	
Traffic Vol, veh/h	299	54	5	363	37	5
Future Vol, veh/h	299	54	5	363	37	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	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	325	59	5	395	40	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	384	0	533	325
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	208	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1173	-	492	715
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1173	-	490	715
Mov Cap-2 Maneuver	-	-	-	-	490	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	803	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	509	-	-	1173	-
HCM Lane V/C Ratio	0.09	-	-	0.005	-
HCM Control Delay (s)	12.8	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑	↱		↰↑	↰↱	
Traffic Vol, veh/h	318	60	5	382	43	5
Future Vol, veh/h	318	60	5	382	43	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	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	346	65	5	415	47	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	411	0	564	346
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1146	-	471	696
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	798	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1146	-	468	696
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	485	-	-	1146	-
HCM Lane V/C Ratio	0.108	-	-	0.005	-
HCM Control Delay (s)	13.3	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑	↱		↰↑	↰↱	
Traffic Vol, veh/h	303	54	5	381	37	5
Future Vol, veh/h	303	54	5	381	37	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	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	329	59	5	414	40	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	388	0	546	329
Stage 1	-	-	-	-	329	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1169	-	483	712
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	480	712
Mov Cap-2 Maneuver	-	-	-	-	480	-
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	794	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	499	-	-	1169	-
HCM Lane V/C Ratio	0.091	-	-	0.005	-
HCM Control Delay (s)	12.9	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑	↱		↰↑	↰↱	
Traffic Vol, veh/h	323	60	5	399	43	5
Future Vol, veh/h	323	60	5	399	43	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	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	351	65	5	434	47	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	416	0	578	351
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	227	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1141	-	462	692
Stage 1	-	-	-	-	712	-
Stage 2	-	-	-	-	790	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1141	-	459	692
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	712	-
Stage 2	-	-	-	-	785	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	476	-	-	1141	-
HCM Lane V/C Ratio	0.11	-	-	0.005	-
HCM Control Delay (s)	13.5	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑	↱		↰↑	↰↱	
Traffic Vol, veh/h	333	54	5	419	37	5
Future Vol, veh/h	333	54	5	419	37	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	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	362	59	5	455	40	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	421	0	600	362
Stage 1	-	-	-	-	362	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1136	-	448	682
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	780	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1136	-	445	682
Mov Cap-2 Maneuver	-	-	-	-	445	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	775	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	464	-	-	1136	-
HCM Lane V/C Ratio	0.098	-	-	0.005	-
HCM Control Delay (s)	13.6	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑	↱		↰↑	↰↱	
Traffic Vol, veh/h	353	60	5	437	43	5
Future Vol, veh/h	353	60	5	437	43	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	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	384	65	5	475	47	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	449	0	632	384
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	248	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1110	-	428	663
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1110	-	425	663
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	766	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	442	-	-	1110	-
HCM Lane V/C Ratio	0.118	-	-	0.005	-
HCM Control Delay (s)	14.2	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	98	105	799	843	27
Future Vol, veh/h	35	98	105	799	843	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	37	103	111	841	887	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1544	458	915	0	-	0
Stage 1	901	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Critical Hdwy	6.82	6.92	4.12	-	-	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	2.21	-	-	-
Pot Cap-1 Maneuver	106	553	747	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	90	553	747	-	-	-
Mov Cap-2 Maneuver	90	-	-	-	-	-
Stage 1	306	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	40.6	1.2	0
HCM LOS	E		

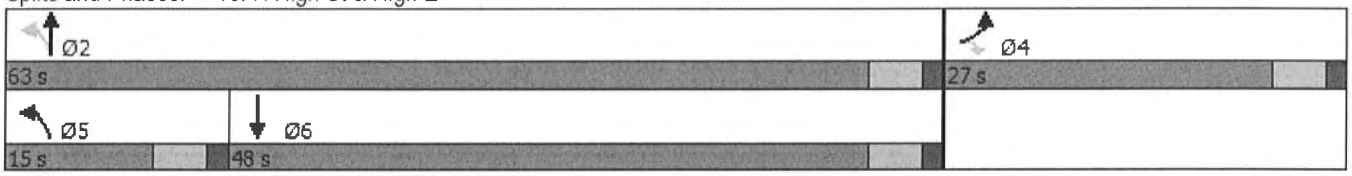
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	747	-	235	-	-
HCM Lane V/C Ratio	0.148	-	0.596	-	-
HCM Control Delay (s)	10.7	-	40.6	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.5	-	3.4	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	35	98	105	799	843
Future Volume (vph)	35	98	105	799	843
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	23.1	23.1	12.1	23.1	23.1
Total Split (s)	27.0	27.0	15.0	63.0	48.0
Total Split (%)	30.0%	30.0%	16.7%	70.0%	53.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 51.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 10: N High St & High E



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	98	105	799	843	27
Future Volume (veh/h)	35	98	105	799	843	27
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	37	103	111	841	887	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	236	210	500	2269	1406	44
Arrive On Green	0.13	0.13	0.12	0.63	0.40	0.40
Sat Flow, veh/h	1795	1598	1795	3676	3638	112
Grp Volume(v), veh/h	37	103	111	841	448	467
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1865
Q Serve(g_s), s	0.8	2.6	1.3	4.9	8.7	8.7
Cycle Q Clear(g_c), s	0.8	2.6	1.3	4.9	8.7	8.7
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	236	210	500	2269	711	740
V/C Ratio(X)	0.16	0.49	0.22	0.37	0.63	0.63
Avail Cap(c_a), veh/h	906	807	696	4781	1771	1844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	17.5	6.1	3.8	10.5	10.5
Incr Delay (d2), s/veh	0.3	1.8	0.2	0.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.4	0.3	0.8	2.7	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.0	19.3	6.3	3.9	11.5	11.4
LnGrp LOS	B	B	A	A	B	B
Approach Vol, veh/h	140			952	915	
Approach Delay, s/veh	18.7			4.2	11.4	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		32.6		10.8	10.3	22.3
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		57.9		21.9	9.9	42.9
Max Q Clear Time (g_c+I1), s		6.9		4.6	3.3	10.7
Green Ext Time (p_c), s		7.0		0.4	0.1	6.5

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	98	105	806	851	27
Future Vol, veh/h	35	98	105	806	851	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	37	103	111	848	896	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1556	462	924	0	-	0
Stage 1	910	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Critical Hdwy	6.82	6.92	4.12	-	-	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	2.21	-	-	-
Pot Cap-1 Maneuver	105	549	741	-	-	-
Stage 1	355	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	89	549	741	-	-	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	302	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	41.3	1.2	0
HCM LOS	E		

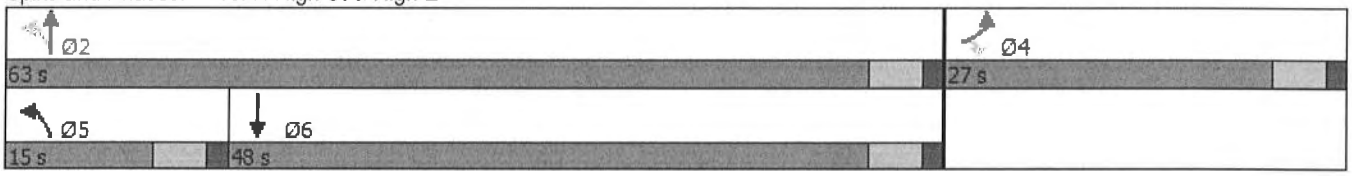
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	741	-	233	-	-
HCM Lane V/C Ratio	0.149	-	0.601	-	-
HCM Control Delay (s)	10.7	-	41.3	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.5	-	3.5	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	35	98	105	806	851
Future Volume (vph)	35	98	105	806	851
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	23.1	23.1	12.1	23.1	23.1
Total Split (s)	27.0	27.0	15.0	63.0	48.0
Total Split (%)	30.0%	30.0%	16.7%	70.0%	53.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 52
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 10: N High St & High E



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	98	105	806	851	27
Future Volume (veh/h)	35	98	105	806	851	27
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	37	103	111	848	896	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	235	209	498	2275	1416	44
Arrive On Green	0.13	0.13	0.12	0.64	0.40	0.40
Sat Flow, veh/h	1795	1598	1795	3676	3640	111
Grp Volume(v), veh/h	37	103	111	848	453	471
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1865
Q Serve(g_s), s	0.8	2.6	1.3	4.9	8.9	8.9
Cycle Q Clear(g_c), s	0.8	2.6	1.3	4.9	8.9	8.9
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	235	209	498	2275	715	745
V/C Ratio(X)	0.16	0.49	0.22	0.37	0.63	0.63
Avail Cap(c_a), veh/h	902	802	692	4755	1762	1835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	17.6	6.1	3.8	10.5	10.5
Incr Delay (d2), s/veh	0.3	1.8	0.2	0.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.3	0.8	2.7	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.1	19.4	6.3	3.9	11.5	11.4
LnGrp LOS	B	B	A	A	B	B
Approach Vol, veh/h	140			959	924	
Approach Delay, s/veh	18.8			4.2	11.4	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		32.8		10.8	10.3	22.5
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		57.9		21.9	9.9	42.9
Max Q Clear Time (g_c+I1), s		6.9		4.6	3.3	10.9
Green Ext Time (p_c), s		7.0		0.4	0.1	6.6

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	113	111	792	1019	36
Future Vol, veh/h	40	113	111	792	1019	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	42	119	117	834	1073	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1743	556	1111	0	-	0
Stage 1	1092	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Critical Hdwy	6.82	6.92	4.12	-	-	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	2.21	-	-	-
Pot Cap-1 Maneuver	79	477	630	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	64	477	630	-	-	-
Mov Cap-2 Maneuver	64	-	-	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	97	1.5	0
HCM LOS	F		

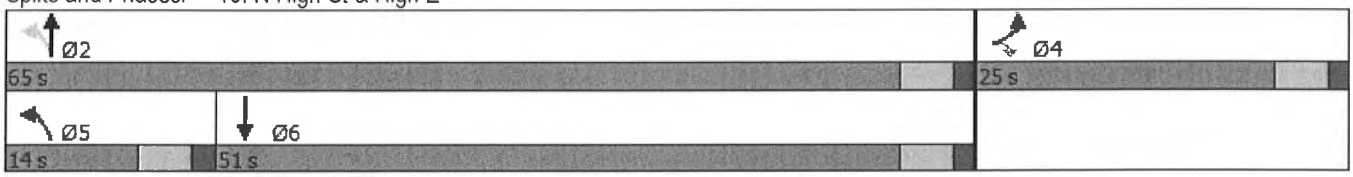
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	630	-	178	-	-
HCM Lane V/C Ratio	0.185	-	0.905	-	-
HCM Control Delay (s)	12	-	97	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.7	-	6.8	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	40	113	111	792	1019
Future Volume (vph)	40	113	111	792	1019
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	23.1	23.1	12.1	23.1	23.1
Total Split (s)	25.0	25.0	14.0	65.0	51.0
Total Split (%)	27.8%	27.8%	15.6%	72.2%	56.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 58.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 10: N High St & High E



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	113	111	792	1019	36
Future Volume (veh/h)	40	113	111	792	1019	36
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	42	119	117	834	1073	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	226	201	457	2393	1595	56
Arrive On Green	0.13	0.13	0.11	0.67	0.45	0.45
Sat Flow, veh/h	1795	1598	1795	3676	3623	125
Grp Volume(v), veh/h	42	119	117	834	545	566
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1863
Q Serve(g_s), s	1.0	3.5	1.4	5.0	11.9	11.9
Cycle Q Clear(g_c), s	1.0	3.5	1.4	5.0	11.9	11.9
Prop In Lane	1.00	1.00	1.00			0.07
Lane Grp Cap(c), veh/h	226	201	457	2393	809	842
V/C Ratio(X)	0.19	0.59	0.26	0.35	0.67	0.67
Avail Cap(c_a), veh/h	722	642	577	4334	1660	1727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	20.4	6.6	3.6	10.7	10.7
Incr Delay (d2), s/veh	0.4	2.8	0.3	0.1	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.3	0.8	3.7	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	23.2	6.9	3.6	11.7	11.6
LnGrp LOS	B	C	A	A	B	B
Approach Vol, veh/h	161			951	1111	
Approach Delay, s/veh	22.3			4.0	11.6	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		38.2		11.3	10.7	27.5
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		59.9		19.9	8.9	45.9
Max Q Clear Time (g_c+I1), s		7.0		5.5	3.4	13.9
Green Ext Time (p_c), s		6.9		0.4	0.1	8.5

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	12

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	113	111	866	1114	36
Future Vol, veh/h	40	113	111	866	1114	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	42	119	117	912	1173	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1882	606	1211	0	-	0
Stage 1	1192	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Critical Hdwy	6.82	6.92	4.12	-	-	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	2.21	-	-	-
Pot Cap-1 Maneuver	63	443	577	-	-	-
Stage 1	253	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	50	443	577	-	-	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	202	-	-	-	-	-
Stage 2	462	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	168.9	1.5	0
HCM LOS	F		

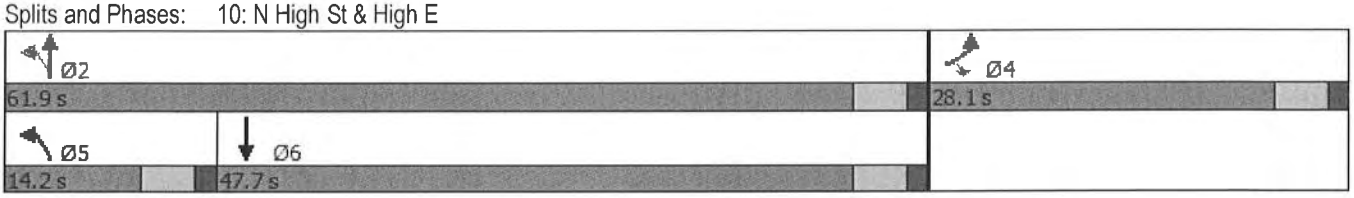
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	577	-	145	-	-
HCM Lane V/C Ratio	0.202	-	1.111	-	-
HCM Control Delay (s)	12.8	-	168.9	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.8	-	8.8	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	40	113	111	866	1114
Future Volume (vph)	40	113	111	866	1114
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	28.1	28.1	12.1	23.1	23.1
Total Split (s)	28.1	28.1	14.2	61.9	47.7
Total Split (%)	31.2%	31.2%	15.8%	68.8%	53.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.1	5.1	5.1	5.1
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Max	Max

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 10: N High St & High E



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	113	111	866	1114	36
Future Volume (veh/h)	40	113	111	866	1114	36
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	42	119	117	912	1173	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	181	161	443	2730	2154	70
Arrive On Green	0.10	0.10	0.09	0.76	0.61	0.61
Sat Flow, veh/h	1795	1598	1795	3676	3635	115
Grp Volume(v), veh/h	42	119	117	912	593	618
Grp Sat Flow(s),veh/h/ln	1795	1598	1795	1791	1791	1865
Q Serve(g_s), s	1.6	5.4	1.5	6.1	14.5	14.5
Cycle Q Clear(g_c), s	1.6	5.4	1.5	6.1	14.5	14.5
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	181	161	443	2730	1089	1134
V/C Ratio(X)	0.23	0.74	0.26	0.33	0.54	0.54
Avail Cap(c_a), veh/h	554	493	508	2730	1089	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	32.5	5.5	2.8	8.6	8.6
Incr Delay (d2), s/veh	0.6	6.5	0.3	0.3	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.3	0.4	1.2	5.0	5.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.5	39.0	5.9	3.2	10.5	10.4
LnGrp LOS	C	D	A	A	B	B
Approach Vol, veh/h	161			1029	1211	
Approach Delay, s/veh	37.0			3.5	10.5	
Approach LOS	D			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.9		12.6	11.5	50.4
Change Period (Y+Rc), s		5.1		5.1	5.1	5.1
Max Green Setting (Gmax), s		56.8		23.0	9.1	42.6
Max Q Clear Time (g_c+I1), s		8.1		7.4	3.5	16.5
Green Ext Time (p_c), s		7.8		0.4	0.1	9.1

Intersection Summary			
HCM 6th Ctrl Delay			9.2
HCM 6th LOS			A

Intersection: 2: N High St & Wesley/WG

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	6	30	122	85	58	193	210	115	213	209	236
Average Queue (ft)	0	3	91	43	7	89	92	65	91	70	79
95th Queue (ft)	4	16	109	80	34	168	183	129	177	157	173
Link Distance (ft)		231	24	24		1070	1070			490	490
Upstream Blk Time (%)			63	39							
Queuing Penalty (veh)			125	78							
Storage Bay Dist (ft)	60				80			90	250		
Storage Blk Time (%)						7	5	2	0	0	
Queuing Penalty (veh)						1	10	8	0	0	

Intersection: 2: N High St & Wesley/WG

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	18	90	111	86	104	229	240	115	248	357	351
Average Queue (ft)	2	30	90	52	23	107	100	64	127	119	123
95th Queue (ft)	15	69	106	85	71	186	197	124	244	282	266
Link Distance (ft)		231	24	24		1070	1070			490	490
Upstream Blk Time (%)			62	42							
Queuing Penalty (veh)			133	89							
Storage Bay Dist (ft)	60				80			90	250		
Storage Blk Time (%)		1			0	10	6	2	7	0	
Queuing Penalty (veh)		0			1	2	13	9	27	0	

Intersection: 2: N High St & Wesley/WG

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	50	65	114	76	18	213	252	115	122	170	173
Average Queue (ft)	12	19	91	41	1	93	103	81	53	66	74
95th Queue (ft)	39	48	107	78	11	172	208	137	102	139	146
Link Distance (ft)		231	24	24		1070	1070			490	490
Upstream Blk Time (%)			63	35							
Queuing Penalty (veh)			143	79							
Storage Bay Dist (ft)	60				80			90	250		
Storage Blk Time (%)	0	0				7	5	6			
Queuing Penalty (veh)	0	0				0	12	21			

Intersection: 2: N High St & Wesley/WG

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	54	80	108	87	104	262	270	115	158	199	200
Average Queue (ft)	14	31	91	48	32	127	136	82	71	93	98
95th Queue (ft)	41	69	99	84	81	229	250	142	140	172	179
Link Distance (ft)		231	24	24		1070	1070			490	490
Upstream Blk Time (%)			65	40							
Queuing Penalty (veh)			157	96							
Storage Bay Dist (ft)	60				80			90	250		
Storage Blk Time (%)	0	2			1	12	8	4		0	
Queuing Penalty (veh)	0	0			2	5	22	15		0	

Intersection: 9: Crandall Dr & WG/Worthington Galena Rd

Movement	EB	WB	WB	NW
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	49	181	37	104
Average Queue (ft)	4	59	3	39
95th Queue (ft)	25	143	19	90
Link Distance (ft)	24	558	558	350
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	2			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Crandall Dr & WG/Worthington Galena Rd

Movement	EB	WB	WB	NW
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	47	163	55	91
Average Queue (ft)	5	54	6	36
95th Queue (ft)	27	128	29	74
Link Distance (ft)	24	558	558	350
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	2			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Crandall Dr & WG/Worthington Galena Rd

Movement	EB	WB	WB	NW
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	35	222	44	130
Average Queue (ft)	3	78	3	42
95th Queue (ft)	18	171	24	96
Link Distance (ft)	24	558	558	350
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Crandall Dr & WG/Worthington Galena Rd

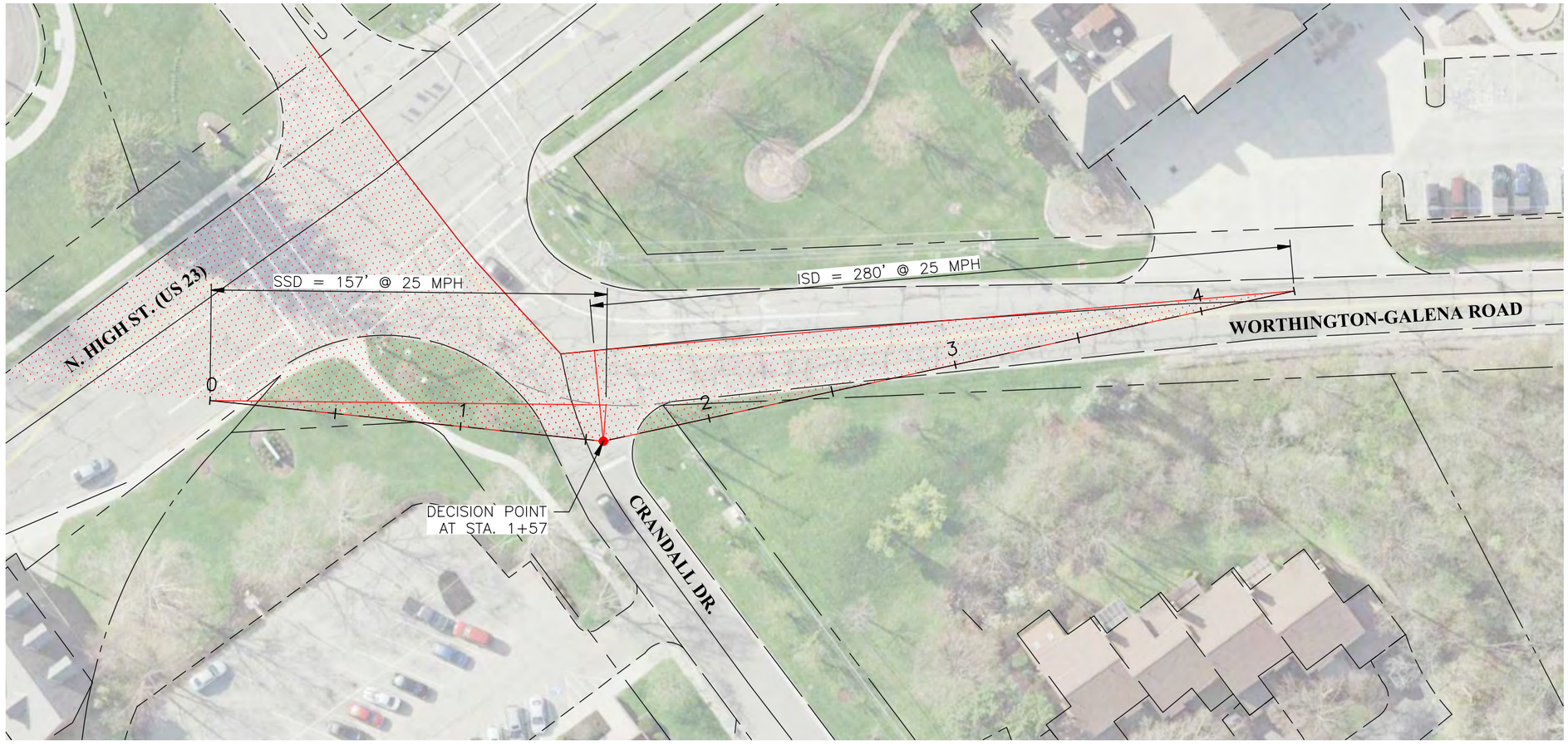
Movement	EB	WB	WB	NW
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	41	191	60	121
Average Queue (ft)	4	83	5	51
95th Queue (ft)	22	165	30	111
Link Distance (ft)	24	558	558	350
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	2			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: N High St & High E

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	60	99	93	126	149	186	202
Average Queue (ft)	21	47	43	51	57	83	91
95th Queue (ft)	50	82	76	112	123	161	167
Link Distance (ft)	557	557		490	490	587	587
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			150				
Storage Blk Time (%)				0			
Queuing Penalty (veh)				0			

Intersection: 10: N High St & High E

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	61	140	124	178	165	171	163
Average Queue (ft)	25	70	43	64	63	69	68
95th Queue (ft)	59	120	89	147	138	144	140
Link Distance (ft)	557	557		490	490	587	587
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			150				
Storage Blk Time (%)				1			
Queuing Penalty (veh)				1			



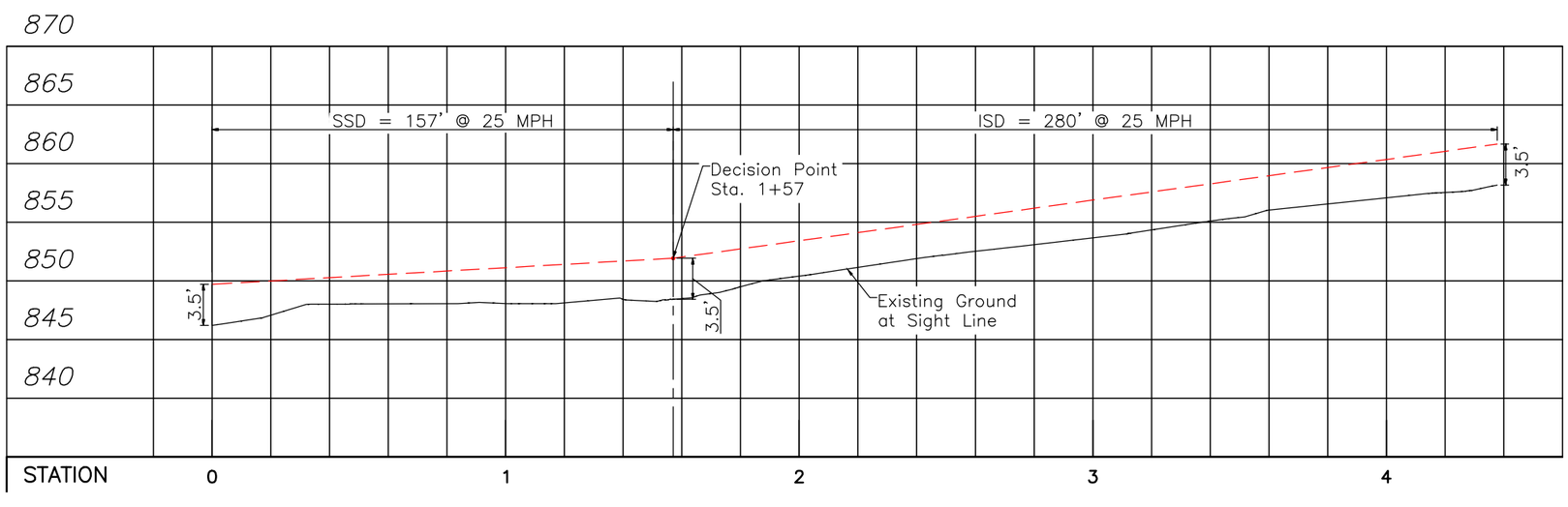
GRAPHIC SCALE

50 0 25 50

1 inch = 50 ft

Scale: Horizontal: 1"=50'
Vertical: 1"=10'

Note: Posted Speed = 25 Mph



Date: January, 2019

ISD Drawing: 1 of 1

Job No: 2018-1457

Worthington, Ohio

CRANDALL DR. AT
WORTHINGTON-GALENA RD.
INTERSECTION SIGHT DISTANCE EXHIBIT

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INTERSECTION SIGHT DISTANCE

201-5E

REFERENCE SECTION
201.3, 201.3.1,
201.3.2 & 201.3.3

(See Following Page for Additional Figures & Notes)

HEIGHT OF EYE 3.50′ HEIGHT OF OBJECT 3.50′

DESIGN SPEED (mph)	Passenger Cars Completing a Left Turn from a Stop (assuming a t_g of 7.5 sec.)		Passenger Cars Completing a Right Turn from a Stop or Crossing Maneuuver (assuming a t_g of 6.5 sec.)	
	ISD (ft.)	K-CREST VERT. CURVE	ISD (ft.)	K-CREST VERT. CURVE
15	170	10	145	8
20	225	18	195	14
25	280	28	240	21
30	335	40	290	30
35	390	54	335	40
40	445	71	385	53
45	500	89	430	66
50	555	110	480	82
55	610	133	530	100
60	665	158	575	118
65	720	185	625	140
70	775	214	670	160

If ISD cannot be provided due to environmental or R/W constraints, then as a minimum, the SSD for vehicles on the major road should be provided.

$$ISD = 1.47 \times V_{major} \times t_g$$

ISD = intersection sight distance (ft.)

V_{major} = design speed of major road (mph)

t_g = time gap for minor road vehicle to enter the major road (sec.)

Using: S = Intersection Sight Distance
L = Length of Crest Vertical Curve
A = Algebraic Difference in Grades (%), Absolute Value
K = Rate of Vertical Curvature

- For a given design speed and an "A" value, the calculated length "L" = K x A

- To determine "S" with a given "L" and "A", use the following:

For S<L: $S = 52.92\sqrt{K}$, where K = L/A

For S>L: S = 1400/A + L/2

201.2.1 Horizontal Sight Distance

The sight distance on horizontal curves may be restricted by obstructions on the inside of a curve, such as bridge piers, buildings, median barriers, guardrail, cut slopes, etc. ***Figure 201-2*** shows the relation of sight distance, horizontal curvature, line of sight, and obstruction offset. In using this figure, the designer should enter the required stopping sight distance from ***Figure 201-1*** and the degree of curvature or radius [curve radius]. Where these two lines intersect, the offset of the obstruction needed to satisfy the sight distance requirements may be read from the curved lines.

Where the horizontal sight distance is restricted by a cut slope in the inside of the curve, the offset shall be measured to a point on the cut slope that is at the same elevation as the roadway. This would allow a line of sight which is 3.5 ft. above the roadway to pass over a cut slope with 2.75 ft. of vegetative growth and view a 2.0 ft. high object on the far side.

When a combination of spirals, tangents and/or curves is present, the horizontal sight distance should be determined graphically.

201.2.2 Vertical Stopping Sight Distance

The sight distance on crest vertical curves is based on a driver's ability to see a 2.0 ft. high object in the roadway without being blocked out by the pavement surface. The height of eye for the driver used in the calculation is 3.5 ft. See ***Figures 203-4 & 203-7***.

The sight distance on sag curves is dependent on the driver's ability to see the pavement surface as illuminated by headlights at night. The height of headlight is assumed to be 2.0 ft., the height of object 0" and the upward divergence angle of the headlight beam is assumed to be 1°00'. See ***Figure 203-6 & 203-7.***

201.3 Intersection Sight Distance (ISD)

Intersections generally have a higher potential for vehicular conflict than a continuous section of roadway due to the occurrence of numerous traffic movements. Providing adequate sight distance at the intersection can greatly reduce the likelihood of these conflicts.

The driver of a vehicle approaching an intersection should have an unobstructed view of the entire intersection and sufficient lengths along the intersecting highway to permit the driver to anticipate and avoid potential collisions. When entering or crossing a highway, motorists should be able to observe the traffic at a distance that will allow them to safely make the desired movement.

The methods for determining sight distance needed by drivers approaching an intersection are based on the same principles as stopping sight distance, but incorporate modified assumptions based on observed driver behavior at intersections.

To enhance traffic operations, intersection sight distance should be provided at all intersections. If intersections sight distance cannot be provided due to environmental or right-of-way constraints, then as a minimum, the stopping sight distance for vehicles on the major road should be provided. By providing only stopping sight distance, this will require the major-road vehicle to stop or slow down to accommodate the maneuver of the minor-road vehicle. If the intersection sight distance cannot be attained, additional safety measures should be provided. These may include, but are not limited to, advance warning signs and flashers and/or reduced speed limit zones in the vicinity of the intersection.

STOPPING SIGHT DISTANCE

201-1E

REFERENCE SECTION
201.2 & 201.2.1

HEIGHT OF EYE 3.50'

HEIGHT OF OBJECT 2.00'

$SSD = 1.47Vt + 1.075V^2 \div a$

SSD = stopping sight distance, ft;
t = brake reaction time, 2.5s;
V = design speed, mph;
a = deceleration rate, $11.2 ft/s^2$

DESIGN SPEED (mph)	DESIGN SSD (feet)	DESIGN SPEED (mph)	DESIGN SSD (feet)
20	115	48	400
21	120	49	415
22	130	50	425
23	140	51	440
24	145	52	455
25	155	53	465
26	165	54	480
27	170	55	495
28	180	56	510
29	190	57	525
30	200	58	540
31	210	59	555
32	220	60	570
33	230	61	585
34	240	62	600
35	250	63	615
36	260	64	630
37	270	65	645
38	280	66	665
39	290	67	680
40	305	68	695
41	315	69	715
42	325	70	730
43	340	71	745
44	350	72	765
45	360	73	780
46	375	74	800
47	385	75	820

SECTION 2- PLAN DOCUMENTS

LC WORTHINGTON• PUD • ARB SUBMITTAL

OCTOBER 2, 2020

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON

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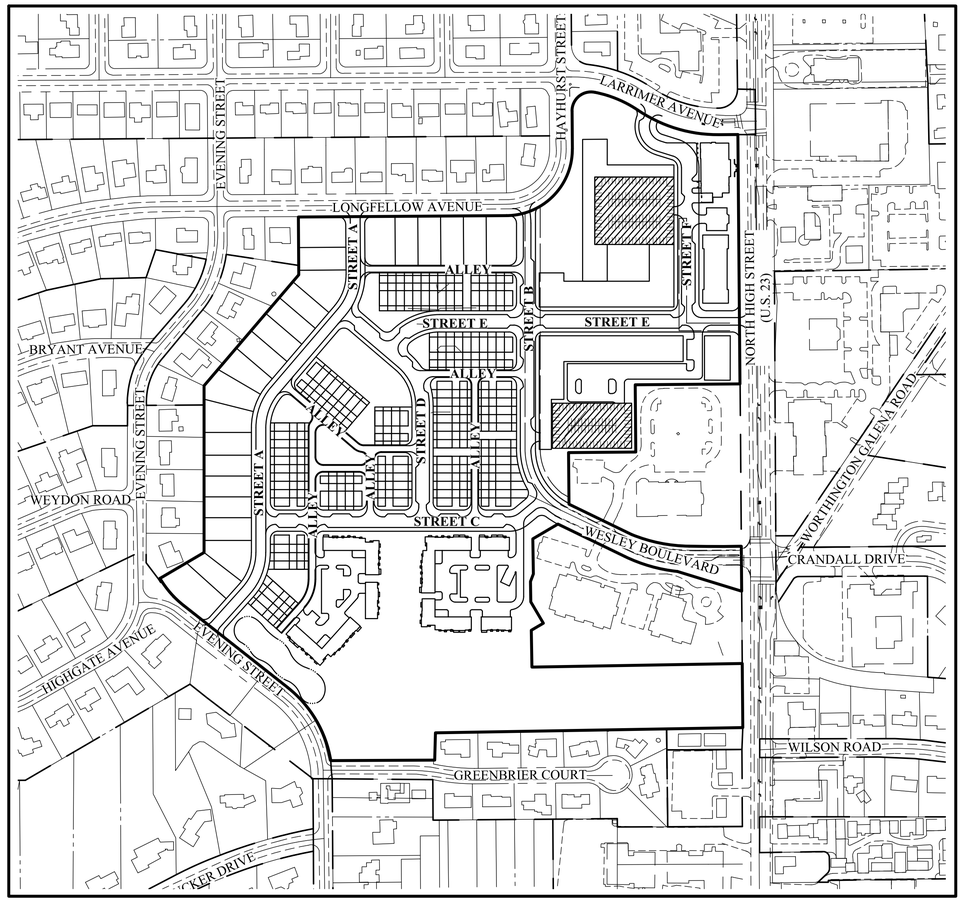
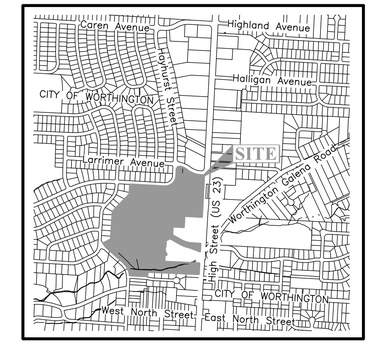


INDEX MAP
Scale: 1" = 200'



LOCATION MAP
Not to Scale

SURVEYOR
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Email: emiller@emht.com

ENGINEER
EMHT Inc.
Kyle J. Shreves, PE
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Tel: 614–775–4500
Email: kshreves@emht.com

DEVELOPER
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230 West Street, Suite 200
Columbus, Ohio 43215
Tel: (614) 882–2500
Fax: (614) 890–2511

OWNERS
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Children Home West Ohio

LC Larrimer LLC.
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Columbus, Ohio 43215

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LEGAL COUNCIL
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Thomas L. Hart
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Columbus, Ohio 43215
Tel: 614–340–7415
Email: thart@isaacwiles.com

GRAPHIC SCALE
0 100 200 400
1 inch = 200 feet

PREPARED BY:

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Registered Engineer No. _____ Date _____

MARK	DATE	DESCRIPTION

REVISIONS

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
TITLE SHEET

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SCALE
1" = 200'

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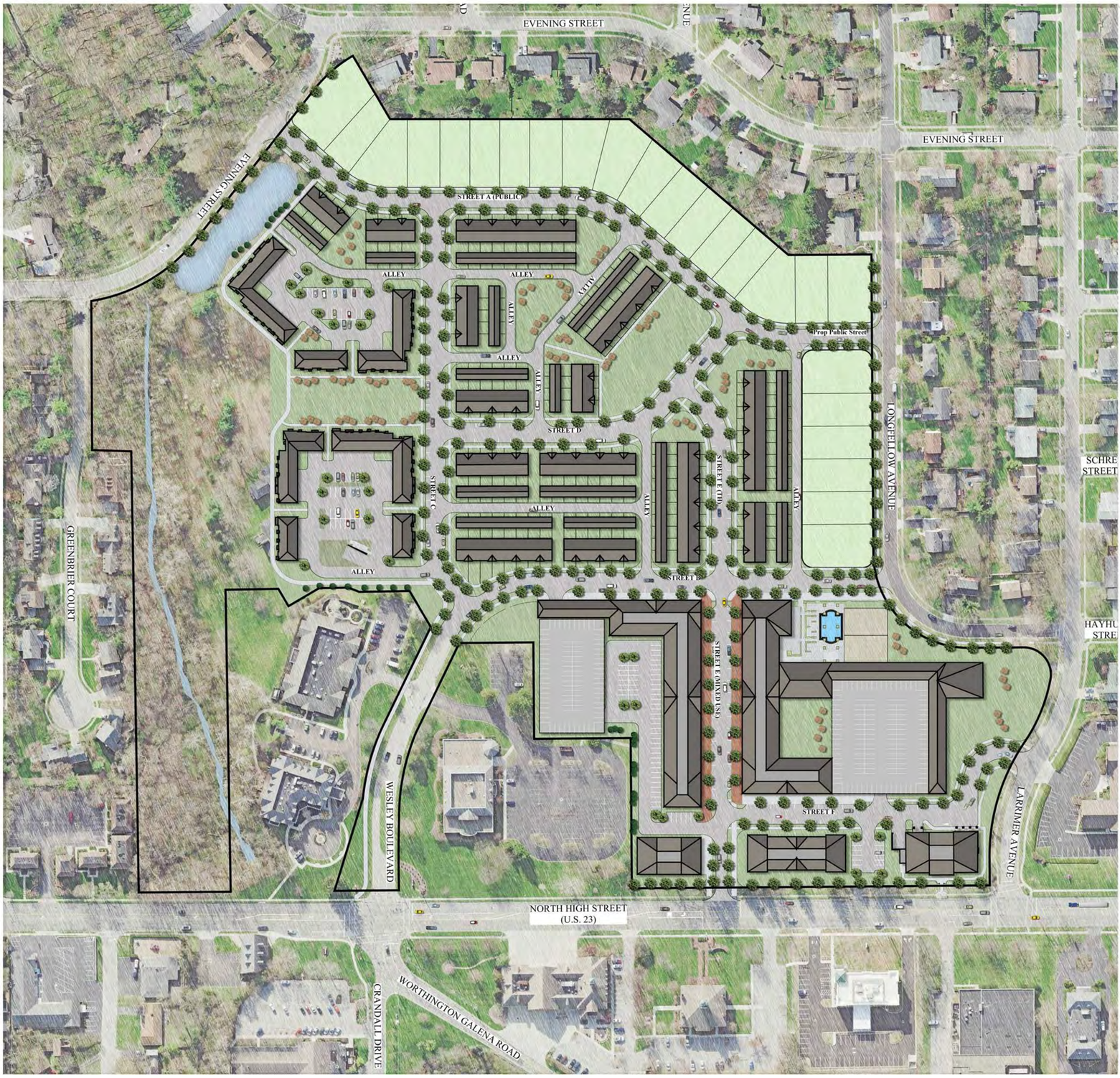

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

SHEET	JOB NO.	SCALE	DATE
2/22	2018-00036	1" = 100'	OCTOBER 2, 2020

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CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
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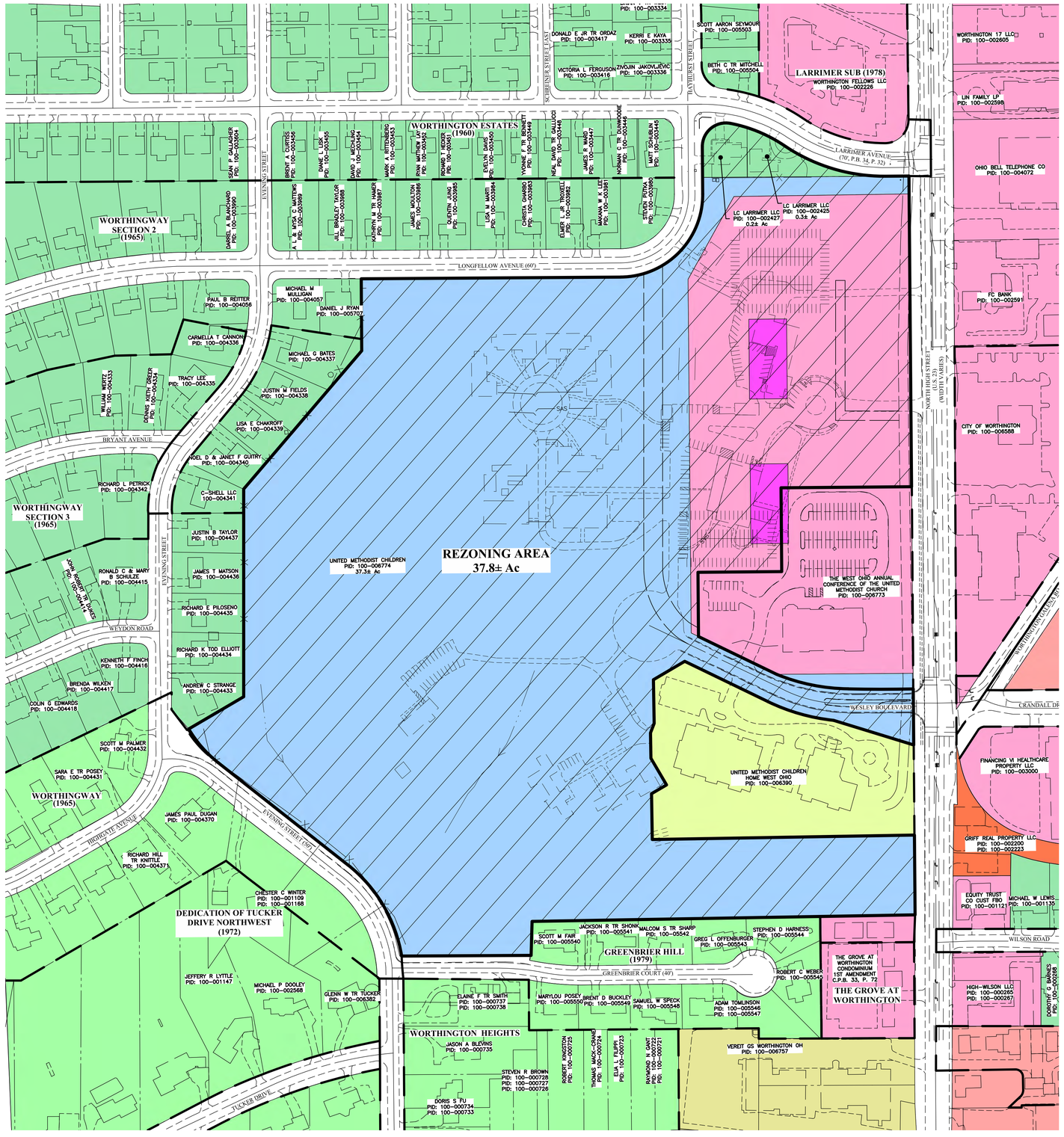
WORTHINGTON
ILLUSTRATIVE SITE PLAN

LIFESTYLE COMMUNITIES

REVISIONS

MARK	DATE	DESCRIPTION



KEY

SYMBOL	ZONING
	S-1 Special
	R-16 Very Low Density Residential
	R-10 Low Density Residential
	AR-4.5 Low Density Apartment Residences
	SC Senior Citizen
	C1 Neighborhood Commercial
	C2 Community Shopping Center
	C3 Institutions and Offices
	PUD Planned Use District
	Rezoning Area

GRAPHIC SCALE

0 60 120 240

1 inch = 120 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON
WORTHINGTON
ADJACENT AREA & EXISTING ZONING PLAN

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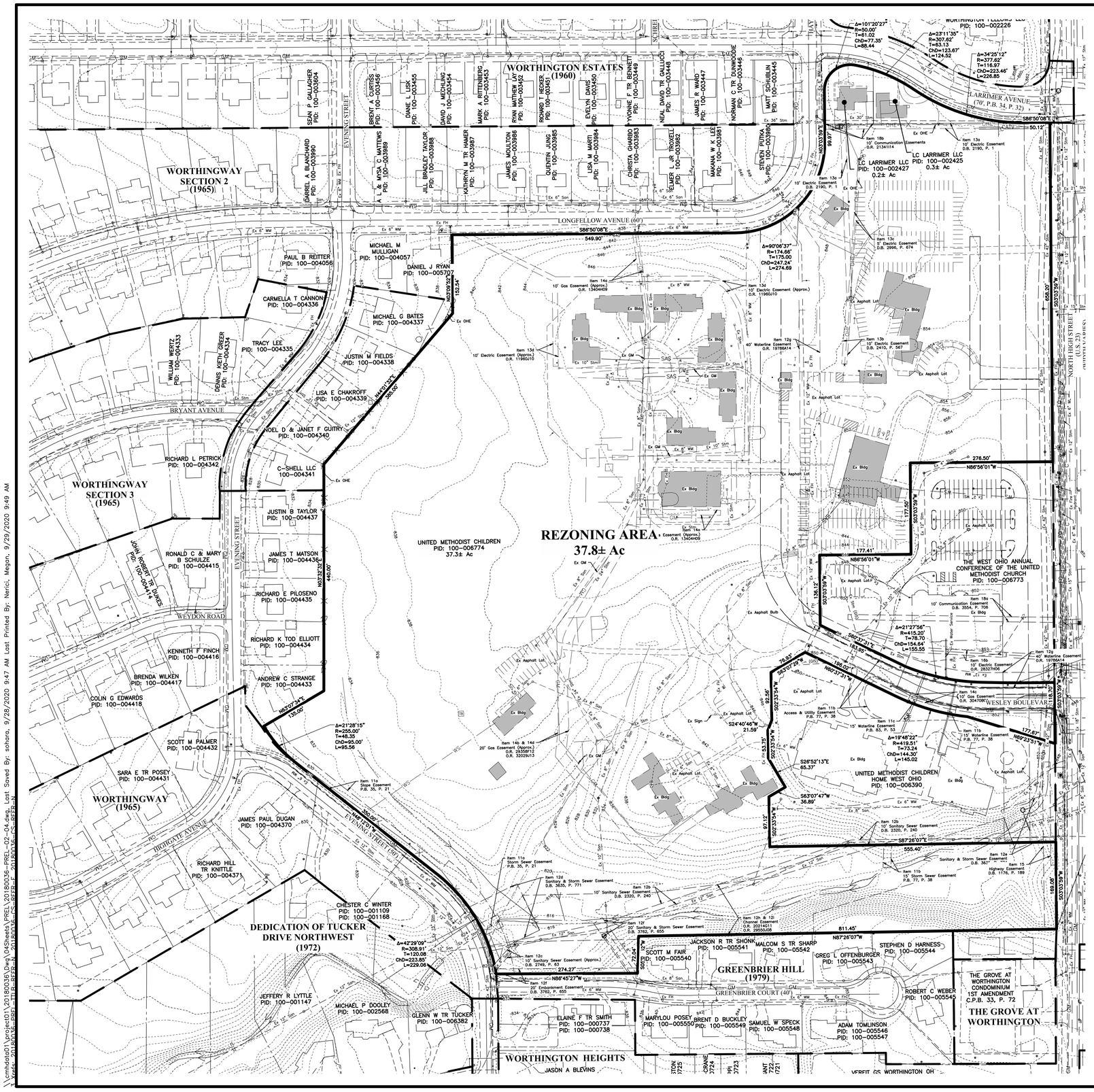

Schedule B Items from Title Commitment No. 2015023868 issued by Chicago Title Insurance Company with an effective date of February 24, 2015 at 7:00 A.M.

Items 1–10 NOT SURVEY RELATED ITEMS.

Item 11 Easements as per recorded plats of record in the Recorder's Office, Franklin County, Ohio, as follows:

a. Plat Book 35, page 21. SUBJECT TRACT IS LOCATED IN THE PLATTED AREA; EASEMENTS ARE SHOWN HEREON.
b. Plat Book 77, page 38. SUBJECT TRACT IS LOCATED IN THE PLATTED AREA; EASEMENTS ARE SHOWN HEREON.
c. Plat Book 83, page 53. SUBJECT TRACT IS LOCATED IN THE PLATTED AREA; EASEMENTS ARE SHOWN HEREON.

Item 12 Easements to the City of Worthington of record in the Recorder's Office, Franklin County, Ohio, as follows:

a. Deed Book 2320, page 238. EASEMENT IS NOT LOCATED ON THE SUBJECT TRACT.
b. Deed Book 2320, page 240. 10' SANITARY SEWER IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
c. Deed Book 2749, page 63. 10' SANITARY SEWER IS LOCATED ON THE SUBJECT TRACT AS APPROXIMATELY SHOWN HEREON.
d. Deed Book 3635, page 771. SANITARY & STORM SEWER EASEMENT IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
e. Deed Book 3635, page 774. SANITARY & STORM SEWER EASEMENT IS PARTIALLY LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
f. Deed Book 3762, page 655. EASEMENTS ARE LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
g. Official Record Volume 19786, page A14. 40' WATERLINE EASEMENT IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
h. Official Record Volume 20214, page G11. CHANNEL EASEMENT IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
i. Official Record Volume 29550, page J08. CHANNEL EASEMENT IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.

Item 13 Easements to Columbus & Southern Power Co. of record in the Recorder's Office, Franklin County, Ohio, as follows:

a. Deed Book 2190, page 1. 10' ELECTRIC EASEMENT IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
b. Deed Book 2410, page 567. 10' ELECTRIC EASEMENT IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
c. Deed Book 2996, page 674. 5' ELECTRIC EASEMENT IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.
d. Official Record Volume 11960, page J10. 10' ELECTRIC EASEMENT IS LOCATED ON THE SUBJECT TRACT AS APPROXIMATELY SHOWN HEREON.
e. Official Record Volume 30567, page I12. 10' ELECTRIC EASEMENT IS NOT LOCATED ON THE SUBJECT TRACT.

Item 14 Easements to Columbia Gas of Ohio, Inc. of record in the Recorder's Office, Franklin County, Ohio, as follows:

a. Official Record Volume 13404, page H09. 10' GAS LINE EASEMENT IS LOCATED ON THE SUBJECT TRACT AS APPROXIMATELY SHOWN HEREON.
b. Official Record Volume 29358, page F12. 20' GAS LINE EASEMENT IS LOCATED ON THE SUBJECT TRACT AS APPROXIMATELY SHOWN HEREON.
c. Official Record Volume 30470, page B01. 10' GAS LINE EASEMENT IS LOCATED ON THE SUBJECT AS APPROXIMATELY SHOWN HEREON.
d. Official Record Volume 32029, page J13. 20' GAS LINE EASEMENT IS LOCATED ON THE SUBJECT TRACT AS APPROXIMATELY SHOWN HEREON.

Item 15 Easement to the State of Ohio of record in Deed Book 1176, page 189, Recorder's Office, Franklin County, Ohio. HIGHWAY EASEMENT IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.

Item 16 Easements to the Columbus & Southern Ohio Electric Company of record in the Recorder's Office, Franklin County, Ohio as follows:

a. Deed Book 2042, page 57. 5' ELECTRIC EASEMENT IS NOT LOCATED ON THE SUBJECT TRACT.
b. Official Record Volume 28327, page H06. 10' ELECTRIC EASEMENT IS LOCATED ON THE SUBJECT TRACT AS APPROXIMATELY SHOWN HEREON.

Item 17 Easement to the Marion Reserve Power Company of record in Deed Book 1299, page 83, Recorder's Office, Franklin County, Ohio. ELECTRIC EASEMENT CANNOT BE LOCATED FROM DOCUMENT OF RECORD.

Item 18 Easements to Ohio Bell Telephone Company of record in the Recorder's Office, Franklin County, Ohio as follows:

a. Deed Book 3554, page 706. 10' COMMUNICATION EASEMENT IS LOCATED ON THE SUBJECT TRACT AS APPROXIMATELY SHOWN HEREON.
b. Official Record Volume 21341, page I14. 10' COMMUNICATION EASEMENTS ARE LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.

Item 19 Restrictions of record in Deed Book 1116, Page 31, Recorder's Office, Franklin County, Ohio. SUBJECT TRACT IS LOCATED IN THE DESCRIBED AREA.

Item 20 Limitation of direct access to North High Street of Record in Plat Book 77, Page 38 and Plat Book 83, Page 53, Recorder's Office, Franklin County, Ohio. NO VEHICULAR ACCESS AREA IS LOCATED ON THE SUBJECT TRACT AS SHOWN HEREON.

Items 21–23 NOT SURVEY RELATED ITEMS.

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

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EXISTING CONDITIONS PLAN

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SCALE
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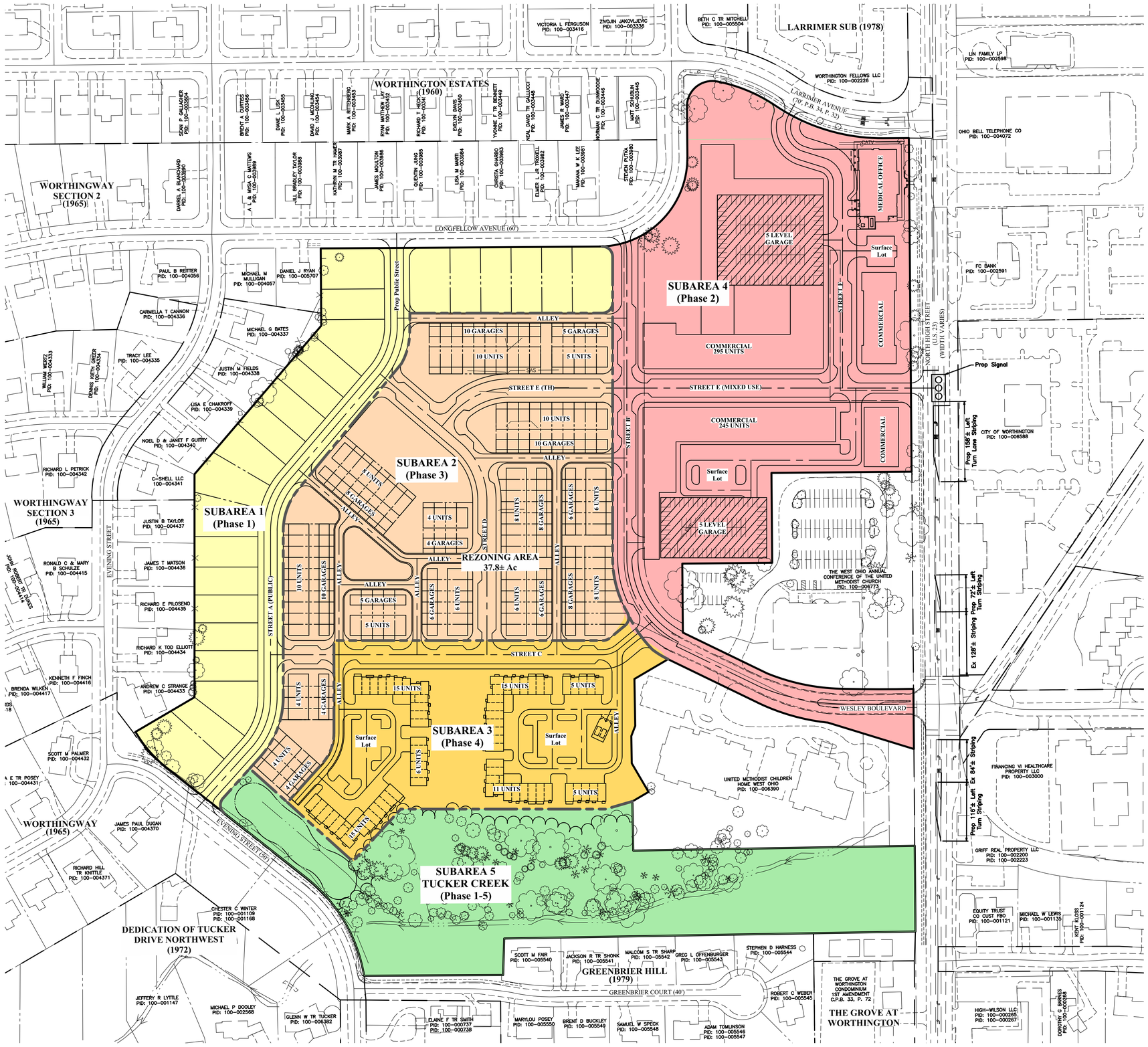

SUBAREA		USE	LOTS/UNIT/ SQUARE FOOTAGE	ACRES	DENSITY
	Subarea 1 Worthington Estates Edge	Single Family Detached	24 Units	5.9± Ac	4.1 Lots/Ac
	Subarea 2 Neighborhood Core	Single Family Attached	94 Units	9.0± Ac	10.4 DU/Ac
	Subarea 3 Neighborhood Core	Multi-Family	72 Units	5.1± Ac	14.1 DU/Ac
	Subarea 4 High Street Mixed Use	Multifamily Commercial Medical Office	540 Units 60,000 SF 25,000 SF	11.4± Ac	47.4 DU/Ac
	Subarea 5 Tucker Creek Preserve	Tucker Creek	–	6.4± Ac	–
TOTAL		–	730 DU	37.8± Ac	19.3 DU/Ac

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

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SUBAREA PLAN

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SCALE
1" = 100'

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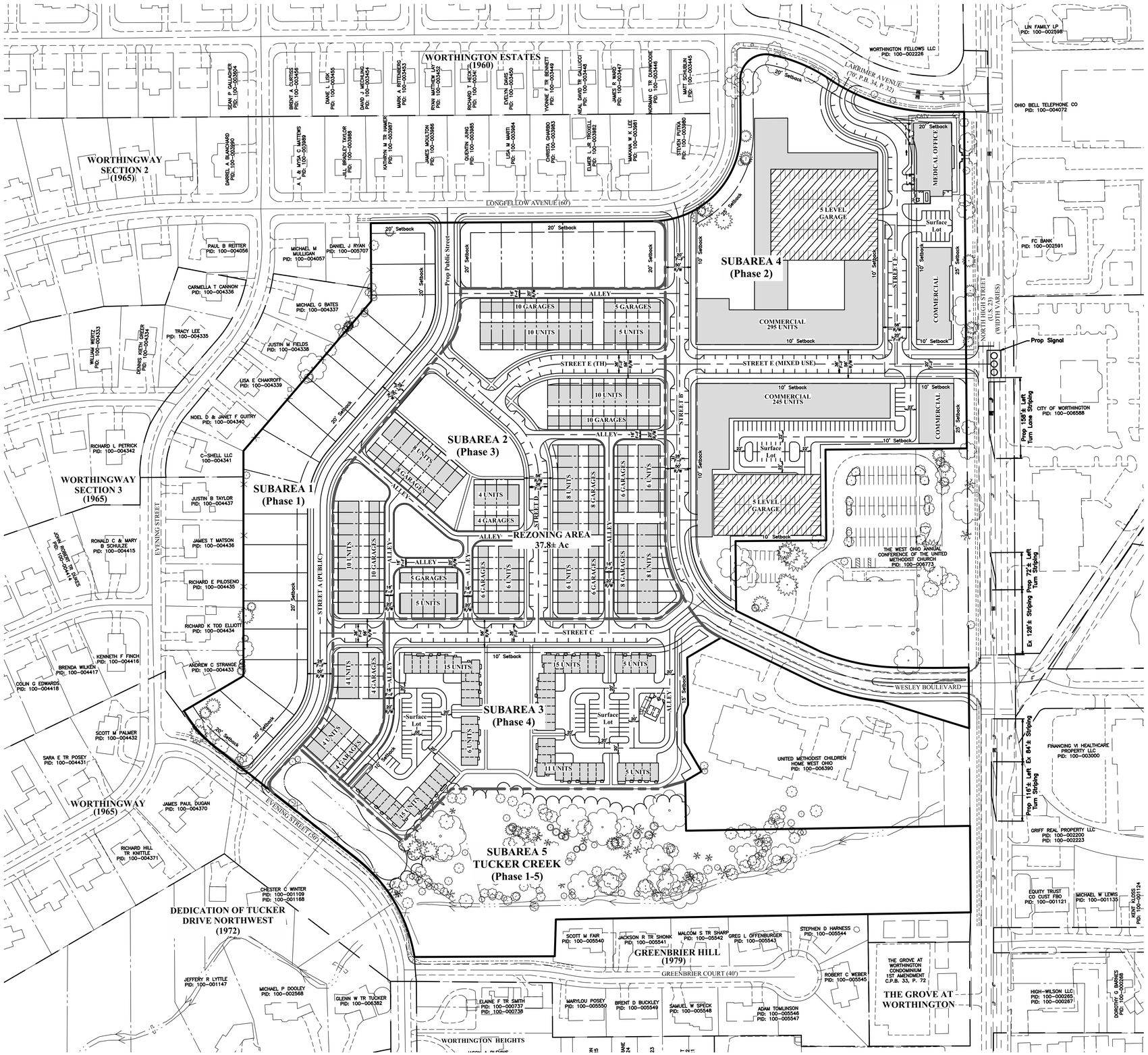

SITE DATA

Total Site Acreage	37.8± Ac
Public ROW (Street A)	1.4± Ac
Net Development Area	36.4± Ac
Open Space	10.1 Ac/26.7%
Total Lot/ Tract Coverage(Building)	9.0 Ac/23.8%
Residential Units	725
Commercial SF	60,000 SF
Medical Office SF	25,000 SF
Gross Residential Density	19.2±

SUBAREA 1 – SINGLE FAMILY

Lot Width	55'(Min)
Lot Depth	125'(Min)
Overall SF	6,875(Min)
Front Setback	20'
Rear Setback	25'
Side Yard Setback	5' per side/10' Total

SUBAREA 2 – TOWNHOMES

Lot Width	Varies
Lot Depth	92'(Min)
Front Setback	10'
Rear Setback	5'
Side Yard Setback	0'/10'(End Unit)

SUBAREA 3

Private Street Setback	10'
East Property Line Setback	15'(Bldg & Pvmt)
Alley Setback	10'
Tucker Creek Setback	0'
Building Separation	16'(Min)

SUBAREA 4

Private Street Bldg Setback	10'
High Street Setback	25'(Bldg & Pvmt)
Larrimer Street Setback	20'(Bldg & Pvmt)
Longfellow Avenue Setback	25'(Bldg & Pvmt)
South Property Line Setback	10'(Bldg & Pvmt)

HIGH STREET TRAFFIC RECOMMENDATIONS

Notes:

1. Operate the High Street / East Access signal semi-actuated with fire preemption and remove the existing fire signal currently in place to control southbound traffic.
2. Modify signs, pavement marking and signal operation to permit full movements eastbound and westbound (left turn, right turn and through) at the High Street/ Worthington Galena Road intersection.

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
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WORTHINGTON
SITE PLAN

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DATE
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SCALE
1" = 100'

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2018-0036

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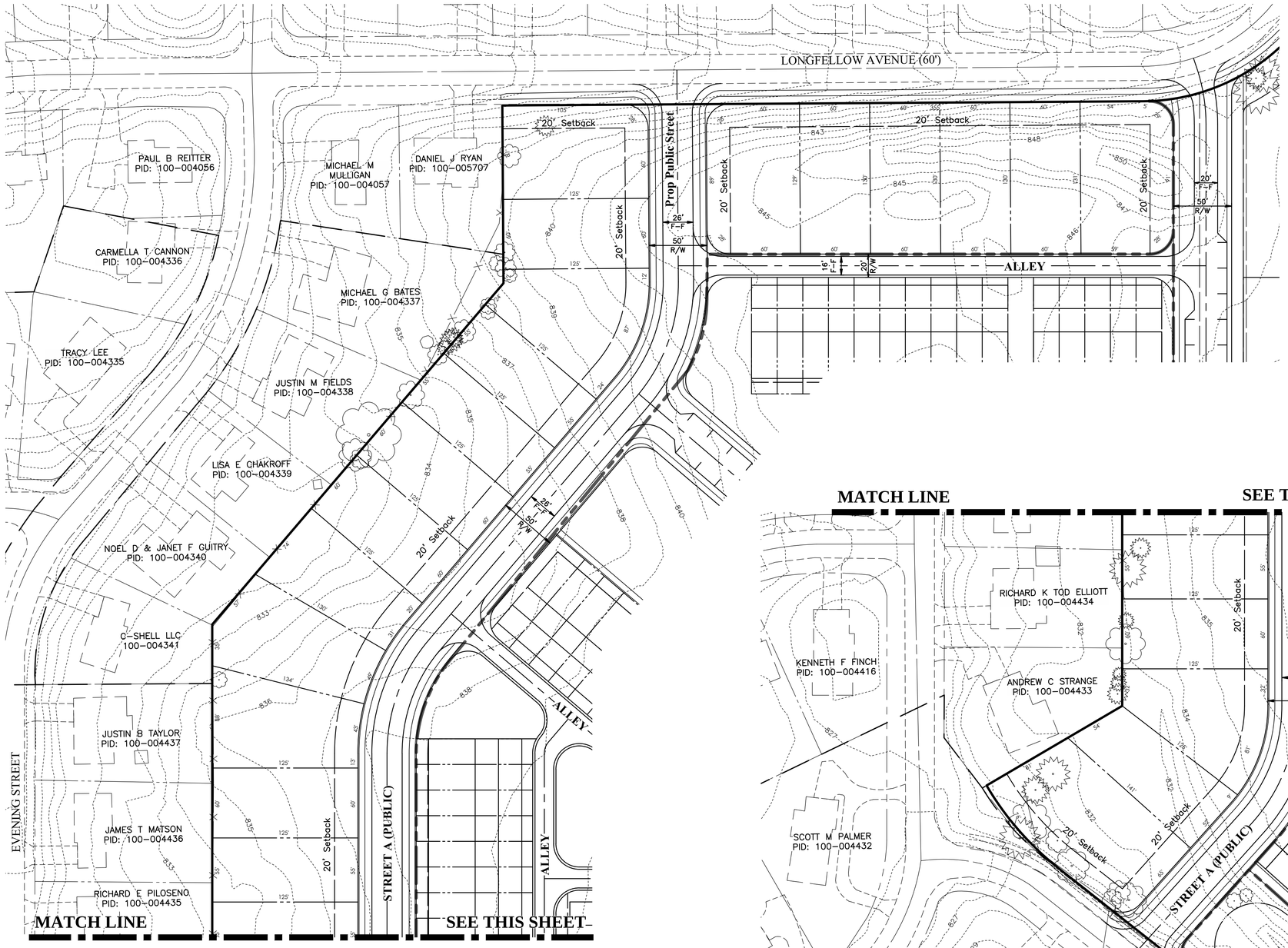
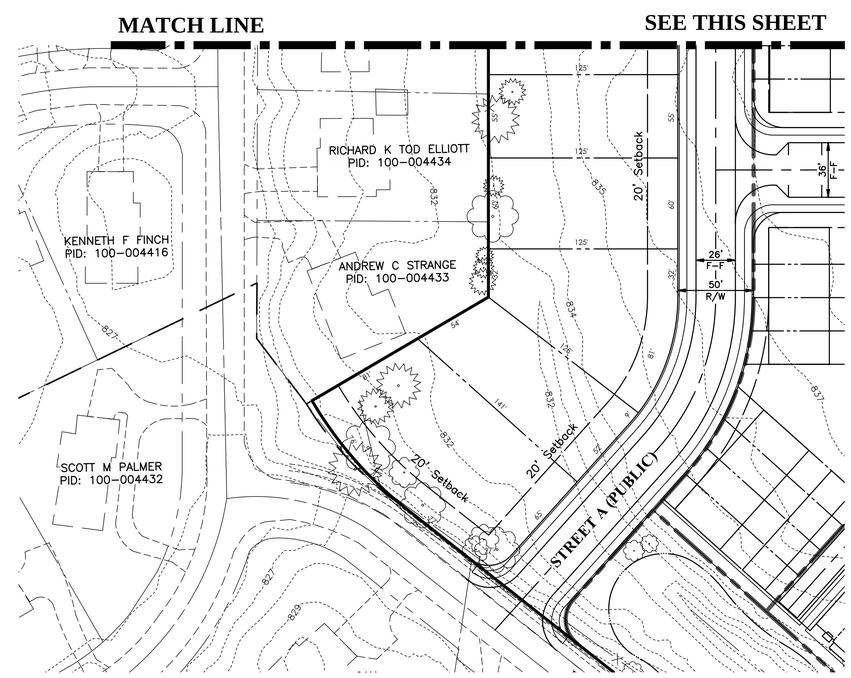


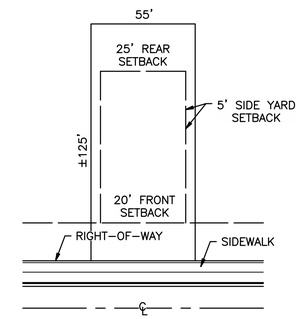


SITE DATA

Total Site Acreage	37.8± Ac
Public ROW (Street A)	1.4± Ac
Net Development Area	36.4± Ac
Open Space	10.1 Ac/26.7%
Total Lot/ Tract Coverage(Building)	9.0 Ac/23.8%
Residential Units	725
Commercial SF	60,000 SF
Medical Office SF	25,000 SF
Gross Residential Density	19.2±

SUBAREA 1 – SINGLE FAMILY

Lot Width	55'(Min)
Lot Depth	125'(Min)
Overall SF	6,875(Min)
Front Setback	20'
Rear Setback	25'
Side Yard Setback	5' per side/10' Total



TYPICAL LOT
SUBAREA 1

GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
SUBAREA 1 ENLARGEMENT

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" = 50'

JOB NO.
2018-0036

SHEET
6A/22

\\cmhdata01\project01\20180036\Dwg\04Sheets\PREL\7 Subarea 1 Enlargement.dwg, Last Saved By: sahara, 9/29/2020 9:03 AM Last Printed By: Nerici, Megan, 9/29/2020 9:55 AM
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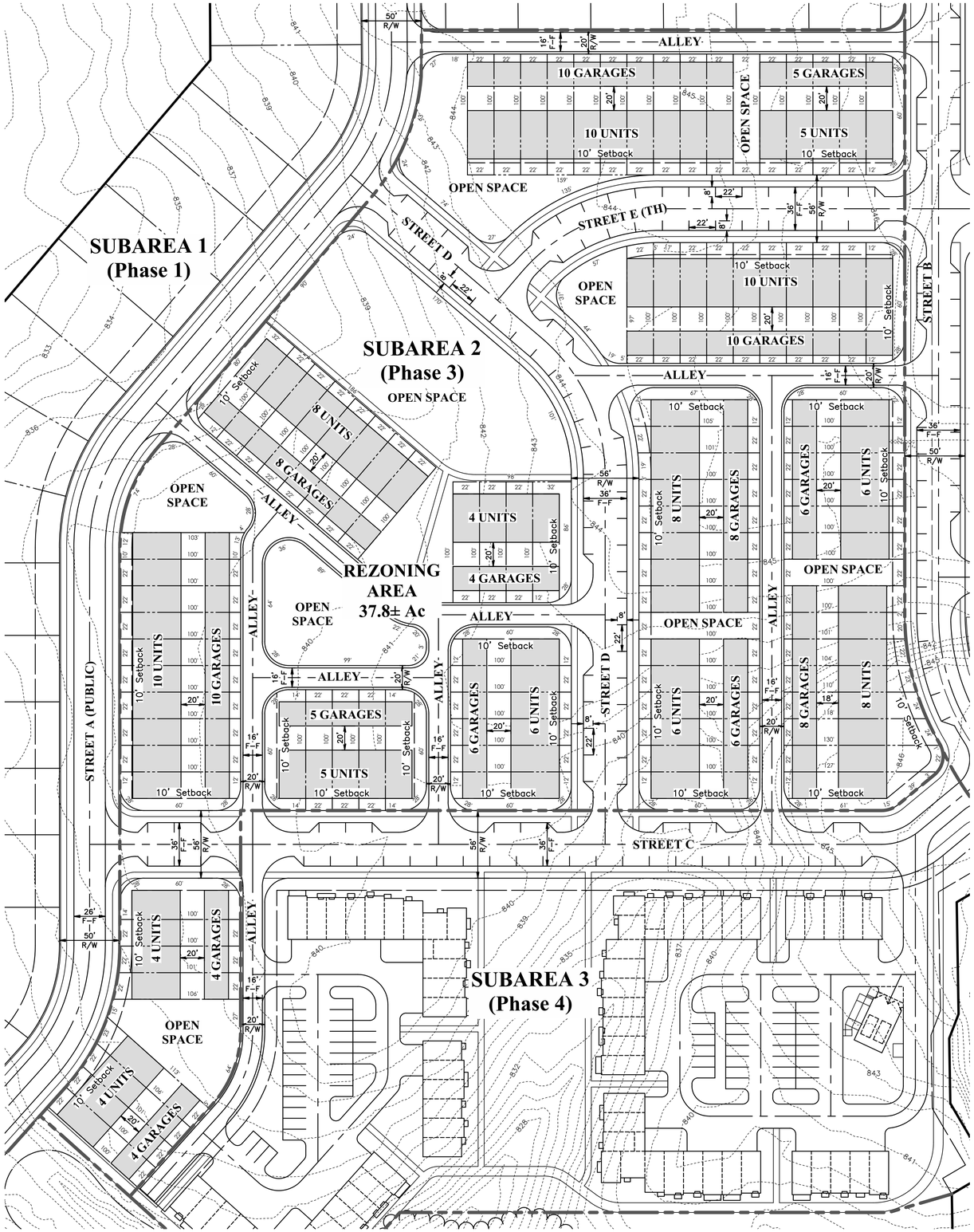
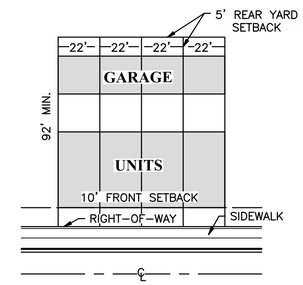


SITE DATA

Total Site Acreage	37.8± Ac
Public ROW (Street A)	1.4± Ac
Net Development Area	36.4± Ac
Open Space	10.1 Ac/26.7%
Total Lot/ Tract Coverage(Building)	9.0 Ac/23.8%
Residential Units	725
Commercial SF	60,000 SF
Medical Office SF	25,000 SF
Gross Residential Density	19.2±

SUBAREA 2 – TOWNHOMES

Lot Width	Varies
Lot Depth	92'(Min)
Front Setback	10'
Rear Setback	5'
Side Yard Setback	0'/10'(End Unit)



TYPICAL LOT
SUBAREA 2

GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

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SCALE
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JOB NO.
2018-0036

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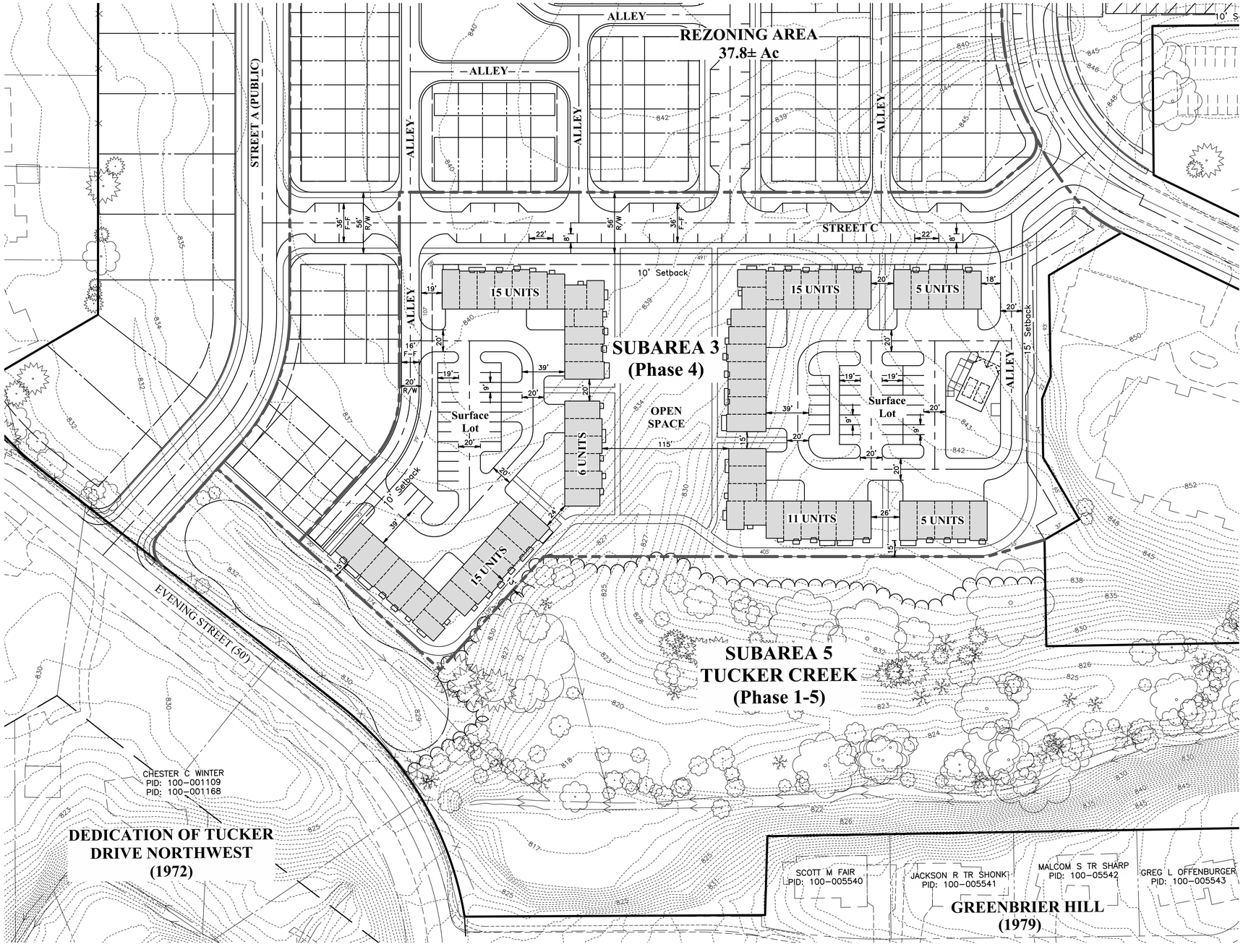

SITE DATA

Total Site Acreage	37.8± Ac
Public ROW (Street A)	1.4± Ac
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Open Space	10.1 Ac/26.7%
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Residential Units	725
Commercial SF	60,000 SF
Medical Office SF	25,000 SF
Gross Residential Density	19.2±

SUBAREA 3

Private Street Setback	10'
East Property Line Setback	15'(Bldg & Pvmt)
Alley Setback	10'
Tucker Creek Setback	0'
Building Separation	16'(Min)

GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
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WORTHINGTON
SUBAREA 3 ENLARGEMENT

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SCALE
1" = 50'

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2018-0036

SHEET
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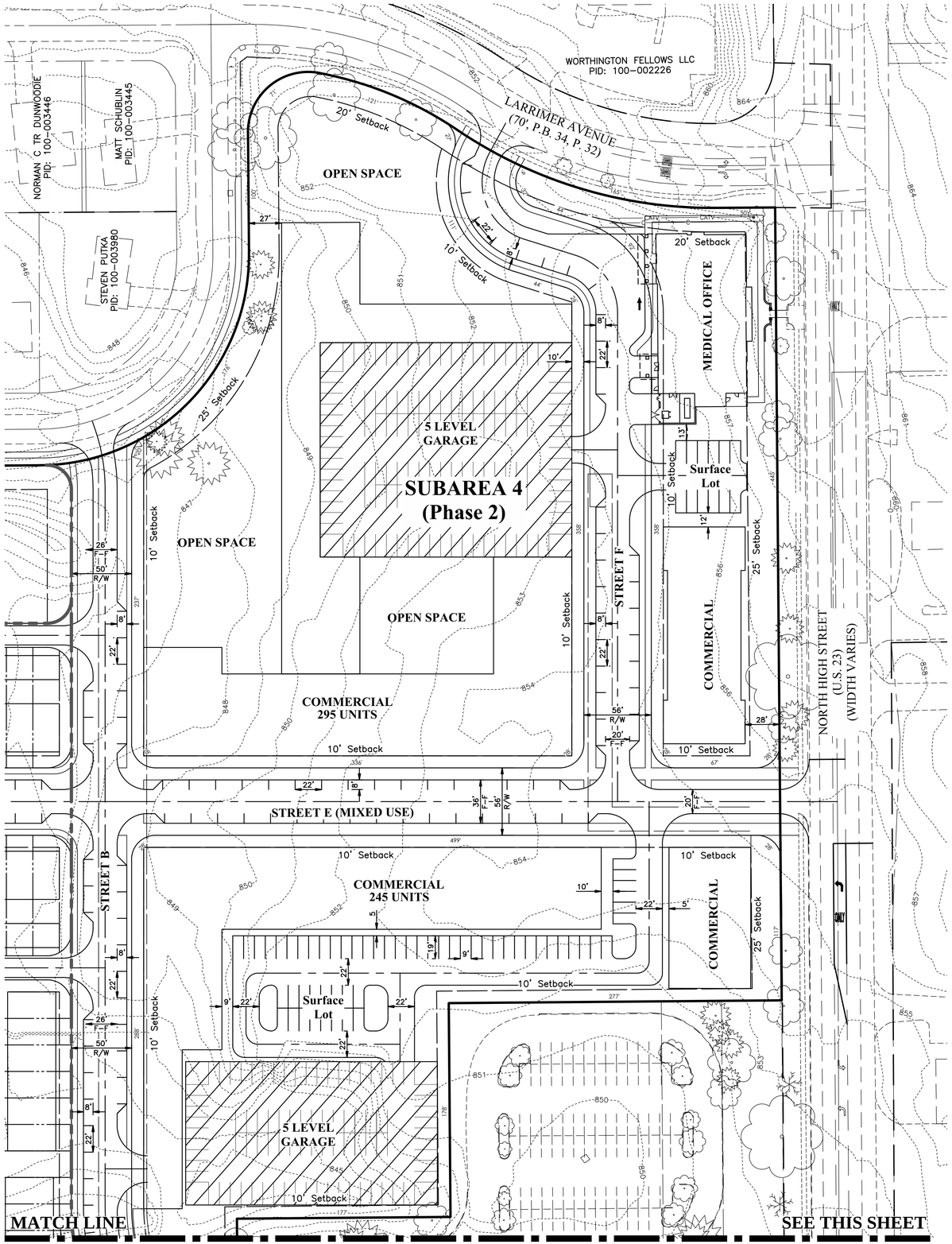

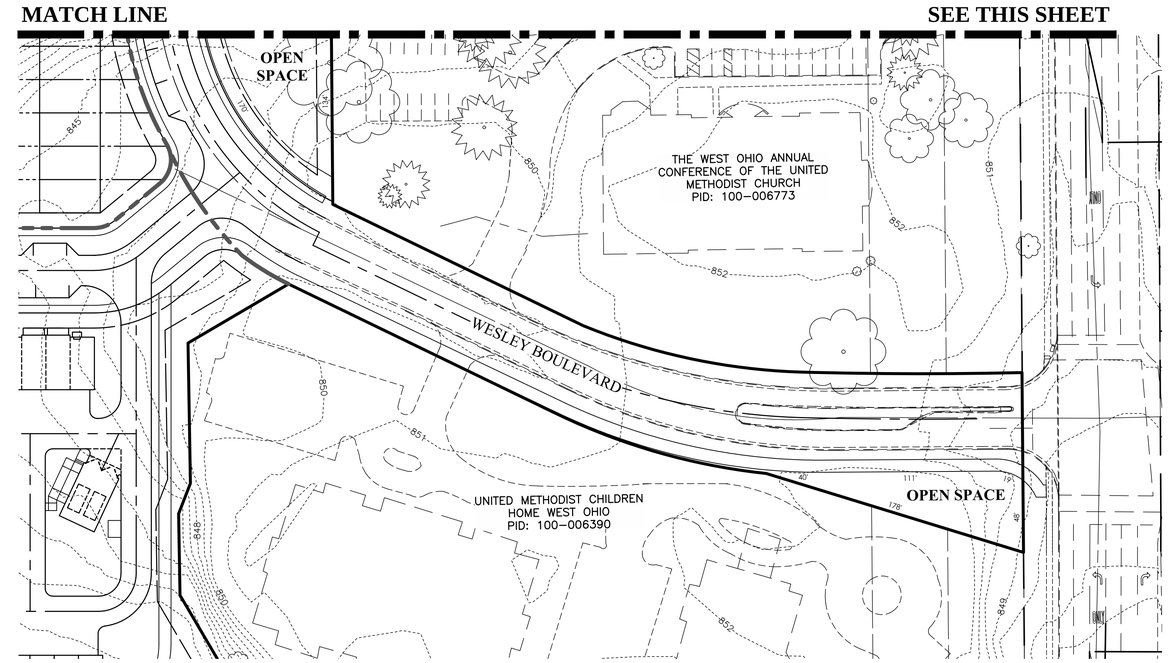

SITE DATA

Total Site Acreage	37.8± Ac
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Open Space	10.1 Ac/26.7%
Total Lot/ Tract Coverage(Building)	9.0 Ac/23.8%
Residential Units	725
Commercial SF	60,000 SF
Medical Office SF	25,000 SF
Gross Residential Density	19.2±

SUBAREA 4

Private Street Bldg Setback	10'
High Street Setback	25'(Bldg & Pvmt)
Larrimer Street Setback	20'(Bldg & Pvmt)
Longfellow Avenue Setback	25'(Bldg & Pvmt)
South Property Line Setback	10'(Bldg & Pvmt)

GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

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WORTHINGTON
SUBAREA 4 ENLARGEMENT

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SCALE
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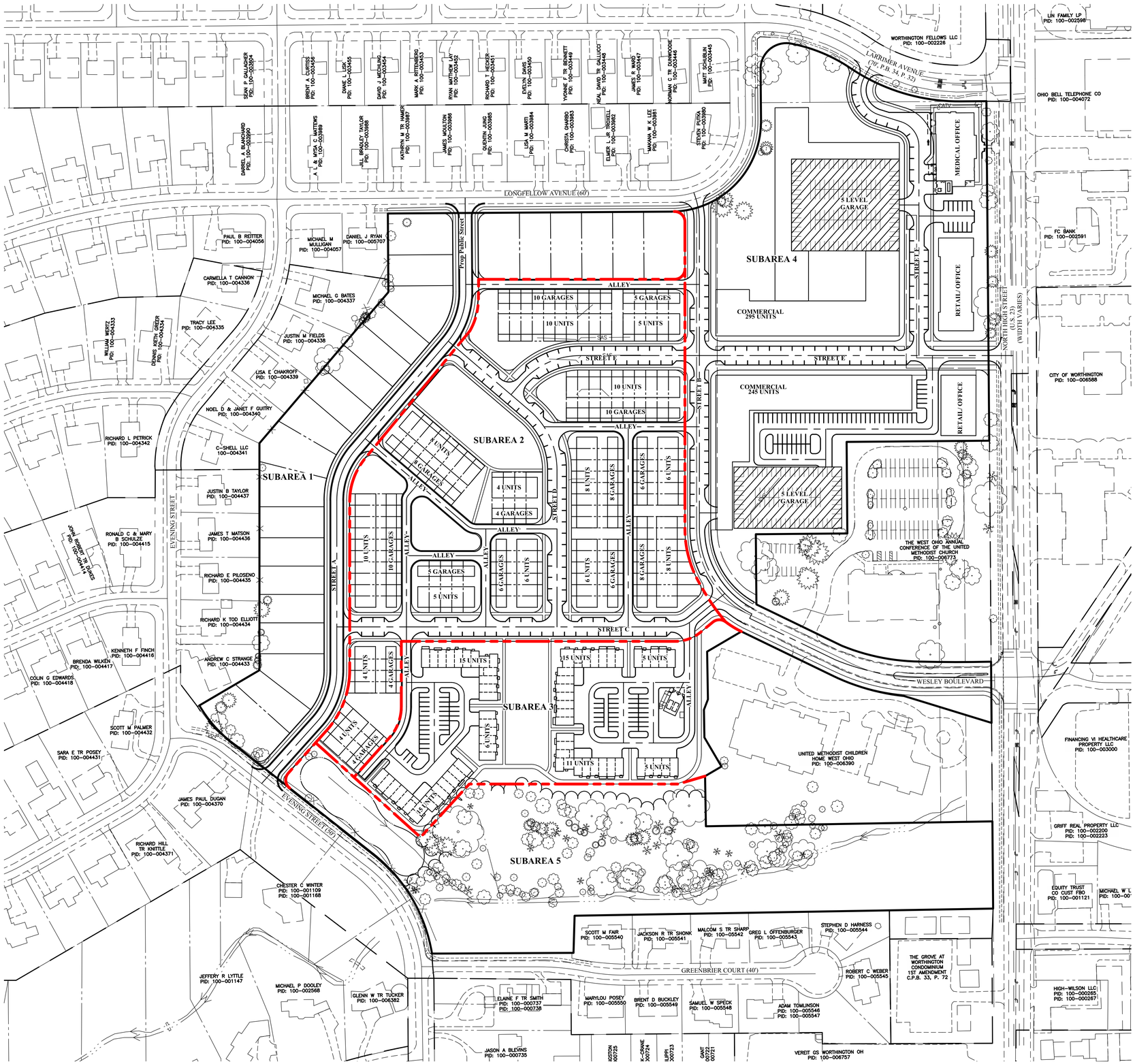

PRELIMINARY SITE PARKING DATA

SUBAREA	LOTS/UNIT/SF	PARKING REQ'D	MINIMUM PARKING PROVIDED		
			SURFACE PARKING	GARAGE/ STRUCTURE	TOTAL
Subarea 1	24	2/Unit = 48	Parking Driveway	48	48
Subarea 2	94	1.5/Unit = 141	See Note 1	188 (2-car)	188
Subarea 3	72	1.5/Unit = 108	100 (Lot) (See Note 4)	52	152
Subarea 4	540 Units 60,000 SF 25,000 SF	1/Unit = 540 Commercial (1/150 sf) = 400 Medical Office (1/250 sf) = 100 Total = 1,040	66 (Lot) 85 (On-Street)	853 (5 Level Garage)	1,004
Subarea 5	N/A	N/A	N/A	N/A	N/A
TOTAL	730	1,337	251	1,141	1392

Notes:
1. On-Street Parking located within Subarea 2 shall be for the use of all subareas.
2. Parking counts within subareas to be finalized w/final development plan.
3. ADA accessible spaces will be provided per City Code at time of Final Development Plan.
4. Includes one space behind garage.
5. Within Subarea 2, 3 & 4, Alleys "No Parking" signs shall be posted in accordance with City standards.

Surface Parking Subarea Line

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON WORTHINGTON PARKING PLAN

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SCALE
1" = 100'

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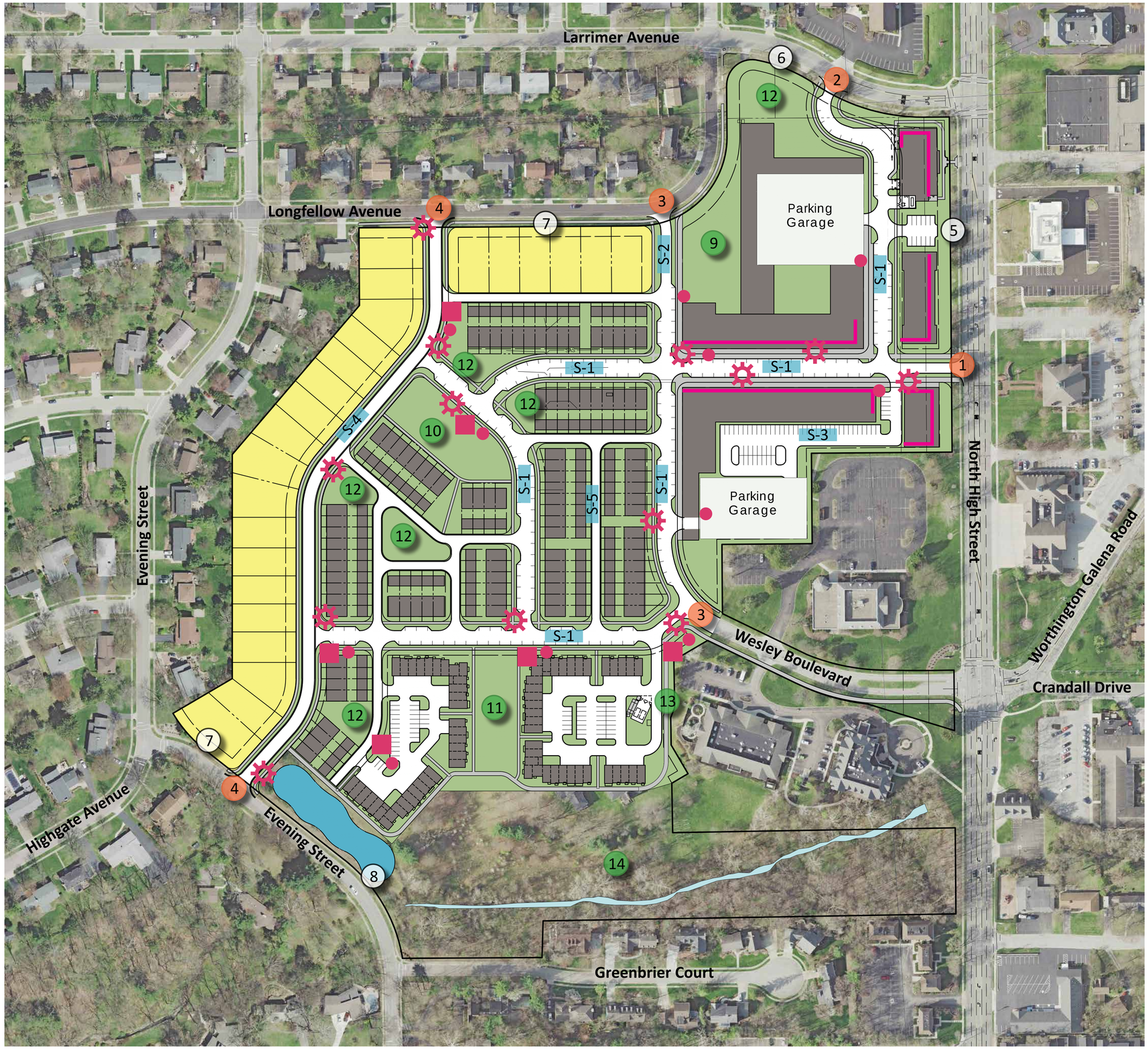

Community Character

1 - 4 : Neighborhood Identity

1. High Street Entry Features
2. Commercial Entrance
3. Multi-Family Entrance / Entry Feature
4. Single Family Entrance / Entry Feature

5 - 8 : Streetscape (External)

5. High Street- Existing Commercial / Proposed Mixed Use
6. Larrimer Avenue- Existing Commercial/ Proposed Mixed Use
7. Longfellow Avenue- Existing Single Family / Proposed Single Family
8. Evening Street- Stormwater Pond/ Wooded/ Existing Single Family

9 - 11 : Open Space Amenities- Active

9. Pool, Volleyball, Goat, Community Space
10. Open Recreation- Seating Areas, Large Lawn for Informal Activity (Frisbee, Soccer, Football)
11. Open Recreation- Large Lawn for Informal Activity (Frisbee, Soccer, Football, Seating)

12 - 14 : Open Space Amenities- Passive

12. Walking Paths, Seating Area, Landscape Observation, Dog Park
13. Landscape Buffer
14. Tucker Creek- Preservation Area

S-1 - S-5 : Typical Sections - See Sheets 13 and 14

Typical Streets/ Alleys

Proposed Central Mailbox Unit with Bench and Decorative Waste Receptacle (Locations to be Approved by Postmaster)

Proposed Bike Rack Locations

Proposed Building Storefront Signage

Proposed Pedestrian Street Light

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
COMMUNITY CHARACTER

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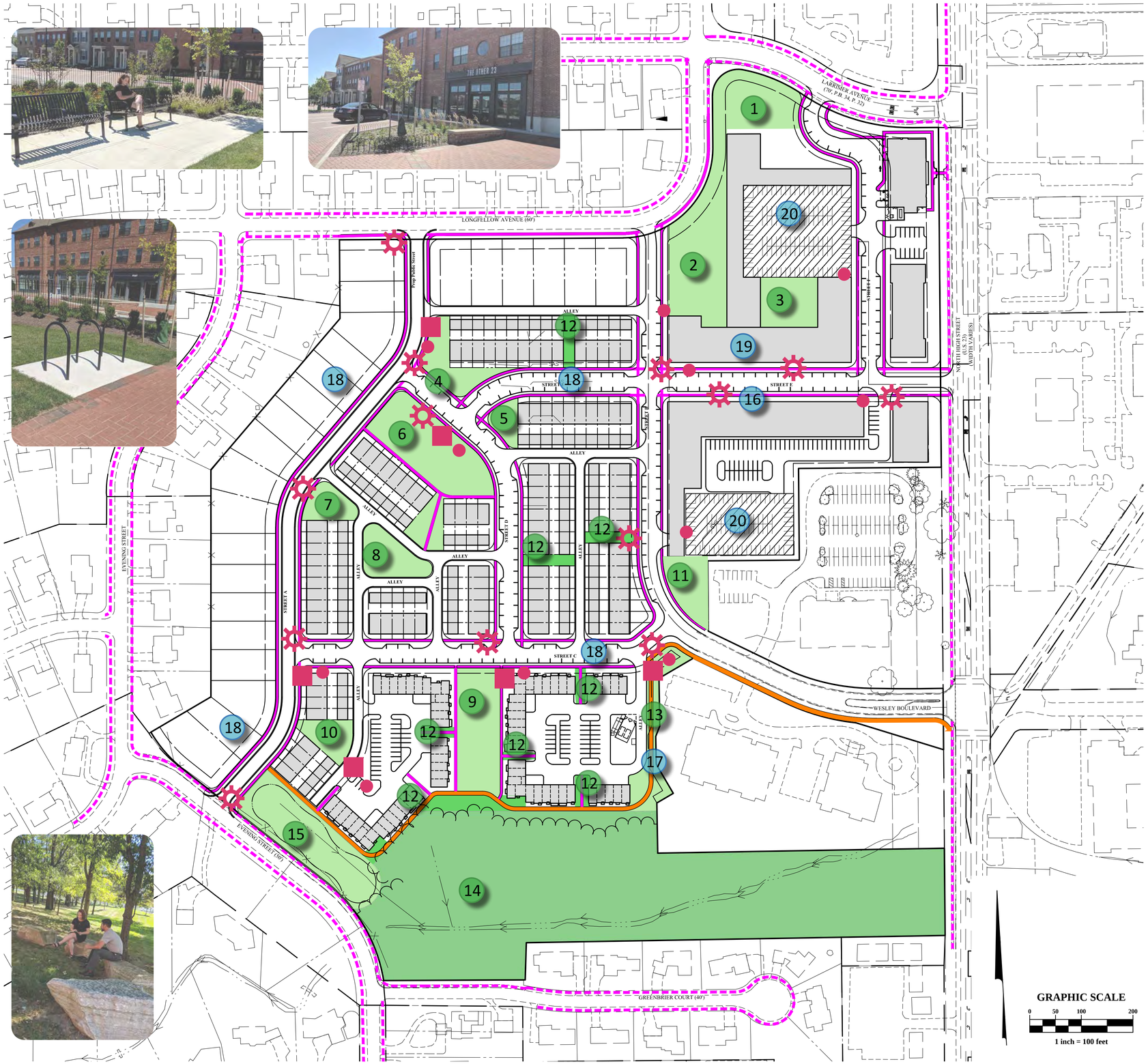

OPEN SPACE AND PUBLIC SPACE AMENITY CALCULATIONS

OPEN SPACE WITH PUBLIC SPACE AMENITIES

AREA	ACRES (±)	DESCRIPTION	PUBLIC SPACE AMENITIES	PUBLIC SPACE CREDITS
1	0.3	Passive Recreation Area	2 benches, decorative waste receptacle	3
2	0.6	Active Recreation Area	Pool, Volleyball, Recreational Activities and Seating, 2 bike racks	62 (assumes .3 acres)
3	0.2	Passive Recreation Area	Picnic/ Grilling Area: 2 Tables with chairs, 1 bench and decorative waste container	4
4	0.2	Passive Recreation	1 bench and decorative waste receptacle	2
5	0.1	Passive Recreation	1 bench and decorative waste receptacle	2
6	0.7	Central Green Passive and Active Recreation	4 benches, 2 decorative waste receptacles, 1 dog waste receptacle, 2 bike racks	9
7	0.1	Passive Recreation	1 bench and decorative waste receptacle	2
8	0.2	Passive Recreation Dog Park	1 bench and decorative waste receptacle	2
9	0.4	Central Green Passive and Active Recreation	4 benches, 2 decorative waste receptacles and 2 bike racks	8
10	0.1	Passive Recreation	1 bench and decorative waste receptacle	2
11	0.2	Passive Recreation	1 bench, decorative waste receptacle	2
12	0.4	Open Space/ Pedestrian Connectivity	(6) Sidewalk Connections - 60' each	7
13	0.2	Passive: Landscape Buffer	2500 sf plus contains part of multi use trail see #17 below	10
14	5.7	Passive: Tucker Creek Preservation Area	2 benches, decorative waste receptacle (located along path in #17)	3
15	0.7	Passive: Storm Water Management Area	2 benches	2
	10.1	**Total Open Space (±26% Site)**	**Subtotal Public Space Amenities in Open Space**	58

ADDITIONAL PUBLIC SPACE AMENITIES

16		Streetscape	4 decorative pedestrian light fixtures, 4 benches, 4 decorative waste receptacles, 4 planters, 2 bike racks	18
17		Pedestrain Connectivity	8 foot multi-use trail - 1600 feet in length	50
18		Streetscape	13 decorative pedestrian light fixtures	13
19		Community Space	Interior Community Space- Goat/Fitness/Gathering Space 5000 sf	20
20		Parking Garage	5 Bike Racks in north garage and 2 bike racks in south garage	7
21		Streetscape	6 Centralized Mailbox Unit with Bench and decorative waste receptacle	12
			Subtotal Additional Public Space Amenities	120
			Total Public Space Amenities	178

See Zoning Text for Public Space Amenities Descriptions and Credits. Benches may be substituted for ledges where appropriate.

PUBLIC SPACE AMENITY CALCULATION

BUILDNG TYPE	UNITS (Approximate)	GROSS FLOOR AREA PER UNIT MIN. (SF) (Approx)	GROSS FLOOR AREA PER TYPE MIN. (SF)
Townhomes- Subarea 2	94	1000	94,000
Apartments - Subarea 3	72		
Anticipated Mix			
1 Bed (30%)	22	700	15,400
2 Bed (60%)	43	1100	47,300
3 Bed (10%)	7	1300	9,100
Apartments- Subarea 4	540		
Anticipated Mix			
1 Bed (30%)	162	500	81,000
2 Bed (60%)	324	1000	324,000
3 Bed (10%)	54	1300	70,200
Commercial			
Commercial	1	60000	60,000
Medical Office	1	25000	25,000
Total			**726,000**
1 Public Space Amenity per 5,000 SF Gross Floor Area of Multi-Family			5,000
Total Public Space Amenities Required			**145**

KEY

- Proposed Sidewalk
- Proposed Multi–Use Path
- Existing Sidewalk
- Proposed Central Mailbox Unit with Bench and Decorative Waste Receptacle (Locations to be Approved by Postmaster)
- Proposed Pedestrian Street Light
- Proposed Bike Rack Locations

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON WORTHINGTON

OPEN SPACE, PEDESTRIAN CONNECTIVITY AND AMENITIES PLAN

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Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

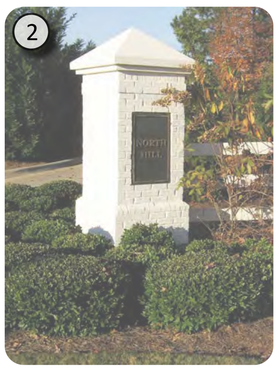
SCALE
1" = 100'

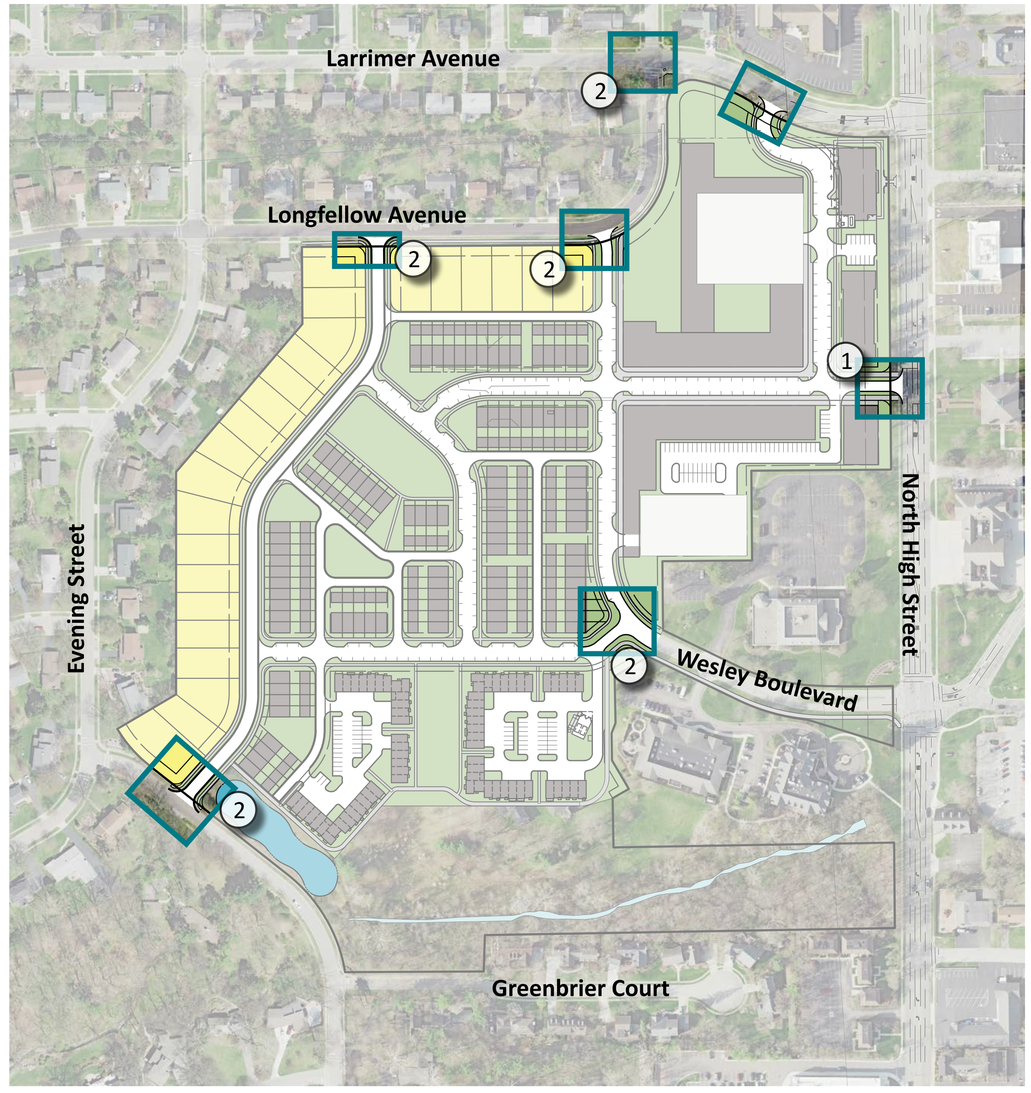
JOB NO.
2018-0036

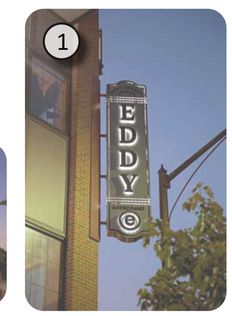
SHEET
9/22

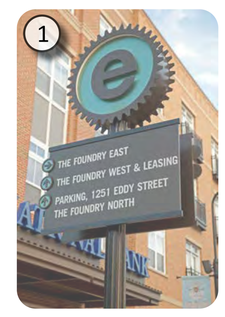
\\cmhdata01\project01\2018\0036\Dwg\04Sheets\PREL\13 Open Space, Pedestrian Connectivity and Amenities Plan.dwg, Last Saved By: mmerici, 9/29/2020 8:47 AM Last Printed By: Nerici, Megan, 9/29/2020 9:08 AM
Xrefs: 2018\0036-PBR-TB-BFFR-N, 2018\0036-PS-BFFR-F, 2018\0036-PS-BFFR-N

Neighborhood Identity









Images provided by Looney Ricks Kiss
150 Turtle Creek Boulevard
Suite 104D
Dallas, TX 75207

214.389.3816

GRAPHIC SCALE

0 75 150 300

1 inch =150 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
NEIGHBORHOOD IDENTITY CHARACTER

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OCTOBER 2, 2020

SCALE
1" = 150'

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SHEET
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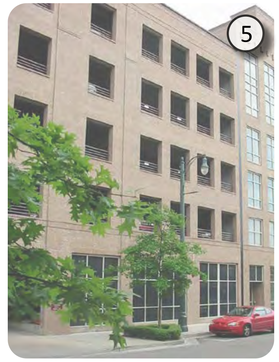
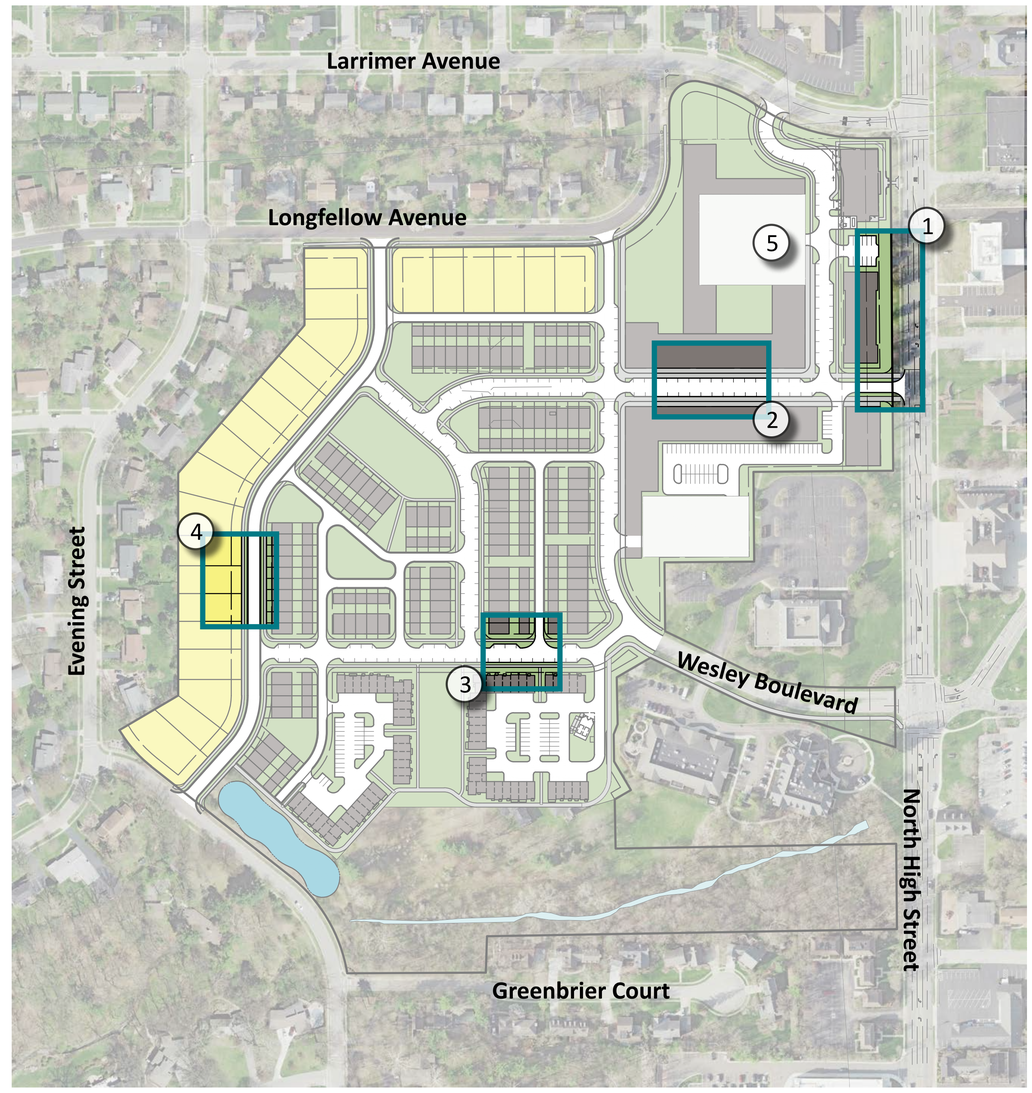
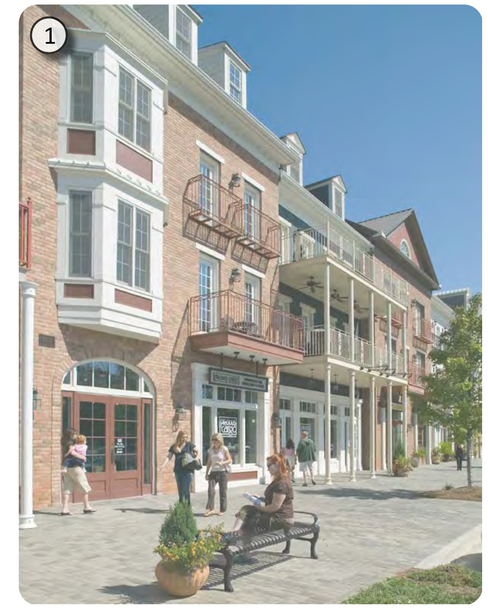
Streetscape







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Suite 104D
Dallas, TX 75207
214.389.3816

GRAPHIC SCALE

0 75 150 300

1 inch =150 feet

REVISIONS

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LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
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WORTHINGTON
STREETSCAPE CHARACTER

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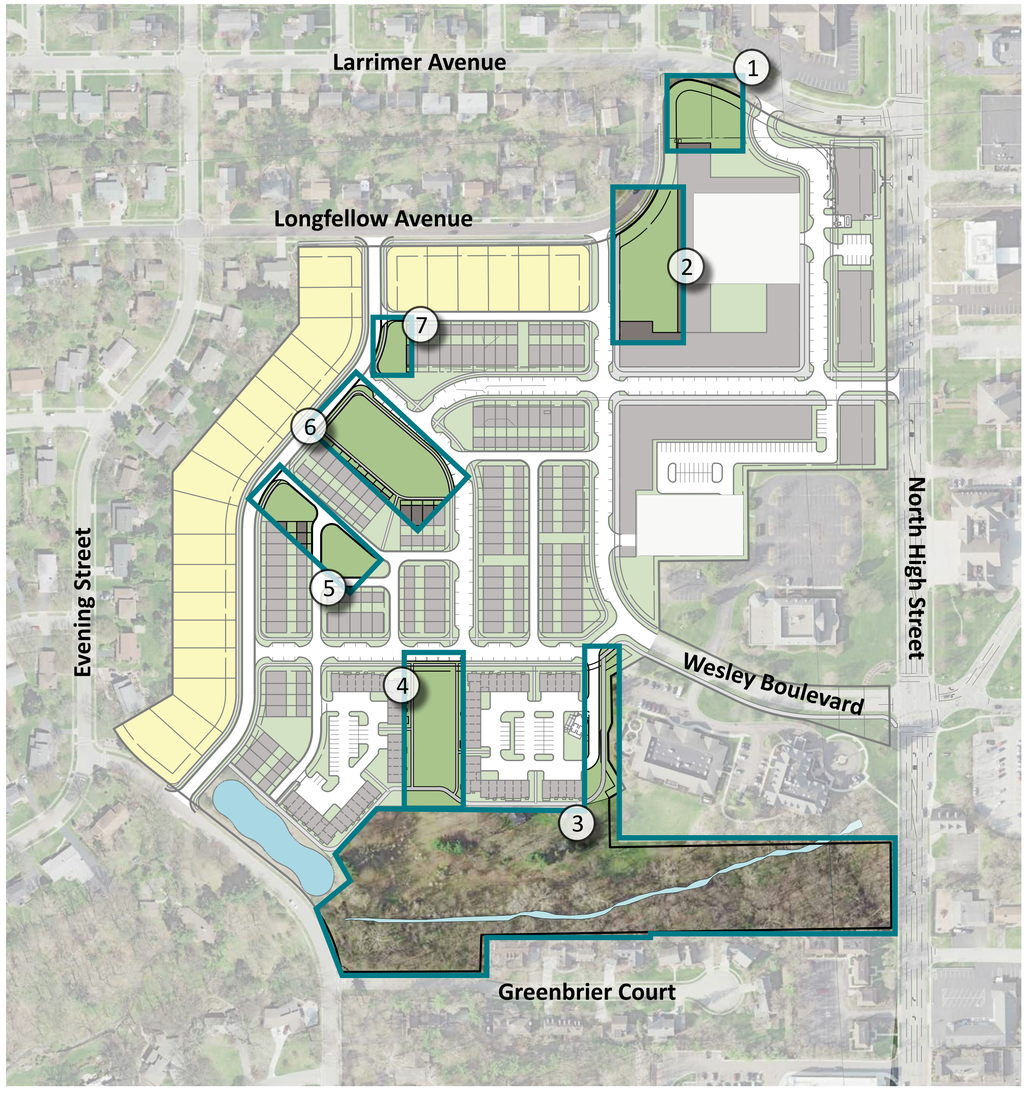
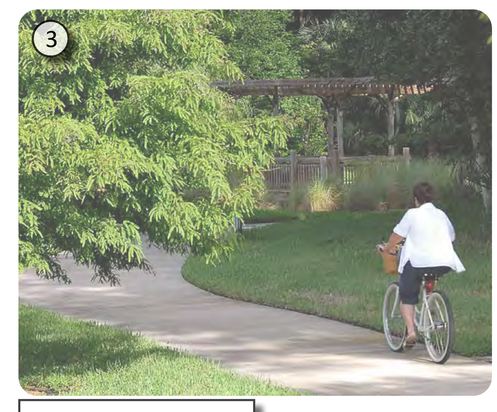
Open Space Character





Images provided by Looney Ricks Kiss
150 Turtle Creek Boulevard
Suite 104D
Dallas, TX 75207

214.389.3816

GRAPHIC SCALE

0 75 150 300

1 inch =150 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
OPEN SPACE CHARACTER

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 866.775.5348
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" =150'

JOB NO.
2018-0036

SHEET
12/22

\\cmhdata01\project01\20180036\Dwg\04Sheets\PREL\14 Typical Street Sections.dwg, Last Saved By: mnerici, 9/28/2020 12:44 PM Last Printed By: Nerici, Megan, 9/29/2020 9:13 AM
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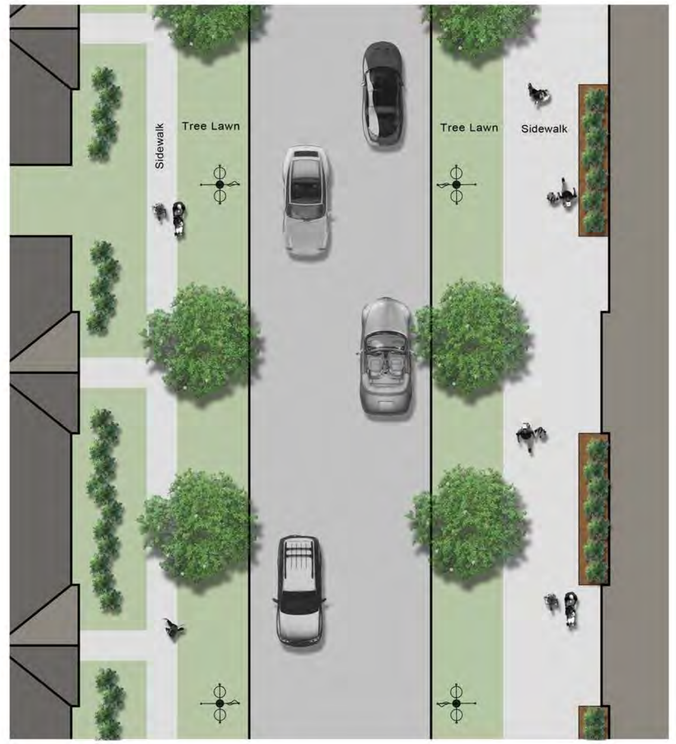

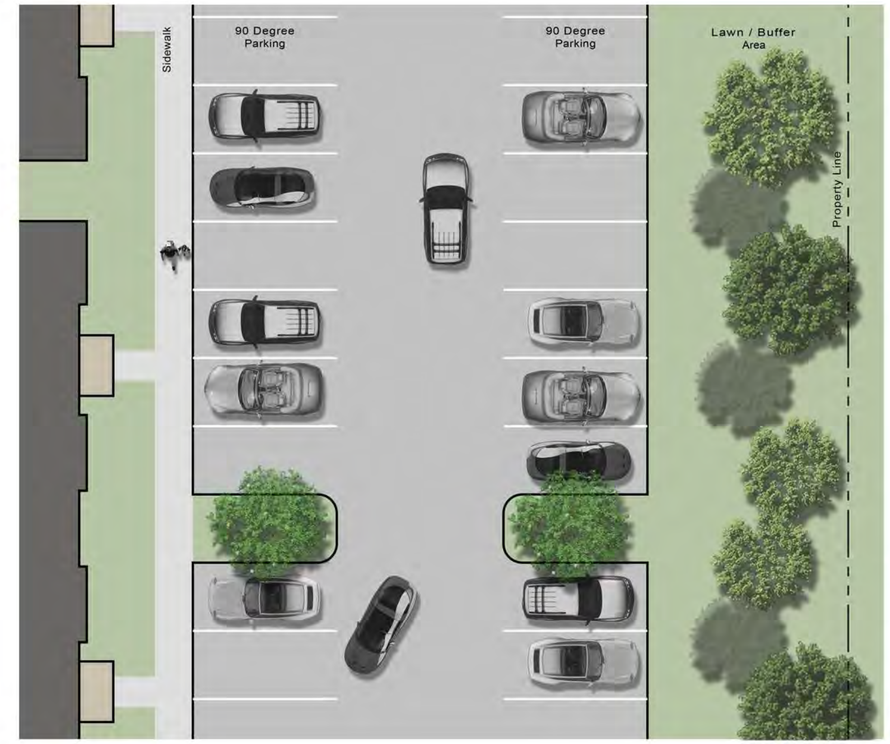

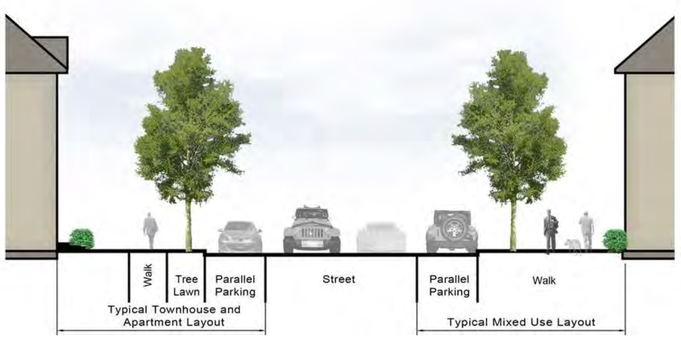

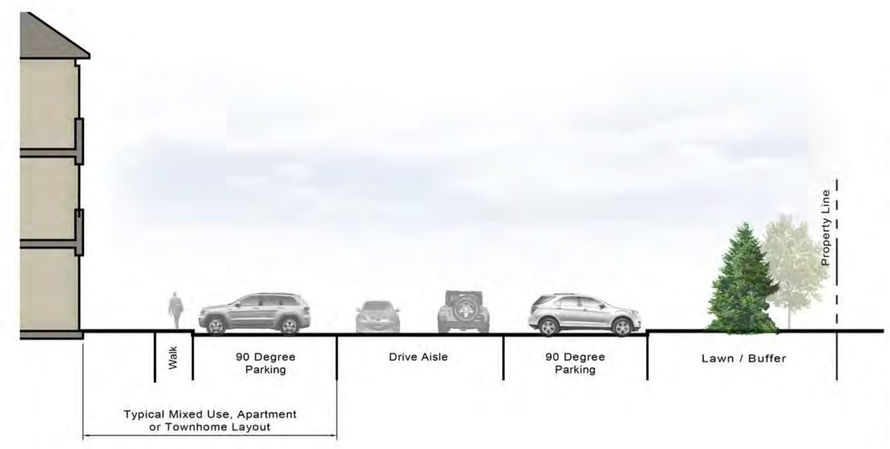

S-1 Street (Private)

Mixed Use, Townhomes and Apartments
On Street Parking

S-2 Street (Private)

Mixed Use and Townhomes
No Street Parking

S-3 Street (Private)

Parking Lot

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
TYPCIAL STREET SECTIONS

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Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
None

JOB NO.
2018-0036

SHEET
13/22

\\cmhdata01\project01\2018\0036\Dwg\04Sheets\PREL\14 Typical Street Sections.dwg, Last Saved By: mnerici, 9/28/2020 12:44 PM, Last Printed By: Nerici, Megan, ----
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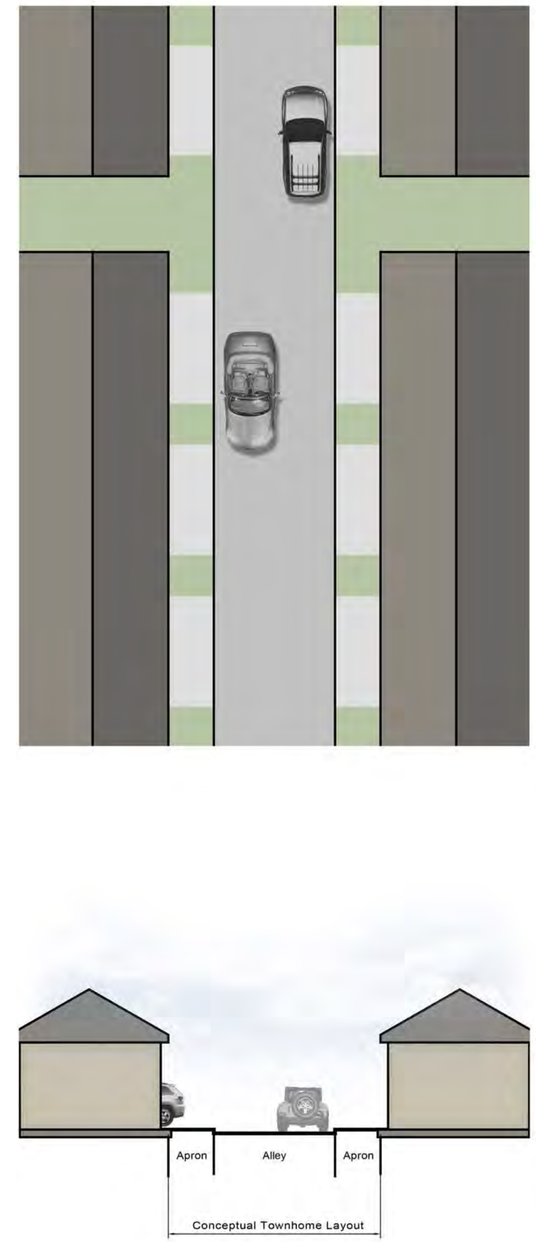

S-4 Street (Public)

Single Family and Townhomes

No Street Parking

S-5 Street (Private)

Alley

No Street Parking

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
TYPICAL STREET SECTIONS

EMH&T
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
None

JOB NO.
2018-0036

SHEET
14/22

\\cmhdata01\project01\2018\0036\Dwg\04Sheets\PREL\14 Typical Street Sections.dwg Last Saved By: mnerici 9/28/2020 12:44 PM Last Printed By: Nerici, Megan
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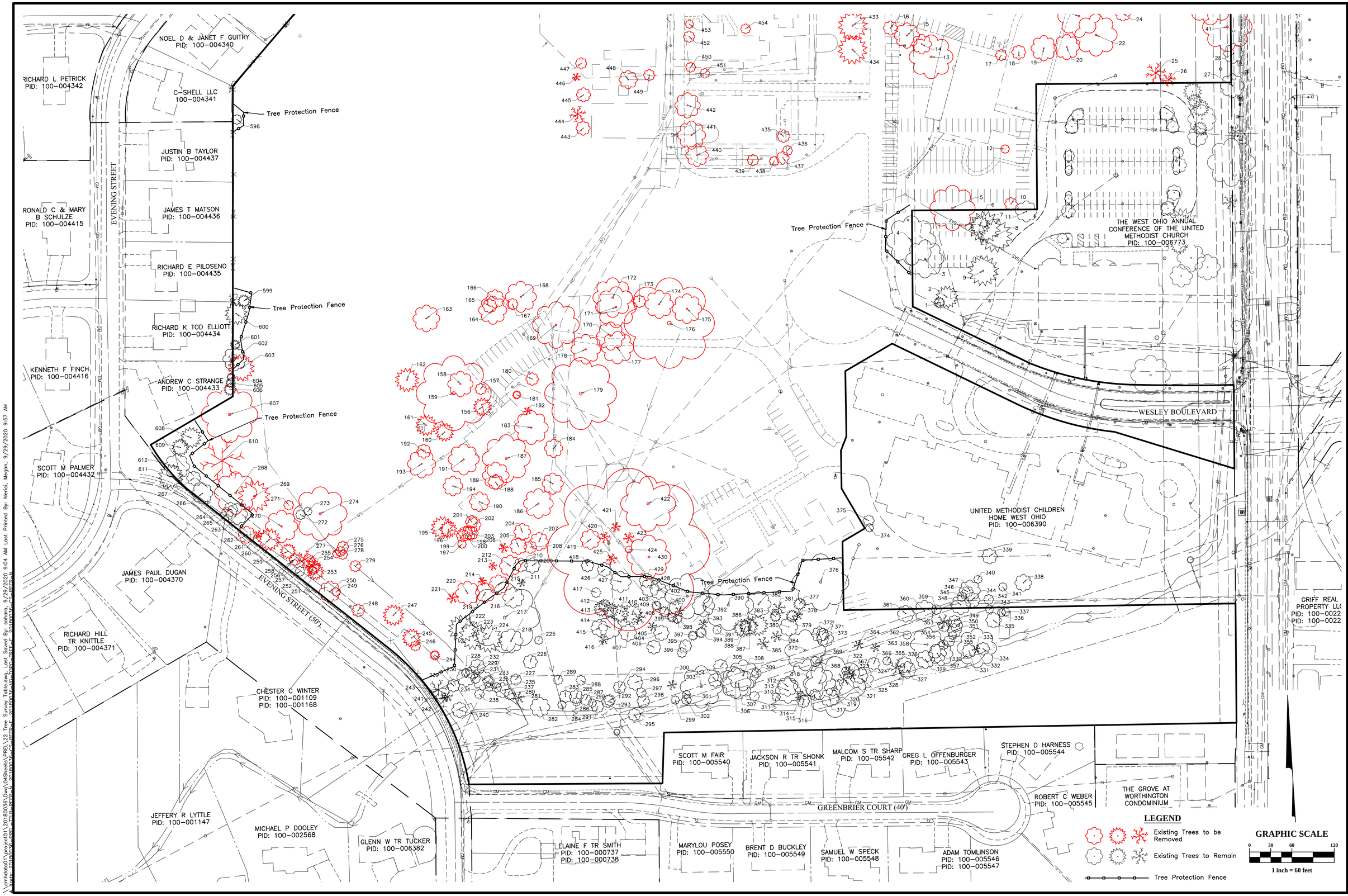

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON
WORTHINGTON
TREE SURVEY & PRESERVATION PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" = 60'

JOB NO.
2018-0036

SHEET
15/22

\\cmhdata01\project01\20180036\Dwg\04Sheets\PREL\22 Tree Survey Table.dwg, Last Saved By: sohara, 9/29/2020 9:04 AM Last Printed By: Nerici, Megan, 9/29/2020 9:57 AM
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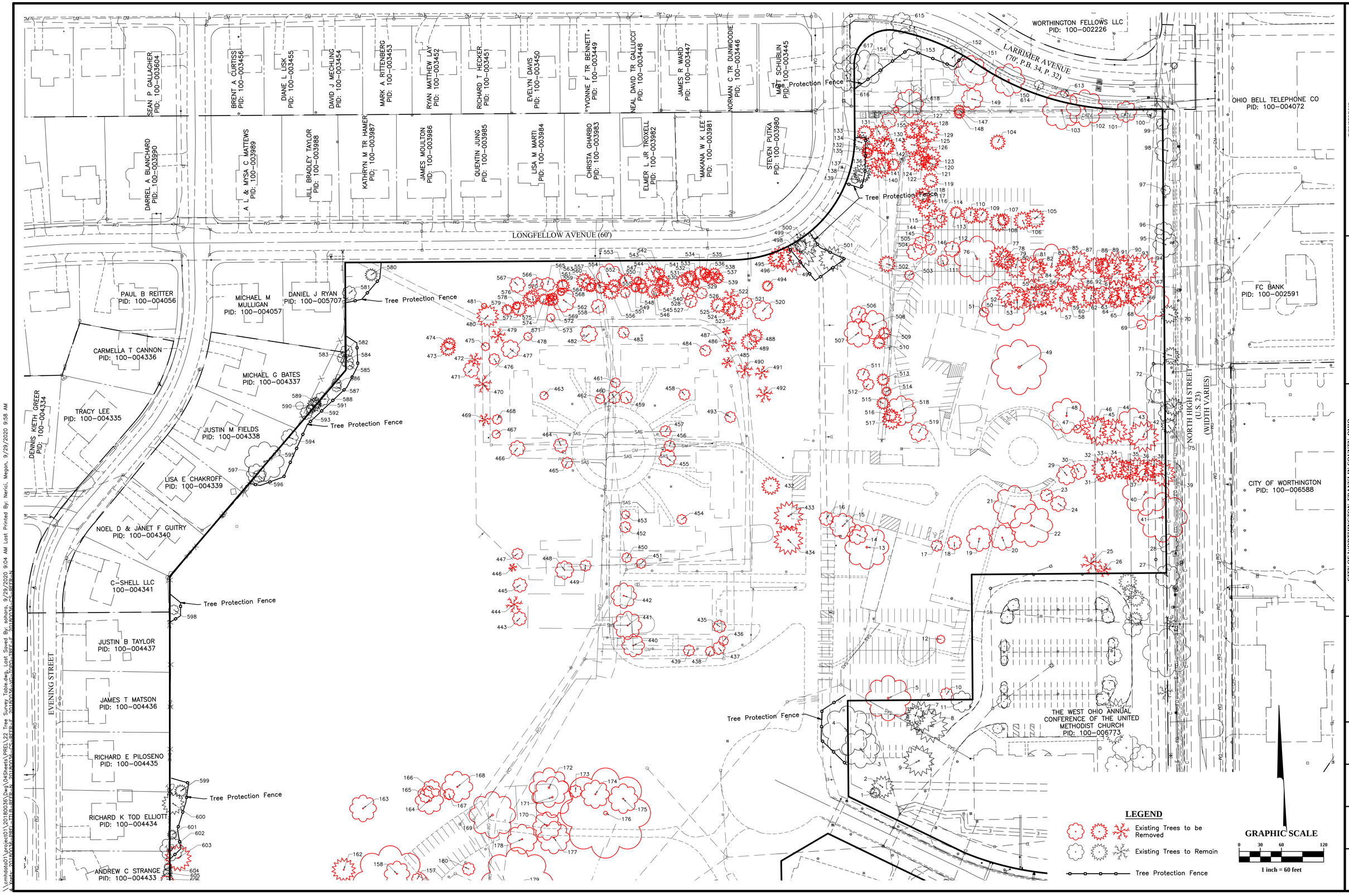

REVISIONS			
MARK	DATE	DESCRIPTION	

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON
WORTHINGTON
TREE SURVEY & PRESERVATION PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Civil Engineers • Surveyors • Planners • Landscape Architects
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" = 60'

JOB NO.
2018-0036

SHEET
16/22

\\cmhdata01\project01\2018003\6\Dwg\04Sheets\PREL\22 Tree Survey Table.dwg, Last Saved By: saharo, 9/29/2020 9:04 AM Last Printed By: Nerici, Megan, 9/29/2020 9:58 AM
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TREE #	DIAMETER	COMMON NAME	SCIENTIFIC NAME	CONDITION
4	35	Sugar Maple	Acer saccharum	Fair
5	32	Sycamore	Platanus occidentalis	Good
10	9,5,4,4	Red Mulberry	Morus rubra	Fair
12	6,6,5,4	Ornamental Cherry	Prunus sp.	Good
13	31	Thornless Honeylocust	Gleditsia triacanthos var. inermis	Fair
14	14,9	Crabapple	Malus sp.	Fair
15	18	Red Mulberry	Morus rubra	Good
16	10,10,9	Crabapple	Malus sp.	Poor
17	8	Sweetbay Magnolia	Magnolia virginiana	Fair
18	10,10,9,7	Saucer Magnolia	Magnolia x soulangeana	Good
19	18,21	Red Mulberry	Morus rubra	Poor
20	18,12	Red Mulberry	Morus rubra	Fair
21	30,21,20	Red Mulberry	Morus rubra	Poor
22	30	Red Mulberry	Morus rubra	Poor
23	9,7	Crabapple	Malus sp.	Poor
24	11,8	Crabapple	Malus sp.	Poor
25	15	Green Ash	Fraxinus pennsylvanica	Dead
26	10	Green Ash	Fraxinus pennsylvanica	Dead
29	14	Red Oak	Quercus rubra	Good
30	11	Red Oak	Quercus rubra	Good
31	6,5,5	Crabapple	Malus sp.	Fair
32	17	Norway Spruce	Picea abies	Good
33	17	Norway Spruce	Picea abies	Good
34	14	Norway Spruce	Picea abies	Good
35	13	Norway Spruce	Picea abies	Good
36	18	Norway Spruce	Picea abies	Good
37	15	Norway Spruce	Picea abies	Good
38	14	Norway Spruce	Picea abies	Good
39	18	Norway Spruce	Picea abies	Good
40	33	Freeman's Maple	Acer freemanii	Good
41	35	Thornless Honeylocust	Gleditsia triacanthos var. inermis	Good
42	22	Norway Spruce	Picea abies	Good
43	25	Littleleaf Linden	Tilia cordata	Good
44	18	Norway Spruce	Picea abies	Fair
45	21	Norway Spruce	Picea abies	Good
46	18	Norway Spruce	Picea abies	Good
47	6,5,4	Crabapple	Malus sp.	Fair
48	25,21	Tree-Of-Heaven	Ailanthus altissima	Good
49	39	Thornless Honeylocust	Gleditsia triacanthos var. inermis	Good
50	34	Thornless Honeylocust	Gleditsia triacanthos var. inermis	Good
51	7,7,7	Callery Pear	Pyrus calleryana	Good
52	17	Norway Spruce	Picea abies	Good
53	15	Norway Spruce	Picea abies	Good
54	17	Norway Spruce	Picea abies	Good
55	17	Norway Spruce	Picea abies	Good
56	17	Norway Spruce	Picea abies	Good
57	21	Norway Spruce	Picea abies	Good
58	11	Norway Spruce	Picea abies	Poor
59	17	Norway Spruce	Picea abies	Good
60	14	Norway Spruce	Picea abies	Fair
61	13	Red Maple	Acer rubrum	Good
62	13	Norway Spruce	Picea abies	Good
63	14	Norway Spruce	Picea abies	Good
64	9,9	Crabapple	Malus sp.	Fair
65	15	Norway Spruce	Picea abies	Good
66	14	Norway Spruce	Picea abies	Good
67	10	Norway Spruce	Picea abies	Good
68	27	Silver Maple	Acer saccharinum	Good
69	7,7,7,7	Crabapple	Malus sp.	Fair
76	32	Littleleaf Linden	Tilia cordata	Fair
77	15	Norway Spruce	Picea abies	Good
78	14	Norway Spruce	Picea abies	Good
79	11	Norway Spruce	Picea abies	Good
80	15	Norway Spruce	Picea abies	Good
81	19	Norway Spruce	Picea abies	Good
82	11	Norway Spruce	Picea abies	Dead
83	32	Littleleaf Linden	Tilia cordata	Good
84	13	Norway Spruce	Picea abies	Good
85	9	White Pine	Pinus strobus	Poor
86	23	Norway Spruce	Picea abies	Good
87	16	Norway Spruce	Picea abies	Good
88	12	White Pine	Pinus strobus	Fair
89	10	Norway Spruce	Picea abies	Good
90	24	Norway Spruce	Picea abies	Good
91	15	Norway Spruce	Picea abies	Good
92	21	Norway Spruce	Picea abies	Good
93	19	Norway Spruce	Picea abies	Good
94	21	Norway Spruce	Picea abies	Good
100	7,4	Winter King Hawthorn	Crataegus viridis	Good
101	15,13	Hackberry	Celtis occidentalis	Fair
102	26,20,19	Red Mulberry	Morus rubra	Poor
103	27	Red Mulberry	Morus rubra	Fair
104	11	Red Pine	Pinus resinosa	Good
105	14	Red Pine	Pinus resinosa	Good
106	13	Red Pine	Pinus resinosa	Good
107	9	Red Pine	Pinus resinosa	Good
108	13	Red Pine	Pinus resinosa	Good
109	11	Red Pine	Pinus resinosa	Good
110	12	Red Pine	Pinus resinosa	Good
111	8,6	Tree-Of-Heaven	Ailanthus altissima	Good
112	11	Sycamore	Platanus occidentalis	Good
113	9	Blue Spruce	Picea pungens	Good
114	6	Red Mulberry	Morus rubra	Fair
115	15	Norway Spruce	Picea abies	Good
116	14	Norway Spruce	Picea abies	Good
117	13	Norway Spruce	Picea abies	Good
118	11	Norway Spruce	Picea abies	Good
119	11	Norway Spruce	Picea abies	Good

TREE #	DIAMETER	COMMON NAME	SCIENTIFIC NAME	CONDITION
120	12	Norway Spruce	Picea abies	Good
121	8	White Ash	Fraxinus pennsylvanica	Dead
122	12	Norway Spruce	Picea abies	Good
123	16	Norway Spruce	Picea abies	Good
124	14	Norway Spruce	Picea abies	Good
125	10	Norway Spruce	Picea abies	Good
126	14	Norway Spruce	Picea abies	Good
127	12	Norway Spruce	Picea abies	Good
128	13	Norway Spruce	Picea abies	Good
129	15	Norway Spruce	Picea abies	Good
130	14	Norway Spruce	Picea abies	Good
131	13	Norway Spruce	Picea abies	Fair
132	9	Norway Spruce	Picea abies	Fair
133	11	Norway Spruce	Picea abies	Good
134	12	Norway Spruce	Picea abies	Good
135	8	Norway Spruce	Picea abies	Fair
136	15	White Pine	Pinus strobus	Good
137	13	White Pine	Pinus strobus	Fair
138	11	Norway Spruce	Picea abies	Good
139	6	Black Walnut	Juglans nigra	Good
140	15	Norway Spruce	Picea abies	Good
141	12	Norway Spruce	Picea abies	Good
142	9	Norway Spruce	Picea abies	Good
143	12	Norway Spruce	Picea abies	Good
144	6	Red Mulberry	Morus rubra	Fair
145	6	Tree-Of-Heaven	Ailanthus altissima	Good
146	8,6	Crabapple	Malus sp.	Poor
147	8,7	White Cedar	Thuja occidentalis	Good
148	8,8	White Cedar	Thuja occidentalis	Good
149	15	Saucer Magnolia	Magnolia x soulangeana	Fair
151	23	Tulip Poplar	Liriodendron tulipifera	Good
152	17	Sweetgum	Liquidambar styraciflua	Good
153	22	Sugar Maple	Acer saccharum	Good
154	26	Tulip Poplar	Liriodendron tulipifera	Good
155	11,8,6,5	Saucer Magnolia	Magnolia x soulangeana	Good
156	13	Blue Spruce	Picea pungens	Fair
157	8,9,7,6,5,9	Crabapple	Malus sp.	Poor
158	18	Hackberry	Celtis occidentalis	Good
159	53	Honey Locust	Gleditsia triacanthos	Good
160	13	Blue Spruce	Picea pungens	Fair
161	15	Norway Spruce	Picea abies	Fair
162	17	Blue Spruce	Picea pungens	Good
163	19	Silver Maple	Acer saccharinum	Good
164	20,18,23,16	Silver Maple	Acer saccharinum	Fair
165	10,9	Hackberry	Celtis occidentalis	Good
166	13	Red Mulberry	Morus rubra	Fair
167	8,7,7	Hackberry	Celtis occidentalis	Good
168	22	Hackberry	Celtis occidentalis	Good
169	33	Silver Maple	Acer saccharinum	Good
170	20	Sweetgum	Liquidambar styraciflua	Good
171	29	White Mulberry	Morus alba	Poor
172	28,17	Black Cherry	Prunus serotina	Poor
173	9,7	Black Cherry	Prunus serotina	Poor
174	20,17	Black Cherry	Prunus serotina	Fair
175	21	Red Mulberry	Morus rubra	Poor
176	64	Silver Maple	Acer saccharinum	Poor
177	23,20	Silver Maple	Acer saccharinum	Good
178	21,8	Silver Maple	Acer saccharinum	Good
179	51	Hackberry	Celtis occidentalis	Good
180	9,9,8,7,6	Crabapple	Malus sp.	Good
181	6,5	White Cedar	Thuja occidentalis	Good
182	6,6	White Cedar	Thuja occidentalis	Good
183	24	Sweetgum	Liquidambar styraciflua	Good
184	13,9,7	Redbud	Cercis canadensis	Poor
185	15	American Larch	Larix laricina	Good
186	21,19,18,10,16,17,13,13	Littleleaf Linden	Tilia cordata	Good
187	34	Silver Maple	Acer saccharinum	Fair
188	11,10,7,9,7	Redbud	Cercis canadensis	Fair
189	19	Sweetgum	Liquidambar styraciflua	Good
190	14,8,10,12	Callery Pear	Pyrus calleryana	Fair
191	22,36	Silver Maple	Acer saccharinum	Good
192	10,6	Sweet Birch	Betula lenta	Good
193	20,10,7,6	Callery Pear	Pyrus calleryana	Poor
194	14	Callery Pear	Pyrus calleryana	Poor
195	16,6	White Cedar	Thuja occidentalis	Good
196	12,11,8	White Cedar	Thuja occidentalis	Good
197	6,5	Crabapple	Malus sp.	Fair
198	10	Red Oak	Quercus rubra	Good
199	9	Red Maple	Acer rubrum	Good
200	10	Red Maple	Acer rubrum	Good
201	9	Red Maple	Acer rubrum	Good
202	10,7,6,3	Red Maple	Acer rubrum	Good
203	10,9,7	Red Maple	Acer rubrum	Good
204	12	Red Maple	Acer rubrum	Good
205	12	Red Maple	Acer rubrum	Good
206	7	Green Ash	Fraxinus pennsylvanica	Dead
207	13	Pin Oak	Quercus palustris	Good
208	9	Red Maple	Acer rubrum	Good
209	11	Red Maple	Acer rubrum	Good
210	10	Red Maple	Acer rubrum	Good
211	6	Green Ash	Fraxinus pennsylvanica	Dead
212	15	Pin Oak	Quercus palustris	Good
213	6	Green Ash	Fraxinus pennsylvanica	Dead
214	6	Green Ash	Fraxinus pennsylvanica	Dead
215	14	Pin Oak	Quercus palustris	Good
216	15	Pin Oak	Quercus palustris	Good
217	50	Hackberry	Celtis occidentalis	Fair
218	17	Pin Oak	Quercus palustris	Good

TREE #	DIAMETER	COMMON NAME	SCIENTIFIC NAME	CONDITION
219	14	Pin Oak	Quercus palustris	Good
220	17	Pin Oak	Quercus palustris	Good
221	8	Green Ash	Fraxinus pennsylvanica	Dead
222	20	White Pine	Pinus strobus	Good
223	20	White Pine	Pinus strobus	Good
224	20	White Pine	Pinus strobus	Good
225	6,6,4	Box Elder	Acer negundo	Good
226	10	Red Maple	Acer rubrum	Good
227	8	Red Maple	Acer rubrum	Good
228	6	Red Maple	Acer rubrum	Fair
229	9,5	Eastern Cottonwood	Populus deltoides	Good
230	13	Eastern Cottonwood	Populus deltoides	Good
231	7	Red Maple	Acer rubrum	Good
232	11,3	Sycamore	Platanus occidentalis	Good
233	14	Eastern Cottonwood	Populus deltoides	Good
234	8	Eastern Cottonwood	Populus deltoides	Good
235	7	Eastern Cottonwood	Populus deltoides	Fair
236	6	Sycamore	Platanus occidentalis	Good
237	11	Eastern Cottonwood	Populus deltoides	Good
238	7	Eastern Cottonwood	Populus deltoides	Fair
239	9	Sugar Maple	Acer saccharum	Good
240	11,9	Black Walnut	Juglans nigra	Good
241	7,8	Green Ash	Fraxinus pennsylvanica	Dead
242	8	Green Ash	Fraxinus pennsylvanica	Dead
243	15	Green Ash	Fraxinus pennsylvanica	Dead
244	7	Blue Spruce	Picea pungens	Poor
245	13,13	Red Pine	Pinus resinosa	Good
246	7	Green Ash	Fraxinus pennsylvanica	Good
247	15	Red Pine	Pinus resinosa	Good
248	9	Black Walnut	Juglans nigra	Good
249	6	Green Ash	Fraxinus pennsylvanica	Poor
250	15	Eastern Cottonwood	Populus deltoides	Good
251	12	Red Pine	Pinus resinosa	Good
252	6	Green Ash	Fraxinus pennsylvanica	Poor
253	10	Red Pine	Pinus resinosa	Good
254	12	Red Pine	Pinus resinosa	Dead
255	9,6	Black Walnut	Juglans nigra	Good
256	13	Red Pine	Pinus resinosa	Dead
257	7	Green Ash	Fraxinus pennsylvanica	Poor
258	8	Green Ash	Fraxinus pennsylvanica	Poor
259	11,10	Red Pine	Pinus resinosa	Good
260	16	Red Pine	Pinus resinosa	Good
261	6	Green Ash	Fraxinus pennsylvanica	Dead
262	12,10	Black Cherry	Prunus serotina	Fair
263	15	Black Walnut	Juglans nigra	Good
264	10	Black Cherry	Prunus serotina	Good
265	9	Sugar Maple	Acer saccharum	Good
266	15	Sugar Maple	Acer saccharum	Good
267	10	Red Mulberry	Morus rubra	Fair
268	30	Silver Maple	Acer saccharinum	Good
269	23	White Pine	Pinus strobus	Good
270	23	Sycamore	Platanus occidentalis	Good
271	7,6	Eastern Cottonwood	Populus deltoides	Good
272	7	Green Ash	Fraxinus pennsylvanica	Fair
273	6	Black Cherry	Prunus serotina	Good
274	38	Hackberry	Celtis occidentalis	Good
275	8	Silver Maple	Acer saccharinum	Good
276	7	Eastern Cottonwood	Populus deltoides	Good
277	6	Sycamore	Platanus occidentalis	Good
278	7,5	Silver Maple	Acer saccharinum	Good
279	8	Eastern Cottonwood	Populus deltoides	Good
280	8	Box Elder	Acer negundo	Fair
281	9	Green Ash	Fraxinus pennsylvanica	Dead
282	14	Green Ash	Fraxinus pennsylvanica	Poor
283	9,5	Black Locust	Robinia pseudoacacia	Poor
284	6	Eastern Cottonwood	Populus deltoides	Good
285	10	Eastern Cottonwood	Populus deltoides	Good
286	6	Sycamore	Platanus occidentalis	Good
287	8	Sycamore	Platanus occidentalis	Good
288	7	Pin Oak	Quercus palustris	Good
289	7	Pin Oak	Quercus palustris	Good
290	6	Sycamore	Platanus occidentalis	Good
291	9	Eastern Cottonwood	Populus deltoides	Good
292	8	Sycamore	Platanus occidentalis	Good
293	9,6	Black Locust	Robinia pseudoacacia	Good
294	9	Pin Oak	Quercus palustris	Good
295	9	Eastern Cottonwood	Populus deltoides	Good
296	11	Pin Oak	Quercus palustris	Good
297	7	Pin Oak	Quercus palustris	Good
298	9	Eastern Cottonwood	Populus deltoides	Good
299	6	Eastern Cottonwood	Populus deltoides	Good
300	7	Green Ash	Fraxinus pennsylvanica	Dead
301	6	Callery Pear	Pyrus calleryana	Good
302	7	Northern Catalpa	Catalpa speciosa	Good
303	30	Eastern Cottonwood	Populus deltoides	Good
304	10	Sugar Maple	Acer saccharum	Good
305	10	Pin Oak	Quercus palustris	Good
306	22	Eastern Cottonwood	Populus deltoides	Good
307	22	Eastern Cottonwood	Populus deltoides	Good
308	22,20	Eastern Cottonwood	Populus deltoides	Good
309	7	Green Ash	Fraxinus pennsylvanica	Poor
310	7	Eastern Cottonwood	Populus deltoides	Good
311	6	Tree-Of-Heaven	Ailanthus altissima	Good
312	14	Green Ash	Fraxinus pennsylvanica	Poor
313	18	Silver Maple	Acer saccharinum	Poor
314	8	Box Elder	Acer negundo	Dead
315	9	American Elm	Ulmus americana	Good
316	8	Sugar Maple	Acer saccharum	Good

LEGEND

- Tree To Be Removed (Dead, Poor or Ash)
- Tree To Be Removed (Good or Fair)
- Tree To Remain

Total Trees Removed: 365 / 6264 caliper inches
Total Trees Removed, Dead: 29 / 297 caliper inches
Total Trees Removed, Poor: 28 / 758 caliper inches
Total Trees Removed, Ash: 2 / 14 caliper inches
Total Caliper Inches of Tree Replacement: 5195 caliper inches

Saving 203 Trees (2639")
on north side of Tucker
Creek Preserve, as shown on plans.

Note: Tree numbers not shown in the table but on the plan sheet are not located on the property.

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
TREE SURVEY TABLE

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE

JOB NO.
2018-0036

SHEET
17/22

TREE #	DIAMETER	COMMON NAME	SCIENTIFIC NAME	CONDITION
317	13	American Elm	Ulmus americana	Good
318	26	Eastern Cottonwood	Populus deltoides	Good
319	12	Silver Maple	Acer saccharinum	Fair
320	43	Sycamore	Platanus occidentalis	Good
321	10	Green Ash	Fraxinus pennsylvanica	Dead
322	6	Box Elder	Acer negundo	Good
323	7	Box Elder	Acer negundo	Dead
324	11	Black Walnut	Juglans nigra	Good
325	16	Northern Catalpa	Catalpa speciosa	Good
326	13	Green Ash	Fraxinus pennsylvanica	Dead
327	12	Box Elder	Acer negundo	Fair
328	11	Box Elder	Acer negundo	Poor
329	13	Black Walnut	Juglans nigra	Good
330	17,9	Silver Maple	Acer saccharinum	Fair
331	10	Box Elder	Acer negundo	Fair
332	6	Green Ash	Fraxinus pennsylvanica	Dead
333	28	Red Maple	Acer rubrum	Good
334	9	Box Elder	Acer negundo	Good
335	11	Green Ash	Fraxinus pennsylvanica	Poor
336	6	Eastern Cottonwood	Populus deltoides	Good
337	6	Black Walnut	Juglans nigra	Good
342	7	Pin Cherry	Prunus pensylvanica	Good
343	6	Eastern Cottonwood	Populus deltoides	Good
349	9	Box Elder	Acer negundo	Poor
350	9	Box Elder	Acer negundo	Poor
351	10	Box Elder	Acer negundo	Fair
352	6	Sugar Maple	Acer saccharum	Good
353	11	Green Ash	Fraxinus pennsylvanica	Dead
354	8	Black Cherry	Prunus serotina	Fair
355	8	Sugar Maple	Acer saccharum	Good
356	7	Black Cherry	Prunus serotina	Poor
357	13	Eastern Cottonwood	Populus deltoides	Good
358	24	Eastern Cottonwood	Populus deltoides	Good
359	7	Red Maple	Acer rubrum	Good
360	15	Pin Oak	Quercus palustris	Good
361	12	Pin Oak	Quercus palustris	Good
362	6	Red Maple	Acer rubrum	Fair
363	7	Green Ash	Fraxinus pennsylvanica	Dead
364	7	Green Ash	Fraxinus pennsylvanica	Dead
365	6	Green Ash	Fraxinus pennsylvanica	Poor
366	9	Green Ash	Fraxinus pennsylvanica	Poor
367	7	Green Ash	Fraxinus pennsylvanica	Dead
368	23	Eastern Cottonwood	Populus deltoides	Good
369	7	Pin Oak	Quercus palustris	Good
370	29	Crabapple	Malus sp.	Fair
371	9	Black Walnut	Juglans nigra	Good
372	11	Black Walnut	Juglans nigra	Good
373	12	Black Walnut	Juglans nigra	Good
376	40	Silver Maple	Acer saccharinum	Good
377	9	Blue Spruce	Picea pungens	Poor
378	7	Blue Spruce	Picea pungens	Dead
379	9	Blue Spruce	Picea pungens	Fair
380	13	Pin Oak	Quercus palustris	Good
381	10	Green Ash	Fraxinus pennsylvanica	Dead
382	18,18,9,9	Silver Maple	Acer saccharinum	Fair
383	8	Blue Spruce	Picea pungens	Poor
384	8	Green Ash	Fraxinus pennsylvanica	Dead
385	9	Green Ash	Fraxinus pennsylvanica	Dead
386	15	White Pine	Pinus strobus	Good
387	13	White Pine	Pinus strobus	Good
388	8	Box Elder	Acer negundo	Good
389	13	White Pine	Pinus strobus	Good
390	36	Silver Maple	Acer saccharinum	Good
391	6	Red Maple	Acer rubrum	Good
392	16	Sweetgum	Liquidambar styraciflua	Fair
393	7	Green Ash	Fraxinus pennsylvanica	Dead
394	8	Blue Spruce	Picea pungens	Fair
395	9	Red Maple	Acer rubrum	Good
396	7	Red Maple	Acer rubrum	Good
397	7	Blue Spruce	Picea pungens	Poor
398	7	Blue Spruce	Picea pungens	Good
399	7	Blue Spruce	Picea pungens	Fair
400	8	Blue Spruce	Picea pungens	Fair
401	7	Green Ash	Fraxinus pennsylvanica	Dead
402	32,25	Silver Maple	Acer saccharinum	Good
403	7	Blue Spruce	Picea pungens	Good
404	11	Norway Maple	Acer platanoides	Good
405	7	Green Ash	Fraxinus pennsylvanica	Dead
406	10	Norway Maple	Acer platanoides	Good
407	12	Norway Maple	Acer platanoides	Good
408	10	Green Ash	Fraxinus pennsylvanica	Dead
409	15	White Pine	Pinus strobus	Good
410	13	White Pine	Pinus strobus	Good
411	11	White Pine	Pinus strobus	Good
412	9	White Pine	Pinus strobus	Good
413	11	White Pine	Pinus strobus	Good
414	16	Pin Oak	Quercus palustris	Good
415	12	Pin Oak	Quercus palustris	Good
416	7	Green Ash	Fraxinus pennsylvanica	Dead
417	7	Red Oak	Quercus rubra	Good
418	9	Pin Oak	Quercus palustris	Good
419	14	Pin Oak	Quercus palustris	Good
420	8	Green Ash	Fraxinus pennsylvanica	Dead
421	7	Green Ash	Fraxinus pennsylvanica	Dead
422	39	Black Locust	Robinia pseudoacacia	Good
423	8	Green Ash	Fraxinus pennsylvanica	Dead
424	115	Pin Oak	Quercus palustris	Good
425	8	Green Ash	Fraxinus pennsylvanica	Dead

TREE #	DIAMETER	COMMON NAME	SCIENTIFIC NAME	CONDITION
426	10	Red Oak	Quercus rubra	Good
427	15	Red Oak	Quercus rubra	Good
428	13	Pin Oak	Quercus palustris	Good
429	10	Pin Oak	Quercus palustris	Good
430	31	Sugar Maple	Acer saccharum	Good
431	12	Black Oak	Quercus velutina	Good
432	13,11,7	Eastern Red Cedar	Juniperus virginiana	Fair
433	21	Norway Spruce	Picea abies	Good
434	21	Norway Spruce	Picea abies	Good
435	9	Hawthorn	Crataegus sp.	Good
436	7	Hawthorn	Crataegus sp.	Good
437	9	Hawthorn	Crataegus sp.	Good
438	7	Winter King Hawthorn	Crataegus viridis	Good
439	8,8,6,7,5,6,7	Callery Pear	Pyrus calleryana	Good
440	16	Chinese Elm	Ulmus parvifolia	Good
441	20	Chinese Elm	Ulmus parvifolia	Good
442	18	Chinese Elm	Ulmus parvifolia	Good
443	10	Sweetgum	Liquidambar styraciflua	Good
444	12	Green Ash	Fraxinus pennsylvanica	Dead
445	10	Sweetgum	Liquidambar styraciflua	Good
446	6	Green Ash	Fraxinus pennsylvanica	Dead
447	8	Sweetgum	Liquidambar styraciflua	Good
448	13	Callery Pear	Pyrus calleryana	Good
449	8	Callery Pear	Pyrus calleryana	Good
450	7	Silver Maple	Acer saccharinum	Good
451	7	Crabapple	Malus sp.	Fair
452	8	Red Maple	Acer rubrum	Good
453	6	Red Maple	Acer rubrum	Good
454	7,7,6	Crabapple	Malus sp.	Fair
455	12	Silver Maple	Acer saccharinum	Good
456	8	Silver Maple	Acer saccharinum	Good
457	8	Silver Maple	Acer saccharinum	Good
458	8	Crabapple	Malus sp.	Good
459	9	Red Maple	Acer rubrum	Good
460	9	Red Maple	Acer rubrum	Good
461	7	Green Ash	Fraxinus pennsylvanica	Fair
462	7	Red Maple	Acer rubrum	Fair
463	6	Crabapple	Malus sp.	Good
464	10	Red Maple	Acer rubrum	Good
465	8	Red Maple	Acer rubrum	Good
466	11	Red Mulberry	Morus rubra	Good
467	6,6,4	Crabapple	Malus sp.	Good
468	7	Crabapple	Malus sp.	Good
469	9	Green Ash	Fraxinus pennsylvanica	Dead
470	13	Green Ash	Fraxinus pennsylvanica	Dead
471	11	Red Maple	Acer rubrum	Good
472	10	Green Ash	Fraxinus pennsylvanica	Dead
473	11	Blue Spruce	Picea pungens	Good
474	9	Blue Spruce	Picea pungens	Good
475	6,7,7,8	Red Maple	Acer rubrum	Good
476	8	Red Maple	Acer rubrum	Good
477	13	Silver Maple	Acer saccharinum	Good
478	6	Red Maple	Acer rubrum	Good
479	11	Green Ash	Fraxinus pennsylvanica	Dead
480	16	White Pine	Pinus strobus	Good
481	4,7,7,4	Red Mulberry	Morus rubra	Fair
482	12,5	Crabapple	Malus sp.	Good
483	8	Crabapple	Malus sp.	Good
484	8	Winter King Hawthorn	Crataegus viridis	Good
485	8	Green Ash	Fraxinus pennsylvanica	Dead
486	11	Green Ash	Fraxinus pennsylvanica	Dead
487	6	Green Ash	Fraxinus pennsylvanica	Dead
488	10	White Pine	Pinus strobus	Good
489	12	White Pine	Pinus strobus	Good
490	12	Green Ash	Fraxinus pennsylvanica	Dead
491	10	Green Ash	Fraxinus pennsylvanica	Dead
492	12	Green Ash	Fraxinus pennsylvanica	Dead
493	8,6,4,4	Crabapple	Malus sp.	Good
494	8	Blue Spruce	Picea pungens	Good
495	12	White Pine	Pinus strobus	Good
496	16	White Pine	Pinus strobus	Good
497	18	White Pine	Pinus strobus	Good
498	21	White Pine	Pinus strobus	Good
499	9,8	White Pine	Pinus strobus	Fair
500	16	White Pine	Pinus strobus	Good
501	18	White Pine	Pinus strobus	Good
502	12	Norway Spruce	Picea abies	Good
503	7	Red Mulberry	Morus rubra	Good
504	12,10,8	Crabapple	Malus sp.	Poor
505	9,13	Crabapple	Malus sp.	Poor
506	12	Black Walnut	Juglans nigra	Good
507	20	Pecan	Carya illinoinensis	Good
508	20	Pecan	Carya illinoinensis	Good
509	9	White Cedar	Thuja occidentalis	Good
510	9,9	White Cedar	Thuja occidentalis	Good
511	9,9,9	Crabapple	Malus sp.	Poor
512	8,8,10,7	Crabapple	Malus sp.	Poor
513	9,7	White Cedar	Thuja occidentalis	Good
514	7,8,7	White Cedar	Thuja occidentalis	Good
515	9,5	White Cedar	Thuja occidentalis	Fair
516	10,9	White Cedar	Thuja occidentalis	Good
517	14	White Cedar	Thuja occidentalis	Good
518	21,16	Silver Maple	Acer saccharinum	Fair
519	13,15	Silver Maple	Acer saccharinum	Good
520	14	Red Maple	Acer rubrum	Good
521	8	Red Maple	Acer rubrum	Good
522	12	Green Ash	Fraxinus pennsylvanica	Dead
523	12	Norway Spruce	Picea abies	Fair

TREE #	DIAMETER	COMMON NAME	SCIENTIFIC NAME	CONDITION
524	10	Norway Spruce	Picea abies	Fair
525	11	Norway Spruce	Picea abies	Poor
526	8,9	Red Mulberry	Morus rubra	Good
527	9,4	Red Mulberry	Morus rubra	Good
528	9	Red Mulberry	Morus rubra	Good
529	6,7,4	Red Mulberry	Morus rubra	Good
530	9	White Pine	Pinus strobus	Good
531	10	White Pine	Pinus strobus	Good
532	9	Norway Spruce	Picea abies	Fair
533	6	Norway Spruce	Picea abies	Fair
534	10	Norway Spruce	Picea abies	Fair
535	8	Norway Spruce	Picea abies	Fair
536	8	White Pine	Pinus strobus	Good
537	10	Norway Spruce	Picea abies	Fair
538	9	Norway Spruce	Picea abies	Fair
539	8	Norway Spruce	Picea abies	Fair
540	11	Blue Spruce	Picea pungens	Good
541	11	Blue Spruce	Picea pungens	Fair
542	9	Blue Spruce	Picea pungens	Good
543	9	Norway Spruce	Picea abies	Good
544	12	Norway Spruce	Picea abies	Good
545	6	Red Mulberry	Morus rubra	Good
546	11	Blue Spruce	Picea pungens	Good
547	8	White Pine	Pinus strobus	Good
548	8	Blue Spruce	Picea pungens	Good
549	7	Blue Spruce	Picea pungens	Good
550	6	White Pine	Pinus strobus	Fair
551	7,6,3	Red Mulberry	Morus rubra	Fair
552	11	Norway Spruce	Picea abies	Good
553	8	White Pine	Pinus strobus	Good
554	18	Red Maple	Acer rubrum	Good
555	10	Blue Spruce	Picea pungens	Good
556	12	Blue Spruce	Picea pungens	Fair
557	9	Blue Spruce	Picea pungens	Good
558	10	Red Maple	Acer rubrum	Good
559	11	Blue Spruce	Picea pungens	Good
560	7	Blue Spruce	Picea pungens	Fair
561	11	Blue Spruce	Picea pungens	Good
562	17	Red Maple	Acer rubrum	Good
563	7	Hackberry	Celtis occidentalis	Good
564	10	White Pine	Pinus strobus	Good
565	10	Red Maple	Acer rubrum	Good
566	9	Red Maple	Acer rubrum	Good
567	11	Red Maple	Acer rubrum	Good
568	6	Blue Spruce	Picea pungens	Fair
569	6	Blue Spruce	Picea pungens	Good
570	6	Blue Spruce	Picea pungens	Fair
571	6	Black Walnut	Juglans nigra	Good
572	8	White Pine	Pinus strobus	Good
573	6,4,3	Red Mulberry	Morus rubra	Good
574	8	Blue Spruce	Picea pungens	Good
575	10	Blue Spruce	Picea pungens	Fair
576	11	Blue Spruce	Picea pungens	Good
577	11	Blue Spruce	Picea pungens	Good
578	6	Blue Spruce	Picea pungens	Good
579	8	Blue Spruce	Picea pungens	Good
580	9,7,16,8,10	White Cedar	Thuja occidentalis	Good
581	10	Red Mulberry	Morus rubra	Good
582	9	Black Cherry	Prunus serotina	Poor
584	9,8	Red Mulberry	Morus rubra	Good
585	6,5	Red Mulberry	Morus rubra	Poor
586	7,7,5,5	Hackberry	Celtis occidentalis	Fair
587	7,8,5,5	Red Mulberry	Morus rubra	Good
588	10	Sycamore	Platanus occidentalis	Good
594	12	Hackberry	Celtis occidentalis	Good
596	9	Red Mulberry	Morus rubra	Fair
598	7,8	Red Mulberry	Morus rubra	Poor
599	9	White Pine	Pinus strobus	Good
600	16	Norway Spruce	Picea abies	Good
601	7,7	White Pine	Pinus strobus	Good
602	17	Red Mulberry	Morus rubra	Fair
603	19	White Pine	Pinus strobus	Good
607	40	Hackberry	Celtis occidentalis	Good
608	15	Scotch Pine	Pinus sylvestris	Good
609	12	Scotch Pine	Pinus sylvestris	Fair
610	32	Black Cherry	Prunus serotina	Dead
612	18	Hackberry	Celtis occidentalis	Good
618	30	Ginko Tree	Ginlko Biloba	Good

LEGEND

Tree To Be Removed (Dead, Poor or Ash)

Tree To Be Removed (Good or Fair)

Tree To Remain

Total Trees Removed: 365 / 6264 caliper inches
Total Trees Removed, Dead: 29 / 297 caliper inches
Total Trees Removed, Poor: 28 / 758 caliper inches
Total Trees Removed, Ash: 2 / 14 caliper inches
Total Caliper Inches of Tree Replacement: 5195 caliper inches

Saving 203 Trees (2639")
on north side of Tucker
Creek Preserve, as shown on plans.

Note: Tree numbers not shown in the table but on the plan sheet are not located on the property.

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
TREE SURVEY TABLE

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE

JOB NO.
2018-0036

SHEET
18/22

\\cmhdata01\project01\20180036\Dwg\04Sheets\PREL\22 Tree Survey Table.dwg, Last Saved By: sohara, 9/29/2020 9:04 AM Last Printed By: Nerici, Megan, 9/29/2020 9:59 AM
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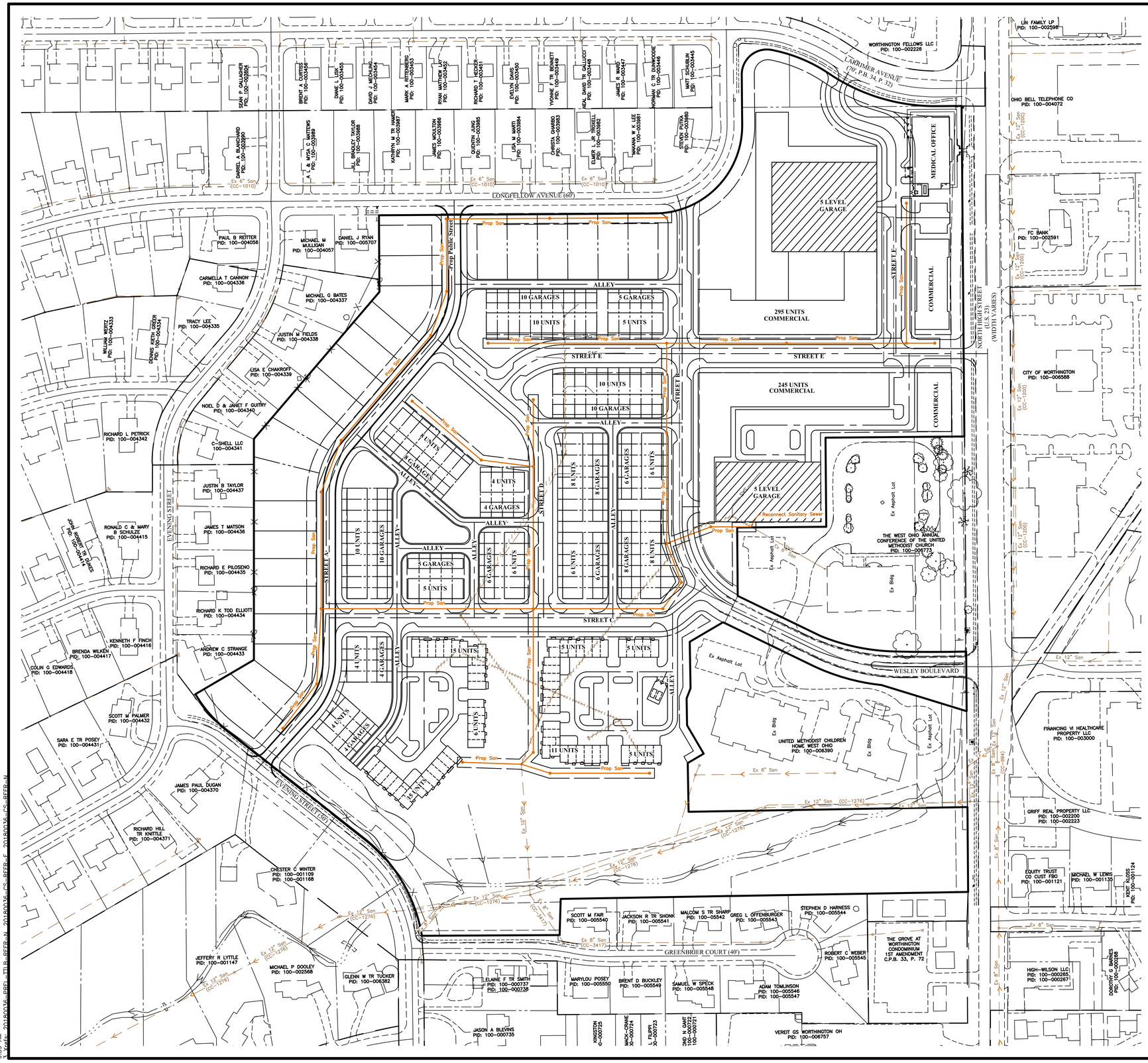

LEGEND

- Existing Sanitary Sewer
- Existing Sanitary Sewer (To Be Removed)
- Proposed Sanitary Sewer

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON WORTHINGTON SANITARY SEWER PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3646
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" = 100'

JOB NO.
2018-0036

SHEET
19/22

\\cmhdata01\project01\20180036\Dwg\04Sheets\PREL\25 Master Stormwater Management Plan.dwg, Last Saved By: sohoro, 9/29/2020 9:04 AM Last Printed By: Nerici, Megan, 9/29/2020 9:59 AM
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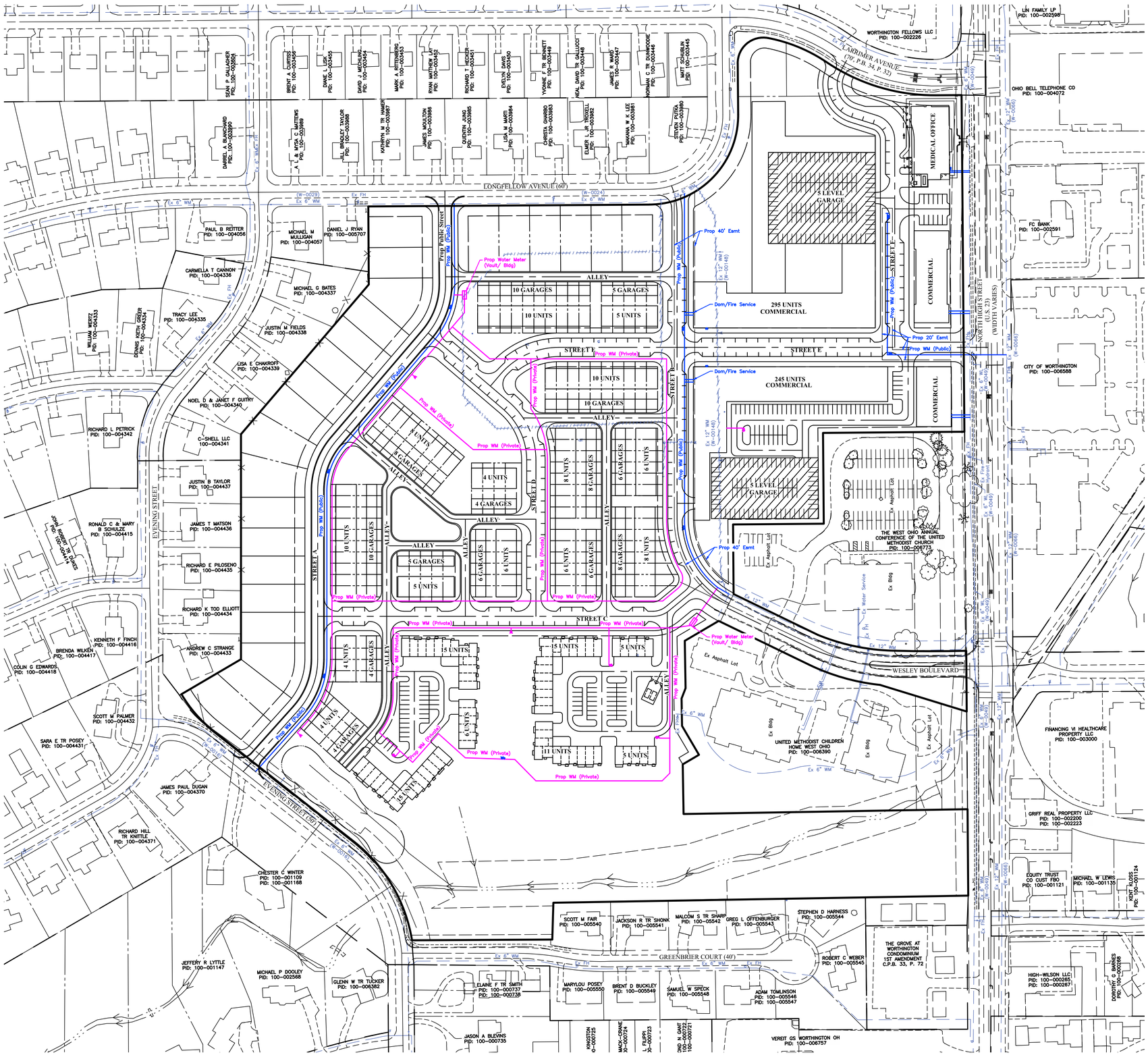

LEGEND

- Public Water Main
- Private Water Main
- Existing Water Main
- Existing Water Main (To Be Removed)

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS			
MARK	DATE	DESCRIPTION	

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON WORTHINGTON WATER MAIN PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" = 100'

JOB NO.
2018-0036

SHEET
20/22

\\cmhdata01\project01\2018\0036\Dwg\04Sheets\PREL\25 Master Stormwater Management Plan.dwg, Last Saved By: sahora, 9/29/2020 9:04 AM Last Printed By: Nerici, Megan, 9/29/2020 10:00 AM
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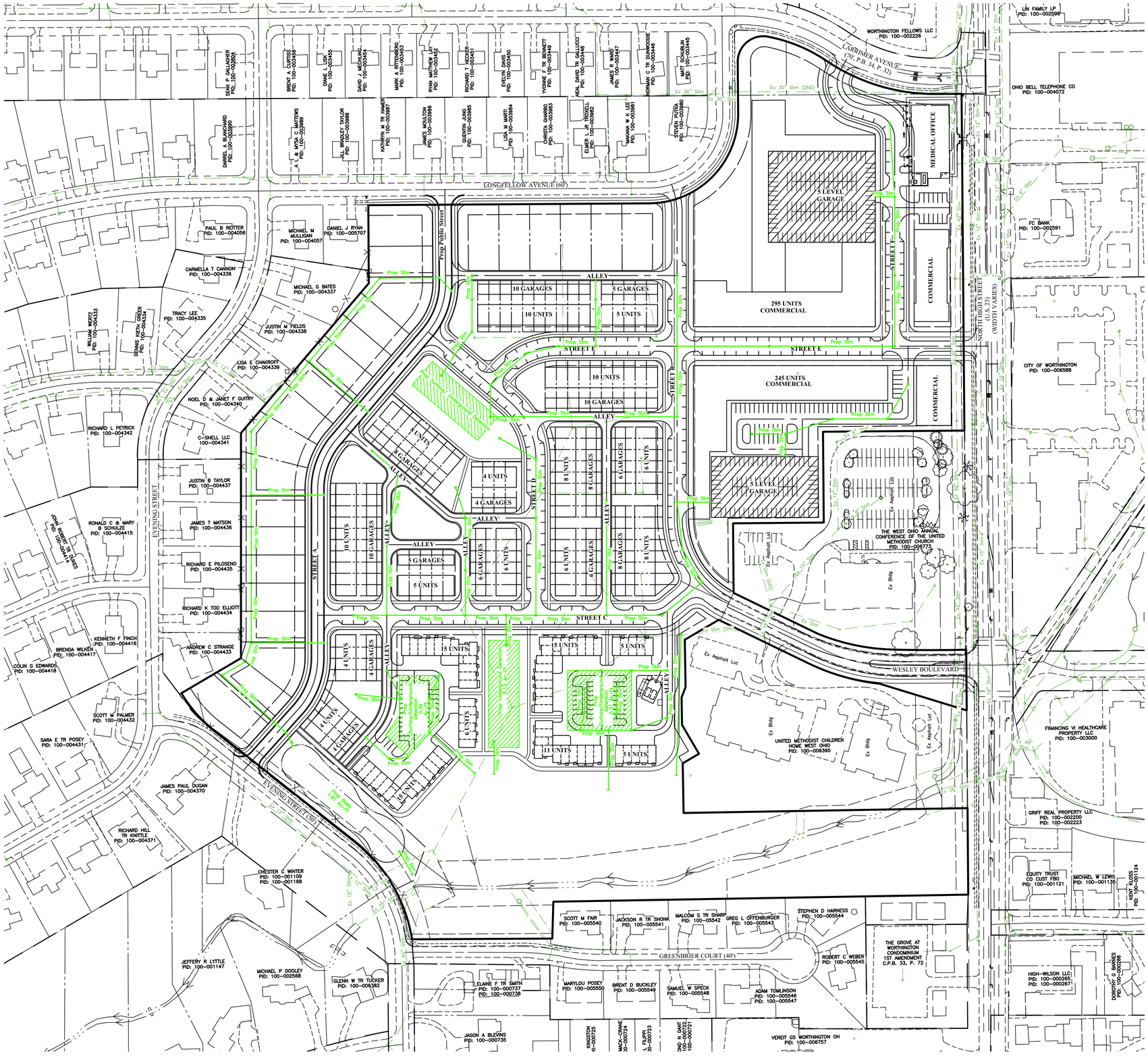

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON
WORTHINGTON
MASTER STORMWATER MANAGEMENT PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" = 100'

JOB NO.
2018-0036

SHEET
21/22

\\emhdata01\project01\2018\0036\Dwg\04Sheets\PREL\25 Master Stormwater Management Plan.dwg, Last Saved By: sahara, 9/29/2020 9:04 AM Last Printed By: Nerici, Megan, 9/29/2020 10:00 AM
3 Xrefs: 2018\0136-FBC-TTLB-BEFB-N, 2018\0136-FC-BEFB-E, 2018\0136-FC-BEFB-N

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR

LC WORTHINGTON
WORTHINGTON
STORM SEWER & GRADING PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
OCTOBER 2, 2020

SCALE
1" = 100'

JOB NO.
2018-0036

SHEET
22/22

\\cmhdata01\project01\2018\0036\Dwg\04Sheets\PREL\26 Storm Sewer & Grading Plan.dwg, Last Saved By: sohara, 9/29/2020 9:04 AM Last Printed By: Nerici, Megan, 9/29/2020 10:00 AM
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SECTION 3- ARCHITECTURAL DOCUMENTS

LC WORTHINGTON • PUD • ARB SUBMITTAL

OCTOBER 2, 2020

ELECTRICAL SYSTEMS NARRATIVE

1.01 SCOPE OF WORK

The following text is intended to establish a minimum standard for the complete electrical systems for the commercial, mixed-use, multi-family, townhome, and single-family buildings.

1.02 CODES AND STANDARDS

A. Electrical systems will be designed and installed in conformance with the following codes and standards:
   1. The International Building Code, latest enforced edition, with local amendments
   2. NFPA 70, National Electrical Code, latest enforced edition
   3. NFPA 72, National Fire Alarm Code, latest enforced edition
   4. NFPA 101, Life Safety Code, latest enforced edition
   5. NFPA 110, Emergency and Standby Power Systems, latest enforced edition
   6. ASME/A17.1 Safety Code for Elevators and Escalators, latest enforced edition
   7. Municipal ordinances governing electrical work
   8. Regulations of the local utility company with respect to metering and service(s)

1.03 EQUIPMENT AND MATERIALS

A. All material shall be new and shall conform to the standards where such have been established for the particular material in question. Publications and Standards of the organizations listed below are applicable to materials specified herein.
   1. American Society for Testing and Materials (ASTM)
   2. Underwriters Laboratories Inc. (UL)
   3. NFPA 72, National Fire Alarm Code, latest enforced edition
   4. NFPA 101, Life Safety Code, latest enforced edition
   5. NFPA 110, Emergency and Standby Power Systems, latest enforced edition
   6. ASME/A17.1 Safety Code for Elevators and Escalators, latest enforced edition
   7. Municipal ordinances governing electrical work
   8. Regulations of the local utility company with respect to metering and service(s)

B. All material shall be Underwriters Laboratories Inc. (UL) Listed and UL Labeled.
C. Material of the same type shall be the product of one manufacturer.

1.04 ELECTRICAL SERVICE, DISTRIBUTION AND METERING

A. Service Requirements
   1. The electric service will be delivered to the site via utility company transformers operating at 208/120 Volts, 3-phase for the commercial, mixed-use and multifamily buildings, and utility company transformers operating at 240/120 Volts, 1-phase for the townhomes and single-family dwellings.
   2. The following electrical service characteristics will be coordinated with the utility company:
      a. Service voltages
      b. Available short circuit current
      c. Load analysis, connected and estimated demand
      d. Power Company charges for establishing service that are to be paid by the Owner
      e. Termination requirements
B. Electric Services
   1. The electrical services will feed multiple, 3-phase, 4-wire meter centers in main electrical rooms. Main electrical rooms reside in each phase of the building and within the parking garage.
C. Distribution System
   1. Amenity areas, Common areas, and Parking Garage
      a. These portions will have a 208/120V distribution system. Large motor loads, elevators and other substantial loads will be fed at 208V, 3-phase. LED and fluorescent lighting will be fed at 120V.
      b. The residential floors will be served via 208/120V distribution. 2000A & 1600A, 208V, 3-phase meter centers will be located on ground floor of the building, within building phases. These meter centers will feed 125A and 200A single phase, 208/120V load centers in each living unit. Meter centers will be fed from main switchboards within ground level electrical rooms.
   2. The townhomes and single family-dwellings will have a 240/120V distribution system. There will be one (1) meter pack per building. These meter packs will feed 150A single phase, 240/120V load centers in dwelling. Lighting will be LED and fluorescent and supplied at 120V.
D. Metering
   1. 208/120V Commercial areas, Amenity areas, Common areas, and Parking Garage
      a. Subject areas will be provided with one (1) utility meter per floor and per phase. Metering requirements will be coordinated with the utility company.

2. 208/120V Residential Units
    a. Residential electric service(s) will not be metered at the utility origination point. Each dwelling unit will be separately metered via utility company meters located in the electrical rooms on the residential levels.
3. 240/120V Townhomes and single-family dwellings
    a. Residential electric services will not be metered at the utility origination point. Each townhome and single-family dwelling will be separately metered via utility company meters located at the meter packs on the outside of each building.

1.05 NORMAL ELECTRICAL DISTRIBUTION

A. Acceptable manufacturers of electrical equipment will be Square D, General Electric, Siemens or Eaton.
B. Disconnect switches will be heavy duty type with lockable handles. General duty shall be allowed for equipment serving dwelling units.
C. Switchboards:
    1. Switchboard(s) of suitable voltage and amperage ratings shall be located in dedicated electrical room(s). The short circuit rating of switchboards is estimated to be 65,000 Amps.
    2. The switchboard main device shall be an insulated case circuit breaker.
    3. Tin-plated aluminum bus will be specified. Horizontal bus shall not be reduced, i.e., same rating its entire length.
    4. Mains devices shall be individually mounted; devices in the distribution section shall be group mounted.
    5. Feeder devices shall be molded case circuit breakers.
    6. Fifteen percent (15%) spare capacity will be provided with space for corresponding devices.
D. Panelboards
    1. Panelboards 400A and smaller shall be Lighting and Appliance type for each floor and phase for house loads.
    2. Panelboards shall be circuit breaker type utilizing bolt-on breakers.
    3. Panelboards shall be dead front type and bus bars shall be tin-plated aluminum. A neutral bus and copper ground bus will be provided in each panel. Each panel shall have 15% spare space capacity and devices.
    4. Minimal circuit breaker short circuit ratings shall be 10,000 AIC operating at 208/120V.
E. Services and Feeders
    1. Services shall be aluminum (unless otherwise prohibited by local utility company.
    2. Feeders shall be aluminum (unless otherwise prohibited by local authority having jurisdiction).
    3. Aluminum conductors shall be compact, XHHW-2 (90 degrees C). Conductors shall be AA-8000 series. Aluminum conductors will not be allowed for feeders serving mechanical loads, pumps or elevators.
    4. Equipment grounding conductors will be installed in all feeder raceways.
F. Branch Circuits
    1. All branch circuits shall be copper. Equipment grounding conductors will be installed in all raceways.
    2. MC cable shall be limited to branch circuits concealed in walls, above ceilings and within electrical rooms. Unless noted otherwise, metal clad cable may not be run directly into surface-mounted panelboards, cabinets, switches or other devices. For MC cable circuits powered from a surface-mounted panelboard, cable homeruns shall be installed to a metal wireway above the panelboard, and conductors (without armor) shall be routed within metal conduit(s) from wireway to panelboard. Ampacity adjustment factors are not necessary for conduit lengths of 24" or less.
    3. AFCI protection shall be provided for all 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas.
    4. Non-metallic sheathed cable (Type NM) shall be allowed in Type III, IV and V construction.
G. Conduit System
    1. Raceway installed below grade, below slabs, and within concrete shall be Schedule 40 PVC conduit. Raceways installed subject to damage shall be galvanized rigid steel (GRS) conduit. All other raceway shall be electrical metallic tubing (EMT).
    2. EMT fittings shall be steel set screw for dry, indoor environments, while gland and ring compression type shall be used for wet locations. Connectors shall have insulated throats.
    3. The minimum conduit size shall be 1/2", except flexible conduits between outlet box and lighting fixtures may be 3/8".
    4. Flexible conduits shall be steel metallic type with liquid-tight type used in exterior mechanical equipment and other damp/wet locations.

5. All electrical junction and outlet boxes shall be accessible. The design will locate the boxes so that they are not visible in the public common areas.

H. Conductors

1. Conductors shall be a minimum No. 12 AWG. For wiring within dwelling units, No. 14 AWG is allowed for 15A circuits, unless prohibited by the authority having jurisdiction. Conductors No. 10 AWG and smaller shall be solid copper, 90 degrees C, type THHN/THWN-2. Conductors larger than No. 10 AWG shall be stranded copper, 90 degrees C THHN/THWN-2.
2. Insulation voltage level rating shall be 600V for low voltage systems.
3. Conductors shall be color coded on a uniform basis throughout the entire project to identify different voltages and systems.

I. Devices (Common Areas):

1. All devices shall be specification grade in public and back-of-house areas.
2. Device plates shall be smooth high-impact nylon type with finish to match the device(s). Stainless steel device plates shall be provided in the toilet rooms, mechanical rooms, loading dock areas and damp areas. Jumbo or mid-size plates shall be provided for devices in masonry walls. Floor outlet boxes shall have brass trim. Exterior devices shall have weatherproof gasketed covers.
3. Receptacles shall be as follows:
    a. 20A, 125V, Duplex Type: Hubbell 5362
    b. 20A, 125V, Duplex Type GFI outlet: Hubbell GF20
    c. 20A, 125V, Isolated Ground, Duplex Type: Hubbell IG5352
    d. 20A, 125V, Tamper-resistant in corridors and amenity spaces.
4. Switches shall be 20A, 120/277V, Single Pole, Rocker, Silent Operation type with ground screw: Hubbell 1221.
5. Wall mounted dimmers shall be Lutron “Nova T” Series, slide type or equal.
6. The acceptable manufacturers of devices shall be Hubbell, Arrow-Hart and Pass & Seymour/Sierra.
7. Receptacles in outdoor locations, restrooms, janitor’s closets and pump rooms shall be GFCI type.
8. Receptacles will be located in all corridors and lobbies at not more than 40' centers. Finish of devices in public spaces will be compatible with surrounding spaces.
9. Receptacles will be provided in all office space at no greater than twelve foot (12') centers for computer and office equipment.
10. Receptacles in mechanical equipment areas shall be located not greater than twenty-five (25) feet from equipment.
11. Leviton EVR-GREEN 4000 Dual Port Car Charging Stations (or equal) shall be provided within the parking garage. Each dual port car charging station shall be served by one 40A 208V, 1 phase circuit between two spaces. Single vehicle charges at full 6.2KW, 30A and two vehicles simultaneously charge at 3.3KW, 16A each.

J. Devices (Dwelling/Living Units):

1. All devices shall be residential grade in dwelling units.
2. Device plates shall be smooth high-impact nylon type with finish to match the device(s). Floor outlet boxes shall have brass trim.
3. Receptacles shall be as follows:
    a. 15A, 125V, Duplex Type: Leviton T5820
    b. 15A, 125V, Duplex Type GFI outlet: Leviton T7899
4. Switches shall be 15A, 120V, Single Pole, Rocker, Silent Operation type with ground screw: Leviton 1451-2
5. Wall mounted dimmers shall be Lutron “Nova T” Series, slide type or equal.
6. The acceptable manufacturers of devices shall be Leviton, Eagle and Pass & Seymour/Sierra.
7. All dwelling units shall be required to have smoke detectors with sounder bases, 120V and battery power and connect to other smoke detectors within the same unit.
8. Dual switching for a ceiling fan/light shall be provided in the living room and all bedrooms. There shall also be a switched receptacle in the living room and bedrooms.

K. Short Circuit and Coordination Study

1. Overcurrent protective devices shall be selectively coordinated for distribution systems serving multiple elevators, for faults with durations at 0.01 seconds.
2. Manufacturer of switchboards and panelboards shall provide a short circuit and coordination study for:
    a. Distribution systems required to be selectively coordinated that contain circuit breakers.
    b. Distribution systems containing breakers with adjustable trip settings.
    c. Distribution systems requiring arc-flash analysis.
3. Where required for selective coordination purposes, the coordination study shall be included in the shop drawing submittals for the equipment.

L. Arc Flash Safety

1. The Contractor shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E - Standard for Electrical Safety in the Workplace, reference Article 130.3 and Annex D, and IEEE 1584 – Guide for Performing Arc Flash Hazard Calculations.

1.06 LIGHTING AND LIGHTING CONTROL

A. General
   1. The lighting design (fixture layout, fixture selection and method of control) in public spaces shall be prepared in collaboration with the Architect and/or Lighting Designer. The total building envelope shall meet the requirements and/or restrictions of any local energy codes.
   2. Energy efficient LED and fluorescent lighting will be used in public spaces. All building support areas will be provided with fluorescent lighting.
   3. The color temperature of lighting shall be 3,500 degrees K and a minimum CRI of 80. Fluorescent lamps shall be T8 energy saving type.
   4. Specified lamp manufacturers will be Osram/Sylvania, Philips, and General Electric.
   5. All fluorescent and compact fluorescent ballasts shall be electronic.
   6. Specified ballast manufacturers will be Motorola, Magnetek, General Electric, Advance or Universal.
   7. Occupancy control systems will be used in public restrooms and where required by code.

B. Exterior Landscape/Site Lighting
   1. All site lighting fixtures shall be controlled on separate circuits from the landscape lighting fixtures through time clocks, photocells or the Building Management System.
   2. Parking deck lighting fixtures shall be metal halide with quartz lamps for emergency lighting.
   3. Control will be provided with photocell, astronomical time clock control or through the building management system for the following typical outside lighting circuits with suggested times of operation to be tailored by the Operator.
      i. On Off
         1. Signage Dusk Dawn
         2. Path or entry roadway Dusk Dawn
         3. Landscape Dusk 12:00 AM
         4. Building Facade Dusk 12:00 AM
      ii. The control shall provide the following capabilities as a minimum:
         1. Photocell On - Photocell Off
         2. Photocell On - Time Clock Off
         3. Time Clock On - Time Clock Off
         4. Manual Override - For Select Zones

C. Dwelling Units
   1. The ‘per unit’ lighting budget for the dwelling units is to be as directed by Owner.

D. Emergency Lighting
   1. Emergency illumination will be accomplished via battery-powered lighting fixtures (local battery system per lighting fixture, and/or central inverter system(s)).

1.07 FIRE ALARM SYSTEM

A. The Fire Safety System shall be a micro-processor based, network oriented, addressable multiplexed stand-alone fire alarm initiating device monitoring and supervising system and life safety type voice alarm annunciation system. The system design shall comply with NFPA, American Disabilities Act and local requirements. System monitoring, communication and signals shall be over two (2) wire plenum rated, shielded twisted pair circuits. All wire runs shall be run in ceiling plenums. Where run in walls or exposed to physical damage, wiring will be run in conduit.

B. The system shall monitor the status of all fire protection systems and transmit fire alarm or supervisory signals to the building occupants andother locations as necessary. Fire alarm pathways shall be Class B.

C. Pathway survivability for notification appliances shall be Level 0 or 1.

D. The system shall respond to a fire emergency through support and control of the following:
   1. Pre-programmed smoke control sequences by designated zone and emergency automatic and/or manual control of HVAC air systems
   2. Automatic audio evacuation and emergency public address system
   3. Elevator recall command
   4. Central station notification
   5. Sprinkler flow switches
   6. Shunt tripping of elevator feeder overcurrent devices

E. The fire alarm control panel shall annunciate alarm and trouble signal by individual device, and shall permit disable by individual device and shall permit resound by zone.

F. A separate remote annunciator panel shall be installed in the lobby.

G. The fire alarm control panel/system shall have the following features:
   1. Battery back-up
   2. Alpha numeric annunciator display
   3. Integral event printer
   4. Selective individual sensor sensitivity

5. Alarm silence, system reset; trouble acknowledge and supervision
6. Automatic sensor integration for alarm verification
7. Sensor sensitivity status (dirty condition); transient surge suppression on incoming power source, any interface conduits and any system communication circuits outside the building footprint

H. Acceptable manufacturers of the fire alarm system shall be equal to one manufactured by Simplex, Notifier, or Cerberus/Pyrotronics.

I. Devices
1. Photoelectric smoke detectors shall be installed in the following areas:
    a. Electric, mechanical, and telephone/data rooms
    b. Elevator lobbies, machine rooms and hoistways
    c. As required to actuate smoke control equipment (including doors).
2. Manual stations shall be installed at all exit doors and outside of each stairwell door on each floor.
3. Manual stations and horns shall be the recessed type. Audio/visual signaling devices shall be used where required by the applicable accessibility codes. Devices shall be installed in visually remote areas wherever possible.

J. Alarm Signals
1. Receipt of an alarm signal from an area detector, manual fire alarm station, or sprinkler system shall result in transmission of an evacuation alarm to the fire floor, the floor above, and the floor below, and transmission of a fire alarm to the local fire department headquarters.
2. Hold down buttons will be provided at the Fire Command Center to disconnect the local horn to permit emergency phone transmission.
3. Audible and visual devices shall be located to comply with the American Disabilities Act. The minimum audible level of an alarm signal shall be 75 dB minimum within a sleeping room. The alarm shall achieve a dB level of 15 above the ambient conditions of normal use or occupancy.

1.08 TWO-WAY EMERGENCY COMMUNICATION SYSTEM

A. A two-way communication system call box shall be provided within designated areas of refuge (or at every elevator lobby) on each handicap-accessible floor.
B. All call boxes shall communicate to a base station located in a constantly attended location or other designated area.
C. System manufacturer shall be Rath or approved equal.
D. Cabling for two-way communication system shall:
1. Be 2-hour fire-rated circuit integrity cable (CI), or
2. Be routed within a 2-hour fire-rated enclosure or protected area

1.09 LIGHTNING PROTECTION SYSTEM

A. The building will have a lightning protection system in accordance with LPI 75, UL Standard 96A. The lightning protection system conductors shall be copper or aluminum based upon the building material on which installed. Down conductors shall be either installed in PVC conduit within columns or steel columns may be used as the downflow path.
B. All materials shall conform to UL-96A Class I requirements.

1.10 SURGE PROTECTIVE DEVICES

A. SPD equipment will be provided on the main distribution switchboard(s) and any equipment serving exterior or roof mounted equipment.
B. Main service SPD shall have a rating of 100 ka per mode.

1.11 COMMUNICATIONS CONDUIT SYSTEM

A. An empty raceway system and/or cable tray system will be provided for voice, data, CATV and security systems.
B. Provide four (4) 4" conduits from the main telephone room (MDF) to the property line. Terminate conduits at utility manholes. Provide 10' x 8' x 3/4" plywood main backboard.
C. Provide four (4) 4" conduits/sleeves vertically up through the building for telephone distribution (IDF rooms). Provide 4' x 8' x 3/4" plywood backboard within each IDF room.
D. Provide a #3/0 insulated copper ground conductor from main telephone room ground bus to electrical grounding electrode system. Provide #3/0 insulated copper ground conductor from main telephone room ground bus up through each floor telephone room. Terminate on ground bus at each floor. Provide 12' of #6 copper insulated ground conductor at each tenant floor backboard.
E. Provide two (2) 4" conduit/sleeves vertically up through the building for other low voltage system cabling. Provide 4' x 8' x 3/4" plywood backboard.
F. Provide two (2) 4" conduits to property line for CATV service. Terminate conduits at utility manholes. Provide 4’ x 8' x 3/4" plywood main backboard.

FIRE PROTECTION SYSTEMS NARRATIVE

1.01 SCOPE OF WORK

The following text is intended to establish a minimum standard for the complete fire protection systems for the commercial, mixed-use, and multi-family buildings.

1.02 SYSTEMS

A. Systems to be provided under the Fire Protection design section shall be as listed below. The connection point to the site utility service for the fire protection system shall be at 5'-0" from the exterior of the building unless specifically otherwise noted.
   1. Automatic Sprinkler Systems
   2. Fire Standpipe Systems
   3. Automatic Fire Pump/Jockey Pump installation
   4. Automatic Dry Sprinkler Systems

1.03 DESIGN STANDARDS

A. Fire Protection systems shall be designed and installed in accordance with the requirements of the following codes, standards and design guides:
   1. The International Fire Code, latest enforced edition, per the Authority Having Jurisdiction (AHJ)
   2. The International Building Code, latest enforced edition, per the AHJ
   3. National Fire Protection Association (NFPA) Standards:
      a. NFPA 101 - Life Safety Code
      b. NFPA 13 - Installation of Sprinkler Systems
      c. NFPA 13R - Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height, if applicable
      d. NFPA 14 - Installation of Standpipe and Hose Systems
      e. NFPA 20 - Installation of Centrifugal Fire Pumps
      f. NFPA 24 - Installation of Private Fire Service Mains
      g. NFPA 25 - Inspection, Testing, and Maintenance of Waterbased Fire Protection Systems
   4. Factory Mutual (FM) Approval Guide
   5. Underwriters Laboratories Inc. (UL)
   6. Owner’s Insurance Underwriter Requirements

B. Related Electrical Work
   1. Motor controls, system controls, starters, disconnects, pilot lights, push buttons, etc. shall be furnished by the Fire Protection Contractor and rated for the equipment it is serving. Electrical equipment shall be wired for the voltage shown on the Electrical Engineer’s Drawings.

C. Pipe Penetrations
   1. Schedule 40 black steel sleeves shall be installed in all masonry or concrete walls, floors, roofs, etc. for pipe penetrations.
   2. Where core drilling is required, x-rays shall be performed prior to drilling shall be used. Star drills shall not be used.
   3. Penetrations through exterior walls shall be sealed weather tight.

D. Cleaning
   1. At all times, the premises shall be kept reasonably clean and free of undue amounts of waste, trash and debris by periodic cleaning and removal.
   2. Piping shall be covered and protected from dust and debris prior to being placed into operation.
   3. Prior to pressure testing, all equipment, piping, etc., shall be thoroughly flushed and cleaned.

1.04 FIRE PROTECTION WATER SERVICE

A. A flow test from the two (2) hydrants nearest the site service entry is required at the schematic design phase to determine the flow and pressure characteristics of the existing water service. The flow test is to be performed by a licensed fire protection contractor or the local utility department. The completed flow test data including elevations and approximate distances, along with a utility service map of the area is to be forwarded to the Engineer for evaluation of the existing water service.

B. The facility shall be provided with a dedicated 8” fire service for the main building and a 4” fire service for each town home building.

C. A double check detector assembly backflow preventer shall be provided within the building on the fire main water service if not provided on the site service. A strainer and full size valved bypass is to be provided at the main backflow preventer location.

D. Should the existing water service be inadequate to meet the demands for the project, whether due to existing water pressure or the overall height of the new facility, an automatic electric fire pump assembly will be designed to provide the required pressure at all system components.

E. The characteristics and reliability of the fire protection service to the property must be investigated. The fire protection systems shall not be designed to operate if the residual pressure of the existing water service falls to 20 psi or lower at design flow requirements.

F. The Fire Marshal and the Owner’s Insurance Underwriter are to be consulted regarding the requirement for a dedicated fire protection storage reservoir if the public water supply is determined to be unreliable and/or if only a single source of water supply is available for the property.
G. The fire protection design will include a minimum of 10 psi safety factor to allow for future losses in the water service pressure characteristics.

1.05 AUTOMATIC SPRINKLER SYSTEM

A. The entire facility will be protected by an automatic sprinkler system supplied by combination fire standpipe/automatic sprinkler systems located within the building stairwells.
B. Automatic sprinkler systems shall be hydraulically calculated for the following design standards:
   1. NFPA 13 Systems

Area/Usage	Hazard Classification	Density GPM/Sq. Ft.	Remote Area	Maximum Head Spacing	Interior Hose Stream
Public Spaces, Lobbies, Corridors, Offices, Restaurants, Lounges, Meeting	Light	.10	1,500 sq. ft.	225 sq. ft.	100 gpm
Rooms and Dwelling Units					
Mechanical Rooms, Electrical Rooms, Elevator Equipment Rooms, Maintenance/Storage Rooms	Ordinary Group 1	.15	1,500 sq. ft.	130 sq. ft.	250 gpm
Dry Pipe Systems: Parking Garages, Loading Docks, Trash Rooms, Non-heated Attic Spaces, Ceiling Spaces, Porte Cochere and other spaces containing sprinkler piping that do not have alternate provisions to guarantee a 40° F temperature.	Ordinary Group 1	.15	1,950 sq. ft.	130 sq. ft.	250 gpm

   2. NFPA 13R Systems:
      a. Residential Sprinklers
         1) The system shall provide at least the flow required for the multiple and single sprinkler operating criteria specified by the sprinkler listing.
         2) The system shall provide at least the flow required to produce a minimum discharge density of 0.05 gpm/sq. ft. (2.04 mm/min) to the design sprinklers.
         3) Number of Design Sprinklers. The number of design sprinklers under flat, smooth, horizontal ceilings shall include all sprinklers within a compartment that requires the greatest hydraulic demand, up to a maximum of four adjacent sprinklers.
C. The fire protection systems shall not be designed to operate if the residual pressure of the existing water service falls to 20 psi or lower at design flow requirements.
D. The fire protection system design shall include a minimum of 10 psi safety factor to allow for future losses in the water service pressure characteristics.
E. The maximum allowable system velocities shall not exceed 20 fps unless alternate criteria are required by the Owner’s Insurance Underwriter.
F. The dwelling unit automatic sprinkler design criteria may be hydraulically calculated for the room design method as outlined in NFPA 13 if acceptable to the local governing authorities and the Owner’s Insurance Underwriter.
G. The remote area for the light hazard occupancies may be reduced 50% as allowed by NFPA 13 with the installation of fast response sprinklers if acceptable to the local authorities and the Owner’s Insurance Underwriter.
H. Automatic sprinklers will be provided in all elevator shafts, elevator machine rooms and electrical rooms unless specifically prohibited by local authorities. The service to each of these spaces shall be provided with a control valve with tamper switch and a flow switch wired for annunciation at the main Fire Alarm Control Panel (FACP).
I. Sprinklers shall be prohibited in elevator machine rooms, elevator machine spaces and elevator hoistways of fire service access elevators.

1.06 AUTOMATIC SPRINKLER SYSTEM MATERIALS

A. All fire protection pipes, fittings, valves and support materials shall meet the minimum requirements of NFPA 13 and Factory Mutual.

B. The underground fire protection service shall be provided with thrust blocks and rods and clamps at the service entry.

C. Automatic sprinklers will be provided as follows:

1. Dwelling units/Corridors
   a. Small frame glass element, semi-recessed, quick response, pendent and extended coverage sidewall sprinklers shall be provided in all areas. Temperature rating of sprinklers shall be 155 – 165 degrees. Sprinkler and escutcheon to be polished white finish. Sprinkler to be Viking Microfast Model M series with Model E-1 escutcheon.
2. Public Spaces with Gypsum Ceilings
   a. Fully concealed type sprinklers, glass element, or fusible link style, quick response sprinklers shall be provided in all areas with gypsum ceilings unless otherwise noted. Temperature rating of sprinklers shall be 155 – 165 degrees. Ceiling coverplate shall be factory painted to match the adjacent ceiling color; submit painted sample to the Architect for approval. Sprinkler to be Viking Horizon Mirage concealed sprinkler or approved equal.
3. Public and Back-of-House Spaces with Lay-in Ceilings
   a. Small frame glass element, semi-recessed, quick response pendent sprinklers shall be provided in all areas with lay-in ceilings unless otherwise noted. Temperature rating of sprinklers shall be 155 – 165 degrees. Sprinkler and escutcheon to be white painted finish. Sprinkler to be Viking Microfast Model M series with Model E-1 escutcheon.
4. Back-of-House Spaces and Unfinished Spaces with No Ceiling
   a. Quick response upright pendent sprinklers shall be provided in all areas with no ceiling. Temperature rating is to be 165 degrees unless conditions require higher temperature. Finish ofsprinkler to be rough brass. Sprinkler to be Viking Microfast Model M.
5. Parking Garages and Other Areas Exposed to Exterior Conditions
   a. Standard response upright sprinklers shall be provided in the parking garage areas supplied from the dry pipe system. All sprinklers shall have UL Listed polyester or Teflon corrosion protection. Temperature rating is to be 165 degrees unless conditions require higher temperature. Sprinkler to be Viking Micromatic Model M.
6. Exterior Overhangs and Elevator Shafts
   a. Standard response chrome plated dry horizontal sidewall or upright sprinklers are to be provided. Barrel length shall be a minimum of 12". Sprinkler and escutcheon shall have UL Listed polyester or Teflon corrosion protection at exterior overhangs and rough brass finish at elevator shafts. Sprinkler shall be Viking Model M.

1.07 DRY SPRINKLER SYSTEMS

A. The systems shall be complete with dry pipe valve, air compressor, accelerator, maintenance pressure compressor and associated trim and wired for interconnection to all required accessories, heat/smoke detectors, pressure switches, etc. as required.

1.08 HEAT TRACING CABLE FOR FREEZE PROTECTION OF PIPING

A. Provide pipe insulation with waterproof covering and listed electric heat tracing cable on all fire protection standpipe, cross main, feed main and branch piping located within areas exposed to temperatures below 40° F and as indicated on the Contract Documents.

B. Provide a complete UL Listed or FM Approved system of self-regulating heating cables, pipe insulation, controllers and components to maintain exposed fire protection piping at or above 40°F.

C. All heat tracing systems shall be supervised as required by NFPA 13.

1.09 FIRE STANDPIPE SYSTEMS

A. Fire standpipes with fire department valves shall be installed in each stairwell within the facility, automatic sprinkler connections will be supplied from standpipes at the required locations. Additional standpipes or fire valve cabinets will be provided at required locations throughout the facility per the requirements of NFPA 14.

B. Standpipes will be designed to provide a minimum of 500 GPM. Fire mains supplying standpipes will be designed to provide a minimum of 500 GPM at the most remote standpipe and 250 GPM for each additional standpipe to a maximum of 1250 GPM.

C. A two-outlet roof manifold complete with 2-½" hose valves, caps and chains shall be provided at each most remote high roof adjacent to the roof access point.

1.10 AUTOMATIC FIRE PUMP INSTALLATION

A. Pending confirmation with local authorities, a factory assembled automatic electric fire pump installation will be designed to provide 100 psi residual pressure at the most remote fire department valve or roof manifold.
B. The fire pump shall be provided with a reduced voltage, soft start, wye delta fire pump controller.
C. An exterior test header with the required number of outlets will be provided for testing of fire pump operation. A flow meter will be provided if required by local authorities to confirm the available water supply.
D. An electric jockey pump with integral controller shall be provided for interconnection with the main fire pump to minimize operation of the main fire pump at low flow demands.
E. All components of the fire pump installation shall be UL Listed and/or FM Approved.
F. The fire pump and jockey pump controllers shall be wired for annunciation at the main Fire Alarm Control Panel (FACP).

1.11 FIRE PROTECTION SYSTEM ALARMS

A. All valves in the fire protection system shall be provided with tamper switches wired for annunciation at the main FACP.
B. Automatic sprinkler system connections shall be provided with flow switchesadjacent to the zone control valve wired for annunciation at the main FACP.

1.12 FIRE DEPARTMENT CONNECTION

A. A dual inlet siamese fire department connection shall be provided in the service entry area of the facility if not provided on the site utility design. A fire hydrant must be provided on the Site/Civil design within 100 feet of the siamese connection.

MECHANICAL SYSTEMS NARRATIVE

1.01 SCOPE OF WORK

The following text is intended to establish a minimum standard for the complete mechanical systems for the commercial, mixed-use, multi-family, townhome, and single-family buildings.

1.02 SYSTEMS SUMMARY

A. Dwelling Units and Amenity Spaces: DX split system cooling with electric heat

B. Corridors: DX split system cooling with electric heat

1.03 SCOPE OF WORK AND SYSTEM DESIGN CRITERIA

A. General Requirements
1. The scope of work described herein shall include (except where otherwise noted) the furnishing of all materials, equipment, appurtenances, accessories, connections, labor, etc., required and/or necessary to completely install, clean, inspect, adjust, test, balance and leave in safe and proper operating condition all mechanical systems.
2. All equipment shall be labeled with Bakelite nametags or stenciling.
3. All equipment, materials, accessories, etc. used as part of the mechanical work shall be new, of the best grade and quality and of current production, unless specified otherwise. Equipment not specified in the contract documents shall be suitable for the intended use and shall be subject to approval by the Engineer.
4. All equipment, products and materials shall be free of defects and shall be constructed to operate in a safe manner without excessive noise, vibration, leakage, or wear.
5. All air filters shall be UL 900. All commercial unit filters shall be 2" thick pleated MERV 6, minimum, unless otherwise noted. Packaged rooftop air unit filters shall be 2" thick pleated MERV 8, minimum, unless otherwise noted. All residential filters shall be 1" thick pleated type, MERV 6, minimum.

B. Codes and Standards
1. This project is governed by the International Building Code, latest enforced edition, per the Authority Having Jurisdiction (AHJ); International Mechanical Code, latest enforced edition, per the AHJ; International Energy Conservation Code, latest enforced edition, per the AHJ; National Electric code, latest enforced edition, per the AHJ; the latest edition of NFPA 101 (Life Safety Code), NFPA 90A, as well as any locally adopted codes, standards, ordinances, or amendments.
2. The HVAC systems shall be installed in accordance with current ASHRAE, ANSI, ASME and SMACNA guidelines and standards.

C. HVAC Design Conditions
1. Summer indoor design conditions shall be 75°F dry bulb (+/- 2°F) and 50% relative humidity (+/- 5%) for all conditioned spaces (humidity uncontrolled). Amenity space design conditions shall be 72°F dry bulb (+/- 2°F).
2. Summer outdoor design conditions shall be 98.7°F dry bulb and 78.3°F wet bulb. Air-cooled equipment shall be selected for 105°F ambient.
3. Winter indoor shall be 70°F dry bulb.
4. Winter outdoor shall be 24.4°F dry bulb (ASHRAE 99% winter design dry bulb).
5. Noise criteria design goals:
   a. Mechanical equipment, air distribution systems and devices shall be designed to not exceed the following noise criteria (NC) levels:
      1) Public Space Areas: NC <35
      2) Utility/All Other Areas: NC <40
      3) Residential areas: NC <30

D. Indoor Air Quality (IAQ)
1. Minimum air quality, including filtering and humidity control, shall be in accordance with the 2015 International Mechanical Code.
2. The building will be designed to maintain a slightly positive pressure.
3. Ventilation for dwelling units will be by natural means; via operable windows and doors. Refer to architectural drawings for calculations and supporting documentation.
4. A minimum separation of 3 feet shall be maintained from discharge of environmental air to openings into the building.
5. A minimum separation of 10 feet shall be maintained from roofmounted exhaust fans, plumbing vents, etc. to any outside air intakes.

E. Related Electrical Work
1. Except as otherwise specified or noted, electrical equipment used for HVAC systems shall be as specified herein.
2. Motor controls, system controls, starters, disconnects, pilot lights, push buttons, etc. shall be furnished by the HVAC Contractor compatible with the apparatus that it

operates. Electrical equipment shall be wired for the voltage shown on the Electrical Engineer’s Drawings.

3. Electric motors shall be premium efficiency, open drip-proof type unless otherwise specified. Motors shall be NEMA continuous duty type and shall bear the UL Label. Motors shall be selected with a minimum of 15% safety factor greater than the fan brake/horsepower (e.g. 4.75 BHP would require a nominal 7½ HP motor). The motor service factor shall not be used as part of the safety factor. All motors shall have thermal overload protection. Motors shall meet NEMA MG1 Table 12-12 of EISA, 2010.
4. Motors controlled by a variable frequency drive (VFD) shall be inverter duty motors designed according to the requirements of NEMA MG 1, Part 31, “Definite Purpose, Inverter Fed Motors” and shall be compatible with the particular manufacturer’s drive that is used.
5. Starters for motors 1/3 HP and smaller shall be manual type, and for ½ HP and larger, shall be magnetic type. Starters shall be minimum size 0, combination type (with disconnect and lockable handle) with molded case circuit breaker. Starters for motors with remote or automatic control shall be magnetic. Relays, interlocks and auxiliary contacts shall be provided as specified and required.
6. Magnetic motor starters shall be across-the-line, full voltage, nonreversing type unless otherwise indicated on the Drawings or specified herein.
7. Motor controls shall be either “Hand-Off-Auto” switches or “On-Off” push buttons with one indicating light. “Hand-Off-Auto” switches shall be provided for automatically controlled apparatus.
8. Motor starters that are not an integral part of HVAC equipment shall be installed in conformance with Division 26 - Electrical requirements.
9. All “loose” disconnects and starters shall be installed by Division 26.
10. Power wiring to disconnects, starters, and equipment shall be provided and installed by Division 26. All equipment requiring electrical power shall be provided with disconnect switches at each piece of equipment. Coordinate switch type (fused or non-fused) with equipment characteristics, manufacturer’s recommendations and electrical drawings.
11. Provide all system controls and associated control and interlock wiring for complete and operable systems. 120 volt and higher wiring shall be MC cable or in conduit in accordance with local codes and the materials and installation requirements of Division 26 - Electrical.
12. Coordinate power and fire alarm requirements of all combination fire/smoke dampers and smoke dampers with the electrical contractor.
13. All starters and variable frequency drives shall be labeled on the face of the device with a semi-rigid plastic laminate nameplate with 1" high white letters on a black background securely affixed to the equipment. The label shall indicate equipment served (equipment tag used on the Drawings). Labels shall be furnished and installed by the Contractor.
14. All starters for 3-phase equipment shall have overload devices in each phase.
15. Wiring diagrams shall be furnished by the Contractor.
16. Acceptable manufacturers shall be General Electric, Square D, Eaton, Siemens and Allen Bradley.

F. Cleaning

1. At all times, the premises shall be kept reasonably clean and free of undue amounts of waste, trash and debris by periodic cleaning and removal. After completion, all foreign material, trash and other debrisshall be removed from the jobsite.
2. Ductwork shall be covered and protected from dust and debris prior

1. to being placed into operation.
2. Prior to operating any fan or air handling unit, provide temporary filters similar to the final filters and temporary filter media over the air inlet.
3. After all of the equipment has been installed, but prior to testing and balancing, all equipment, piping, ductwork, etc., shall be thoroughly cleaned both inside and out.
4. Final filters shall then be installed where required, and all systems shall be tested and balanced.
5. After testing and balancing of common and amenity spaces and just prior to Owner review and acceptance, all systems shall be finally cleaned and shall be left ready for use.

G. Outline of HVAC Systems

1. Dwelling Units (DX Split System Cooling with Electric Heat):
    a. A wall hung apartment type air handler shall be mounted above the water heater in a dedicated mechanical closet. The condensing unit shall be roof mounted on prefabricated equipment pads for noise and vibration control. The selections shall match the indoor unit with the outdoor unit to provide an AHRI certified rating of 14.0 SEER or better. The split systems shall be preliminarily sized as follows:
        1. 450 to 675 square feet: 1½ tons (6KW heat)
        2. 676 to 900 square feet: 2 tons (8 KW heat)

3. 901 to 1,125 square feet: 2½ tons (8 KW heat)
4. 1,125 to 1,350 square feet: 1½ tons (6KW heat) & 2 tons (8 KW heat)

b. Supply air shall be ducted via flexible ductwork and routed to stamped steel registers. Provide a ceiling radiation damper (CRD) behind all registers located in the fire rated ceiling assembly. Where air handling unit discharge ductwork penetrates the rated ceiling, a CRD with rated access panel shall be required. Access panels shall be selected and provided under the architectural division. (SLR Standards typically do not penetrate the fire rated ceiling assembly. The ductwork is typically located within a dropped ceiling)
c. Return air shall be through a stamped return air grille located above the mechanical room closet door. Refer to the drawings for free area sizing criteria.
d. Each bathroom shall be equipped with a wall mounted exhaust fan capable of exhausting 50 CFM. Fans shall be switched per the electrical drawings. The exhaust duct shall route in the wall and through the top plate with the required fire caulking of the penetration. Once in the truss space, the duct shall be routed horizontally to an exterior wall cap.
e. The 4″ clothes dryer exhaust shall route from a recessed dryer vent box through the wall top plate with the required fire caulking of the penetration. Once in the truss space, the duct shall be routed horizontally to an exterior wall cap. Dryers shall be provided by the owner. A dryer exhaust warning placard shall be placed in the utility closet indicating the total allowable equivalent length of the dryer ductwork to be installed.
f. Kitchen range hoods shall be the recirculating type (by others). Kitchen shall be exhausted to the exterior on the townhome spaces as well as the dwelling units adjacent to the pool with mechanical ventilation.
g. A trap shall be provided on the primary drain then routed to the nearest plumbing drain. Overflow piping shall be routed to a conspicuous location or a water level detection device installed in the overflow drain connection shall shut down the air handling unit.
h. Bedrooms shall be provided with transfer air for the return air path to the living room space.

2. Amenity Areas (DX Split System Cooling with Electric Heat):

a. Vertical air handlers shall be located strategically in mechanical closets (exterior wall preferred). The condensing unit shall be roof mounted on prefabricated equipment pads for noise and vibration control. Air handlers shall run continuously to provide ventilation air during occupied periods.
b. Supply air shall be ducted via sheet metal trunk ducts with flexible duct runouts routed to stamped steel ceiling registers. Provide a ceiling radiation damper (CRD) behind all registers located in the fire rated ceiling assembly. Where ducts penetrate the rated ceiling, a CRD with rated access panel will be required. Access panels shall be selected and provided under the architectural division. Linear slot diffusers shall be provided in the ceiling drops within the amenity spaces.
c. Return air shall be via wall mounted return air grilles located in the HVAC closet wall or in a plenum beneath the air handler. Provide a balancing damper behind the face of the RA grille.
d. A trap shall be provided on the primary condensate drain then routed to the plumbing drain in the closet. A water level detection device shall be installed in the overflow drain connection which shall shut down the air handling unit upon detection of fluid.
e. Each restroom or bathroom shall be equipped with a ceiling mounted exhaust fan with factory CRD and be capable of exhausting 75 CFM per water closet or urinal. Exhaust duct shall route horizontally to an exterior wall cap or louver.

3. Parking Garage:

a. The garage is classified as an enclosed garage and will require mechanical ventilation. Exhaust fans on each level will be controlled via a carbon monoxide/nitrogen dioxide monitoring and control system. Exhaust fans shall be on VFD and shall ramp up in speed with the activation of the carbon monoxide/nitrogen dioxide control system.
b. Intake and exhaust louvers will be strategically located to promote even air flow.
c. Circulation fans will be located in areas that are subject to stagnate air movement.

4. Elevator Equipment:

a. Machine rooms or hoistways with machine-less elevators shall be conditioned with a split system or thru-wall unit having a capacity of approximately 1½ tons of cooling per elevator car.

b. Hydraulic elevators will require 100 cfm of exhaust at 12″ above the hydraulic fluid storage tank routed to the exterior. Exhaust fan shall run continuously.

5. Corridors (DX Split System Cooling with Electric Heat):
   a. A vertical type air handler shall be mounted in a dedicated mechanical closet. The condensing unit shall be roof mounted on prefabricated equipment pads for noise and vibration control. The selections shall match the indoor unit with the outdoor unit to provide an AHRI certified rating of 14.0 SEER or better. The split systems shall be preliminarily sized as follows: 1½ tons (6KW heat) to 2 tons (8 KW heat) per zone.
   b. Supply air shall be ducted via sheet metal trunk ducts with flexible duct runouts routed to stamped steel ceiling registers. Provide a ceiling radiation damper (CRD) behind all registers located in the fire rated ceiling assembly. Where ducts penetrate the rated ceiling, a CRD with rated access panel will be required. Access panels shall be selected and provided under the architectural division.
   c. Return air shall be through a stamped return air grille located above the mechanical room closet door. Refer to the drawings for free area sizing criteria.
   d. A trap shall be provided on the primary drain then routed to the nearest plumbing drain. Overflow piping shall be routed to a conspicuous location or a water level detection device installed in the overflow drain connection shall shut down the air handling unit.
6. Stairwells: electric wall heaters shall be provided to maintain a minimum space temperature of 45°F (freeze protection of the sprinkler standpipe).
7. Fire Pump Room (if required): a 2½ ton ductless split system heat pump shall be provided to maintain code prescribed minimum and maximum space temperatures.
8. Domestic Booster Pump Room: a 2-ton ductless cooling only split system shall be provided to maintain 85°F.

H. Miscellaneous:
1. Electric heaters shall be provided at entrances and areas subject to freezing.
2. Telecom closets will be conditioned with a cooling only ductless split system.
3. Dog Wash will be conditioned with a dx mini split system heat pump. Dog wash shall be provided with an exhaust fan.
4. Electrical rooms containing transformers will be ventilated or air-conditioned to maintain 85 degrees F (adjustable) and heated for freeze protection.
5. Duct smoke detectors shall be provided per code requirements.

I. Trash Rooms:
1. Trash drop rooms on each floor shall be exhausted to maintain negative pressure relative to the corridor; typically sized for 50 cfm.
2. The main trash collection room shall be exhausted and conditioned with a 2-ton ductless split system heat pump.
3. Trash room exhaust shall be routed in a rated shaft enclosure to a roof mounted exhaust fan. A fire damper shall be installed in each shaft wall penetration. The exhaust fan shall run continuously.

1.04 DUCTWORK & ACCESSORIES

A. Ductwork systems shall be classified as follows:
1. Low pressure (less than 2" w.c.) - for all supply, return and exhaust duct work.

B. Common area ductwork shall be constructed of galvanized sheet steel according to the latest edition of SMACNA ductwork construction standards applicable to the system pressures described above.

C. Duct liner shall be 1" thick fiber glass duct liner; Johns Manville "Linacoustic RC" or approved equal by CertainTeed or Knauf. Acoustically line the following:
1. Return air transfer ductwork into Mechanical rooms
2. Return air transfer ducts and elbows at offices, conference rooms, etc.

D. Dwelling unit ductwork shall be 1″ thick fiberglass duct board and flex duct.

1.05 LOUVERS, GRILLES, REGISTERS AND DIFFUSERS

A. Furnish and install all louvers, grilles, registers and diffusers of the size, type, capacity, and characteristics as indicated.

B. Louvers shall be extruded aluminum, drainable bade, 4 or 6-inch thick, with screens. Provide dampers and operators as required. Louvers shall be finished with baked-on enamel coating of a color as selected by the Architect. AMCA certified louvers shall be as manufactured by Greenheck, or approved equal by Ruskin, Airolite, or Pottorff.

C. Dwelling unit air distribution devices shall be residential grade stamped steel or aluminum as indicated. Devices shall be manufactured by Airmate, USAire, or Hart and Cooley.

D. Public air distribution devices (corridors) shall be residential grade stamped steel or aluminum as described above. Commercial

grade fire rated ceiling diffusers and slot diffusers with factory insulated plenum (located at building perimeter zones and "high finish" interior areas), louvered face ceiling supply diffusers at interior zones, and aluminum egg-crate return air grilles and exhaust registers. Air distribution devices shall be as manufactured by Titus, or approved equals by Krueger, Price, Carnes or Metal-Aire.

1.06 UNITARY EXHAUST AND SUPPLY FANS AND VENTILATORS

A. Furnish and install all unitary exhaust and supply fans and ventilators of the size, type, capacity and characteristics as required.
B. Dwelling unit exhaust fan shall be low-sone ceiling or wall centrifugal type with integral backdraft damper.
C. Roof-mounted exhaust fans shall be direct driven centrifugal type, with aluminum “mushroom” hood, bird screen, damper, and roof curb.
D. In-line exhaust fans shall be direct or belt driven centrifugal type, with integral back draft damper, suspended from structure with vibration isolation.
E. Garage exhaust fans shall be direct or belt driven propeller type with integral housing, motorized damper, and OSHA guard.
F. Fans and ventilators shall be as manufactured by Greenheck, or approved equals by Cook or Penn.

1.07 PIPING AND ACCESSORIES

A. The work under this Section shall include all labor, materials, accessories, services and equipment necessary to furnish and install all piping and accessories, complete, as required.
B. The work in this Section shall include, but not be necessarily limited to, the following items:
   1. Piping and pipe supports (within the building and on the roof)
   2. Condensate Drain Piping
C. Condensate waste piping from air conditioning units shall be Schedule 40 CPVC (or PVC) where allowed or Type “M” copper.
D. All pipe supports, clamps, and inserts shall be provided under this Section. Pipe hanger assemblies shall include turnbuckles or other means of vertical adjustment. Trapeze hangers may be used in lieu of separate hangers for closely spaced, parallel lines. Pipe hangers shall be as manufactured by B-Line, Carpenter & Patterson, Inc., Anvil International, Michigan Hanger, Grinnell or approved equal. Pipe hanger spacing shall be per ASHRAE guidelines.
E. Split system air conditioning units shall be supplied with pre-insulated refrigerant line sets or field installed ACR copper coils with closed cell elastomeric insulation.

1.08 AUTOMATIC CONTROLS

A. Common areas and dwelling units: each system will be controlled by a standalone programmable thermostat.
B. Packaged rooftop units serving corridors shall operate continuously to maintain temperature and humidity set point temperatures.
C. Exhaust fans shall be controlled as indicated on the drawings.

1.09 HVAC INSULATION

A. The work done under this section shall include all labor, materials, accessories, services and equipment necessary to furnish and install all insulation, complete, as indicated on the Drawings and as specified herein.
B. Materials as specified in this section shall be manufactured by Johns Manville, Owens Corning, Certainteed, Mason, Knauf or equal.
C. Ductwork
   1. All ductwork serving common spaces in concealed and unheated areas shall be insulated.
   2. Public space insulation shall be 2" thick blanket, 1½ pound density with reinforced foil faced vapor barrier. Insulation shall be securely adhered to ductwork. All joints shall be sealed with 3" wide strips of foil tape and applied to form a continuous vapor seal.
D. All insulation must meet applicable codes for Flame Spread and Smoke developed rating.

1.10 BALANCING & ADJUSTING

A. The work described by this section of the specifications consists of furnishing all materials, instruments, labor, and appurtenances to balance and adjust all of the air systems furnished and installed under Division 23 of the specifications.
B. The test and balance company shall have been in business for at least five years and shall be certified by AABC or NEBB. All test and balance work shall be performed according to AABC Standards. TAB reports shall be submitted for approval.
C. All common area systems, including systems serving corridors shall be tested and balanced.

D. Residential living units are not required to be tested and balanced.

1.11 Additional Coordination Items

A. Townhomes shall have a blower door test provided.
B. HVAC Commissioning shall be provided.

PLUMBING SYSTEMS NARRATIVE

1.01 SCOPE OF WORK

The following text is intended to establish a minimum standard for the complete mechanical systems for the commercial, mixed-use, multi-family, townhome, and single-family buildings.

1.02 SYSTEMS SUMMARY

A. Systems to be provided under the Plumbing scope of work shall be as listed below. The connection point for all systems from the site utilities shall be at 5'- 0" from the exterior of the building unless specifically otherwise noted.
   1. Domestic cold, hot and hot water recirculation systems
   2. Sanitary, drainage, waste and vent systems
   3. Primary and emergency storm drainage systems
   4. Natural or liquefied propane gas systems
   5. Grease waste and waste systems from trash compactor rooms and, if applicable, future tenant shell space
   6. Domestic water softening system, if applicable after the review of a water quality analysis

1.03 DESIGN STANDARDS

A. Plumbing systems shall be designed and installed in accordance with the requirements of the following codes, standards and design guides:
   1. The International Plumbing Code or the Uniform Plumbing Code, latest enforced edition, per the Authority Having Jurisdiction (AHJ)
   2. The International Building Code, latest enforced edition, per the AHJ
   3. The International Fuel Gas Code or the Uniform Plumbing Code, latest enforced edition, per the AHJ
   4. International Energy Conservation Code, latest enforced edition, per the AHJ
   5. Americans with Disabilities Act (ADA)
   6. American Society of Plumbing Engineers (ASPE) Plumbing Engineering Design Handbooks
   7. National Fire Protection Association (NFPA) Standards:
      a. NFPA 54 - National Fuel Gas Code
      b. NFPA 58 - Liquefied Petroleum Gases
   8. Plumbing Drainage Institute (PDI)
   9. Underwriters Laboratories Inc. (UL)
   10. National Sanitation Foundation (NSF)
   11. Local Building and Inspection Department requirements
   12. Local Health Department requirements

B. Related Electrical Work
   1. Motor controls, system controls, starters, disconnects, pilot lights, push buttons, etc. shall be furnished by the Plumbing Contractor compatible with the apparatus that it operates. Electrical equipment shall be wired for the voltage shown on the Electrical Engineer’s Drawings.

C. Pipe Penetrations
   1. Schedule 40 black steel sleeves shall be installed in all masonry or concrete walls, floors, roofs, etc. for pipe penetrations.
   2. Where core drilling is required, x-rays shall be performed prior to drilling shall be used. Star drills shall not be used.
   3. Penetrations through exterior walls shall be sealed weather tight.

D. Cleaning
   1. At all times, the premises shall be kept reasonably clean and free of undue amounts of waste, trash and debris by periodic cleaning and removal.
   2. Piping shall be covered and protected from dust and debris prior to being placed into operation.
   3. Prior to pressure testing, all equipment, piping, etc., shall be thoroughly flushed and cleaned.

1.04 DOMESTIC WATER SYSTEM

A. A flow test from the two (2) hydrants nearest to the site is required to determine the flow and pressure characteristics of the existing water service. Should the existing water service be inadequate to meet the demands for the project, a domestic water pressure booster pump system will be designed to provide sufficient pressure to all fixtures and equipment.

B. The preliminary estimate to the facility is to provide a dedicated 6″ domestic water service to the main building and a dedicated 1″ domestic water service to each town home.

C. A reduced pressure zone assembly backflow preventer shall be provided within the building on the main water service if not provided on the site service. A strainer and full size valved bypass is to be provided at the main backflow preventer location. Additionally, reduced pressure zone backflow preventers will be provided at all domestic water connections to mechanical systems, water-cooled ice machines, laundry equipment, and pool or irrigation supplies if required. Kitchen/food service equipment requiring cross connection protection shall be provided with the appropriate backflow prevention device.

D. If applicable, domestic water service will be provided to a tenant downstream of the building's backflow preventer. If future tenant shell space is designed, domestic water stub-outs with shut-off valves will be provided.
E. A water quality analysis is required to verify the existing water quality. The analysis will determine if water treatment is required to reduce water hardness and potential calcium and magnesium scale deposit buildup on piping and equipment.
F. If the water hardness is ten (10) grains per gallon or more, the design shall include an automatic water softening assembly for the apartment units and amenity spaces hot and cold water systems. The assembly shall be sized for the design peak flow at a maximum pressure drop of 20 psi through the system.
G. The domestic water system will be divided into a minimum of two (2) zones depending on the available water service characteristics. If the existing water service pressure is adequate, the lower public and back-of-house areas including the amenity and office will be supplied from the street pressure (non-boosted) domestic water service. The apartment unit's domestic water services will be supplied from a domestic water pressure booster pump system if the existing water service pressure is inadequate.
H. The domestic water pressure booster system shall consist of a triplex (threepump) packaged system on a single framed assembly. The triplex system shall be sized on a 33%-33%-33% split of the estimated peak demand. All pumps shall be provided with variable frequency drives (VFD) drives.
I. The domestic water pressure booster system shall be factory assembled and tested for installation as a single base mounted assembly. The system shall be fully automatic with an integral control panel to control pump alternation, system monitoring, and local and remote annunciation for pump operation, low suction pressure and pump failure.
J. Domestic Hot and Cold Water Systems Materials
    1. All piping, fittings, and joints to comply with NSF 61-G, NSF 61, and NSF 372.
    2. Pipe wrap or insulation for piping in all plenum applications that meet the requirements of ASTM E84 shall be provided.
    3. The underground service shall be cement lined ductile iron pipe with mechanical joint fittings. Polyvinylchloride (PVC) pipe and fittings of the appropriate service and pressure ratings will be considered as a deductive alternate based on site conditions.
    4. Underground branch piping 2 1/2" and smaller shall be type "K" soft rolled copper with no joints.
    5. Above ground piping shall be Polypropylene piping, Aquatherm Green pipe SDR 7.4 with Aquatherm green pipe electro-fusion welded PP-R joints and fittings
    6. Type "L" copper tube with lead-free soldered joints on piping 3" and smaller and lead-free brazed joints on piping 4" and larger or schedule 10 stainless steel piping with rolled groove stainless steel fittings will be considered as deductive alternate materials for above ground piping.
    7. Schedule 80 CPVC piping with solvent welded socket fittings and polypropylene piping with fusion welded fittings will be considered as deductive alternate materials for branch piping downstream of the pressure reducing valve.
    8. Cross-linked polyethylene (PEX) plastic tubing, PEX-a grade, with brass, copper, or engineered plastic fittings will be considered as deductive alternate materials for piping downstream of the apartment unit shutoff valves.
K. Domestic hot water and hot water recirculation systems shall be designed for a maximum velocity of 4.0 feet per second; all remaining domestic water systems shall be designed for a maximum velocity of 8.0 feet per second. The domestic water system shall be designed to provide between 30 psi to 80 psi to all fixtures and equipment.
L. Control valves shall be provided for the domestic hot and cold water supply to all risers and specific areas such as restrooms, food service areas and building separations. Valves shall be located in back of house or service areas with access panels or above lay-in ceilings. No access panels will be permitted in public spaces. The riser control valves will be provided with an access panel above a ceiling in a closet unless specifically otherwise noted.
M. Water hammer arrestors shall be provided on all domestic water services to flush valve fixtures, washing machines, ice makers, and all other equipment with quick closing valves.
N. Automatic trap primers with multiple outlet distribution assemblies will be provided for floor drains in all required locations. Water conservation lavatory waste type trap primers will be specified for all available locations. Trap seal protection devices will be provided when acceptable to the AHJ.
O. Freezeless wall hydrants will be provided near service entry locations and around the perimeter of the building on approximately 100-foot intervals and at the swimming pool deck. Hose bibbs will be provided in all public restrooms. Hot/cold water hose stations will be provided at the Loading Dock, Trash Rooms, and Can Wash areas. Freezeless hose bibs will be provided on the roof near mechanical equipment.
P. Sub-meters will be provided on all domestic water supplies to the apartment units for billing by a third party and ancillary domestic water supplied systems to allow for a reduction of sewer

rates if allowed by local utilities. Possible applications include pool and fountain supply, water cooled ice machine supply and irrigation supply.

Q. A cold water supply shall be provided to each trash chute for wash down purposes.

1.05 DOMESTIC HOT WATER SYSTEM

A. Interior amenity space and public plumbing fixtures shall be served by a 120°F hot water system supplied by an electric storage tank water heater meeting the latest minimum efficiency requirements. A hot water recirculation system will be designed if the total developed length exceeds 50 feet or as required by IECC 2015. All public and employee lavatories will be provided with an ASSE 1070 thermostatic mixing valve to limit the hot water temperature to 110°F.

B. Exterior or remote amenity space and public plumbing fixtures, such as on or serving a pool or amenity deck, will be served by instantaneous tankless electric water heaters with microprocessor controls to limit the hot water temperature to 110°F.

C. Apartment unit plumbing fixtures shall be served by a 120°F hot water system supplied by an electric storage tank water heater in each apartment meeting the latest minimum efficiency requirements. A hot water recirculation system will be designed if the total developed length exceeds 50 feet or as required by IECC 2015. Bathtubs, if not provided with a combination tub-shower valve, will be provided with an ASSE 1070 thermostatic mixing valve to limit the hot water temperature to 120°F.

1.06 SANITARY, DRAINAGE, WASTE AND VENT SYSTEMS

A. Conventional waste and vent systems shall be designed for all public, back of house, and apartment unit plumbing fixtures.

B. The preliminary estimate to the facility is to provide a dedicated 4″ sanitary waste service to each town home.

C. If applicable, a grease waste drain will be provided for future tenants and routed to a grease interceptor as required. Sanitary waste and vent stub-outs will be provided for future tenants.

D. All trash compactor drains shall be routed to discharge to a grease interceptor.

E. Sanitary, Drainage, Waste and Vent Systems Materials
   1. Underground piping shall be cast iron hub and spigot pipe and fittings. Schedule 40 PVC pipe with solvent cement fittings will be considered as a deductive alternate (careful consideration should be taken to determine noise criteria). PVC piping is not acceptable in plenum ceilings or for waste piping receiving waste discharge higher than 130 degrees F, such as from laundry and kitchen equipment.
   2. Above ground piping shall be cast iron no-hub pipe, fittings and standard no-hub clamps.
   3. Schedule 40 PVC pipe with solvent cement fittings will be considered as a deductive alternate for all vent piping where not located within a plenum ceiling.

F. Floor drains not receiving a continuous discharge will be provided with an automatic trap primer or trap seal protection device where allowed by the AHJ.

G. Permanent sump pumps will be provided in all elevator pits with the outlet routed to an acceptable location for indirect discharge into a hub drain. Sump pumps located in hydraulic elevator pits will be provided with an oil sensor or an oil interceptor if required by the AHJ on the hub drain discharge prior to connection to the sanitary system (certain AHJ’s require the elevator sump pump discharge to go to the storm drainage system).

H. Condensate, pool, fountain, and water softener backwash shall discharge indirectly to the sanitary system.

1.07 STORM DRAINAGE SYSTEM

A. Primary and emergency roof drainage systems shall be designed per local rainfall sizing requirements. If no sizing criteria are available, the primary system will be designed for a 100-year storm with a 60-minute duration and the emergency system for a 100-year storm with a 15-minute duration.

B. Emergency storm drainage will be provided with either a separate emergency system piped independently to a visible discharge at the exterior of the building, or through parapet scuppers provided by the Architect.

C. Storm Drainage System Materials
   1. Underground piping shall be cast iron hub and spigot pipe and fittings; schedule 40 PVC pipe with solvent cement fittings will be considered as a deductive alternate (careful consideration should be taken to determine noise criteria).
   2. All above ground piping shall be cast iron no-hub pipe, fittings and heavy-duty clamps.
   3. Schedule 40 PVC pipe with solvent cement fittings will be considered as a deductive alternate for vertical piping where not located within a plenum ceiling; horizontal piping from drains and at offsets of the storm drain conductors will be cast iron.

D. Condensate or other clear water wastes shall not be discharged to the storm drainage system unless acceptable by the AHJ.

1.08 GAS SYSTEMS

A. A natural or liquefied propane gas system will be designed for supply to all required equipment including domestic water heaters, mechanical equipment, pool water heaters, and amenity appliances.
B. The gas meter and pressure-reducing valve are to be provided and installed by the local utility company for delivery at low pressure gas (10"-14" water column) for distances less than 200 feet or medium pressure gas (2 psig) for distances over 200 feet distribution throughout the building.
C. Gas System Materials
    1. Exterior underground piping shall be schedule 40 steel pipe with factory applied plastic coating and tracer wire with butt weld fittings, or FM Approved polyethylene plastic gas piping with fusion welded joints.
    2. Above ground piping shall be schedule 40 steel pipe with 3,000 lb. forged steel socket weld fittings for piping 3" and smaller and schedule 40 steel pipe with butt weld fittings for piping 4" and larger. Schedule 40 steel pipe with 150 lb. malleable iron threaded fittings will be acceptable on piping systems 3" and smaller.
E. If applicable, natural gas stub-outs with shut-off valves will be provided to future tenants from a gas meter bank

1.09 INSULATION

A. The following systems and equipment shall be insulated:
    1. Domestic cold, hot and hot water recirculation systems
    2. Domestic hot water storage tanks
    3. Horizontal portions of the primary roof drainage systems
    4. Above ground drains and horizontal piping receiving condensate or ice machine discharge
    5. Sanitary p-traps exposed to areas subject to freezing
B. Insulation Materials
    1. Preformed fiberglass pipe insulation with a self-sealing all service jacket sized in conformance with the AHJ’s latest enforceable edition of the International Energy Conservation Code.
    2. All insulation materials shall be rated to not exceed a flame spread of 25 and smoke development of 50.

1.10 MISCELLANEOUS REQUIREMENTS

A. Swimming Pool/Water Features
    1. Sanitary, domestic water and gas services shall be provided by the Plumbing Contractor for final connection by Pool/Water Feature Contractor.
    2. Heat trace cabling for freeze protection of piping shall be installed on all domestic water piping, sanitary p-traps, and grease waste piping exposed to areas subject to freezing. A complete UL listed system shall be provided to maintain a water temperature of 40°F at an ambient air temperature of 0°F and 110°F for grease waste systems. The system shall be eight (8) watts per foot and selfregulating with a thermostatic control that de-energizes when the ambient air temperature is 40°F. All heat traced piping shall be insulated with 1” thick fiberglass insulation.

STRUCTURAL SYSTEMS NARRATIVE

1.01 SCOPE OF WORK

The following text is intended to establish a minimum standard for the structural systems for the commercial, mixed-use, multi-family, townhome, and single-family buildings.

1.02 SYSTEMS SUMMARY

A. The project consists of:
   1. Three story commercial buildings with a steel and concrete structure
   2. Five Story mixed-use multi-family buildings with a cast-in-place concrete podium supporting multi-family wood framing above.
   3. Three and four story wood-framed multi-family structures
   4. Three story wood-framed townhome residential structures
   5. One to two-and-a- half story wood-frames single-family residential structures.

1.03 Design Code and Loading

A. The State of Ohio currently subscribes to the 2009 IBC. Structural codes referenced therein include ACI 318-14, AISC 14th edition and NDS 2012 Edition.
B. Design Loads:
   1. Residential – 40 psf
   2. Parking – 40 psf
   3. Balconies – 60 psf
   4. Stairs / Corridors – 100 psf
   5. Residential Building Roof – 20 psf
   6. Wind – 115 mph
      a. Velocity – 115 mph
      b. Risk Factor – 1.0
      c. Exposure B
   7. Seismic
      a. Design Category A
      b. Site Class C

1.04 Foundations

A. Assuming Sub-grade Stabilization to 1″ PVR or less
B. Wood Framed Structures
   1. The slab on grade for the multi-family and residential building will consist of a flat slab on the ground with no interior grade beams. The interior region of the slab is 8″ thick. The exterior region, consisting of the zone within 13′ of the exterior slab edge, is 12″ thick. The slab is reinforced with PT cables at 2′ on center each way. There is a perimeter grade beam approximately 18″ wide and 24″ deep reinforced with mild steel. Wood and steel columns, when required, are supported on spot footings cast monolithically with the slab.
C. Cast-in-place Concrete and Steel Structures
   1. We recommend that the Commercial and Mixed-Use Multi-family building foundations consist of under-reamed piers bearing 15′ below grade supporting concrete columns. The ground level slab will be 5″ thick and reinforced with mild steel. As an alternative to the belled piers, spot footings (4,000 psi) measuring 13′ square and 2′-6″ thick reinforced with #6@10″ on center each way bottom and #5@12″ on center each way top can be evaluated by the contractor.

1.05 Wood Framing

A. The wood framed component of the development will be type 5 construction. The framing will consists of load bearing wood stud walls, prefabricated flat chord open-web wood floor trusses and prefabricated open-web wood roof trusses. Lateral stability for the wood framed structure will be provided by OSB and gypsum panel clad shear walls. Non-stacking load-bearing walls will be supported by wood and / or steel framing depending on loading and spans. The framing can be more specifically described as:
   1. 18″ deep wood floor trusses spanning parallel to the corridor / exterior walls
   2. 18″ deep corridor trusses spanning across the corridor with the option to utilize shallower trusses if a thicker corridor topping is desired.
   3. ¾″ thick tongue and groove plywood or OSB floor deck
   4. 5/8″ thick roof deck at sloped roofs. ¾″ thick roof deck at flat roofs.
   5. 2x6 exterior walls at all levels.
   6. 2x6 load bearing walls at level 1 (see structural framing plans for load bearing wall designations)
   7. 2x4 load bearing walls at level 2 through the roof level.
   8. 2x4 non-load bearing walls at all levels.
   9. Elevator cores to be 8″ CMU
   10. Stair cores to be wood framed with shaft liner.

1.06 Concrete Structures

A. Parking Structure.

1. The parking structure elevated framing will consist of concrete columns supporting a two-way post-tensioned concrete slab.
2. The slab system is anticipated to be 6-1/2″ thick, with 6-1/2″ thick slab beams spanning the short direction of the garage and cast with 5,000 psi concrete.
3. Column sizes will vary with the average column being approximately 14″x28″.
4. Lateral stability for the parking structure will be accomplished by ordinary reinforced concrete moment frames (naturally provided by the column to slab connection).

B. Ground Floor Podiums (Mixed-Use Multi-Family Buildings)

1. The elevated podiums will consist of concrete columns supporting a two-way post-tensioned concrete slab.
2. Podium columns and slabs will be cast with 5,000 psi concrete.
3. Column sizes will vary with the average column being approximately 18″x24″.
4. Lateral stability for the podium structure will be accomplished by ordinary reinforced concrete moment frames (naturally provided by the column to slab connection

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ARCHITECTURAL NARRATIVE

The proposed mixed-use project located on the Former United Methodist Children's Home Site contains a variety of high-quality mixed uses with an updated urban pattern and architecture. New single-family homes, townhomes, apartments, medical/office and retail spaces with integrated greenspaces and activity centers are designed to serve the changing demographics and economic needs of the community. The proposed development plan's integrated design recognizes that in today's market a critical mass of density and mix of uses creates vibrancy and supports the "live, work, play" environments that attract young professionals, active adults and empty nesters alike, as well as employers and businesses seeking to accommodate such key employee demographics. The updated housing types attempt to fill the gap in housing choice currently facing Worthington as a community.

Subarea 1 – Single Family
Subarea 1 consists of 24 single-family dwellings and is located along the western and northern property borders with access to Evening Street and Longfellow Avenue. The single-family dwellings are a mixture of 1 – 2 ½ story buildings with a variety of massings and roof forms. A variety of traditional architectural styles is used in keeping with the New England style village of the community and the variety of adjacent homes. Representative examples of the architectural character of the single-family homes in this subarea are depicted in the sample elevations attached to this application.

The architecture of the homes is "four-sided" with all sides of the homes displaying a high level of quality and architectural interest. Combinations of the following elements are used as appropriate to the different styles of architecture:

- Brick, Lap siding, vertical board and batten, or shake siding as appropriate.
- Masonry covered foundations
- Style appropriate raise panel / partial glass entry doors;
- Window mullions creating vertically proportioned panes in an organization reflective of the architectural style
- Window surrounds/window trim reflective of the architectural style
- Bay and ganged windows
- Roofs with a minimum of 6/12 pitch and a minimum 8" overhang at the eaves and rakes.
- Dormers

Exterior Materials:
The single-family dwellings use a mix of the following materials as appropriate to the architectural style of the home:

- Brick or thin brick;
- Stone, cultured stone or stone veneer;
- Wood lap siding, composite lap siding or cedar shake or composite siding (painted or stained) vinyl siding and trim with .045 thickness or greater;

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- Fiber cement siding such as HardiPlank TM or a comparable cement fiber siding product;
- Aluminum or vinyl soffits and fascia;
- Dimensional architectural shingles, cedar shakes, tile, slate, synthetic slate, and metal as an accent feature on limited portions of roof areas;

Exterior Colors:

- Brick colors: Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, field stone
- Siding colors. Natural earth tones and/or warm neutral colors, including white. High-Chroma colors are not permitted.
- Trim colors. Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color. High-Chroma colors are not permitted.
- Roof Colors. Shingle colors are from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

Subarea 2 – Neighborhood Core
Subarea 2 consists of up to 94 townhome dwellings on individual lots. The townhome dwellings are a mixture of 2 and 3 story buildings with a variety of massings and roof forms. A variety of traditional architectural styles are used in keeping with the New England style village of the community and the variety of adjacent homes. Representative and illustrative examples of the architectural character of the single-family homes in this subarea are depicted in the sample elevations attached to this application.

The architecture of the townhome buildings (groupings of multiple attached townhome units) is "four-sided" with all sides of the building displaying a high level of quality and architectural interest. Combinations of the following elements are used as appropriate to the different styles of architecture:

- Brick, Lap siding, vertical board and batten, or shake siding as appropriate. Masonry covered foundations
- Style appropriate raise panel / partial glass doors;
- Window mullions creating vertically proportioned panes in an organization reflective of the architectural style
- Window surrounds/window trim reflective of the architectural style
- Bay and ganged windows
- Pitched roofs with gabled or hipped ends with a minimum of 5:12 pitch and a minimum 8" overhang at the eaves. Roof on secondary architectural features, such as bay windows, porches, stoops, etc., have a minimum roof pitch of 3:12.
- Dormers

Exterior Materials:
The townhome dwellings will use a mix of the following materials as appropriate to the architectural style:

- Brick or thin brick;
- Stone, cultured stone or stone veneer;
- Stucco stone
- Wood lap siding, composite lap siding or cedar shake or composite siding (painted or stained) or vinyl siding and trim with .045 thickness or greater;
- Fiber cement siding such as HardiPlank TM or a comparable cement fiber siding product;
- Aluminum or vinyl soffits and fascia;
- Dimensional architectural shingles, cedar shakes, tile, slate, synthetic slate, and metal as an accent feature on limited portions of roof areas;

Exterior Colors:
- Brick/Stone colors: Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, stucco stone, field stone
- Siding colors. Natural earth tones and/or warm neutral colors, including white. High-Chroma colors are not permitted.
- Trim colors. Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color. High-Chroma colors are not permitted.
- Roof Colors. Shingle colors are from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

Subarea 3 – Neighborhood Core
Subarea 3 consists of multi-family buildings consisting of up to 72 multi-family townhomes and stacked flat units. The multifamily buildings will have a maximum height of 50'. A variety of roof shapes and offset will give the building a more interesting appearance, break down the scale of the building, and have the elevation read as a series of separate buildings. Traditional architectural styles are used in keeping with the New England style village of the community and the variety of adjacent homes. Representative and illustrative examples of the architectural character of the single-family homes in this subarea are depicted in the sample elevations attached to this application.

The architecture of the multi-family buildings is "four-sided" with all sides of the building displaying a high level of quality and architectural interest. Combinations of the following elements are used as appropriate to the different styles of architecture:
- Brick, Lap siding, vertical board and batten, or shake siding as appropriate. Masonry covered foundations
- Style appropriate raise panel / partial glass doors;
- Window mullions creating vertically proportioned panes in an organization reflective of the architectural style
- Window surrounds/window trim reflective of the architectural style
- Bay and ganged windows
- Pitched roofs with gabled or hipped ends with a minimum of 5:12 pitch and a minimum 8" overhang at the eaves. Roof on secondary architectural features, such as bay windows, porches, stoops, etc., have a minimum roof pitch of 3:12.

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- Dormers

Exterior Materials:
The facade is broken up using various materials, colors, massing, and design elements to resemble clusters of homes rather than one large structure. The multifamily dwellings use a mix of the following materials as appropriate to the architectural style:
- Brick or thin brick;
- Stone, cultured stone or stone veneer;
- Stucco stone;
- Wood lap siding, composite lap siding or cedar shake or composite siding (painted or stained), or vinyl siding and trim with .045 thickness or greater;
- Fiber cement siding such as HardiPlank TM or a comparable cement fiber siding product;
- Aluminum or vinyl soffits and fascia;
- Dimensional architectural shingles, cedar shakes, tile, slate, synthetic slate, and metal as an accent feature on limited portions of roof areas;

Exterior Colors:
- Brick/Stone colors: Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, stucco stone, field stone
- Siding colors. Natural earth tones and/or warm neutral colors, including white. High-Chroma colors are not permitted.
- Trim colors. Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color. High-Chroma colors are not permitted.
- Roof Colors. Shingle colors are from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

Interior Finishes:
Common Areas:
- Solid core Masonite 6 panel doors, 8'-0" tall, painted where visible by public
- Solid core Masonite flush panel doors, 6'-8" tall, painted in back of house areas
- Luxury vinyl tile flooring in high-traffic areas
- Broadloom carpet in corridors, lounges, and resident amenity spaces
- Ceramic tile floors in public toilet rooms
- 5 ¼" painted wood base
- Painted wood door and window trim
- Painted wood crown moulding in public and common area spaces
- Painted gypsum board walls
- Vinyl wall covering on specialty / accent walls
- Schlage locksets and cylinders
- Schlage electronic card readers / keypads at areas requiring access control
- A mixture of painted gypsum board ceilings with decorative soffits in public spaces and acoustical tile ceilings in back of house spaces. Cleanable ceiling tile is specified in the kitchen area.

- Painted wood handrails along corridor walls
- Merillat Classic collection cabinets with thermofoil finish, Ralston style doors, and satin nickel hardware
- Standard Kohler fixtures in public toilet rooms
- Solid surface countertops in public spaces
- Plastic laminate countertops in back of house spaces
- LED light fixtures

Resident Units:
- Solid core Masonite 6 panel entry doors, 8'-0" tall, painted
- Hollow core Masonite 6 panel interior unit doors, 6'-8" tall, painted
- Luxury vinyl tile flooring in kitchens
- Broadloom carpet in living rooms, bedrooms, and closets
- Ceramic tile floors in bathrooms
- 5 ¼" painted wood base
- Painted wood door and window trim
- Painted wood crown moulding in living rooms
- Painted gypsum board walls
- Ceramic tile walls to 6'-0" at tubs
- Prefabricated shower units
- 12" deep wire shelving with hangar rod
- Schlage locksets and cylinders
- Painted gypsum board ceilings
- Merillat Classic collection cabinets with thermofoil finish, Ralston style doors, and satin nickel hardware
- Standard Kohler fixtures in kitchens and bathrooms
- Solid surface countertops in kitchens and bathrooms
- LED light fixtures
- Standard Whirlpool stainless steel appliances

Subarea 4 – High Street Mixed Use
Subarea 4 consists of 540 multi-family apartments, 60,000 square feet of commercial space and 25,000 square feet of medical office space. The commercial buildings are located along High Street and are 3-story buildings. The mixed-use multi-family buildings are 5-stories. The shorter 3-story buildings along High Street provide a transition from the taller mixed-use multi-family buildings to the surround buildings. A variety of roof shapes and offset will give the building a more interesting appearance, break down the scale of the building, and have the elevation read as a series of separate buildings. Traditional architectural styles are used in keeping with the New England style village of the community and the variety of adjacent homes.

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The architecture of the commercial and mixed-use multi-family buildings is "four-sided" with all sides of the building displaying a high level of quality and architectural interest. Combinations of the following elements are used as appropriate to architectural style.

- Brick and Lap siding
- Masonry covered foundations
- Shopfronts with traditional surrounds.
- Window mullions creating vertically proportioned panes in an organization reflective of the architectural style
- Window surrounds/window trim reflective of the architectural style
- Bay and ganged windows
- Balconies
- Primary roofs with a minimum of 6/12 pitch and a minimum 8" overhang at the eaves and rakes.
- Dormers

Exterior Materials:
The facade is broken up using various materials, colors, massing, and design elements to resemble a cluster of builidngs rather than one large structure. The commercial and mixed-use multifamily buildings use a mix of the following materials as appropriate to the architectural style:
- Brick or thin brick;
- Stone, cultured stone or stone veneer;
- Wood lap siding, composite lap siding (painted or stained);
- Fiber cement siding such as HardiPlank TM or a comparable cement fiber siding product;
- Vinyl siding and trim with .045 thickness or greater;
- Aluminum or vinyl soffits and fascia;
- Dimensional architectural shingles, cedar shakes, tile, slate, synthetic slate, and metal as an accent feature on limited portions of roof areas;

Exterior Colors:
- Brick/Stone colors: Warm-tone brick, thin brick and/or brick veneer, cast stone, stone veneer, stucco stone, field stone
- Siding colors. Natural earth tones and/or warm neutral colors, including white. High-Chroma colors are not permitted.
- Trim colors. Natural earth tones and/or warm neutral colors, including white. Complementary or contrasting siding color. High-Chroma colors are not permitted.
- Roof Colors. Shingle colors are from the color range of natural materials; such as, but not limited to wood shakes, slate, etc.

Interior Finishes:
Common Areas:
- Solid core Masonite 6 panel doors, 8'-0" tall, painted where visible by public
- Solid core Masonite flush panel doors, 6'-8" tall, painted in back of house areas

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- Luxury vinyl tile flooring in high-traffic areas
- Broadloom carpet in corridors, lounges, and resident amenity spaces
- Ceramic tile floors in public toilet rooms
- 5 ¼" painted wood base
- Painted wood door and window trim
- Painted wood crown moulding in public and common area spaces
- Painted gypsum board walls
- Vinyl wall covering on specialty / accent walls
- Schlage locksets and cylinders
- Schlage electronic card readers / keypads at areas requiring access control
- A mixture of painted gypsum board ceilings with decorative soffits in public spaces and acoustical tile ceilings in back of house spaces. Cleanable ceiling tile is specified in the kitchen area.
- Painted wood handrails along corridor walls
- Merillat Classic collection cabinets with thermofoil finish, Ralston style doors, and satin nickel hardware
- Standard Kohler fixtures in public toilet rooms
- Solid surface countertops in public spaces
- Plastic laminate countertops in back of house spaces
- LED light fixtures

Resident Units:
- Solid core Masonite 6 panel entry doors, 8'-0" tall, painted
- Hollow core Masonite 6 panel interior unit doors, 6'-8" tall, painted
- Luxury vinyl tile flooring in kitchens
- Broadloom carpet in living rooms, bedrooms, and closets
- Ceramic tile floors in bathrooms
- 5 ¼" painted wood base
- Painted wood door and window trim
- Painted wood crown moulding in living rooms
- Painted gypsum board walls
- Ceramic tile walls to 6'-0" at tubs
- Prefabricated shower units
- 12" deep wire shelving with hangar rod
- Schlage locksets and cylinders
- Painted gypsum board ceilings
- Merillat Classic collection cabinets with thermofoil finish, Ralston style doors, and satin nickel hardware
- Standard Kohler fixtures in kitchens and bathrooms
- Solid surface countertops in kitchens and bathrooms
- LED light fixtures
- Standard Whirlpool stainless steel appliances

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Two separate parking structures have been provided. The parking structures are incorporated into the mixed-use multi-family buildings and lined with ground floor commercial and residential uses along the adjacent primary streets. Where the parking structures are exposed to parking lots or alleys, they incorporate an architecturally designed skin to complement the mixed-use multi-family buildings and minimize their visual impact.

BOB WEBB

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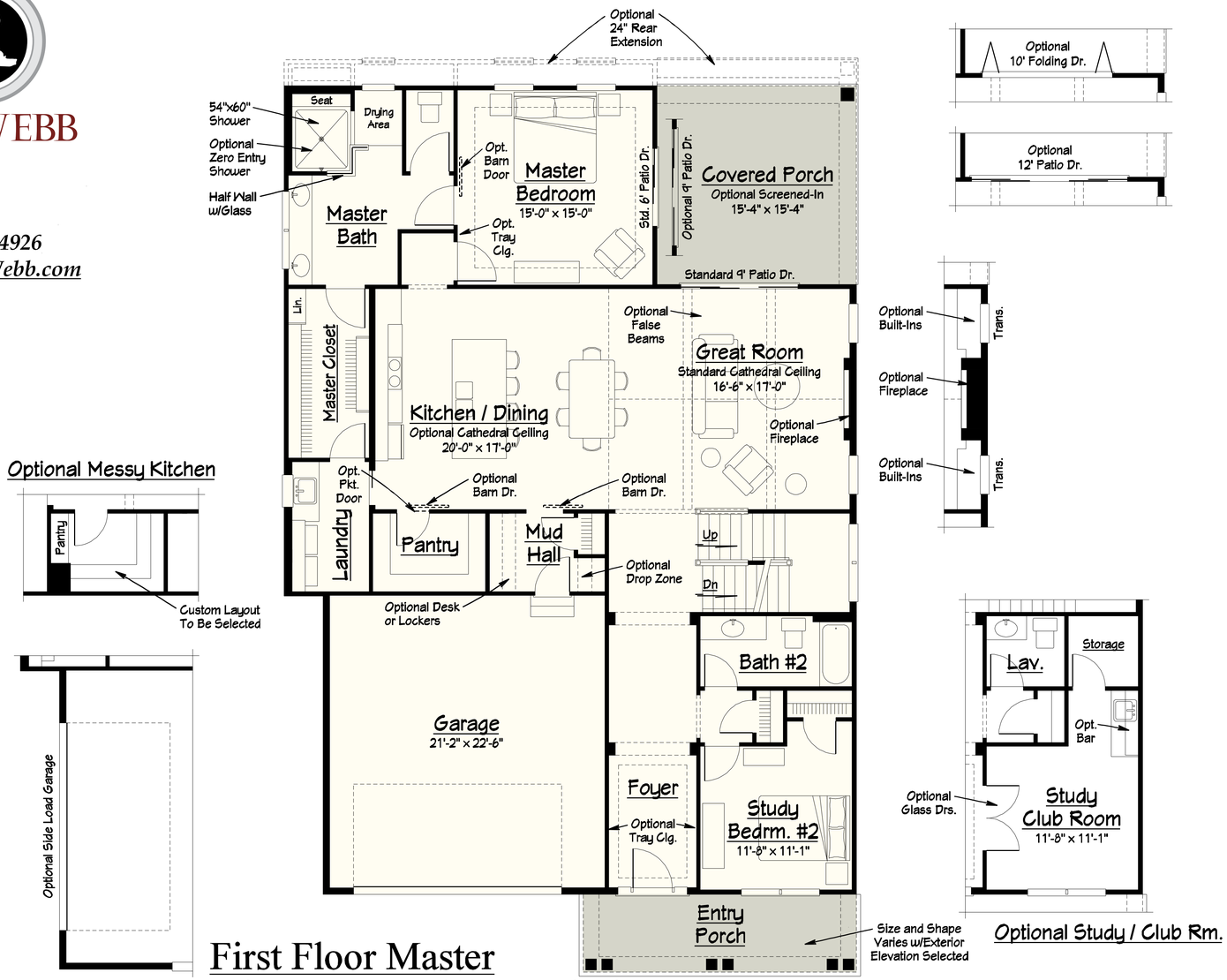

1940.22 sq. ft.

First Floor Master w/Lower Level-Second Flr.

Barrington

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SUBAREA 1 ARCHITECTURE

SUBAREA 1 ARCHITECTURE

SUBAREA 1 ARCHITECTURE

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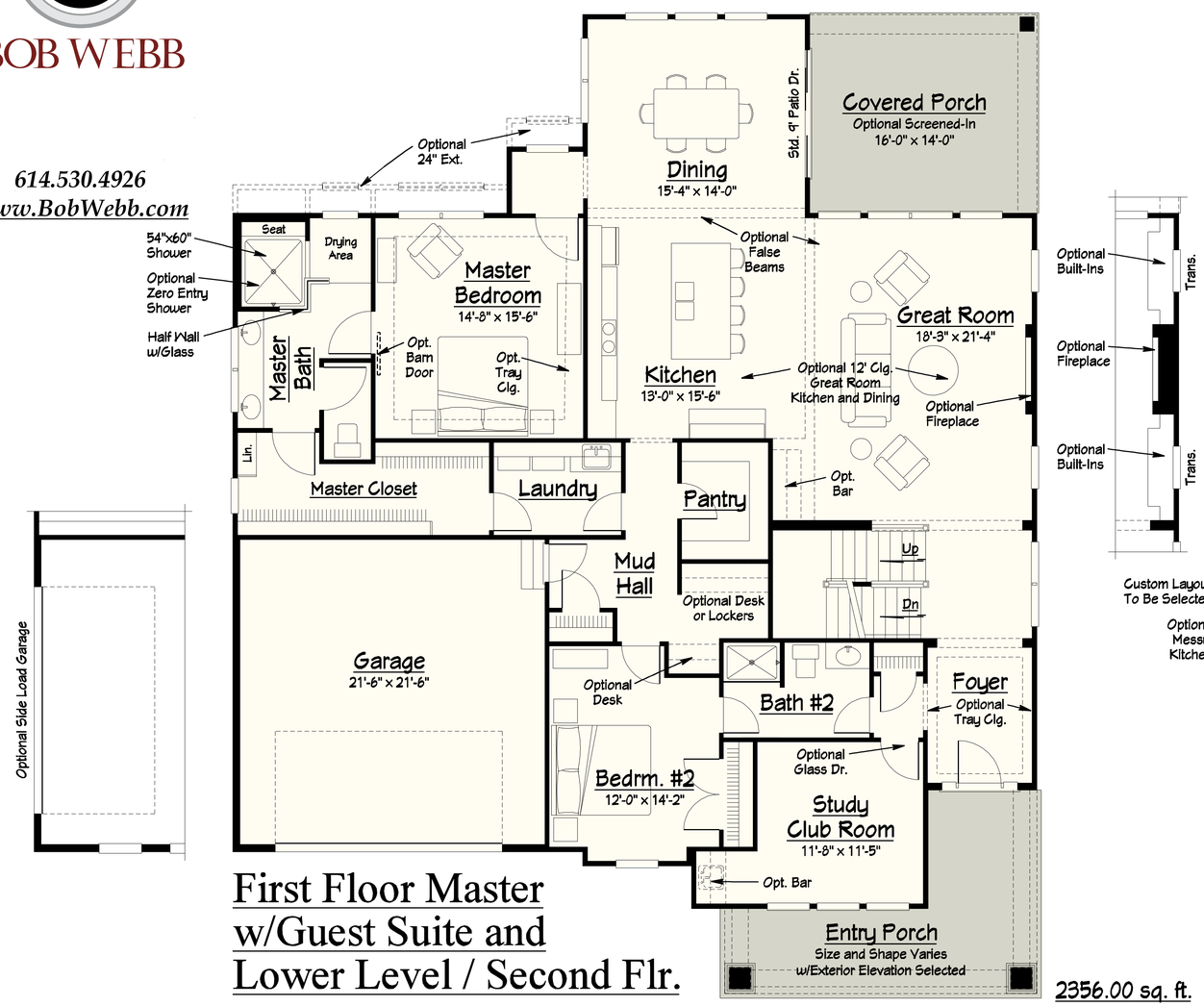
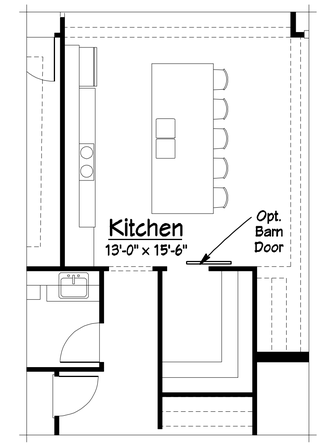
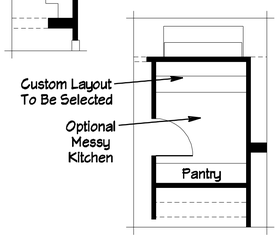


First Floor Master w/Guest Suite and Lower Level / Second Flr.

2356.00 sq. ft.



Optional Deluxe Kitchen/Messy Kitchen



Manchester

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SUBAREA 1 ARCHITECTURE

SUBAREA 1 ARCHITECTURE

SUBAREA 1 ARCHITECTURE

SUBAREA 1 ARCHITECTURE

SIDING: James Hardie Color Plus Aged Pewter
TRIM: James Hardie Color Plus Arctic White
SHINGLES: Landmark 30 Pewter
METAL ROOF: Dark Bronze
STONE: Prestige Portland Mist Native Stone

BOB WEBB **EXTERIOR PALLET 1**

SIDING: James Hardie Color Plus Shou Sugi Ban (Black)
TRIM: James Hardie Color Plus Cobblestone
SHINGLES: Landmark 30 Pewter
METAL ROOF: Dark Bronze
STONE: Prestige Grandview Limestone

BOB WEBB **EXTERIOR PALLET 2**

SIDING: James Hardie Color Plus Deep Ocean
TRIM: James Hardie Color Plus Arctic White
SHINGLES: Landmark 30 Pewter
METAL ROOF: Dark Bronze
STONE: Prestige Portland Mist Native Stone

BOB WEBB **EXTERIOR PALLET 3**

SIDING: James Hardie Color Plus Cobblestone
TRIM: James Hardie Color Plus Arctic White
SHINGLES: Landmark 30 Pewter
METAL ROOF: Dark Bronze
STONE: Prestige Grandview Limestone

BOB WEBB **EXTERIOR PALLET 4**

Life's Better In A Bob Webb Home.

SUBAREA 2 ARCHITECTURE

dw taylor

LOT #N407	LOT #N479	LOT #N408	LOT #N480	LOT #N409	LOT #N481	LOT #N410
24'-0" UNIT REVERSED	20'-0" UNIT	20'-0" UNIT REVERSED	20'-0" UNIT	20'-0" UNIT REVERSED	20'-0" UNIT	24'-0" UNIT

FRONT ELEVATION

SCALE: 1/4" = 1'-0"

REAR ELEVATION

SCALE: 1/4" = 1'-0"

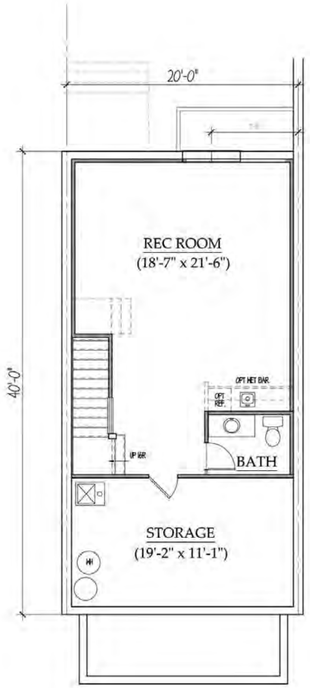
RIGHT SIDE ELEVATION

SCALE: 1/4" = 1'-0"

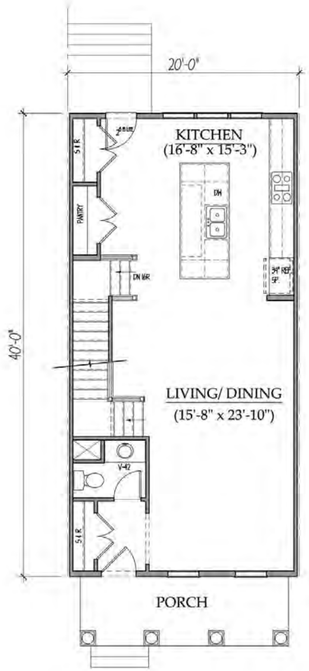
LEFT SIDE ELEVATION

SCALE: 1/4" = 1'-0"

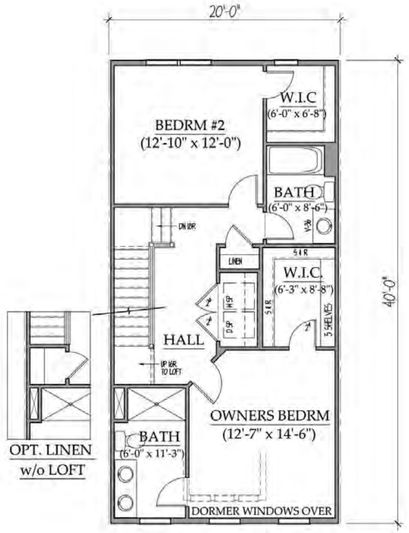
20'-0" WIDE TOWN



LOWER LEVEL PLAN



1ST FLOOR PLAN

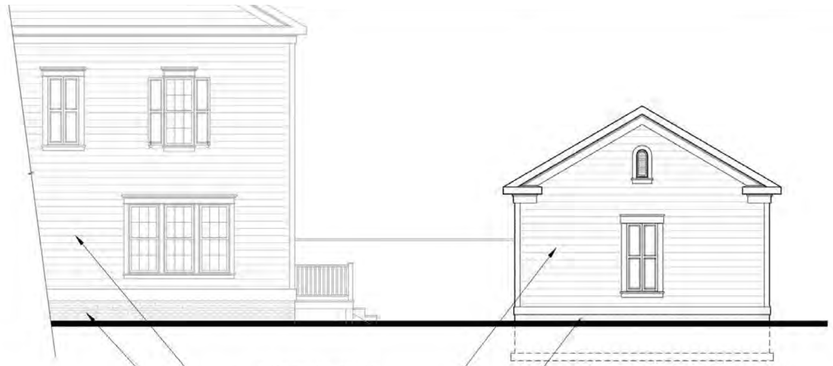


2ND FLOOR PLAN

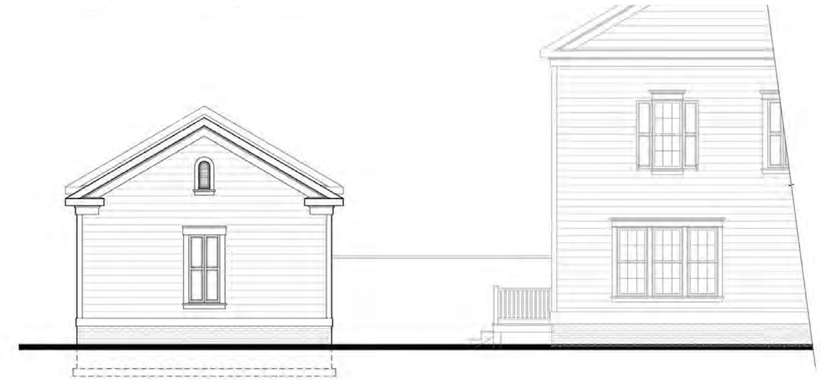
OPT. 3RD FLR PLAN

20'-0" WIDE TOWN PLANS

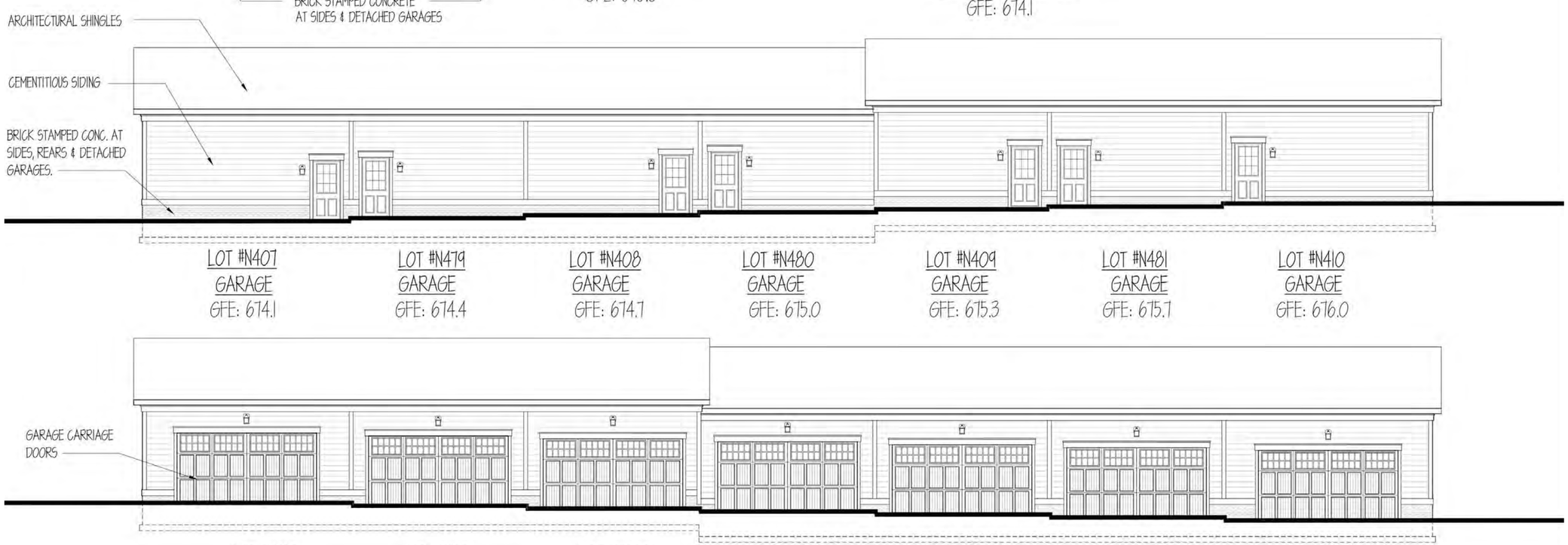
SCALE: 1/4" = 1'-0"



LEFT SIDE ELEVATION
GFE: 676.0

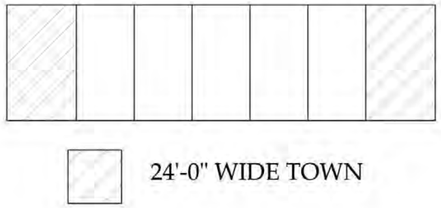


RIGHT SIDE ELEVATION
GFE: 674.1

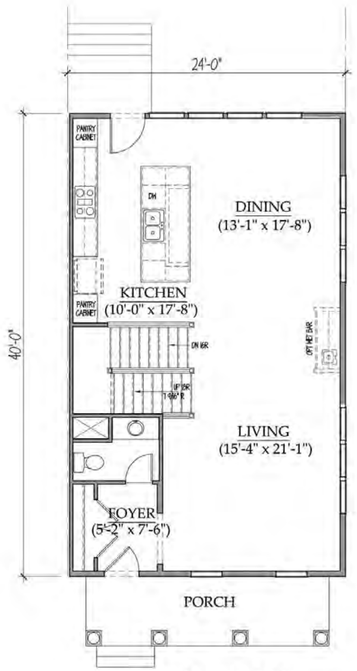


GARAGE ELEVATIONS

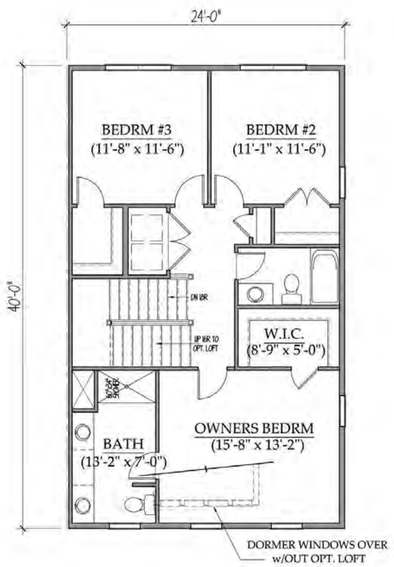
SCALE: 1/4" = 1'-0"



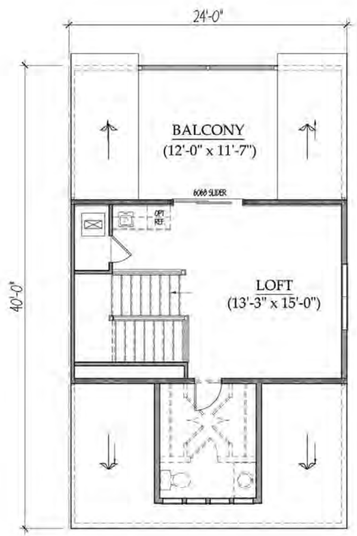
LOWER LEVEL PLAN



1ST FLR PLAN



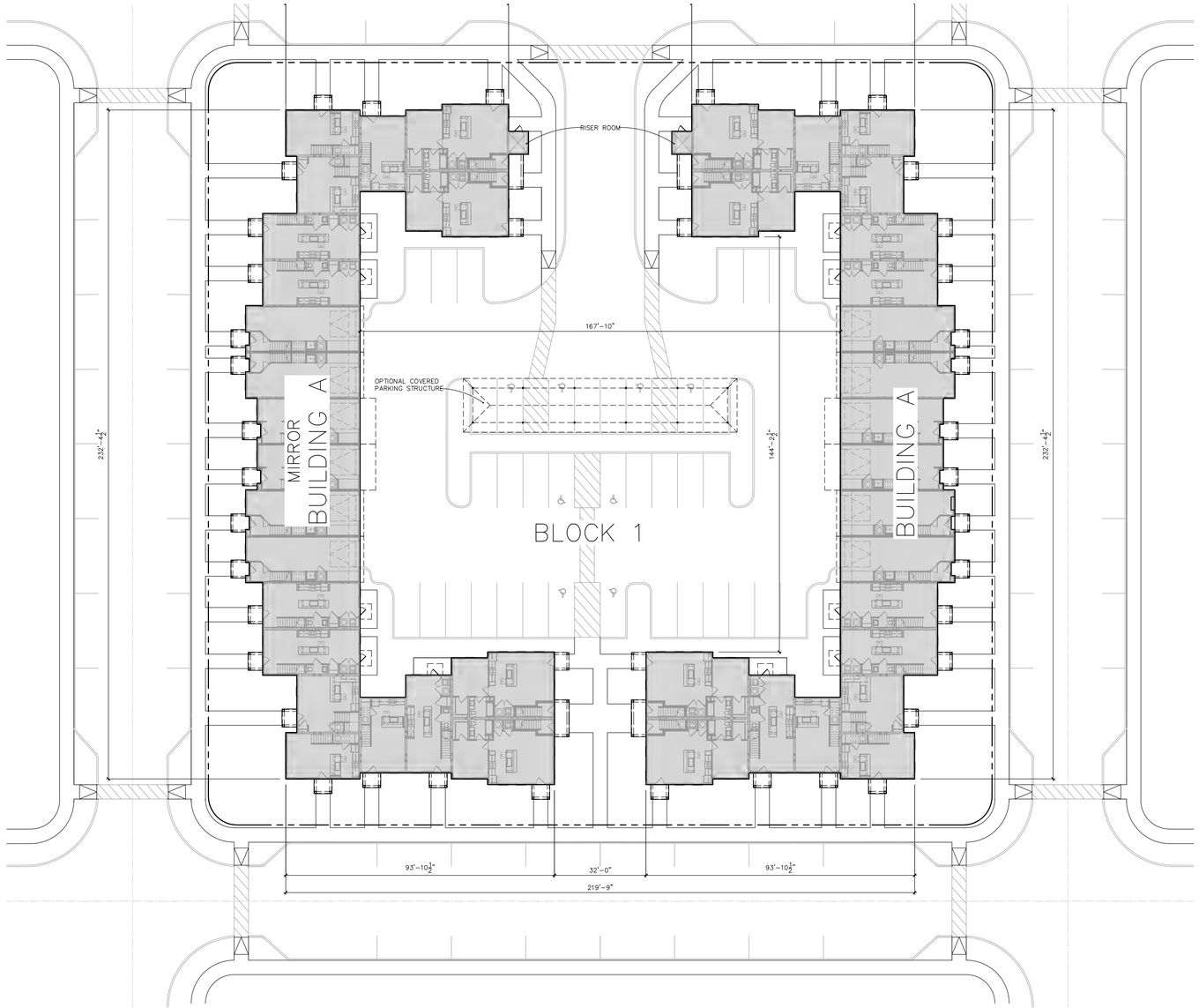
2ND FLOOR PLAN



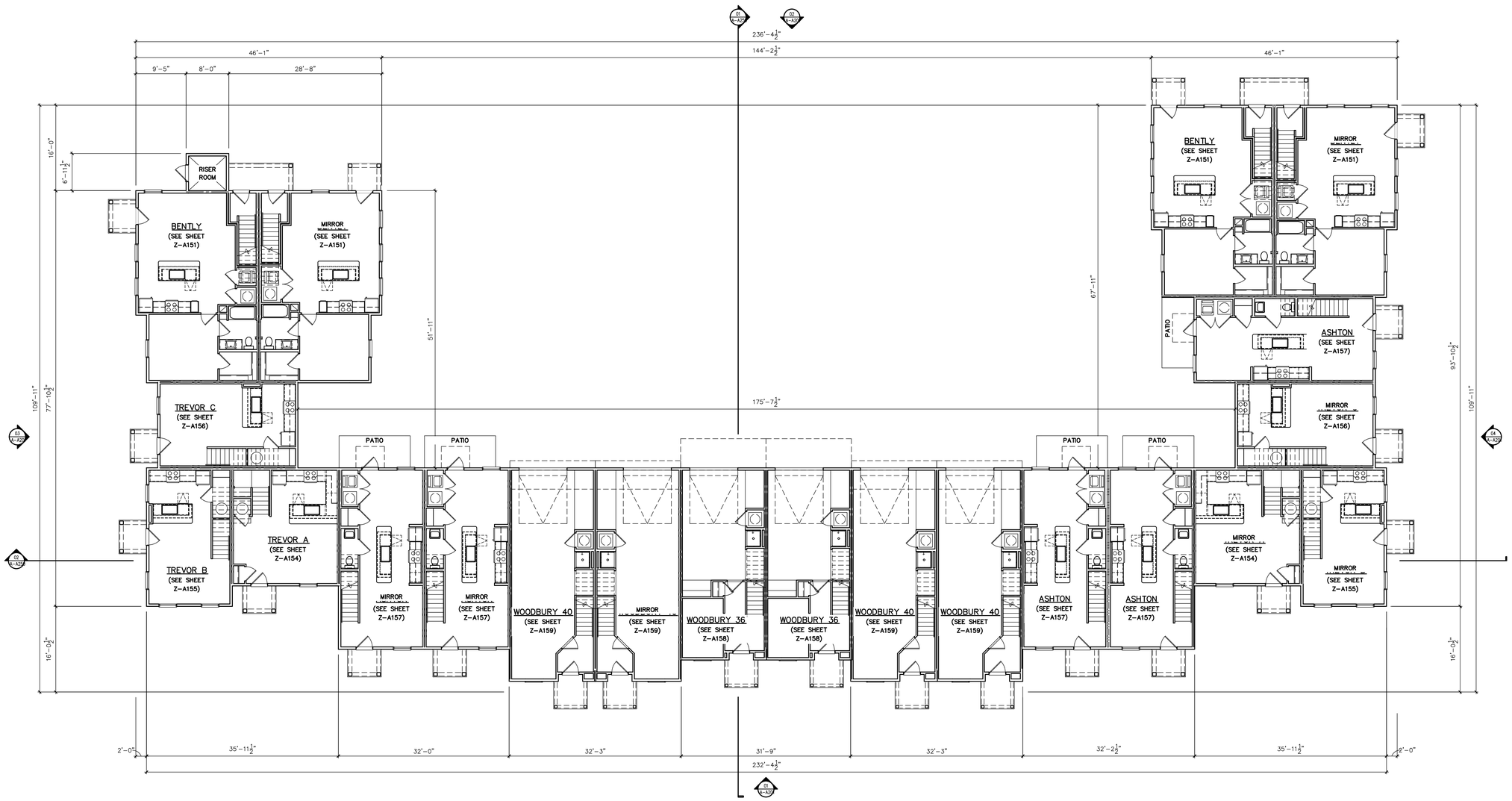
OPT. 3RD FLR PLAN

24'-0" WIDE TOWN PLANS

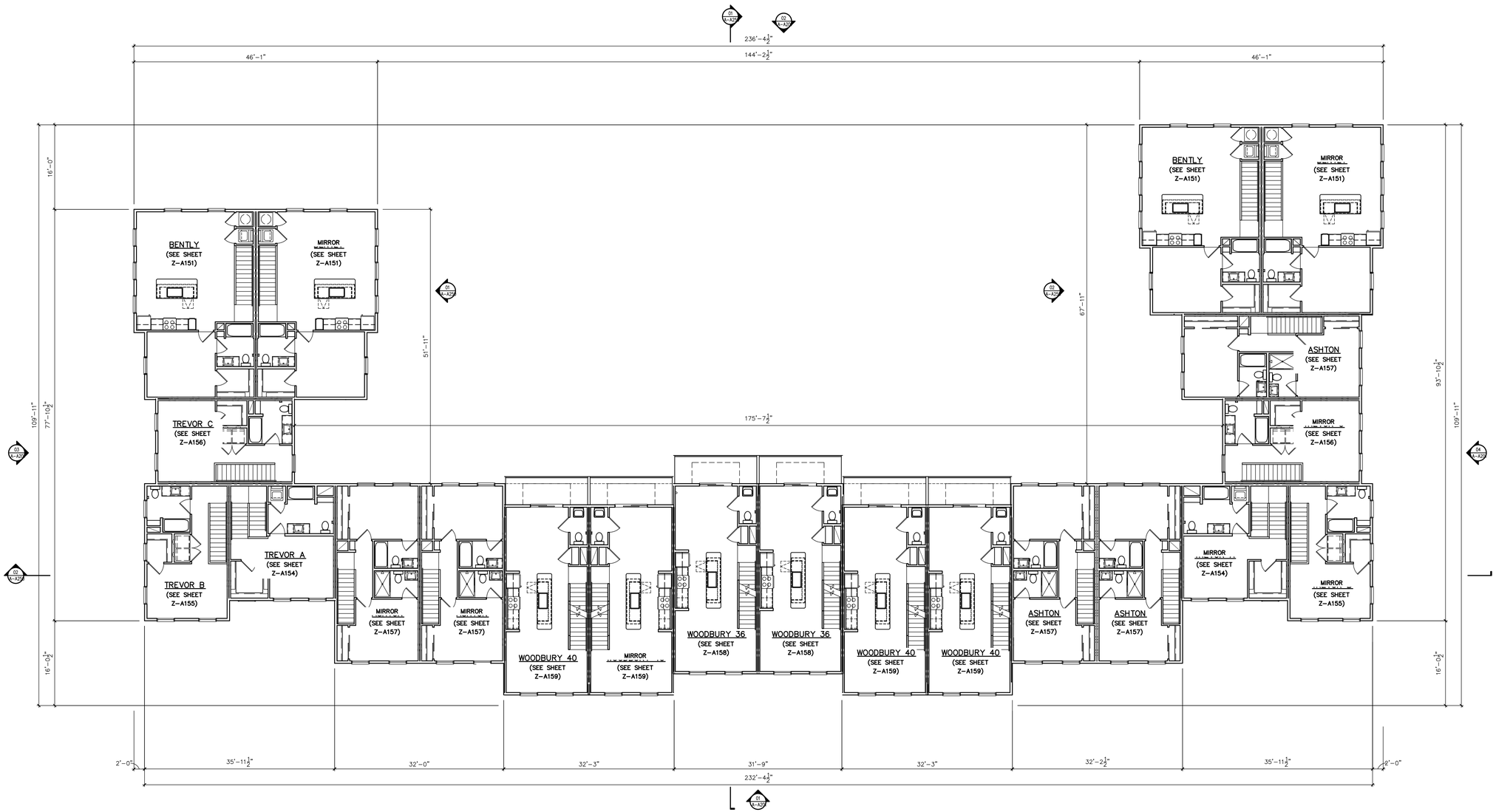
SCALE: 1/4" = 1'-0"



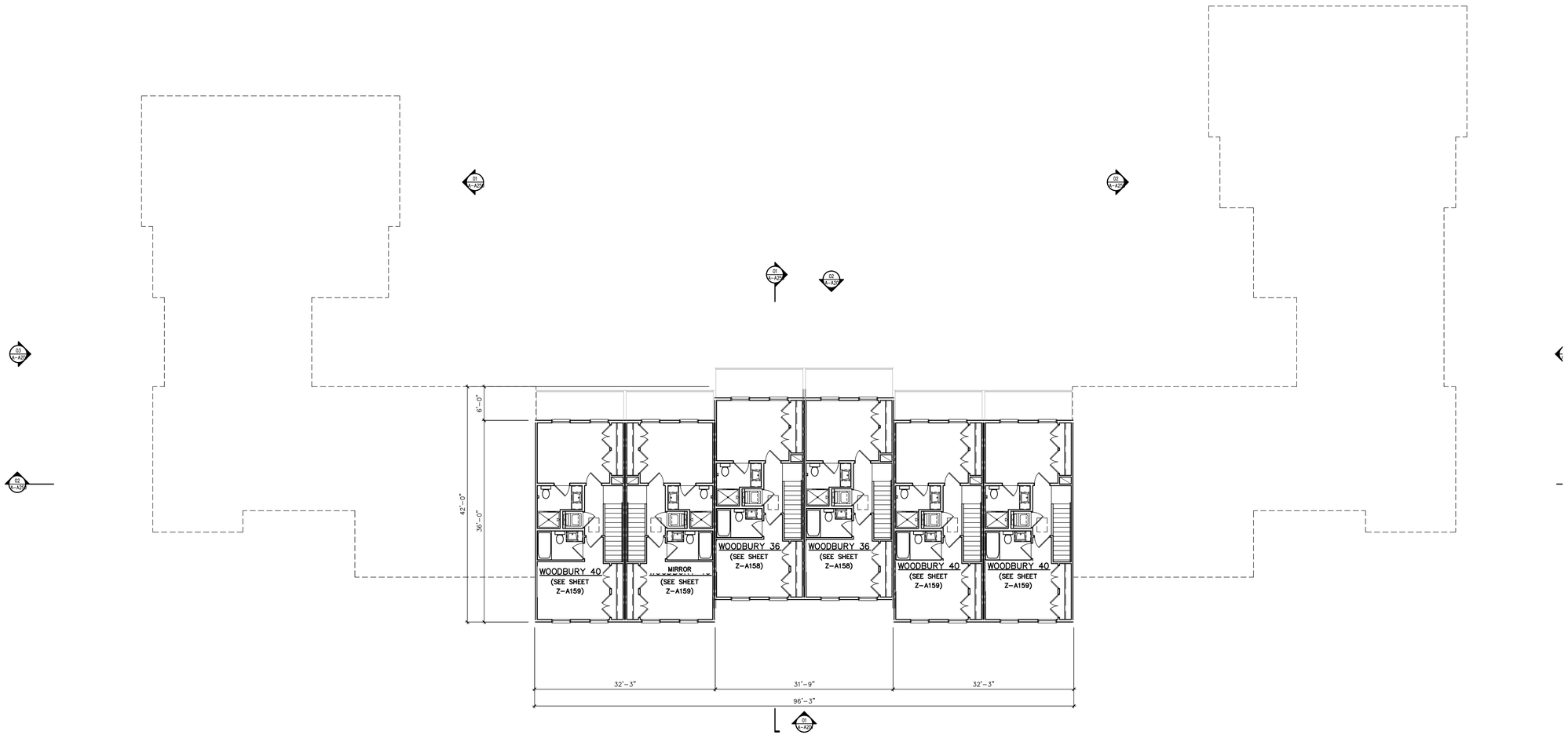
TYPICAL SITE PLAN



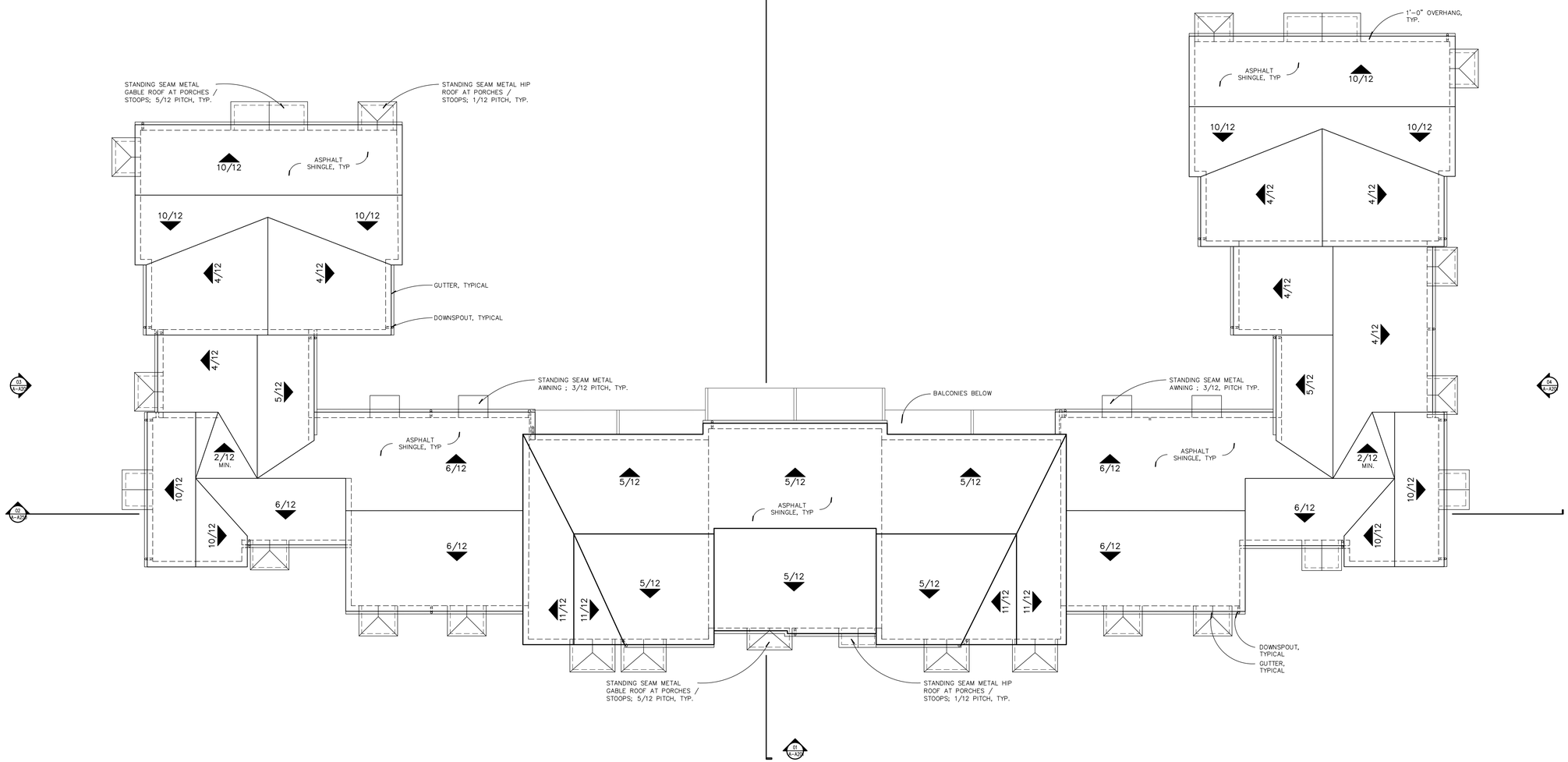
TYPICAL FIRST FLOORPLAN



TYPICAL SECOND FLOORPLAN



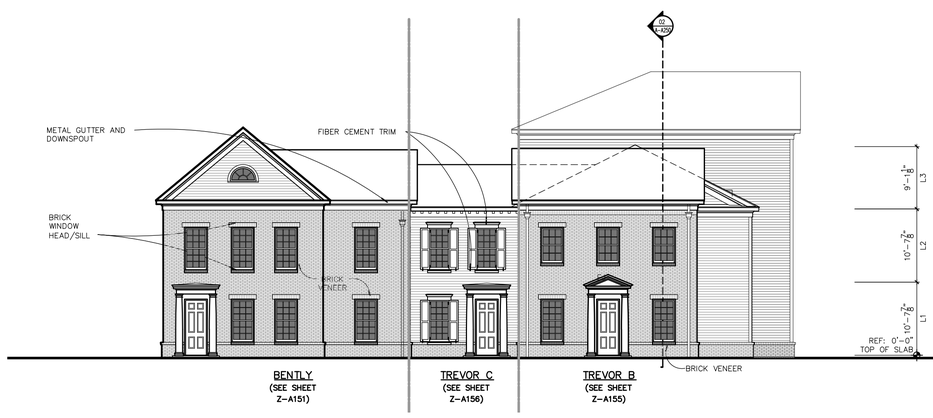
TYPICAL THIRD FLOORPLAN



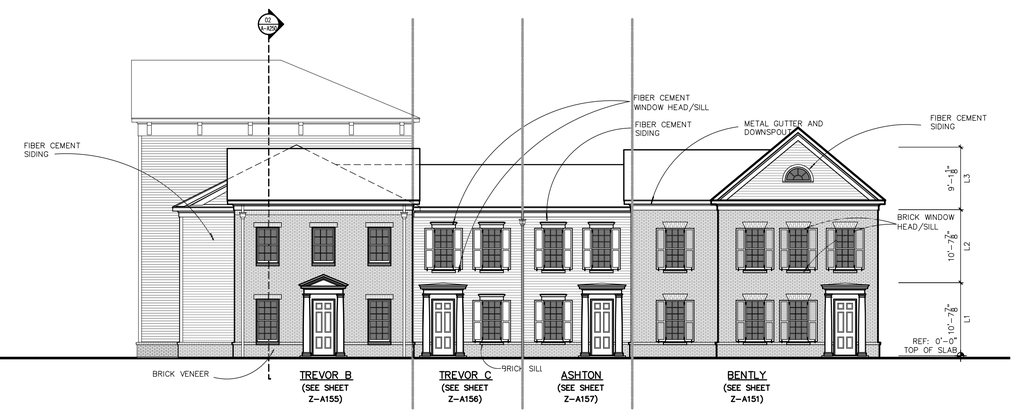
TYPICAL ROOF PLAN

TYPICAL FRONT ELEVATION

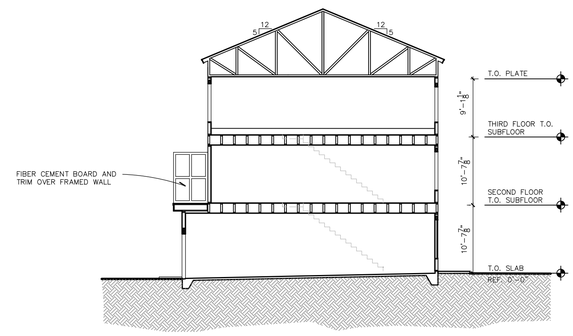
TYPICAL REAR ELEVATION (PARKING LOT)



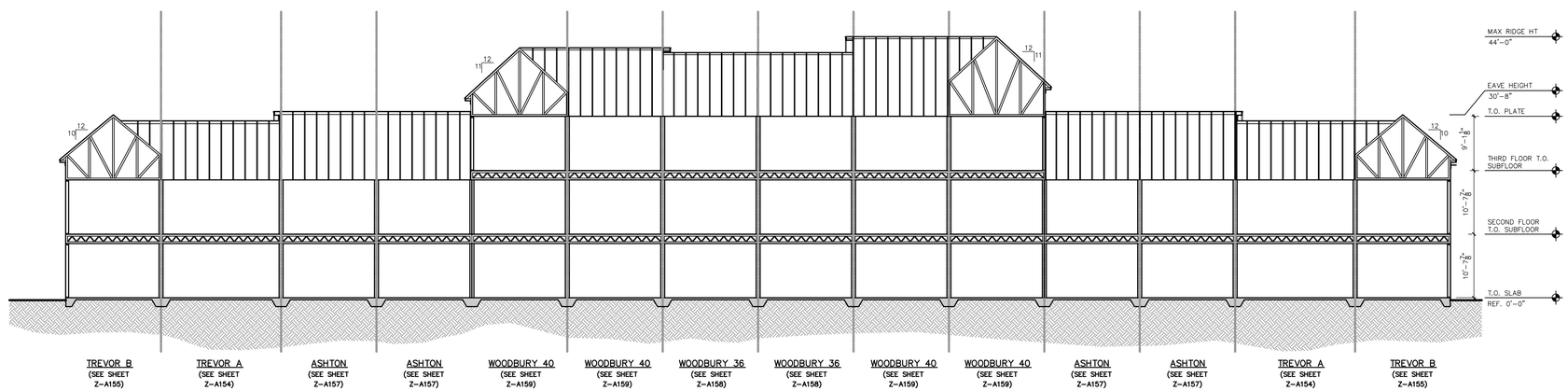
TYPICAL LEFT SIDE ELEVATION



TYPICAL RIGHT SIDE ELEVATION



TYPICAL BUILDING SECTION



TYPICAL BUILDING SECTION

UNIT NOTES

1. ALL DIMENSIONS ON UNIT PLANS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. DOORS ARE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. KITCHEN BASE CABINETS ARE 24" DEEP, TYPICAL, UNLESS NOTED OTHERWISE. BATH BASE CABINETS ARE 21" DEEP, TYPICAL, UNLESS NOTED OTHERWISE.
4. GLASS-MAT WATER-RESISTANT BACKING BOARD SHALL BE USED AT ALL TUB/SHOWER AREAS.
5. REFER TO PROJECT DATA SHEET FOR ADDITIONAL PROJECT SQUARE FOOTAGE INFORMATION.
6. REFER TO BUILDING PLANS FOR THE LOCATIONS OF RATED WALLS. SEE HATCH LEGEND FOR RATING REQUIREMENTS.
7. MOUNTING HEIGHT FOR TOWEL BAR IS 5'-0" A.F.F.
8. MOUNTING HEIGHT FOR TOILET PAPER HOLDER (TPH) IS 18" A.F.F.
9. ALL INTERIOR ELEVATIONS ARE DRAWN ASSUMING FINISH FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
10. PROVIDE FINISH PANELS AT ALL EXPOSED END CONDITIONS OF CABINETS AND ADJACENT TO CABINETS NOTED AS "REMOVABLE."
11. SHELVING (U.N.O.):
    1S IS ONE WIRE COATED SHELF WITH ROD MOUNTED AT 69" A.F.F.
    2S IS TWO WIRE COATED SHELVES WITH RODS AT 42" AND 84" A.F.F.
    5S/12 IS FIVE WIRE SHELVES, 12" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
    5S/16 IS FIVE TIGHT MESH SHELVES, 16" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
12. BATHROOM ACCESSORIES:
    TPH: TOILET PAPER ROLL HOLDER
    TB: TOWEL BAR
13. PROVIDE INTEGRAL TRANSITIONS AT ALL FLOORING FINISH CHANGES.
14. IN CLOSETS AND ROOMS WHERE FLOOR FINISH IS NOT INDICATED, CONTINUE FLOOR FINISH FROM ADJACENT ROOM.
15. ALL IN UNIT HANDRAILS TO BE PRIMED PINE.
16. COORDINATE LOCATION OF ATTIC ACCESS PANELS WITH ROOF TRUSSES.
17. ATTIC ACCESS DOORS: ACUDOR FW-5050-DW; COORDINATE TRUSS DESIGN AND DOOR LOCATION.

UNIT LEGEND

SHEET	UNIT MARKET NAME
Z-A151	BENTLY
Z-A152	GREYSTONE 1
Z-A153	GREYSTONE 2
Z-A154	TREVOR A
Z-A155	TREVOR B
Z-A156	TREVOR C
Z-A157	ASHTON
Z-A158	WOODBURY 36
Z-A159	WOODBURY 40

WALL LEGEND

UNRATED PARTITION

1 HOUR RATED PARTITION

2 HOUR RATED

1. ALL EXTERIOR AND PLUMBING WALLS ARE 2X6
2. ALL INTERIOR WALLS ARE 2X4 UNLESS OTHERWISE NOTED

UNIT WINDOW SCHEDULE

MARK	SIZE WIDTH	SIZE HEIGHT	TYPE CLAD WD CSMENT.	TYPE CLAD DBL. HUNG	TYPE FIXED	TYPE FIXED LOUVER	TYPE VINYL SNGL. HUNG		REMARKS
A	3'-0"	6'-0"					●		2 OVER 2 LITE
B	3'-0"	5'-6"					●		2 OVER 2 LITE
S1	3'-0"	6'-0"					●		FIXED SHUTTER

NOTES:

1. REFER TO ELEVATIONS FOR MUNTIN PATTERN, TYP.
2. WINDOW DIMENSIONS ARE FRAME SIZES BASED ON VINYL WINDOW MANUFACTURER INFORMATION.
3. REFER TO ELEVATIONS FOR WINDOW LOCATIONS WITH SHUTTERS. SHUTTERS SHOULD BE SIZED SO EACH SHUTTER IS EQUAL TO THE HEIGHT OF THE WINDOW AND EQUAL TO 1/2 THE WIDTH OF THE WINDOW.

DOOR SCHEDULE

DOOR										REMARKS
MARK	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	LOCATION		HARDWARE		
U1	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY		A		
U1a	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY		A		20-MIN. RATED
U2	2'-10"	6'-8"		WOOD		BEDROOM / BATH		C		
U3	2'-10"	6'-8"				LAUNDRY / PANTRY/ CLO.		D		
U4	(2) 2'-0"	6'-8"				CLOSET		D		BYPASS
U5	(2) 2'-6"	6'-8"				LAUNDRY / MECHANICAL		D		
U6	(2) 2'-8"	6'-8"				LAUNDRY / MECHANICAL		S		
U7	1'-6"	6'-8"				CLOSET / LINEN / PANTRY		D		
U8	2'-8"	6'-8"				LAUNDRY/ MECH. / CLO.		D		
U9	2'-10"	6'-8"		STEEL		UNDER-STAIR STORAGE				20-MIN. RATED
U10	(2) 2'-0"	6'-8"		WOOD		LAUNDRY / CLOSET		D		
U11	6'-0"	6'-8"		ALUMINUM/GLASS		EXTERIOR SLIDING DOOR				
U12	9'-0"	7'-0"		STEEL		GARAGE DOOR		F		
U13	3'-0"	6'-8"		STEEL		PATIO DOOR AT ASHTON		B		
U14										
U15	3'-0"	6'-8"		WOOD		UNIT ENTRY-GARAGE		J		SOLID CORE, SELF-CLOSING, SELF-LATCHING
U16	2'-8"	6'-8"				BEDROOM / BATH		C		
U17	3'-0"	6'-8"				CLOSET		D		
U18	3'-0"	6'-8"				BEDROOM / BATH		C		
B1	3'-0"	6'-8"		STEEL		RISER ROOM DOOR		M		SEE BUILDING PLAN
B2	(2) 2'-4"	6'-8"		STEEL		RISER ROOM DOOR		M		SEE BUILDING PLAN

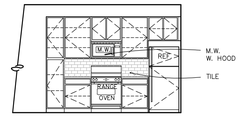
1. ALL INTERIOR DOORS TO BE HOLLOW-CORE, UNLESS NOTED OTHERWISE (U.N.O.).
2. ALL EXTERIOR DOORS TO BE SOLID CORE.
3. ALL GLAZING IN FIXED AND OPERABLE DOORS SHALL BE TEMPERED.
4. PROVIDE PEEP HOLES IN ALL UNIT PRIMARY ENTRY DOORS CENTERED AT 48" MAX. ABOVE FINISHED FLOOR
5. ALL UNIT DOORS TO HAVE A STOP
6. ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED, U.N.O.
7. ALL INTERIOR DOORS SHALL HAVE CASING TRIM, U.N.O.

HARDWARE SCHEDULE

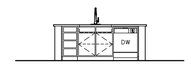
MARK	TYPE	LOCATION
A	PASSAGE LEVER, SINGLE CYLINDER DEADBOLT WOOD THRESHOLD, SPRING CLOSER HINGES, DOORSTOP , PEEPHOLE & SMOKE SEALS	UNIT ENTRY DOORS
B	PASSAGE LEVER & SINGLE CYLINDER DEADBOLT, ALUMINUM THRESHOLD W/SWEEP, WEATHER-STRIPPING, AND RAINHOOD IF DOOR NOT LOCATED UNDER-COVER	UNIT PATIO DOORS, UNDER-STAIR STOR.
C	PRIVACY LEVERS	UNIT BED / BATH
D	PASSAGE LEVERS	UNIT CLOSET / UTILITY
E	KEYED LEVERS	STORAGE CLOSET
F	OVERHEAD AUTOMATIC DOOR OPENER	PRIVATE GARAGES
J	PRIVACY LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SELF-CLOSING	UNIT ENTRY FRM GARAGE
K	KEY FOB CONTROLLER (FROM GARAGE), WEATHER-STRIPPING, ALUMINUM THRESHOLD, SELF CLOSER	NOT USED
M	KEYED LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SURFACE APPLIED SELF CLOSER	RISER ROOM / MAINT.
N	PASSAGE LEVER, ALUMINUM THRESHOLD, SURFACE APPLIED CLOSER	NOT USED
P	PASSAGE LEVER, SURFACE APPLIED SELF CLOSER, PUSH BAR PANIC, SILENCERS, ACCESS CONTROL	NOT USED
Q	PASSAGE LEVER (INSIDE), KEY FOB CONTROLLED LEVER (OUTSIDE), SELF CLOSER	NOT USED
R	KEYED LEVER, SELF-CLOSING, SELF-LOCKING, CAPABLE OF BEING OPEN FROM INSIDE WITHOUT A KEY	NOT USED
S	PASSAGE LEVERS, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SPRING HINGES	MECHANICAL CLOSETS

HARDWARE NOTES:

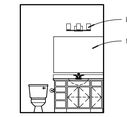
HINGES:	DOORS HAVE 2 PAIR OF HINGES PER LEAF.
MANUFACTURER:	PROVIDE SCHLAGE HARDWARE OR EQUAL FOR LEVERS AND DEADBOLTS.
EXTERIOR DOORS:	ALL EXTERIOR DOORS RECEIVE WEATHER-STRIPPING, ALUMINUM THRESHOLD, AND SWEEP. PROVIDE RAINHOOD IF DOOR IS NOT UNDERCOVER
FINISH:	ALL HARDWARE TO BE MATTE BLACK U.N.O.
RATED DOORS:	ALL RATED DOORS SHALL HAVE RATED HARDWARE & FRAMES.
THRESHOLDS:	ALL THRESHOLDS AT ANSI A AND ANSI B UNITS MUST MEET ADA REQUIREMENTS
SELF CLOSERS:	SELF-CLOSERS ARE TO BE SELF-CONTAINED AT GARAGE UNIT ENTRY DOORS. ALL OTHER LOCATIONS CAN BE SURFACE MOUNTED.



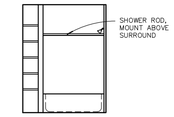
3 ELEVATION – KITCHEN



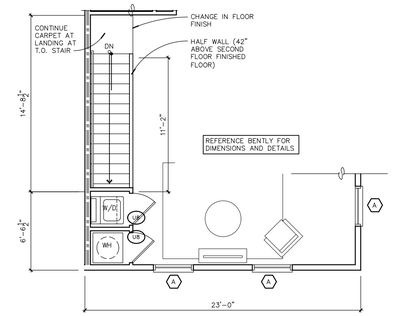
4 ELEVATION – KITCHEN
1/4" = 1'-0"



5 ELEVATION – BATH
1/4" = 1'-0"



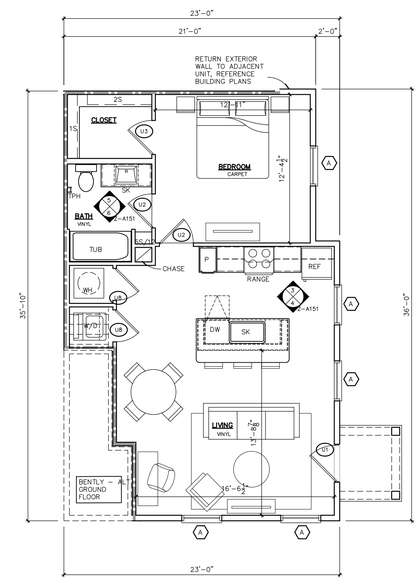
6 ELEVATION – BATH
1/4" = 1'-0"

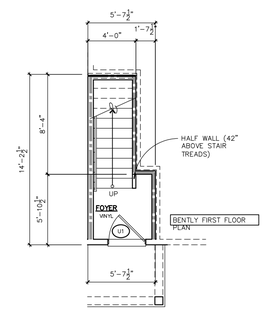


17 BENTLY ALT– SECOND FLOOR PLAN
1/4" = 1'-0"

NET: 868 SF
GROSS: 901 SF

UNIT PLAN-BENTLY-02





16 BENTLY ALT– GROUND FL
1/4" = 1'-0"

UNIT PLAN-BENTLY-01

29 BENTLY – FIRST FLOOR PLAN
1/4" = 1'-0"

NET: 735 SF
GROSS: 768 SF

UNIT PLAN-BENTLY-01

BENTLY PLANS, DIAGRAMS, AND INTERIOR ELEVATIONS

UNIT NOTES

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2. DOORS ARE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. KITCHEN BASE CABINETS ARE 24" DEEP, TYPICAL, UNLESS NOTED OTHERWISE. BATH BASE CABINETS ARE 21" DEEP, TYPICAL, UNLESS NOTED OTHERWISE.
4. GLASS-MAT WATER-RESISTANT BACKING BOARD SHALL BE USED AT ALL TUB/SHOWER AREAS.
5. REFER TO PROJECT DATA SHEET FOR ADDITIONAL PROJECT SQUARE FOOTAGE INFORMATION.
6. REFER TO BUILDING PLANS FOR THE LOCATIONS OF RATED WALLS. SEE HATCH LEGEND FOR RATING REQUIREMENTS.
7. MOUNTING HEIGHT FOR TOWEL BAR IS 5'-0" A.F.F.
8. MOUNTING HEIGHT FOR TOILET PAPER HOLDER (TPH) IS 18" A.F.F.
9. ALL INTERIOR ELEVATIONS ARE DRAWN ASSUMING FINISH FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
10. PROVIDE FINISH PANELS AT ALL EXPOSED END CONDITIONS OF CABINETS AND ADJACENT TO CABINETS NOTED AS "REMOVABLE."
11. SHELVING (U.N.O.):
    1S IS ONE WIRE COATED SHELF WITH ROD MOUNTED AT 69" A.F.F.
    2S IS TWO WIRE COATED SHELVES WITH RODS AT 42" AND 84" A.F.F.
    5S/12 IS FIVE WIRE SHELVES, 12" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
    5S/16 IS FIVE TIGHT MESH SHELVES, 16" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
12. BATHROOM ACCESSORIES:
    TPH: TOILET PAPER ROLL HOLDER
    TB: TOWEL BAR
13. PROVIDE INTEGRAL TRANSITIONS AT ALL FLOORING FINISH CHANGES.
14. IN CLOSETS AND ROOMS WHERE FLOOR FINISH IS NOT INDICATED, CONTINUE FLOOR FINISH FROM ADJACENT ROOM.
15. ALL IN UNIT HANDRAILS TO BE PRIMED PINE.
16. COORDINATE LOCATION OF ATTIC ACCESS PANELS WITH ROOF TRUSSES.
17. ATTIC ACCESS DOORS: ACUDOR FW-5050-DW; COORDINATE TRUSS DESIGN AND DOOR LOCATION.

UNIT LEGEND

SHEET	UNIT MARKET NAME
Z-A151	BENTLY
Z-A152	GREYSTONE 1
Z-A153	GREYSTONE 2
Z-A154	TREVOR A
Z-A155	TREVOR B
Z-A156	TREVOR C
Z-A157	ASHTON
Z-A158	WOODBURY 36
Z-A159	WOODBURY 40

WALL LEGEND

UNRATED PARTITION

1 HOUR RATED PARTITION

2 HOUR RATED PARTITION

1. ALL EXTERIOR AND PLUMBING WALLS ARE 2X6
2. ALL INTERIOR WALLS ARE 2X4 UNLESS OTHERWISE NOTED

UNIT WINDOW SCHEDULE

MARK	SIZE WIDTH	SIZE HEIGHT	TYPE CLAD WD. CSEMT.	TYPE CLAD DBL. HUNG	TYPE FIXED	TYPE FIXED LOUVER	TYPE VINYL SNGL. HUNG		REMARKS
A	3'-0"	6'-0"					●		2 OVER 2 LITE
B	3'-0"	5'-6"					●		2 OVER 2 LITE
S1	3'-0"	6'-0"					●		FIXED SHUTTER

NOTES:

1. REFER TO ELEVATIONS FOR MUNTIN PATTERN, TYP.
2. WINDOW DIMENSIONS ARE FRAME SIZES BASED ON VINYL WINDOW MANUFACTURER INFORMATION.
3. REFER TO ELEVATIONS FOR WINDOW LOCATIONS WITH SHUTTERS. SHUTTERS SHOULD BE SIZED SO EACH SHUTTER IS EQUAL TO THE HEIGHT OF THE WINDOW AND EQUAL TO 1/2 THE WIDTH OF THE WINDOW.

DOOR SCHEDULE

DOOR											REMARKS
MARK	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	LOCATION			HARDWARE		
U1	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY			A		
U1a	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY			A		20-MIN. RATED
U2	2'-10"	6'-8"		WOOD		BEDROOM / BATH			C		
U3	2'-10"	6'-8"				LAUNDRY / PANTRY/ CLO.			D		
U4	(2) 3'-0"	6'-8"				CLOSET			D		BYPASS
U5	(2) 2'-6"	6'-8"				LAUNDRY / MECHANICAL			D		
U6	(2) 2'-8"	6'-8"				LAUNDRY / MECHANICAL			S		
U7	1'-6"	6'-8"				CLOSET / LINEN / PANTRY			D		
U8	2'-8"	6'-8"				LAUNDRY/ MECH. / CLG.			D		
U9	2'-10"	6'-8"		STEEL		UNDER-STAIR STORAGE					20-MIN. RATED
U10	(2) 2'-0"	6'-8"		WOOD		LAUNDRY / CLOSET			D		
U11	6'-0"	6'-8"		ALUMINUM/GLASS		EXTERIOR SLIDING DOOR					
U12	9'-0"	7'-0"		STEEL		GARAGE DOOR			F		
U13	3'-0"	6'-8"		STEEL		PATIO DOOR AT ASHTON			B		
U14											
U15	3'-0"	6'-8"		WOOD		UNIT ENTRY-GARAGE			J		SOLID CORE, SELF-CLOSING, SELF-LATCHING
U16	2'-8"	6'-8"				BEDROOM / BATH			C		
U17	3'-0"	6'-8"				CLOSET			D		
U18	3'-0"	6'-8"				BEDROOM / BATH			C		
B1	3'-0"	6'-8"		STEEL		RISER ROOM DOOR			M		SEE BUILDING PLAN
B2	(2) 2'-4"	6'-8"		STEEL		RISER ROOM DOOR			M		SEE BUILDING PLAN

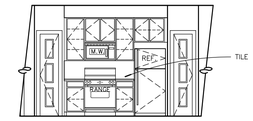
1. ALL INTERIOR DOORS TO BE HOLLOW-CORE, UNLESS NOTED OTHERWISE (U.N.O.).
2. ALL EXTERIOR DOORS TO BE SOLID CORE.
3. ALL GLAZING IN FIXED AND OPERABLE DOORS SHALL BE TEMPERED.
4. PROVIDE PEEP HOLES IN ALL UNIT PRIMARY ENTRY DOORS CENTERED AT 48" MAX. ABOVE FINISHED FLOOR
5. ALL UNIT DOORS TO HAVE A STOP
6. ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED, U.N.O.
7. ALL INTERIOR DOORS SHALL HAVE CASING TRIM, U.N.O.

HARDWARE SCHEDULE

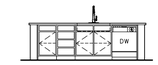
MARK	TYPE	LOCATION
A	PASSAGE LEVER, SINGLE CYLINDER DEADBOLT WOOD THRESHOLD, SPRING CLOSER HINGES, DOORSTOP , PEEPHOLE & SMOKE SEALS	UNIT ENTRY DOORS
B	PASSAGE LEVER & SINGLE CYLINDER DEADBOLT, ALUMINUM THRESHOLD W/SWEEP, WEATHER-STRIPPING, AND RAINHOOD IF DOOR NOT LOCATED UNDER-COVER	UNIT PATIO DOORS, UNDER-STAIR STOR.
C	PRIVACY LEVERS	UNIT BED / BATH
D	PASSAGE LEVERS	UNIT CLOSET / UTILITY
E	KEYED LEVERS	STORAGE CLOSET
F	OVERHEAD AUTOMATIC DOOR OPENER	PRIVATE GARAGES
J	PRIVACY LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SELF-CLOSING	UNIT ENTRY FRM GARAGE
K	KEY FOB CONTROLLER (FROM GARAGE), WEATHER-STRIPPING, ALUMINUM THRESHOLD, SELF CLOSER	NOT USED
M	KEYED LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SURFACE APPLIED SELF CLOSER	RISER ROOM / MAINT.
N	PASSAGE LEVER, ALUMINUM THRESHOLD, SURFACE APPLIED CLOSER	NOT USED
P	PASSAGE LEVER, SURFACE APPLIED SELF CLOSER, PUSH BAR PANIC, SILENCERS, ACCESS CONTROL	NOT USED
Q	PASSAGE LEVER (INSIDE), KEY FOB CONTROLLED LEVER (OUTSIDE), SELF CLOSER	NOT USED
R	KEYED LEVER, SELF-CLOSING, SELF-LOCKING, CAPABLE OF BEING OPEN FROM INSIDE WITHOUT A KEY	NOT USED
S	PASSAGE LEVERS, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SPRING HINGES	MECHANICAL CLOSETS

HARDWARE NOTES:

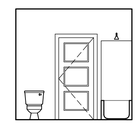
HINGES:	DOORS HAVE 2 PAIR OF HINGES PER LEAF.
MANUFACTURER:	PROVIDE SCHLAGE HARDWARE OR EQUAL FOR LEVERS AND DEADBOLTS.
EXTERIOR DOORS:	ALL EXTERIOR DOORS RECEIVE WEATHER-STRIPPING, ALUMINUM THRESHOLD, AND SWEEP. PROVIDE RAINHOOD IF DOOR IS NOT UNDERCOVER
FINISH:	ALL HARDWARE TO BE MATTE BLACK U.N.O.
RATED DOORS:	ALL RATED DOORS SHALL HAVE RATED HARDWARE & FRAMES.
THRESHOLDS:	ALL THRESHOLDS AT ANSI A AND ANSI B UNITS MUST MEET ADA REQUIREMENTS
SELF CLOSERS:	SELF-CLOSERS ARE TO BE SELF-CONTAINED AT GARAGE UNIT ENTRY DOORS. ALL OTHER LOCATIONS CAN BE SURFACE MOUNTED.



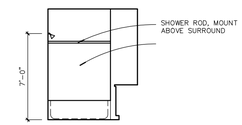
5 ELEVATION – KITCHEN
1/4" = 1'-0"



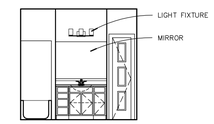
6 ELEVATION – KITCHEN
1/4" = 1'-0"



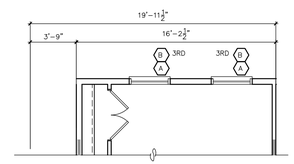
10 ELEVATION – BATH
1/4" = 1'-0"



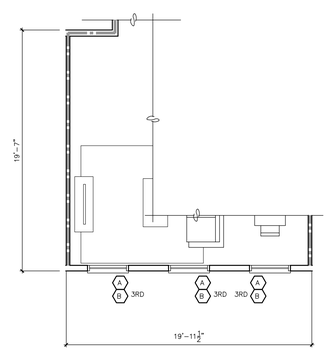
11 ELEVATION – BATH
1/4" = 1'-0"



12 ELEVATION – BATH
1/4" = 1'-0"



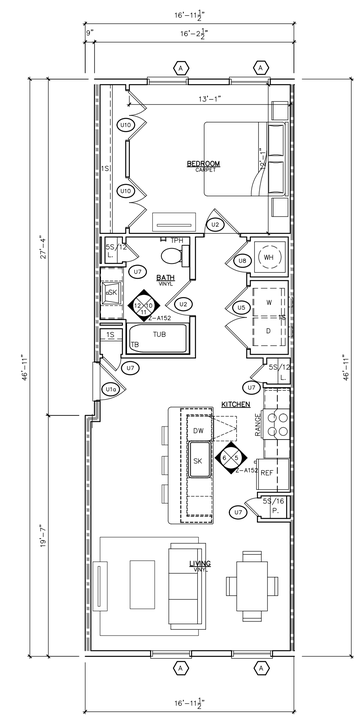
REFERENCE GREYSTONE 1 FOR DIMENSIONS AND DETAILS



28 GREYSTONE 1 ALT – UNIT PLAN
1/4" = 1'-0"

NET: 837 SF
GROSS: 837 SF

UNIT PLAN-GREYSTONE 1-02



29 GREYSTONE 1 – UNIT PLAN
1/4" = 1'-0"

NET: 777 SF
GROSS: 777 SF

UNIT PLAN-GREYSTONE 1-01

GREYSTONE 1 PLANS, DIAGRAMS, AND INTERIOR ELEVATIONS

UNIT NOTES

1. ALL DIMENSIONS ON UNIT PLANS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. DOORS ARE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. KITCHEN BASE CABINETS ARE 24" DEEP, TYPICAL, UNLESS NOTED OTHERWISE. BATH BASE CABINETS ARE 21" DEEP, TYPICAL, UNLESS NOTED OTHERWISE.
4. GLASS-MAT WATER-RESISTANT BACKING BOARD SHALL BE USED AT ALL TUB/SHOWER AREAS.
5. REFER TO PROJECT DATA SHEET FOR ADDITIONAL PROJECT SQUARE FOOTAGE INFORMATION.
6. REFER TO BUILDING PLANS FOR THE LOCATIONS OF RATED WALLS. SEE HATCH LEGEND FOR RATING REQUIREMENTS.
7. MOUNTING HEIGHT FOR TOWEL BAR IS 5'-0" A.F.F.
8. MOUNTING HEIGHT FOR TOILET PAPER HOLDER (TPH) IS 18" A.F.F.
9. ALL INTERIOR ELEVATIONS ARE DRAWN ASSUMING FINISH FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
10. PROVIDE FINISH PANELS AT ALL EXPOSED END CONDITIONS OF CABINETS AND ADJACENT TO CABINETS NOTED AS "REMOVABLE."
11. SHELVING (U.N.O.):
    1S IS ONE WIRE COATED SHELF WITH ROD MOUNTED AT 69" A.F.F.
    2S IS TWO WIRE COATED SHELVES WITH RODS AT 42" AND 84" A.F.F.
    5S/12 IS FIVE WIRE SHELVES, 12" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
    5S/16 IS FIVE TIGHT MESH SHELVES, 16" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
12. BATHROOM ACCESSORIES:
    TPH: TOILET PAPER ROLL HOLDER
    TB: TOWEL BAR
13. PROVIDE INTEGRAL TRANSITIONS AT ALL FLOORING FINISH CHANGES.
14. IN CLOSETS AND ROOMS WHERE FLOOR FINISH IS NOT INDICATED, CONTINUE FLOOR FINISH FROM ADJACENT ROOM.
15. ALL IN UNIT HANDRAILS TO BE PRIMED PINE.
16. COORDINATE LOCATION OF ATTIC ACCESS PANELS WITH ROOF TRUSSES.
17. ATTIC ACCESS DOORS: ACUDOR FW-5050-DW; COORDINATE TRUSS DESIGN AND DOOR LOCATION.

UNIT LEGEND

SHEET	UNIT MARKET NAME
Z-A151	BENTLY
Z-A152	GREYSTONE 1
Z-A153	GREYSTONE 2
Z-A154	TREVOR A
Z-A155	TREVOR B
Z-A156	TREVOR C
Z-A157	ASHTON
Z-A158	WOODBURY 36
Z-A159	WOODBURY 40

WALL LEGEND

UNRATED PARTITION

1 HOUR RATED PARTITION

2 HOUR RATED PARTITION

1. ALL EXTERIOR AND PLUMBING WALLS ARE 2X6
2. ALL INTERIOR WALLS ARE 2X4 UNLESS OTHERWSE NOTED

UNIT WINDOW SCHEDULE

MARK	SIZE WIDTH	SIZE HEIGHT	TYPE CLAD WD CSEMT.	TYPE CLAD DBL. HUNG	TYPE FIXED	TYPE FIXED LOUVER	TYPE VINYL SNGL. HUNG		REMARKS
A	3'-0"	6'-0"					●		2 OVER 2 LITE
B	3'-0"	5'-6"					●		2 OVER 2 LITE
S1	3'-0"	6'-0"					●		FIXED SHUTTER

NOTES:

1. REFER TO ELEVATIONS FOR MUNTIN PATTERN, TYP.
2. WINDOW DIMENSIONS ARE FRAME SIZES BASED ON VINYL WINDOW MANUFACTURER INFORMATION.
3. REFER TO ELEVATIONS FOR WINDOW LOCATIONS WITH SHUTTERS. SHUTTERS SHOULD BE SIZED SO EACH SHUTTER IS EQUAL TO THE HEIGHT OF THE WINDOW AND EQUAL TO 1/2 THE WIDTH OF THE WINDOW.

DOOR SCHEDULE

DOOR MARK	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	LOCATION		HARDWARE	REMARKS
U1	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	
U1a	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	20-MIN. RATED
U2	2'-10"	6'-8"	.	WOOD	.	BEDROOM / BATH	.	C	
U3	2'-10"	6'-8"	.	.	.	LAUNDRY / PANTRY / CLO.	.	D	
U4	(2) 3'-0"	6'-8"	.	.	.	CLOSET	.	D	BYPASS
U5	(2) 2'-6"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	D	
U6	(2) 2'-8"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	S	
U7	1'-6"	6'-8"	.	.	.	CLOSET / LINEN / PANTRY	.	D	
U8	2'-8"	6'-8"	.	.	.	LAUNDRY/ MECH. / CLO.	.	D	
U9	2'-10"	6'-8"	.	STEEL	.	UNDER-STAIR STORAGE	.		20-MIN. RATED
U10	(2) 2'-0"	6'-8"	.	WOOD	.	LAUNDRY / CLOSET	.	D	
U11	6'-0"	6'-8"	.	ALUMINUM/GLASS	.	EXTERIOR SLIDING DOOR	.		
U12	9'-0"	7'-0"	.	STEEL	.	GARAGE DOOR	.	F	
U13	3'-0"	6'-8"	.	STEEL	.	PATIO DOOR AT ASHTON	.	B	
U14			.		.		.		
U15	3'-0"	6'-8"	.	WOOD	.	UNIT ENTRY-GARAGE	.	J	SOLID CORE, SELF-CLOSING, SELF-LATCHING
U16	2'-8"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
U17	3'-0"	6'-8"	.	.	.	CLOSET	.	D	
U18	3'-0"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
B1	3'-0"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN
B2	(2) 2'-4"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN

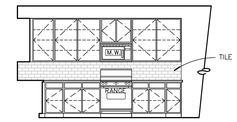
1. ALL INTERIOR DOORS TO BE HOLLOW-CORE, UNLESS NOTED OTHERWISE (U.N.O.).
2. ALL EXTERIOR DOORS TO BE SOLID CORE.
3. ALL GLAZING IN FIXED AND OPERABLE DOORS SHALL BE TEMPERED.
4. PROVIDE PEEP HOLES IN ALL UNIT PRIMARY ENTRY DOORS CENTERED AT 48" MAX. ABOVE FINISHED FLOOR
5. ALL UNIT DOORS TO HAVE A STOP
6. ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED, U.N.O.
7. ALL INTERIOR DOORS SHALL HAVE CASING TRIM, U.N.O.

HARDWARE SCHEDULE

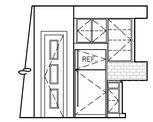
MARK	TYPE	LOCATION
A	PASSAGE LEVER, SINGLE CYLINDER DEADBOLT WOOD THRESHOLD, SPRING CLOSER HINGES, DOORSTOP , PEEPHOLE & SMOKE SEALS	UNIT ENTRY DOORS
B	PASSAGE LEVER & SINGLE CYLINDER DEADBOLT, ALUMINUM THRESHOLD W/SWEEP, WEATHER-STRIPPING, AND RAINHOOD IF DOOR NOT LOCATED UNDER-COVER	UNIT PATIO DOORS, UNDER-STAIR STOR.
C	PRIVACY LEVERS	UNIT BED / BATH
D	PASSAGE LEVERS	UNIT CLOSET / UTILITY
E	KEYED LEVERS	STORAGE CLOSET
F	OVERHEAD AUTOMATIC DOOR OPENER	PRIVATE GARAGES
J	PRIVACY LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SELF-CLOSING	UNIT ENTRY FRM GARAGE
K	KEY FOB CONTROLLER (FROM GARAGE), WEATHER-STRIPPING, ALUMINUM THRESHOLD, SELF CLOSER	NOT USED
M	KEYED LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SURFACE APPLIED SELF CLOSER	RISER ROOM / MAINT.
N	PASSAGE LEVER, ALUMINUM THRESHOLD, SURFACE APPLIED CLOSER	NOT USED
P	PASSAGE LEVER, SURFACE APPLIED SELF CLOSER, PUSH BAR PANIC, SILENCERS, ACCESS CONTROL	NOT USED
Q	PASSAGE LEVER (INSIDE), KEY FOB CONTROLLED LEVER (OUTSIDE), SELF CLOSER	NOT USED
R	KEYED LEVER, SELF-CLOSING, SELF-LOCKING, CAPABLE OF BEING OPEN FROM INSIDE WITHOUT A KEY	NOT USED
S	PASSAGE LEVERS, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SPRING HINGES	MECHANICAL CLOSETS

HARDWARE NOTES:

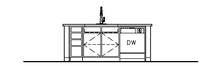
HINGES:	DOORS HAVE 2 PAIR OF HINGES PER LEAF.
MANUFACTURER:	PROVIDE SCHLAGE HARDWARE OR EQUAL FOR LEVERS AND DEADBOLTS.
EXTERIOR DOORS:	ALL EXTERIOR DOORS RECEIVE WEATHER-STRIPPING, ALUMINUM THRESHOLD, AND SWEEP. PROVIDE RAINHOOD IF DOOR IS NOT UNDERCOVER
FINISH:	ALL HARDWARE TO BE MATTE BLACK U.N.O.
RATED DOORS:	ALL RATED DOORS SHALL HAVE RATED HARDWARE & FRAMES.
THRESHOLDS:	ALL THRESHOLDS AT ANSI A AND ANSI B UNITS MUST MEET ADA REQUIREMENTS
SELF CLOSERS:	SELF-CLOSERS ARE TO BE SELF-CONTAINED AT GARAGE UNIT ENTRY DOORS. ALL OTHER LOCATIONS CAN BE SURFACE MOUNTED.



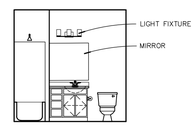
4 ELEVATION – KITCHEN
1/4" = 1'-0"



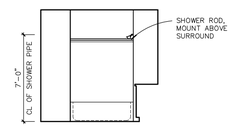
5 ELEVATION – KITCHEN
1/4" = 1'-0"



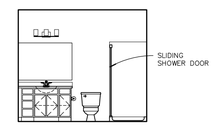
6 ELEVATION – KITCHEN
1/4" = 1'-0"



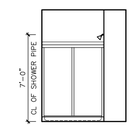
9 ELEVATION – BATH 1
1/4" = 1'-0"



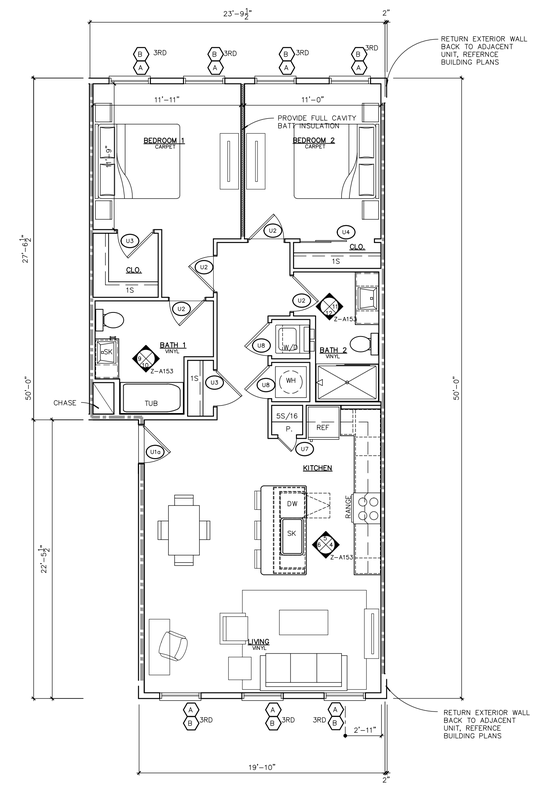
10 ELEV – BATH 1
1/4" = 1'-0"



11 ELEVATION – BATH 2
1/4" = 1'-0"



12 ELEVATION – BATH 2
1/4" = 1'-0"



29 GREYSTONE 2 – UNIT PLAN
1/4" = 1'-0"

NET: 1,104 SF
GROSS: 1,104 SF

18039-PLAN-GREYSTONE2-02

GREYSTONE 2 PLANS, DIAGRAMS, AND INTERIOR ELEVATIONS

UNIT NOTES

1. ALL DIMENSIONS ON UNIT PLANS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. DOORS ARE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. KITCHEN BASE CABINETS ARE 24" DEEP, TYPICAL, UNLESS NOTED OTHERWISE. BATH BASE CABINETS ARE 21" DEEP, TYPICAL, UNLESS NOTED OTHERWISE.
4. GLASS-MAT WATER-RESISTANT BACKING BOARD SHALL BE USED AT ALL TUB/SHOWER AREAS.
5. REFER TO PROJECT DATA SHEET FOR ADDITIONAL PROJECT SQUARE FOOTAGE INFORMATION.
6. REFER TO BUILDING PLANS FOR THE LOCATIONS OF RATED WALLS. SEE HATCH LEGEND FOR RATING REQUIREMENTS.
7. MOUNTING HEIGHT FOR TOWEL BAR IS 5'-0" A.F.F.
8. MOUNTING HEIGHT FOR TOILET PAPER HOLDER (TPH) IS 18" A.F.F.
9. ALL INTERIOR ELEVATIONS ARE DRAWN ASSUMING FINISH FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
10. PROVIDE FINISH PANELS AT ALL EXPOSED END CONDITIONS OF CABINETS AND ADJACENT TO CABINETS NOTED AS "REMOVABLE."
11. SHELVING (U.N.O.):
    1S IS ONE WIRE COATED SHELF WITH ROD MOUNTED AT 69" A.F.F.
    2S IS TWO WIRE COATED SHELVES WITH RODS AT 42" AND 84" A.F.F.
    5S/12 IS FIVE WIRE SHELVES, 12" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
    5S/16 IS FIVE TIGHT MESH SHELVES, 16" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
12. BATHROOM ACCESSORIES:
    TPH: TOILET PAPER ROLL HOLDER
    TB: TOWEL BAR
13. PROVIDE INTEGRAL TRANSITIONS AT ALL FLOORING FINISH CHANGES.
14. IN CLOSETS AND ROOMS WHERE FLOOR FINISH IS NOT INDICATED, CONTINUE FLOOR FINISH FROM ADJACENT ROOM.
15. ALL IN UNIT HANDRAILS TO BE PRIMED PINE.
16. COORDINATE LOCATION OF ATTIC ACCESS PANELS WITH ROOF TRUSSES.
17. ATTIC ACCESS DOORS: ACUDOR FW-5050-DW; COORDINATE TRUSS DESIGN AND DOOR LOCATION.

UNIT LEGEND

SHEET	UNIT MARKET NAME
Z-A151	BENTLY
Z-A152	GREYSTONE 1
Z-A153	GREYSTONE 2
Z-A154	TREVOR A
Z-A155	TREVOR B
Z-A156	TREVOR C
Z-A157	ASHTON
Z-A158	WOODBURY 36
Z-A159	WOODBURY 40

WALL LEGEND

UNRATED PARTITION

1 HOUR RATED PARTITION

2 HOUR RATED

1. ALL EXTERIOR AND PLUMBING WALLS ARE 2X6
2. ALL INTERIOR WALLS ARE 2X4 UNLESS OTHERWISE NOTED

UNIT WINDOW SCHEDULE

MARK	SIZE WIDTH	SIZE HEIGHT	TYPE CLAD WD CSEMT.	TYPE CLAD DBL. HUNG	TYPE FIXED	TYPE FIXED LOUVER	TYPE VINYL SNGL. HUNG		REMARKS
A	3'-0"	6'-0"					●		2 OVER 2 LITE
B	3'-0"	5'-6"					●		2 OVER 2 LITE
S1	3'-0"	6'-0"					●		FIXED SHUTTER

NOTES:

1. REFER TO ELEVATIONS FOR MUNTIN PATTERN, TYP.
2. WINDOW DIMENSIONS ARE FRAME SIZES BASED ON VINYL WINDOW MANUFACTURER INFORMATION.
3. REFER TO ELEVATIONS FOR WINDOW LOCATIONS WITH SHUTTERS. SHUTTERS SHOULD BE SIZED SO EACH SHUTTER IS EQUAL TO THE HEIGHT OF THE WINDOW AND EQUAL TO 1/2 THE WIDTH OF THE WINDOW.

DOOR SCHEDULE

DOOR MARK	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	LOCATION		HARDWARE	REMARKS
U1	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	
U1a	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	20-MIN. RATED
U2	2'-10"	6'-8"	.	WOOD	.	BEDROOM / BATH	.	C	
U3	2'-10"	6'-8"	.	.	.	LAUNDRY / PANTRY/ CLO.	.	D	
U4	(2) 2'-0"	6'-8"	.	.	.	CLOSET	.	D	BYPASS
U5	(2) 2'-6"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	D	
U6	(2) 2'-8"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	S	
U7	1'-6"	6'-8"	.	.	.	CLOSET / LINEN / PANTRY.	.	D	
U8	2'-8"	6'-8"	.	.	.	LAUNDRY/ MECH. / CLO.	.	D	
U9	2'-10"	6'-8"	.	STEEL	.	UNDER-STAIR STORAGE	.	.	20-MIN. RATED
U10	(2) 2'-0"	6'-8"	.	WOOD	.	LAUNDRY / CLOSET	.	D	
U11	6'-0"	6'-8"	.	ALUMINUM/GLASS	.	EXTERIOR SIDING DOOR	.	.	
U12	9'-0"	7'-0"	.	STEEL	.	GARAGE DOOR	.	F	
U13	3'-0"	6'-8"	.	STEEL	.	PATIO DOOR AT ASHTON	.	B	
U14	.	.	.	.	.	.	.	.	
U15	3'-0"	6'-8"	.	WOOD	.	UNIT ENTRY-GARAGE	.	J	SOLID CORE, SELF-CLOSING, SELF-LATCHING
U16	2'-8"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
U17	3'-0"	6'-8"	.	.	.	CLOSET	.	D	
U18	3'-0"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
B1	3'-0"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN
B2	(2) 2'-4"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN

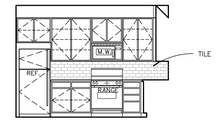
1. ALL INTERIOR DOORS TO BE HOLLOW-CORE, UNLESS NOTED OTHERWISE (U.N.O.).
2. ALL EXTERIOR DOORS TO BE SOLID CORE.
3. ALL GLAZING IN FIXED AND OPERABLE DOORS SHALL BE TEMPERED.
4. PROVIDE PEEP HOLES IN ALL UNIT PRIMARY ENTRY DOORS CENTERED AT 48" MAX. ABOVE FINISHED FLOOR
5. ALL UNIT DOORS TO HAVE A STOP
6. ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED, U.N.O.
7. ALL INTERIOR DOORS SHALL HAVE CASING TRIM, U.N.O.

HARDWARE SCHEDULE

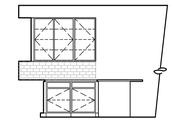
MARK	TYPE	LOCATION
A	PASSAGE LEVER, SINGLE CYLINDER DEADBOLT WOOD THRESHOLD, SPRING CLOSER HINGES, DOORSTOP , PEEPHOLE & SMOKE SEALS	UNIT ENTRY DOORS
B	PASSAGE LEVER & SINGLE CYLINDER DEADBOLT, ALUMINUM THRESHOLD W/SWEEP, WEATHER-STRIPPING, AND RAINHOOD IF DOOR NOT LOCATED UNDER-COVER	UNIT PATIO DOORS, UNDER-STAIR STOR.
C	PRIVACY LEVERS	UNIT BED / BATH
D	PASSAGE LEVERS	UNIT CLOSET / UTILITY
E	KEYED LEVERS	STORAGE CLOSET
F	OVERHEAD AUTOMATIC DOOR OPENER	PRIVATE GARAGES
J	PRIVACY LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SELF-CLOSING	UNIT ENTRY FRM GARAGE
K	KEY FOB CONTROLLER (FROM GARAGE), WEATHER-STRIPPING, ALUMINUM THRESHOLD, SELF CLOSER	NOT USED
M	KEYED LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SURFACE APPLIED SELF CLOSER	RISER ROOM / MAINT.
N	PASSAGE LEVER, ALUMINUM THRESHOLD, SURFACE APPLIED CLOSER	NOT USED
P	PASSAGE LEVER, SURFACE APPLIED SELF CLOSER, PUSH BAR PANIC, SILENCERS, ACCESS CONTROL	NOT USED
Q	PASSAGE LEVER (INSIDE), KEY FOB CONTROLLED LEVER (OUTSIDE), SELF CLOSER	NOT USED
R	KEYED LEVER, SELF-CLOSING, SELF-LOCKING, CAPABLE OF BEING OPEN FROM INSIDE WITHOUT A KEY	NOT USED
S	PASSAGE LEVERS, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SPRING HINGES	MECHANICAL CLOSETS

HARDWARE NOTES:

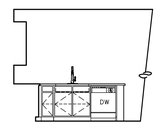
HINGES:	DOORS HAVE 2 PAIR OF HINGES PER LEAF.
MANUFACTURER:	PROVIDE SCHLAGE HARDWARE OR EQUAL FOR LEVERS AND DEADBOLTS.
EXTERIOR DOORS:	ALL EXTERIOR DOORS RECEIVE WEATHER-STRIPPING, ALUMINUM THRESHOLD, AND SWEEP. PROVIDE RAINHOOD IF DOOR IS NOT UNDERCOVER
FINISH:	ALL HARDWARE TO BE MATTE BLACK U.N.O.
RATED DOORS:	ALL RATED DOORS SHALL HAVE RATED HARDWARE & FRAMES.
THRESHOLDS:	ALL THRESHOLDS AT ANSI A AND ANSI B UNITS MUST MEET ADA REQUIREMENTS
SELF CLOSERS:	SELF-CLOSERS ARE TO BE SELF-CONTAINED AT GARAGE UNIT ENTRY DOORS. ALL OTHER LOCATIONS CAN BE SURFACE MOUNTED.



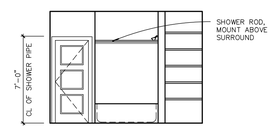
3 ELEVATION – KITCHEN
1/4" = 1'-0"



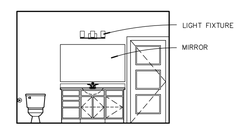
4 ELEVATION – KITCHEN
1/4" = 1'-0"



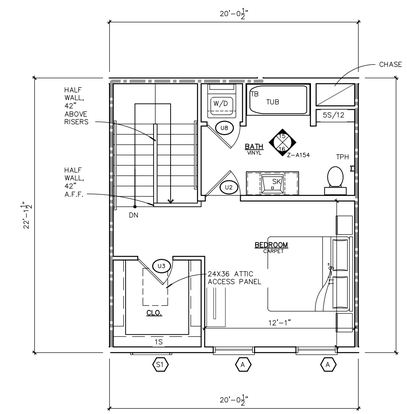
9 ELEVATION – KITCHEN
1/4" = 1'-0"



15 ELEVATION – BATH
1/4" = 1'-0"

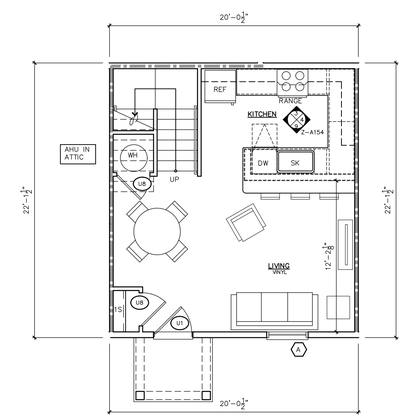


16 ELEVATION – BATH
1/4" = 1'-0"



17 TREVOR A – SECOND FLOOR PLAN
1/4" = 1'-0"

UNIT PLAN-TREVOR-CORNER-02



29 TREVOR A – FIRST FLOOR PLAN
1/4" = 1'-0"

NET: 892 SF
GROSS: 925 SF

UNIT PLAN-TREVOR-CORNER-01

TREVOR A PLANS, DIAGRAMS, AND INTERIOR ELEVATIONS

UNIT NOTES

1. ALL DIMENSIONS ON UNIT PLANS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. DOORS ARE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. KITCHEN BASE CABINETS ARE 24" DEEP, TYPICAL, UNLESS NOTED OTHERWISE. BATH BASE CABINETS ARE 21" DEEP, TYPICAL, UNLESS NOTED OTHERWISE.
4. GLASS-MAT WATER-RESISTANT BACKING BOARD SHALL BE USED AT ALL TUB/SHOWER AREAS.
5. REFER TO PROJECT DATA SHEET FOR ADDITIONAL PROJECT SQUARE FOOTAGE INFORMATION.
6. REFER TO BUILDING PLANS FOR THE LOCATIONS OF RATED WALLS. SEE HATCH LEGEND FOR RATING REQUIREMENTS.
7. MOUNTING HEIGHT FOR TOWEL BAR IS 5'-0" A.F.F.
8. MOUNTING HEIGHT FOR TOILET PAPER HOLDER (TPH) IS 18" A.F.F.
9. ALL INTERIOR ELEVATIONS ARE DRAWN ASSUMING FINISH FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
10. PROVIDE FINISH PANELS AT ALL EXPOSED END CONDITIONS OF CABINETS AND ADJACENT TO CABINETS NOTED AS "REMOVABLE."
11. SHELVING (U.N.O.):
    1S IS ONE WIRE COATED SHELF WITH ROD MOUNTED AT 69" A.F.F.
    2S IS TWO WIRE COATED SHELVES WITH RODS AT 42" AND 84" A.F.F.
    5S/12 IS FIVE WIRE SHELVES, 12" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
    5S/16 IS FIVE TIGHT MESH SHELVES, 16" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
12. BATHROOM ACCESSORIES:
    TPH: TOILET PAPER ROLL HOLDER
    TB: TOWEL BAR
13. PROVIDE INTEGRAL TRANSITIONS AT ALL FLOORING FINISH CHANGES.
14. IN CLOSETS AND ROOMS WHERE FLOOR FINISH IS NOT INDICATED, CONTINUE FLOOR FINISH FROM ADJACENT ROOM.
15. ALL IN UNIT HANDRAILS TO BE PRIMED PINE.
16. COORDINATE LOCATION OF ATTIC ACCESS PANELS WITH ROOF TRUSSES.
17. ATTIC ACCESS DOORS: ACUDOR FW-5050-DW; COORDINATE TRUSS DESIGN AND DOOR LOCATION.

UNIT LEGEND

SHEET	UNIT MARKET NAME
2-A151	BENTLY
2-A152	GREYSTONE 1
2-A153	GREYSTONE 2
2-A154	TREVOR A
2-A155	TREVOR B
2-A156	TREVOR C
2-A157	ASHTON
2-A158	WOODBURY 36
2-A159	WOODBURY 40

WALL LEGEND

UNRATED PARTITION

1 HOUR RATED PARTITION

2 HOUR RATED

1. ALL EXTERIOR AND PLUMBING WALLS ARE 2X6
2. ALL INTERIOR WALLS ARE 2X4 UNLESS OTHERWISE NOTED

UNIT WINDOW SCHEDULE

MARK	SIZE WIDTH	SIZE HEIGHT	TYPE CLAD WD CSEMT.	TYPE CLAD DBL. HUNG	TYPE FIXED	TYPE FIXED LOUVER	TYPE VINYL SNGL. HUNG		REMARKS
A	3'-0"	6'-0"					●		2 OVER 2 LITE
B	3'-0"	5'-6"					●		2 OVER 2 LITE
S1	3'-0"	6'-0"					●		FIXED SHUTTER

NOTES:

1. REFER TO ELEVATIONS FOR MUNTIN PATTERN, TYP.
2. WINDOW DIMENSIONS ARE FRAME SIZES BASED ON VINYL WINDOW MANUFACTURER INFORMATION.
3. REFER TO ELEVATIONS FOR WINDOW LOCATIONS WITH SHUTTERS. SHUTTERS SHOULD BE SIZED SO EACH SHUTTER IS EQUAL TO THE HEIGHT OF THE WINDOW AND EQUAL TO 1/2 THE WIDTH OF THE WINDOW.

DOOR SCHEDULE

DOOR MARK	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	LOCATION		HARDWARE	REMARKS
U1	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	
U1a	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	20-MIN. RATED
U2	2'-10"	6'-8"	.	WOOD	.	BEDROOM / BATH	.	C	
U3	2'-10"	6'-8"	.	.	.	LAUNDRY / PANTRY/ CLO.	.	D	
U4	(2) 3'-0"	6'-8"	.	.	.	CLOSET	.	D	BYPASS
U5	(2) 2'-6"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	D	
U6	(2) 2'-8"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	S	
U7	1'-6"	6'-8"	.	.	.	CLOSET / LINEN / PANTRY.	.	D	
U8	2'-8"	6'-8"	.	.	.	LAUNDRY/ MECH. / CLO.	.	D	
U9	2'-10"	6'-8"	.	STEEL	.	UNDER-STAIR STORAGE	.	.	20-MIN. RATED
U10	(2) 2'-0"	6'-8"	.	WOOD	.	LAUNDRY / CLOSET	.	D	
U11	6'-0"	6'-8"	.	ALUMINUM/GLASS	.	EXTERIOR SLIDING DOOR	.	.	
U12	9'-0"	7'-0"	.	STEEL	.	GARAGE DOOR	.	F	
U13	3'-0"	6'-8"	.	STEEL	.	PATIO DOOR AT ASHTON	.	B	
U14	.	.	.	.	.	.	.	.	
U15	3'-0"	6'-8"	.	WOOD	.	UNIT ENTRY-GARAGE	.	J	SOLID CORE, SELF-CLOSING, SELF-LATCHING
U16	2'-8"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
U17	3'-0"	6'-8"	.	.	.	CLOSET	.	D	
U18	3'-0"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
B1	3'-0"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN
B2	(2) 2'-4"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN

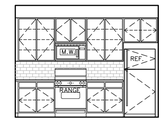
1. ALL INTERIOR DOORS TO BE HOLLOW-CORE, UNLESS NOTED OTHERWISE (U.N.O.).
2. ALL EXTERIOR DOORS TO BE SOLID CORE.
3. ALL GLAZING IN FIXED AND OPERABLE DOORS SHALL BE TEMPERED.
4. PROVIDE PEEP HOLES IN ALL UNIT PRIMARY ENTRY DOORS CENTERED AT 48" MAX. ABOVE FINISHED FLOOR
5. ALL UNIT DOORS TO HAVE A STOP
6. ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED, U.N.O.
7. ALL INTERIOR DOORS SHALL HAVE CASING TRIM, U.N.O.

HARDWARE SCHEDULE

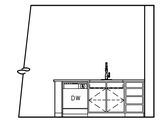
MARK	TYPE	LOCATION
A	PASSAGE LEVER, SINGLE CYLINDER DEADBOLT WOOD THRESHOLD, SPRING CLOSER HINGES, DOORSTOP , PEEPHOLE & SMOKE SEALS	UNIT ENTRY DOORS
B	PASSAGE LEVER & SINGLE CYLINDER DEADBOLT, ALUMINUM THRESHOLD W/SWEEP, WEATHER-STRIPPING, AND RAINHOOD IF DOOR NOT LOCATED UNDER-COVER	UNIT PATIO DOORS, UNDER-STAIR STOR.
C	PRIVACY LEVERS	UNIT BED / BATH
D	PASSAGE LEVERS	UNIT CLOSET / UTILITY
E	KEYED LEVERS	STORAGE CLOSET
F	OVERHEAD AUTOMATIC DOOR OPENER	PRIVATE GARAGES
J	PRIVACY LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SELF-CLOSING	UNIT ENTRY FRM GARAGE
K	KEY FOB CONTROLLER (FROM GARAGE), WEATHER-STRIPPING, ALUMINUM THRESHOLD, SELF CLOSER	NOT USED
M	KEYED LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SURFACE APPLIED SELF CLOSER	RISER ROOM / MAINT.
N	PASSAGE LEVER, ALUMINUM THRESHOLD, SURFACE APPLIED CLOSER	NOT USED
P	PASSAGE LEVER, SURFACE APPLIED SELF CLOSER, PUSH BAR PANIC, SILENCERS, ACCESS CONTROL	NOT USED
Q	PASSAGE LEVER (INSIDE), KEY FOB CONTROLLED LEVER (OUTSIDE), SELF CLOSER	NOT USED
R	KEYED LEVER, SELF-CLOSING, SELF-LOCKING, CAPABLE OF BEING OPEN FROM INSIDE WITHOUT A KEY	NOT USED
S	PASSAGE LEVERS, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SPRING HINGES	MECHANICAL CLOSETS

HARDWARE NOTES:

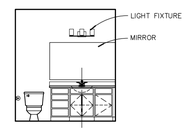
HINGES:	DOORS HAVE 2 PAIR OF HINGES PER LEAF.
MANUFACTURER:	PROVIDE SCHLAGE HARDWARE OR EQUAL FOR LEVERS AND DEADBOLTS.
EXTERIOR DOORS:	ALL EXTERIOR DOORS RECEIVE WEATHER-STRIPPING, ALUMINUM THRESHOLD, AND SWEEP. PROVIDE RAINHOOD IF DOOR IS NOT UNDERCOVER
FINISH:	ALL HARDWARE TO BE MATTE BLACK U.N.O.
RATED DOORS:	ALL RATED DOORS SHALL HAVE RATED HARDWARE & FRAMES.
THRESHOLDS:	ALL THRESHOLDS AT ANSI A AND ANSI B UNITS MUST MEET ADA REQUIREMENTS
SELF CLOSERS:	SELF-CLOSERS ARE TO BE SELF-CONTAINED AT GARAGE UNIT ENTRY DOORS. ALL OTHER LOCATIONS CAN BE SURFACE MOUNTED.



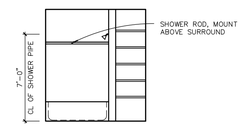
3 ELEVATION – KITCHEN
1/4" = 1'-0"



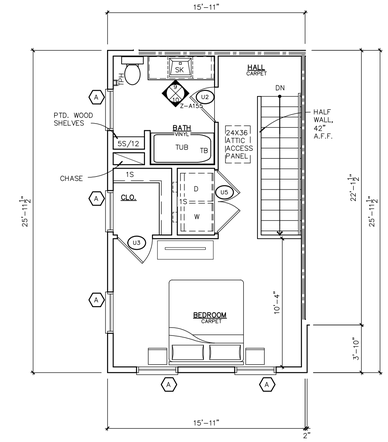
4 ELEVATION – KITCHEN
1/4" = 1'-0"



9 ELEVATION – BATH
1/4" = 1'-0"

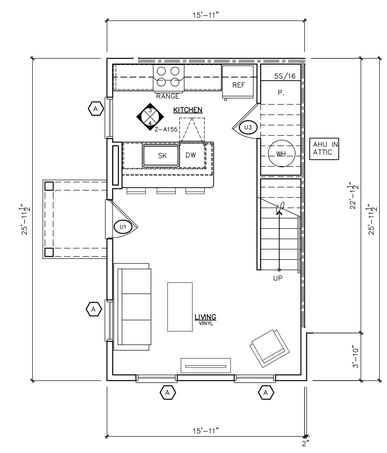


10 ELEVATION – BATH
1/4" = 1'-0"



17 TREVOR B – SECOND FLOOR PLAN
1/4" = 1'-0"

UNIT PLAN-TREVOR-CORNER-02



29 TREVOR B – FIRST FLOOR PLAN
1/4" = 1'-0"

NET: 830 SF
GROSS: 863 SF

UNIT PLAN-TREVOR-CORNER-01

TREVOR B PLANS, DIAGRAMS, AND INTERIOR ELEVATIONS

UNIT NOTES

1. ALL DIMENSIONS ON UNIT PLANS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. DOORS ARE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. KITCHEN BASE CABINETS ARE 24" DEEP, TYPICAL, UNLESS NOTED OTHERWISE. BATH BASE CABINETS ARE 21" DEEP, TYPICAL, UNLESS NOTED OTHERWISE.
4. GLASS-MAT WATER-RESISTANT BACKING BOARD SHALL BE USED AT ALL TUB/SHOWER AREAS.
5. REFER TO PROJECT DATA SHEET FOR ADDITIONAL PROJECT SQUARE FOOTAGE INFORMATION.
6. REFER TO BUILDING PLANS FOR THE LOCATIONS OF RATED WALLS. SEE HATCH LEGEND FOR RATING REQUIREMENTS.
7. MOUNTING HEIGHT FOR TOWEL BAR IS 5'-0" A.F.F.
8. MOUNTING HEIGHT FOR TOILET PAPER HOLDER (TPH) IS 18" A.F.F.
9. ALL INTERIOR ELEVATIONS ARE DRAWN ASSUMING FINISH FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
10. PROVIDE FINISH PANELS AT ALL EXPOSED END CONDITIONS OF CABINETS AND ADJACENT TO CABINETS NOTED AS "REMOVABLE."
11. SHELVING (U.N.O.):
    1S IS ONE WIRE COATED SHELF WITH ROD MOUNTED AT 69" A.F.F.
    2S IS TWO WIRE COATED SHELVES WITH RODS AT 42" AND 84" A.F.F.
    5S/12 IS FIVE WIRE SHELVES, 12" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
    5S/16 IS FIVE TIGHT MESH SHELVES, 16" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
12. BATHROOM ACCESSORIES:
    TPH: TOILET PAPER ROLL HOLDER
    TB: TOWEL BAR
13. PROVIDE INTEGRAL TRANSITIONS AT ALL FLOORING FINISH CHANGES.
14. IN CLOSETS AND ROOMS WHERE FLOOR FINISH IS NOT INDICATED, CONTINUE FLOOR FINISH FROM ADJACENT ROOM.
15. ALL IN UNIT HANDRAILS TO BE PRIMED PINE.
16. COORDINATE LOCATION OF ATTIC ACCESS PANELS WITH ROOF TRUSSES.
17. ATTIC ACCESS DOORS: ACUDOR FW-5050-DW; COORDINATE TRUSS DESIGN AND DOOR LOCATION.

UNIT LEGEND

SHEET	UNIT MARKET NAME
Z-A151	BENILY
Z-A152	GREYSTONE 1
Z-A153	GREYSTONE 2
Z-A154	TREVOR A
Z-A155	TREVOR B
Z-A156	TREVOR C
Z-A157	ASHTON
Z-A158	WOODBURY 36
Z-A159	WOODBURY 40

WALL LEGEND

UNRATED PARTITION

1 HOUR RATED PARTITION

2 HOUR RATED

1. ALL EXTERIOR AND PLUMBING WALLS ARE 2X6
2. ALL INTERIOR WALLS ARE 2X4 UNLESS OTHERWISE NOTED

UNIT WINDOW SCHEDULE

MARK	SIZE WIDTH	SIZE HEIGHT	TYPE CLAD WD CSEMT.	CLAD DBL. HUNG	FIXED	FIXED LOUVER	VINYL SNGL. HUNG	REMARKS
A	3'-0"	6'-0"					●	2 OVER 2 LITE
B	3'-0"	5'-6"					●	2 OVER 2 LITE
S1	3'-0"	6'-0"					●	FIXED SHUTTER

NOTES:

1. REFER TO ELEVATIONS FOR MUNTIN PATTERN, TYP.
2. WINDOW DIMENSIONS ARE FRAME SIZES BASED ON VINYL WINDOW MANUFACTURER INFORMATION.
3. REFER TO ELEVATIONS FOR WINDOW LOCATIONS WITH SHUTTERS. SHUTTERS SHOULD BE SIZED SO EACH SHUTTER IS EQUAL TO THE HEIGHT OF THE WINDOW AND EQUAL TO 1/2 THE WIDTH OF THE WINDOW.

DOOR SCHEDULE

DOOR MARK	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	LOCATION		HARDWARE	REMARKS
U1	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	
U1a	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	20-MIN. RATED
U2	2'-10"	6'-8"	.	WOOD	.	BEDROOM / BATH	.	C	
U3	2'-10"	6'-8"	.	.	.	LAUNDRY / PANTRY/ CLO.	.	D	
U4	(2) 3'-0"	6'-8"	.	.	.	CLOSET	.	D	BYPASS
U5	(2) 2'-6"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	D	
U6	(2) 2'-8"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	S	
U7	1'-6"	6'-8"	.	.	.	CLOSET / LINEN / PANTRY	.	D	
U8	2'-8"	6'-8"	.	.	.	LAUNDRY/ MECH. / CLO.	.	D	
U9	2'-10"	6'-8"	.	STEEL	.	UNDER-STAIR STORAGE	.		20-MIN. RATED
U10	(2) 2'-0"	6'-8"	.	WOOD	.	LAUNDRY / CLOSET	.	D	
U11	6'-0"	6'-8"	.	ALUMINUM/GLASS	.	EXTERIOR SLIDING DOOR	.		
U12	9'-0"	7'-0"	.	STEEL	.	GARAGE DOOR	.	F	
U13	3'-0"	6'-8"	.	STEEL	.	PATIO DOOR AT ASHTON	.	B	
U14			.		.		.		
U15	3'-0"	6'-8"	.	WOOD	.	UNIT ENTRY-GARAGE	.	J	SOLID CORE, SELF-CLOSING, SELF-LATCHING
U16	2'-8"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
U17	3'-0"	6'-8"	.	.	.	CLOSET	.	D	
U18	3'-0"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
B1	3'-0"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN
B2	(2) 2'-4"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN

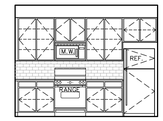
1. ALL INTERIOR DOORS TO BE HOLLOW-CORE, UNLESS NOTED OTHERWISE (U.N.O.).
2. ALL EXTERIOR DOORS TO BE SOLID CORE.
3. ALL GLAZING IN FIXED AND OPERABLE DOORS SHALL BE TEMPERED.
4. PROVIDE PEEP HOLES IN ALL UNIT PRIMARY ENTRY DOORS CENTERED AT 48" MAX. ABOVE FINISHED FLOOR
5. ALL UNIT DOORS TO HAVE A STOP
6. ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED, U.N.O.
7. ALL INTERIOR DOORS SHALL HAVE CASING TRIM, U.N.O.

HARDWARE SCHEDULE

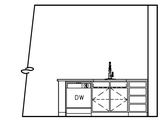
MARK	TYPE	LOCATION
A	PASSAGE LEVER, SINGLE CYLINDER DEADBOLT WOOD THRESHOLD, SPRING CLOSER HINGES, DOORSTOP , PEEPHOLE & SMOKE SEALS	UNIT ENTRY DOORS
B	PASSAGE LEVER & SINGLE CYLINDER DEADBOLT, ALUMINUM THRESHOLD W/SWEEP, WEATHER-STRIPPING, AND RAINHOOD IF DOOR NOT LOCATED UNDER-COVER	UNIT PATIO DOORS, UNDER-STAIR STOR.
C	PRIVACY LEVERS	UNIT BED / BATH
D	PASSAGE LEVERS	UNIT CLOSET / UTILITY
E	KEYED LEVERS	STORAGE CLOSET
F	OVERHEAD AUTOMATIC DOOR OPENER	PRIVATE GARAGES
J	PRIVACY LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SELF-CLOSING	UNIT ENTRY FRM GARAGE
K	KEY FOB CONTROLLER (FROM GARAGE), WEATHER-STRIPPING, ALUMINUM THRESHOLD, SELF CLOSER	NOT USED
M	KEYED LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SURFACE APPLIED SELF CLOSER	RISER ROOM / MAINT.
N	PASSAGE LEVER, ALUMINUM THRESHOLD, SURFACE APPLIED CLOSER	NOT USED
P	PASSAGE LEVER, SURFACE APPLIED SELF CLOSER, PUSH BAR PANIC, SILENCERS, ACCESS CONTROL	NOT USED
Q	PASSAGE LEVER (INSIDE), KEY FOB CONTROLLED LEVER (OUTSIDE), SELF CLOSER	NOT USED
R	KEYED LEVER, SELF-CLOSING, SELF-LOCKING, CAPABLE OF BEING OPEN FROM INSIDE WITHOUT A KEY	NOT USED
S	PASSAGE LEVERS, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SPRING HINGES	MECHANICAL CLOSETS

HARDWARE NOTES:

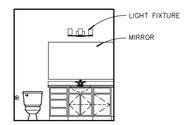
HINGES:	DOORS HAVE 2 PAIR OF HINGES PER LEAF.
MANUFACTURER:	PROVIDE SCHLAGE HARDWARE OR EQUAL FOR LEVERS AND DEADBOLTS.
EXTERIOR DOORS:	ALL EXTERIOR DOORS RECEIVE WEATHER-STRIPPING, ALUMINUM THRESHOLD, AND SWEEP. PROVIDE RAINHOOD IF DOOR IS NOT UNDERCOVER
FINISH:	ALL HARDWARE TO BE MATTE BLACK U.N.O.
RATED DOORS:	ALL RATED DOORS SHALL HAVE RATED HARDWARE & FRAMES.
THRESHOLDS:	ALL THRESHOLDS AT ANSI A AND ANSI B UNITS MUST MEET ADA REQUIREMENTS
SELF CLOSERS:	SELF-CLOSERS ARE TO BE SELF-CONTAINED AT GARAGE UNIT ENTRY DOORS. ALL OTHER LOCATIONS CAN BE SURFACE MOUNTED.



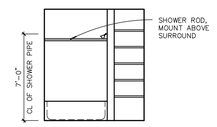
3 ELEVATION – KITCHEN
1/4" = 1'-0"



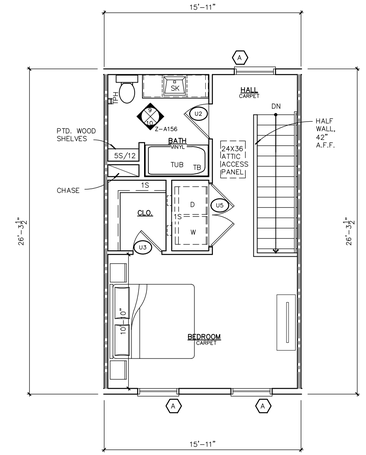
4 ELEVATION – KITCHEN
1/4" = 1'-0"



9 ELEVATION – BATH
1/4" = 1'-0"

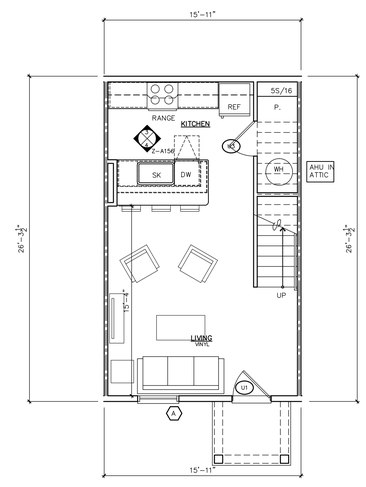


10 ELEVATION – BATH
1/4" = 1'-0"



17 TREVOR C – SECOND FLOOR PLAN
1/4" = 1'-0"

UNIT PLAN-TREVOR-CORNER-02



29 TREVOR C – FIRST FLOOR PLAN
1/4" = 1'-0"

NET: 842 SF
GROSS: 875 SF

UNIT PLAN-TREVOR-CORNER-01

TREVOR C PLANS, DIAGRAMS, AND INTERIOR ELEVATIONS

UNIT NOTES

1. ALL DIMENSIONS ON UNIT PLANS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. DOORS ARE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. KITCHEN BASE CABINETS ARE 24" DEEP, TYPICAL, UNLESS NOTED OTHERWISE. BATH BASE CABINETS ARE 21" DEEP, TYPICAL, UNLESS NOTED OTHERWISE.
4. GLASS-MAT WATER-RESISTANT BACKING BOARD SHALL BE USED AT ALL TUB/SHOWER AREAS.
5. REFER TO PROJECT DATA SHEET FOR ADDITIONAL PROJECT SQUARE FOOTAGE INFORMATION.
6. REFER TO BUILDING PLANS FOR THE LOCATIONS OF RATED WALLS. SEE HATCH LEGEND FOR RATING REQUIREMENTS.
7. MOUNTING HEIGHT FOR TOWEL BAR IS 5'-0" A.F.F.
8. MOUNTING HEIGHT FOR TOILET PAPER HOLDER (TPH) IS 18" A.F.F.
9. ALL INTERIOR ELEVATIONS ARE DRAWN ASSUMING FINISH FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
10. PROVIDE FINISH PANELS AT ALL EXPOSED END CONDITIONS OF CABINETS AND ADJACENT TO CABINETS NOTED AS "REMOVABLE."
11. SHELVING (U.N.O.):
    1S IS ONE WIRE COATED SHELF WITH ROD MOUNTED AT 69" A.F.F.
    2S IS TWO WIRE COATED SHELVES WITH RODS AT 42" AND 84" A.F.F.
    5S/12 IS FIVE WIRE SHELVES, 12" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
    5S/16 IS FIVE TIGHT MESH SHELVES, 16" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
12. BATHROOM ACCESSORIES:
    TPH: TOILET PAPER ROLL HOLDER
    TB: TOWEL BAR
13. PROVIDE INTEGRAL TRANSITIONS AT ALL FLOORING FINISH CHANGES.
14. IN CLOSETS AND ROOMS WHERE FLOOR FINISH IS NOT INDICATED, CONTINUE FLOOR FINISH FROM ADJACENT ROOM.
15. ALL IN UNIT HANDRAILS TO BE PRIMED PINE.
16. COORDINATE LOCATION OF ATTIC ACCESS PANELS WITH ROOF TRUSSES.
17. ATTIC ACCESS DOORS: ACUDOR FW-5050-DW; COORDINATE TRUSS DESIGN AND DOOR LOCATION.

UNIT LEGEND

SHEET	UNIT MARKET NAME
Z-A151	BENTLY
Z-A152	GREYSTONE 1
Z-A153	GREYSTONE 2
Z-A154	TREVOR A
Z-A155	TREVOR B
Z-A156	TREVOR C
Z-A157	ASHTON
Z-A158	WOODBURY 36
Z-A159	WOODBURY 40

WALL LEGEND

UNRATED PARTITION

1 HOUR RATED PARTITION

2 HOUR RATED

1. ALL EXTERIOR AND PLUMBING WALLS ARE 2X6
2. ALL INTERIOR WALLS ARE 2X4 UNLESS OTHERWISE NOTED

UNIT WINDOW SCHEDULE

MARK	SIZE WIDTH	SIZE HEIGHT	TYPE CLAD WD CSEMT.	TYPE CLAD DBL. HUNG	TYPE FIXED	TYPE FIXED LOUVER	TYPE VINYL SNGL. HUNG		REMARKS
A	3'-0"	6'-0"					●		2 OVER 2 LITE
B	3'-0"	5'-6"					●		2 OVER 2 LITE
S1	3'-0"	6'-0"					●		FIXED SHUTTER

NOTES:

1. REFER TO ELEVATIONS FOR MUNTIN PATTERN, TYP.
2. WINDOW DIMENSIONS ARE FRAME SIZES BASED ON VINYL WINDOW MANUFACTURER INFORMATION.
3. REFER TO ELEVATIONS FOR WINDOW LOCATIONS WITH SHUTTERS. SHUTTERS SHOULD BE SIZED SO EACH SHUTTER IS EQUAL TO THE HEIGHT OF THE WINDOW AND EQUAL TO 1/2 THE WIDTH OF THE WINDOW.

DOOR SCHEDULE

DOOR MARK	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	LOCATION		HARDWARE	REMARKS
U1	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	
U1a	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY	.	A	20-MIN. RATED
U2	2'-10"	6'-8"	.	WOOD	.	BEDROOM / BATH	.	C	
U3	2'-10"	6'-8"	.	.	.	LAUNDRY / PANTRY/ CLO.	.	D	
U4	(2) 3'-0"	6'-8"	.	.	.	CLOSET	.	D	BYPASS
U5	(2) 2'-6"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	D	
U6	(2) 2'-8"	6'-8"	.	.	.	LAUNDRY / MECHANICAL	.	S	
U7	1'-6"	6'-8"	.	.	.	CLOSET / LINEN / PANTRY.	.	D	
U8	2'-8"	6'-8"	.	.	.	LAUNDRY/ MECH. / CLO.	.	D	
U9	2'-10"	6'-8"	.	STEEL	.	UNDER-STAIR STORAGE	.	.	20-MIN. RATED
U10	(2) 2'-0"	6'-8"	.	WOOD	.	LAUNDRY / CLOSET	.	D	
U11	6'-0"	6'-8"	.	ALUMINUM/GLASS	.	EXTERIOR SLIDING DOOR	.	.	
U12	9'-0"	7'-0"	.	STEEL	.	GARAGE DOOR	.	F	
U13	3'-0"	6'-8"	.	STEEL	.	PATIO DOOR AT ASHTON	.	B	
U14	.	.	.	.	.	.	.	.	
U15	3'-0"	6'-8"	.	WOOD	.	UNIT ENTRY-GARAGE	.	J	SOLID CORE, SELF-CLOSING, SELF-LATCHING
U16	2'-8"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
U17	3'-0"	6'-8"	.	.	.	CLOSET	.	D	
U18	3'-0"	6'-8"	.	.	.	BEDROOM / BATH	.	C	
B1	3'-0"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN
B2	(2) 2'-4"	6'-8"	.	STEEL	.	RISER ROOM DOOR	.	M	SEE BUILDING PLAN

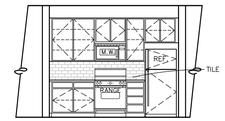
1. ALL INTERIOR DOORS TO BE HOLLOW-CORE, UNLESS NOTED OTHERWISE (U.N.O.).
2. ALL EXTERIOR DOORS TO BE SOLID CORE.
3. ALL GLAZING IN FIXED AND OPERABLE DOORS SHALL BE TEMPERED.
4. PROVIDE PEEP HOLES IN ALL UNIT PRIMARY ENTRY DOORS CENTERED AT 48" MAX. ABOVE FINISHED FLOOR
5. ALL UNIT DOORS TO HAVE A STOP
6. ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED, U.N.O.
7. ALL INTERIOR DOORS SHALL HAVE CASING TRIM, U.N.O.

HARDWARE SCHEDULE

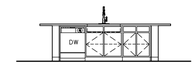
MARK	TYPE	LOCATION
A	PASSAGE LEVER, SINGLE CYLINDER DEADBOLT WOOD THRESHOLD, SPRING CLOSER HINGES, DOORSTOP , PEEPHOLE & SMOKE SEALS	UNIT ENTRY DOORS
B	PASSAGE LEVER & SINGLE CYLINDER DEADBOLT, ALUMINUM THRESHOLD W/SWEEP, WEATHER-STRIPPING, AND RAINHOOD IF DOOR NOT LOCATED UNDER-COVER	UNIT PATIO DOORS, UNDER-STAIR STOR.
C	PRIVACY LEVERS	UNIT BED / BATH
D	PASSAGE LEVERS	UNIT CLOSET / UTILITY
E	KEYED LEVERS	STORAGE CLOSET
F	OVERHEAD AUTOMATIC DOOR OPENER	PRIVATE GARAGES
J	PRIVACY LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SELF-CLOSING	UNIT ENTRY FRM GARAGE
K	KEY FOB CONTROLLER (FROM GARAGE), WEATHER-STRIPPING, ALUMINUM THRESHOLD, SELF CLOSER	NOT USED
M	KEYED LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SURFACE APPLIED SELF CLOSER	RISER ROOM / MAINT.
N	PASSAGE LEVER, ALUMINUM THRESHOLD, SURFACE APPLIED CLOSER	NOT USED
P	PASSAGE LEVER, SURFACE APPLIED SELF CLOSER, PUSH BAR PANIC, SILENCERS, ACCESS CONTROL	NOT USED
Q	PASSAGE LEVER (INSIDE), KEY FOB CONTROLLED LEVER (OUTSIDE), SELF CLOSER	NOT USED
R	KEYED LEVER, SELF-CLOSING, SELF-LOCKING, CAPABLE OF BEING OPEN FROM INSIDE WITHOUT A KEY	NOT USED
S	PASSAGE LEVERS, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SPRING HINGES	MECHANICAL CLOSETS

HARDWARE NOTES:

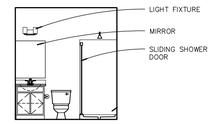
HINGES:	DOORS HAVE 2 PAIR OF HINGES PER LEAF.
MANUFACTURER:	PROVIDE SCHLAGE HARDWARE OR EQUAL FOR LEVERS AND DEADBOLTS.
EXTERIOR DOORS:	ALL EXTERIOR DOORS RECEIVE WEATHER-STRIPPING, ALUMINUM THRESHOLD, AND SWEEP. PROVIDE RAINHOOD IF DOOR IS NOT UNDERCOVER
FINISH:	ALL HARDWARE TO BE MATTE BLACK U.N.O.
RATED DOORS:	ALL RATED DOORS SHALL HAVE RATED HARDWARE & FRAMES.
THRESHOLDS:	ALL THRESHOLDS AT ANSI A AND ANSI B UNITS MUST MEET ADA REQUIREMENTS
SELF CLOSERS:	SELF-CLOSERS ARE TO BE SELF-CONTAINED AT GARAGE UNIT ENTRY DOORS. ALL OTHER LOCATIONS CAN BE SURFACE MOUNTED.



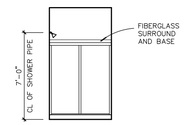
2 ELEVATION – KITCHEN
1/4" = 1'-0"



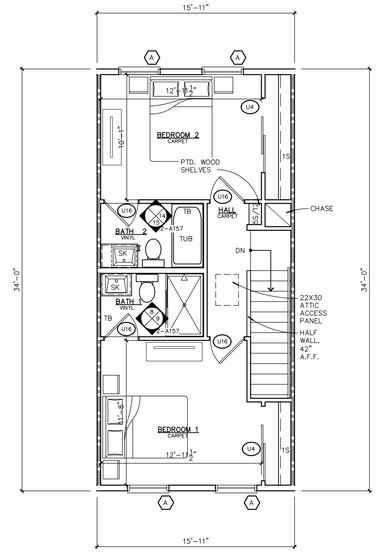
3 ELEVATION – KITCHEN
1/4" = 1'-0"



8 ELEVATION – BATH 1
1/4" = 1'-0"

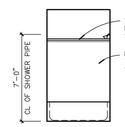


9 ELEVATION – BATH 1
1/4" = 1'-0"

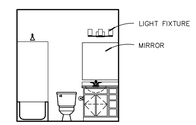


18 ASHTON – SECOND FLOOR PLAN
1/4" = 1'-0"

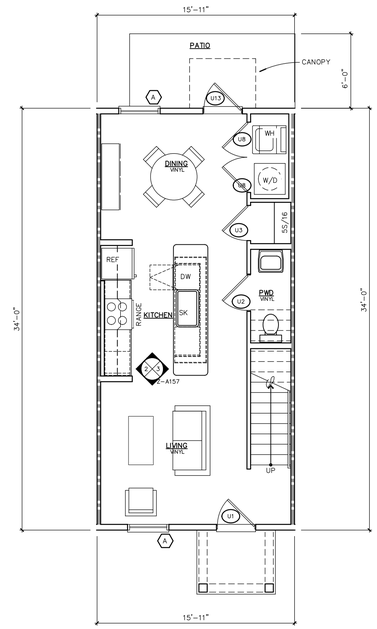
UNIT PLAN-ASHTON-02



14 ELEVATION – BATH 2
1/4" = 1'-0"



15 ELEVATION – BATH 2
1/4" = 1'-0"



29 ASHTON – FIRST FLOOR PLAN
1/4" = 1'-0"

NET: 1,088 GF
SF SF

UNIT PLAN-ASHTON-01

ASHTON PLANS, DIAGRAMS, AND INTERIOR ELEVATIONS

UNIT NOTES

1. ALL DIMENSIONS ON UNIT PLANS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. DOORS ARE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
3. KITCHEN BASE CABINETS ARE 24" DEEP, TYPICAL, UNLESS NOTED OTHERWISE. BATH BASE CABINETS ARE 21" DEEP, TYPICAL, UNLESS NOTED OTHERWISE.
4. GLASS-MAT WATER-RESISTANT BACKING BOARD SHALL BE USED AT ALL TUB/SHOWER AREAS.
5. REFER TO PROJECT DATA SHEET FOR ADDITIONAL PROJECT SQUARE FOOTAGE INFORMATION.
6. REFER TO BUILDING PLANS FOR THE LOCATIONS OF RATED WALLS. SEE HATCH LEGEND FOR RATING REQUIREMENTS.
7. MOUNTING HEIGHT FOR TOWEL BAR IS 5'-0" A.F.F.
8. MOUNTING HEIGHT FOR TOILET PAPER HOLDER (TPH) IS 18" A.F.F.
9. ALL INTERIOR ELEVATIONS ARE DRAWN ASSUMING FINISH FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
10. PROVIDE FINISH PANELS AT ALL EXPOSED END CONDITIONS OF CABINETS AND ADJACENT TO CABINETS NOTED AS "REMOVABLE."
11. SHELVING (U.N.O.):
    1S IS ONE WIRE COATED SHELF WITH ROD MOUNTED AT 69" A.F.F.
    2S IS TWO WIRE COATED SHELVES WITH RODS AT 42" AND 84" A.F.F.
    5S/12 IS FIVE WIRE SHELVES, 12" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
    5S/16 IS FIVE TIGHT MESH SHELVES, 16" DEEP, AT 24", 40", 56", 72", AND 88" A.F.F.
12. BATHROOM ACCESSORIES:
    TPH: TOILET PAPER ROLL HOLDER
    TB: TOWEL BAR
13. PROVIDE INTEGRAL TRANSITIONS AT ALL FLOORING FINISH CHANGES.
14. IN CLOSETS AND ROOMS WHERE FLOOR FINISH IS NOT INDICATED, CONTINUE FLOOR FINISH FROM ADJACENT ROOM.
15. ALL IN UNIT HANDRAILS TO BE PRIMED PINE.
16. COORDINATE LOCATION OF ATTIC ACCESS PANELS WITH ROOF TRUSSES.
17. ATTIC ACCESS DOORS: ACUDOR FW-5050-DW; COORDINATE TRUSS DESIGN AND DOOR LOCATION.

UNIT LEGEND

SHEET	UNIT MARKET NAME
2-A151	BENTLY
2-A152	GREYSTONE 1
2-A153	GREYSTONE 2
2-A154	TREVOR A
2-A155	TREVOR B
2-A156	TREVOR C
2-A157	ASHTON
2-A158	WOODBURY 36
2-A159	WOODBURY 40

WALL LEGEND

UNRATED PARTITION

1 HOUR RATED PARTITION

2 HOUR RATED PARTITION

1. ALL EXTERIOR AND PLUMBING WALLS ARE 2X6
2. ALL INTERIOR WALLS ARE 2X4 UNLESS OTHERWISE NOTED

UNIT WINDOW SCHEDULE

MARK	SIZE WIDTH	SIZE HEIGHT	TYPE CLAD WD. CASMT	TYPE CLAD DBL. HUNG	TYPE FIXED	TYPE FIXED LOUVER	TYPE VINYL SNGL. HUNG		REMARKS
A	3'-0"	6'-0"					●		2 OVER 2 LITE
B	3'-0"	5'-6"					●		2 OVER 2 LITE
S1	3'-0"	6'-0"					●		FIXED SHUTTER

NOTES:

1. REFER TO ELEVATIONS FOR MUNTIN PATTERN, TYP.
2. WINDOW DIMENSIONS ARE FRAME SIZES BASED ON VINYL WINDOW MANUFACTURER INFORMATION.
3. REFER TO ELEVATIONS FOR WINDOW LOCATIONS WITH SHUTTERS. SHUTTERS SHOULD BE SIZED SO EACH SHUTTER IS EQUAL TO THE HEIGHT OF THE WINDOW AND EQUAL TO 1/2 THE WIDTH OF THE WINDOW.

DOOR SCHEDULE

DOOR MARK	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	LOCATION		HARDWARE	REMARKS
U1	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY		A	
U1a	3'-0"	6'-8"	1-3/4"	STEEL	PAINT	UNIT ENTRY		A	20-MIN. RATED
U2	2'-10"	6'-8"		WOOD		BEDROOM / BATH		C	
U3	2'-10"	6'-8"				LAUNDRY / PANTRY/ C.D.		D	
U4	(2) 3'-0"	6'-8"				CLOSET		D	BYPASS
U5	(2) 2'-6"	6'-8"				LAUNDRY / MECHANICAL		D	
U6	(2) 2'-6"	6'-8"				LAUNDRY / MECHANICAL		S	
U7	1'-6"	6'-8"				CLOSET / LINEN / PANTRY		D	
U8	2'-8"	6'-8"				LAUNDRY/ MECH. / CLO.		D	
U9	2'-10"	6'-8"		STEEL		UNDER-STAIR STORAGE			20-MIN. RATED
U10	(2) 2'-0"	6'-8"		WOOD		LAUNDRY / CLOSET		D	
U11	6'-0"	6'-8"		ALUMINUM/GLASS		EXTERIOR SLIDING DOOR			
U12	9'-0"	7'-0"		STEEL		GARAGE DOOR		F	
U13	3'-0"	6'-8"		STEEL		PATIO DOOR AT ASHTON		B	
U14									
U15	3'-0"	6'-8"		WOOD		UNIT ENTRY-GARAGE		J	SOLID CORE, SELF-CLOSING, SELF-LATCHING
U16	2'-8"	6'-8"				BEDROOM / BATH		C	
U17	3'-0"	6'-8"				CLOSET		D	
U18	3'-0"	6'-8"				BEDROOM / BATH		C	
B1	3'-0"	6'-8"		STEEL		RISER ROOM DOOR		M	SEE BUILDING PLAN
B2	(2) 2'-4"	6'-8"		STEEL		RISER ROOM DOOR		M	SEE BUILDING PLAN

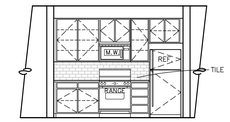
1. ALL INTERIOR DOORS TO BE HOLLOW-CORE, UNLESS NOTED OTHERWISE (U.N.O.).
2. ALL EXTERIOR DOORS TO BE SOLID CORE.
3. ALL GLAZING IN FIXED AND OPERABLE DOORS SHALL BE TEMPERED.
4. PROVIDE PEEP HOLES IN ALL UNIT PRIMARY ENTRY DOORS CENTERED AT 48" MAX. ABOVE FINISHED FLOOR
5. ALL UNIT DOORS TO HAVE A STOP
6. ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED, U.N.O.
7. ALL INTERIOR DOORS SHALL HAVE CASING TRIM, U.N.O.

HARDWARE SCHEDULE

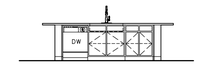
MARK	TYPE	LOCATION
A	PASSAGE LEVER, SINGLE CYLINDER DEADBOLT WOOD THRESHOLD, SPRING CLOSER HINGES, DOORSTOP , PEEPHOLE & SMOKE SEALS	UNIT ENTRY DOORS
B	PASSAGE LEVER & SINGLE CYLINDER DEADBOLT, ALUMINUM THRESHOLD W/SWEEP, WEATHER-STRIPPING, AND RAINHOOD IF DOOR NOT LOCATED UNDER-COVER	UNIT PATIO DOORS, UNDER-STAIR STOR.
C	PRIVACY LEVERS	UNIT BED / BATH
D	PASSAGE LEVERS	UNIT CLOSET / UTILITY
E	KEYED LEVERS	STORAGE CLOSET
F	OVERHEAD AUTOMATIC DOOR OPENER	PRIVATE GARAGES
J	PRIVACY LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SELF-CLOSING	UNIT ENTRY FRM GARAGE
K	KEY FOB CONTROLLER (FROM GARAGE), WEATHER-STRIPPING, ALUMINUM THRESHOLD, SELF CLOSER	NOT USED
M	KEYED LEVER, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SURFACE APPLIED SELF CLOSER	RISER ROOM / MAINT.
N	PASSAGE LEVER, ALUMINUM THRESHOLD, SURFACE APPLIED CLOSER	NOT USED
P	PASSAGE LEVER, SURFACE APPLIED SELF CLOSER, PUSH BAR PANIC, SILENCERS, ACCESS CONTROL	NOT USED
Q	PASSAGE LEVER (INSIDE), KEY FOB CONTROLLED LEVER (OUTSIDE), SELF CLOSER	NOT USED
R	KEYED LEVER, SELF-CLOSING, SELF-LOCKING, CAPABLE OF BEING OPEN FROM INSIDE WITHOUT A KEY	NOT USED
S	PASSAGE LEVERS, ALUMINUM THRESHOLD, WEATHER-STRIPPING, SPRING HINGES	MECHANICAL CLOSETS

HARDWARE NOTES:

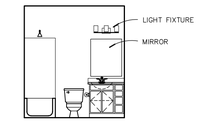
HINGES:	DOORS HAVE 2 PAIR OF HINGES PER LEAF.
MANUFACTURER:	PROVIDE SCHLAGE HARDWARE OR EQUAL FOR LEVERS AND DEADBOLTS.
EXTERIOR DOORS:	ALL EXTERIOR DOORS RECEIVE WEATHER-STRIPPING, ALUMINUM THRESHOLD, AND SWEEP. PROVIDE RAINHOOD IF DOOR IS NOT UNDERCOVER
FINISH:	ALL HARDWARE TO BE MATTE BLACK U.N.O.
RATED DOORS:	ALL RATED DOORS SHALL HAVE RATED HARDWARE & FRAMES.
THRESHOLDS:	ALL THRESHOLDS AT ANSI A AND ANSI B UNITS MUST MEET ADA REQUIREMENTS
SELF CLOSERS:	SELF-CLOSERS ARE TO BE SELF-CONTAINED AT GARAGE UNIT ENTRY DOORS. ALL OTHER LOCATIONS CAN BE SURFACE MOUNTED.



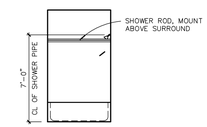
4 ELEVATION – KITCHEN
1/4" = 1'-0"



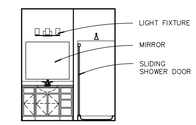
5 ELEVATION – KITCHEN
1/4" = 1'-0"



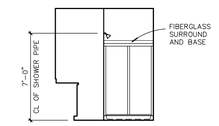
6 ELEVATION – BATH 1
1/4" = 1'-0"



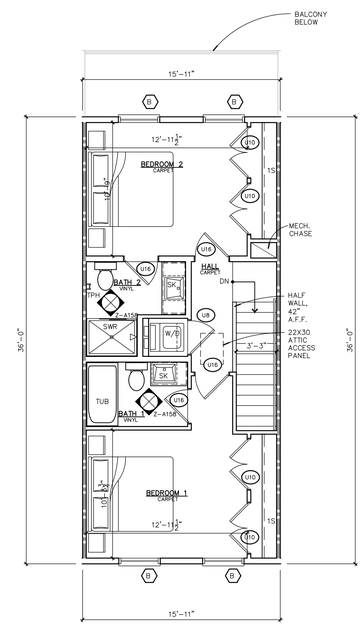
10 ELEVATION – BATH 1
1/4" = 1'-0"



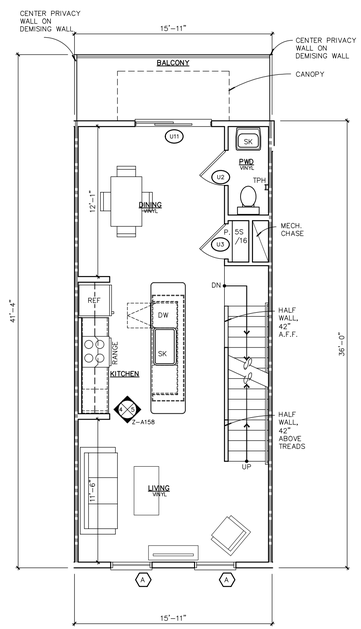
11 ELEVATION – BATH 2
1/4" = 1'-0"



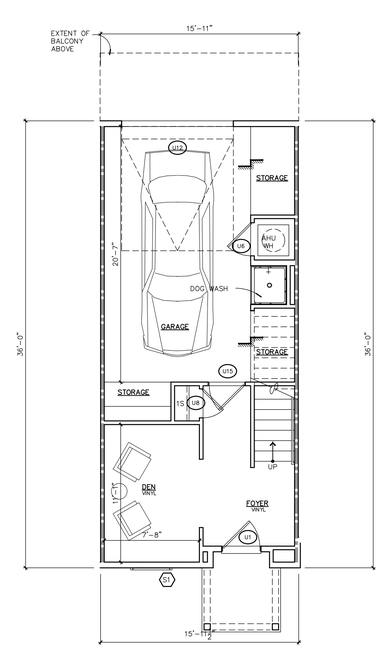
12 ELEVATION – BATH 2
1/4" = 1'-0"



27 WOODBURY 36 – 3RD FLOOR
1/4" = 1'-0"
18039-PLAN-WOODBURY-03



28 WOODBURY 36 – 2ND FLOOR
1/4" = 1'-0"
18039-PLAN-WOODBURY-02



29 WOODBURY 36 – 1ST FLOOR
1/4" = 1'-0"
18039-PLAN-WOODBURY-01

NET:	1,232	SF
SF		GF
GARAGE:	554	SF

WOODBURY PLANS, DIAGRAMS, AND INTERIOR ELEVATIONS

Proposed Master Plan and
Improvements for:

LC Worthington

Worthington, Ohio

September 2020

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Site Location

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Existing Conditions

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Preliminary Spirit images

Streets built around the concept of connectivity create higher density neighborhoods rich in amenities.

Walkable, pedestrian-scale High Street frontage celebrates local retail & creates vibrant neighborhood gathering spaces

Strong ties to American Colonial architecture boast high-quality materials & incorporate a variety of residential types

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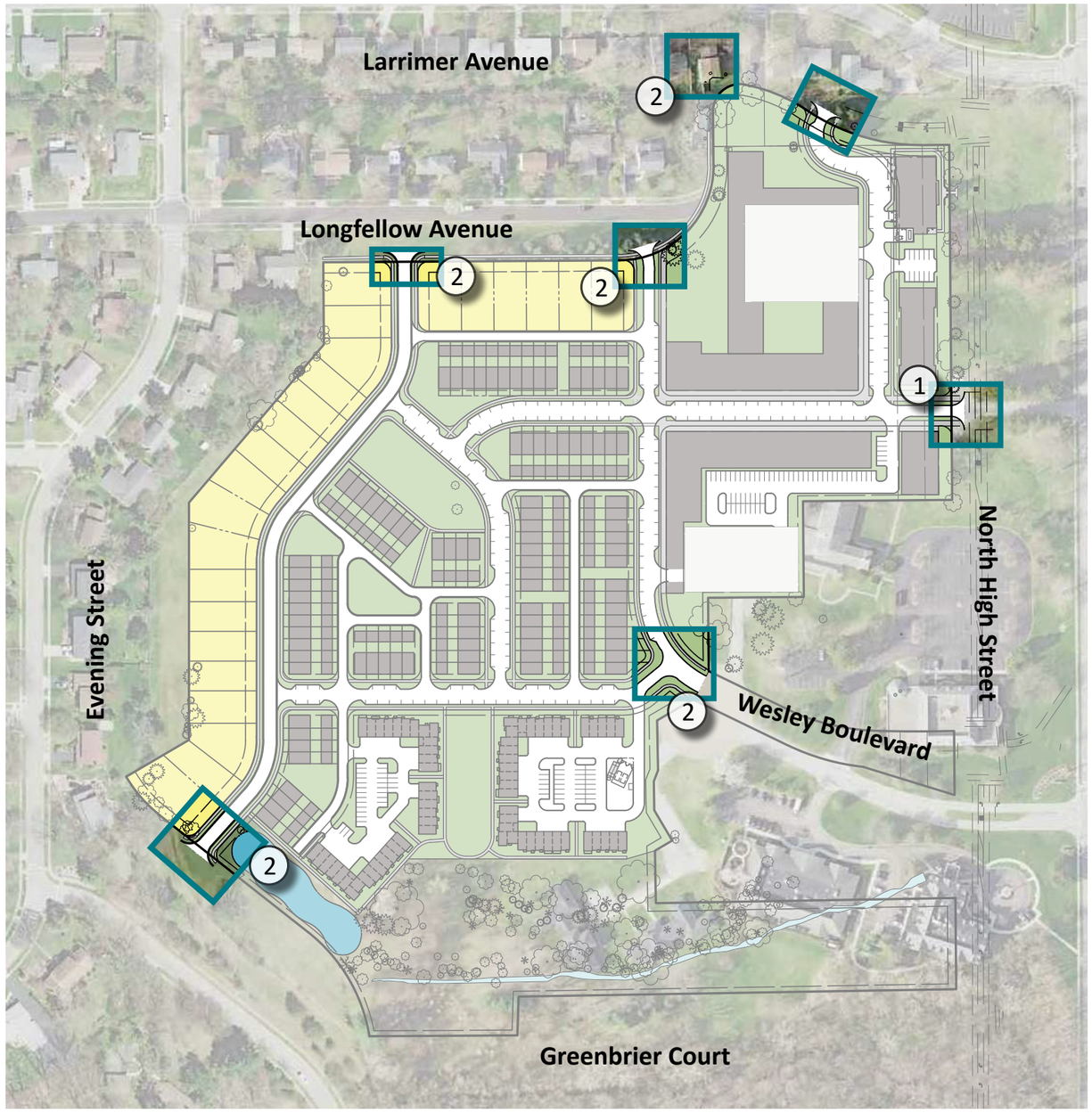
Neighborhood Identity

Residential Neighborhood Gateway

Neighborhood Identity

Neighborhood Identity

Residential Neighborhood Monument



Building Signage

Tenant Signage

District Signage

Wayfinding

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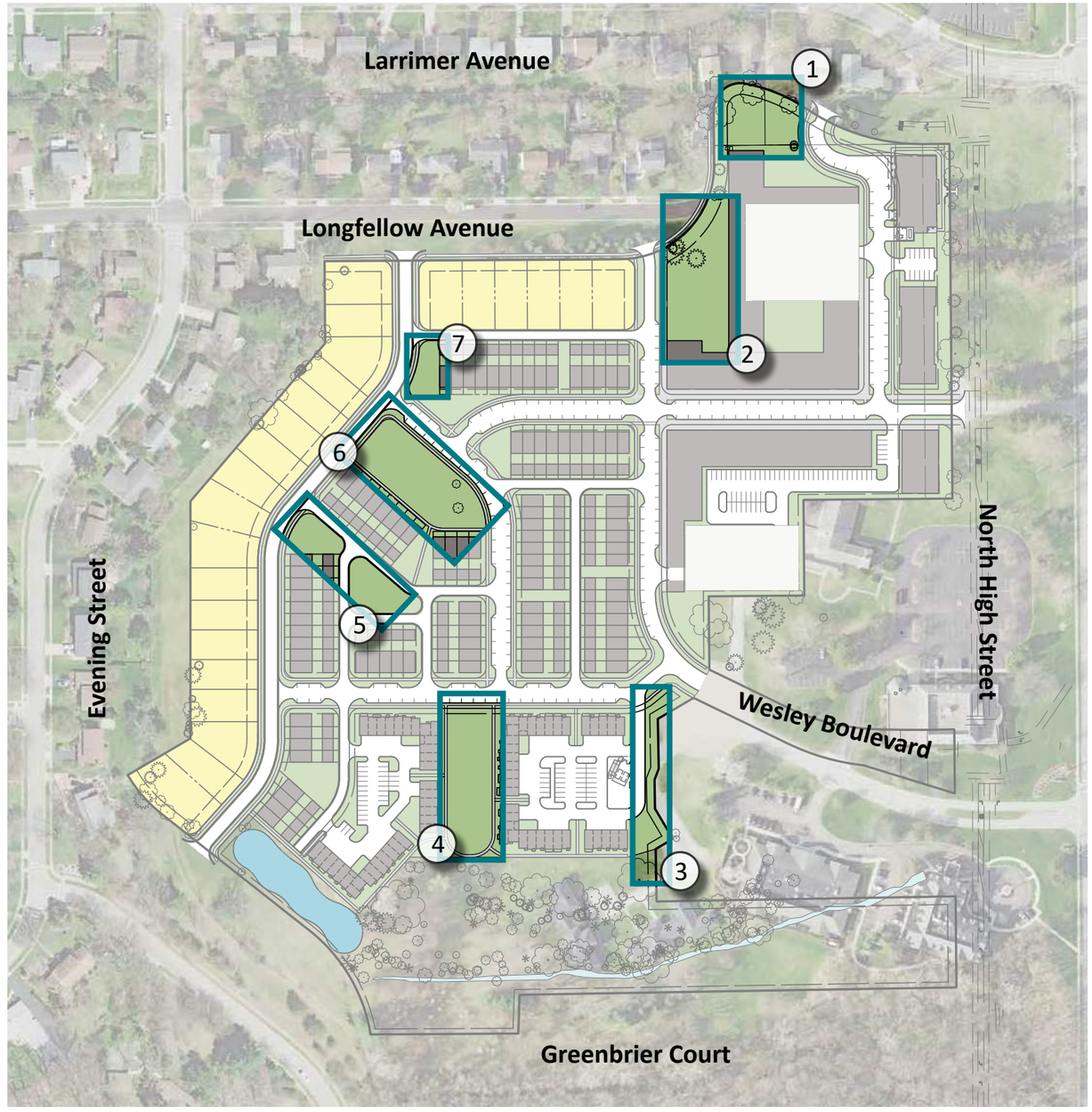
Open Space Character



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Mixed Use Street at High street

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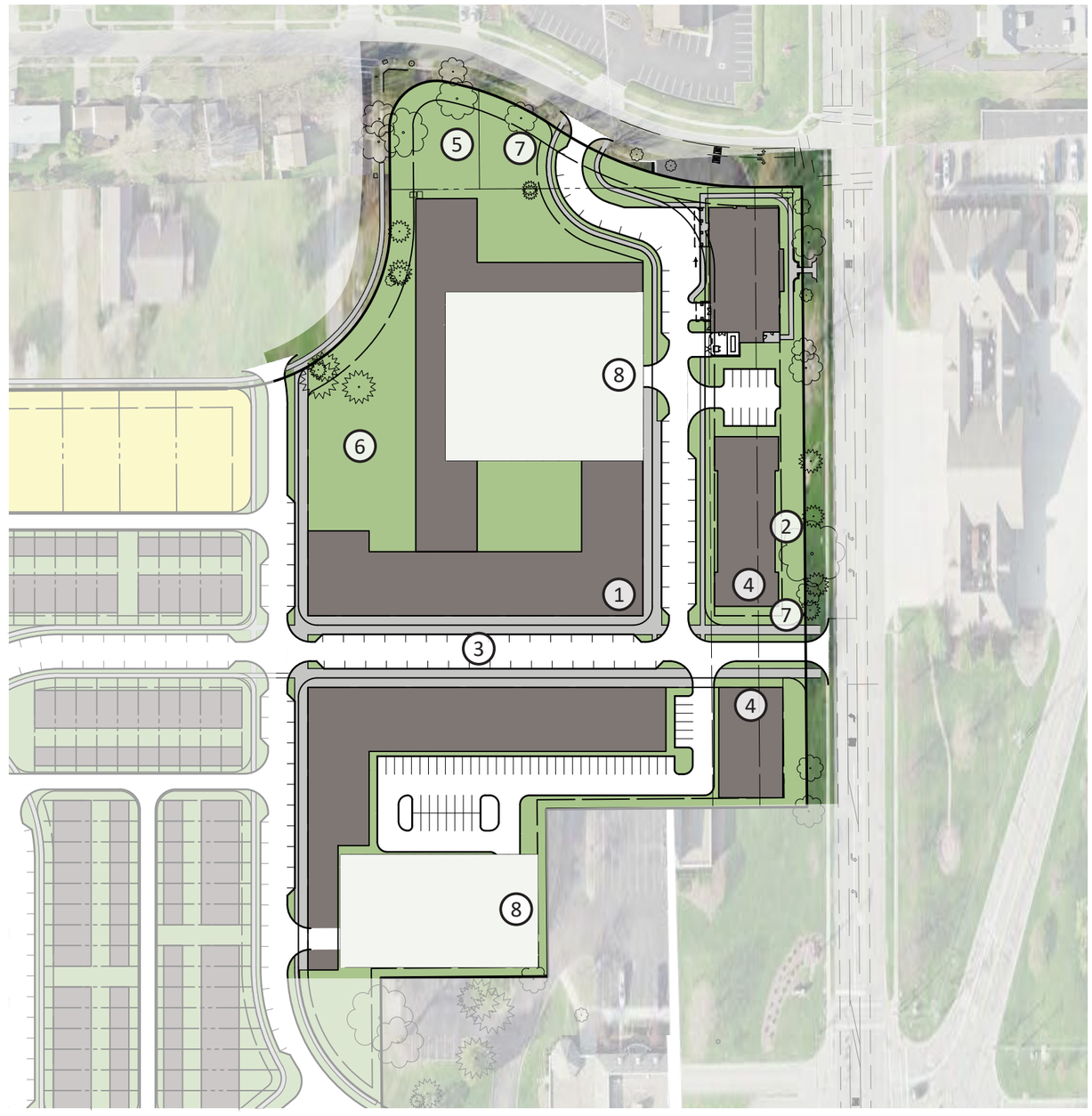
High Street & Mixed Use Residential Character

Courtyard

Neighborhood Amenity

Wayfinding

Garage Screening



Building Signage

Mixed-Use

Mixed-Use Residential Character

Active Pedestrian Realm

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Townhomes and Multifamily

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Townhome Green

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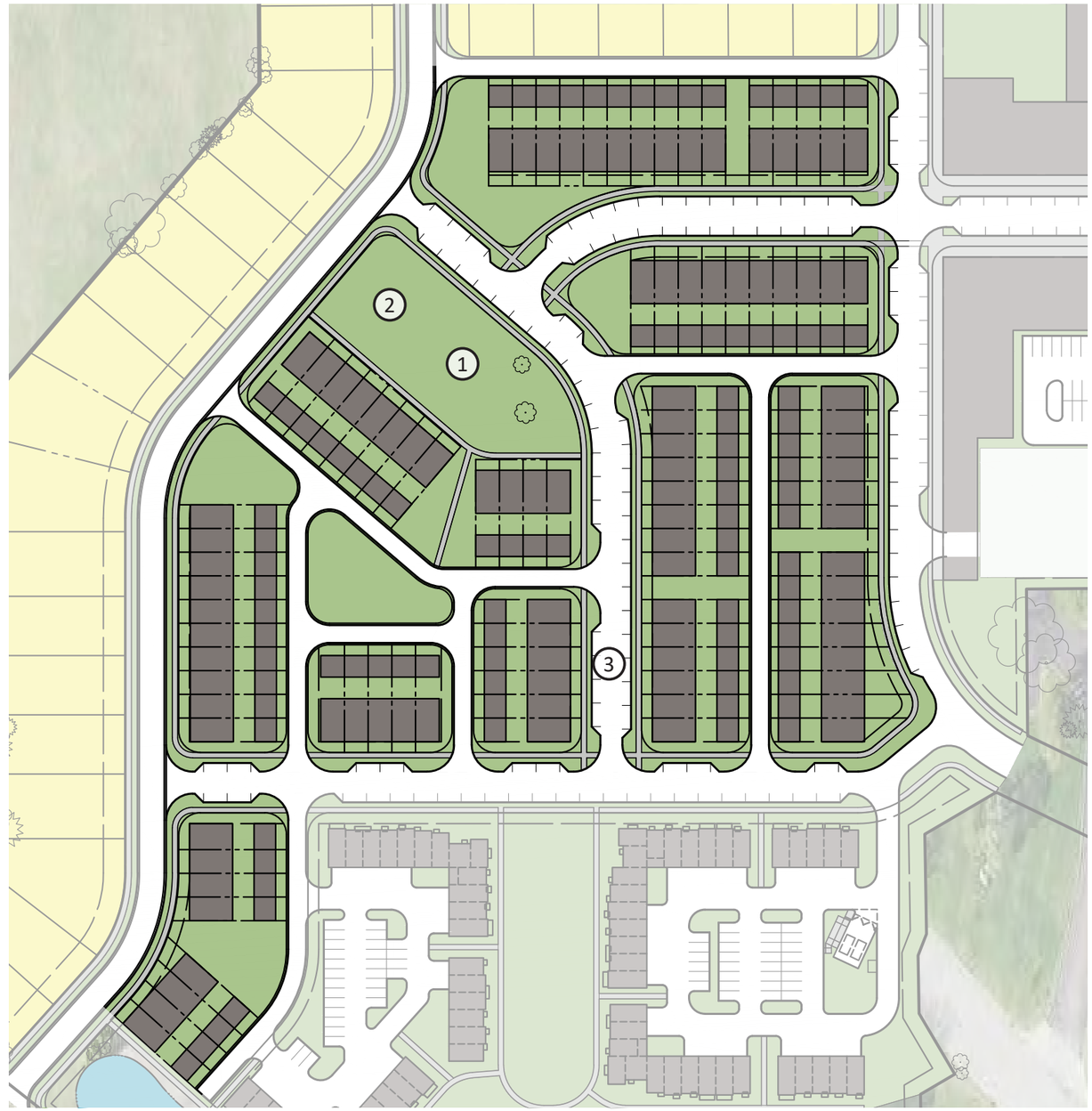
Townhome Character

Townhome Green

Townhome Green

Street Frontage



Architectural Character

Architectural Character

Architectural Character

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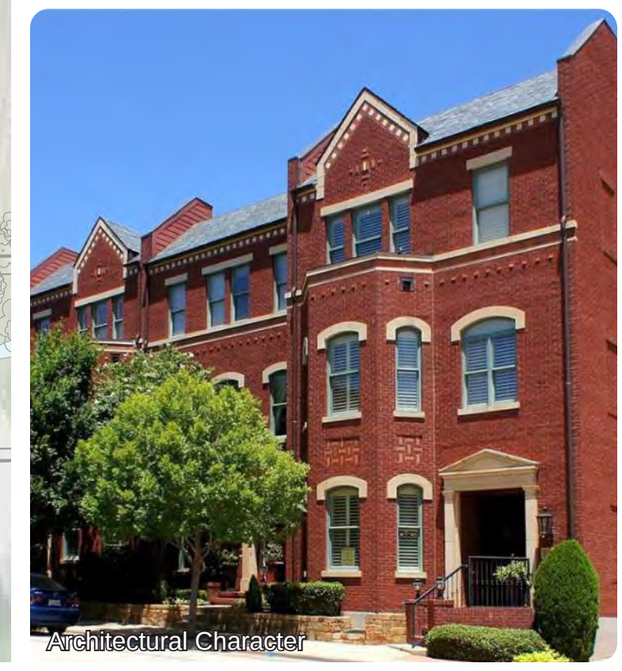
Multifamily Character

Multifamily Green

Multifamily Green

Streetscape

Architectural Character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Tucker Creek Preserve Character

Informal Trail

Bike and Ped Trail

Bike and Ped Trail

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Massing study

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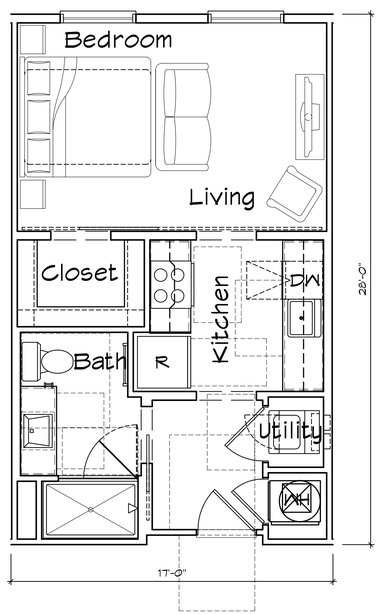
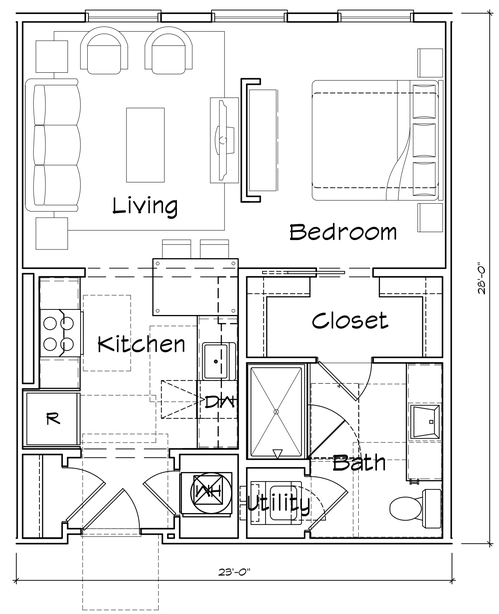


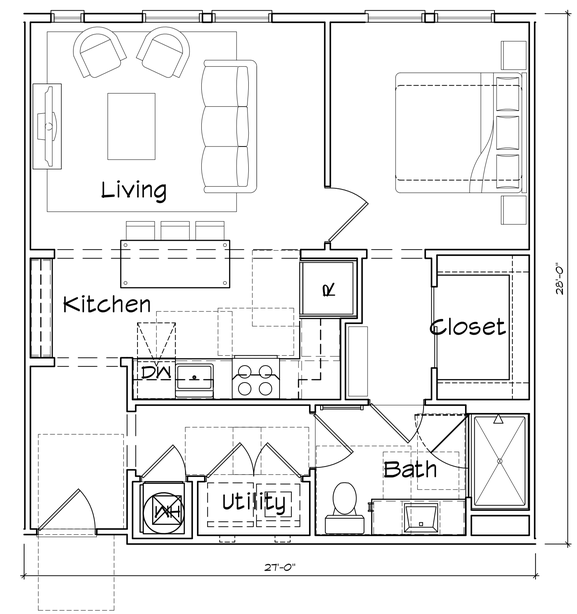
Unit S1

Studio /1 Bath



Unit A2

Studio /1 Bath



Unit A1

1 Bed/1 Bath

0' 2' 4' 8'
Scale: 1/4" = 1'-0"

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Unit Plans

Scale: 1/4" = 1'-0"

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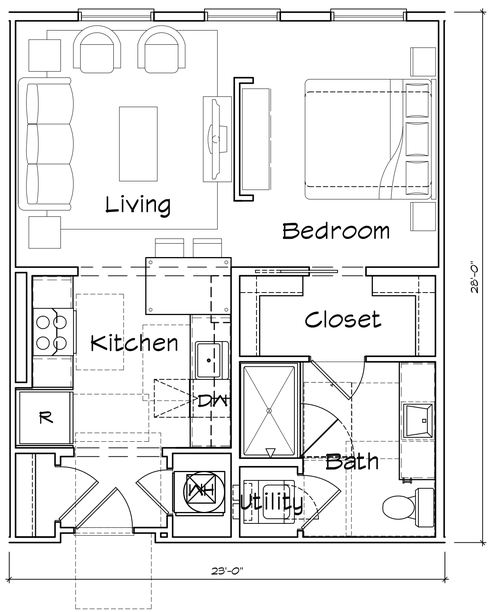
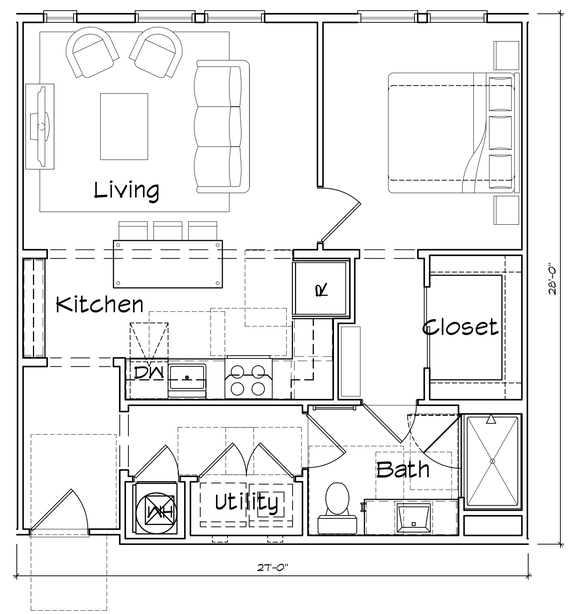


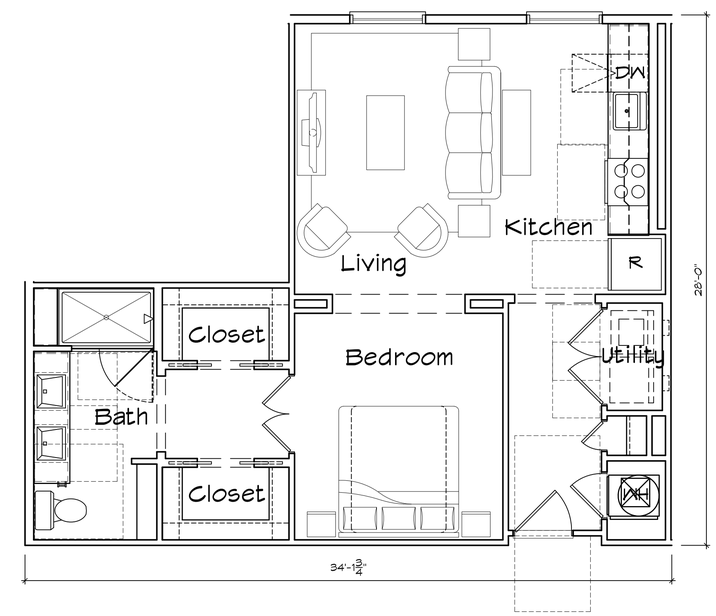
Unit A2

1 Bed /1 Bath



Unit A3

1 Bed /1 Bath



Unit A4

1 Bed/1 Bath

0' 2' 4' 8'
Scale: 1/4" = 1'-0"

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Unit Plans

Scale: 1/4" = 1'-0"

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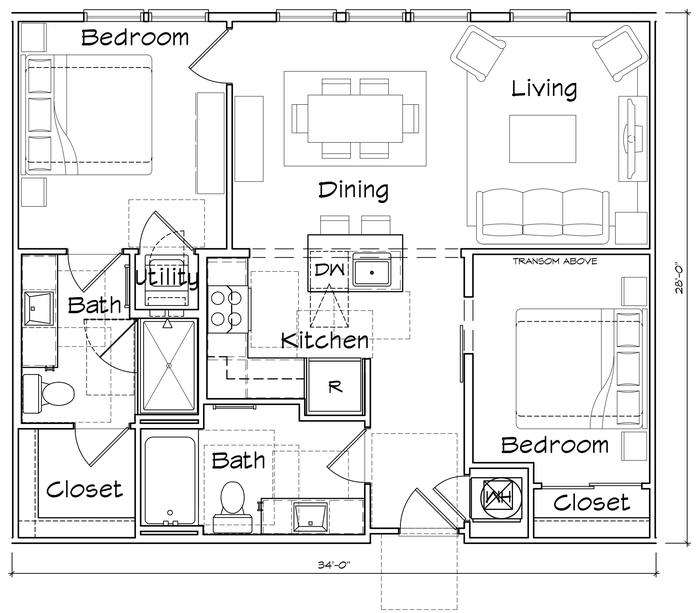
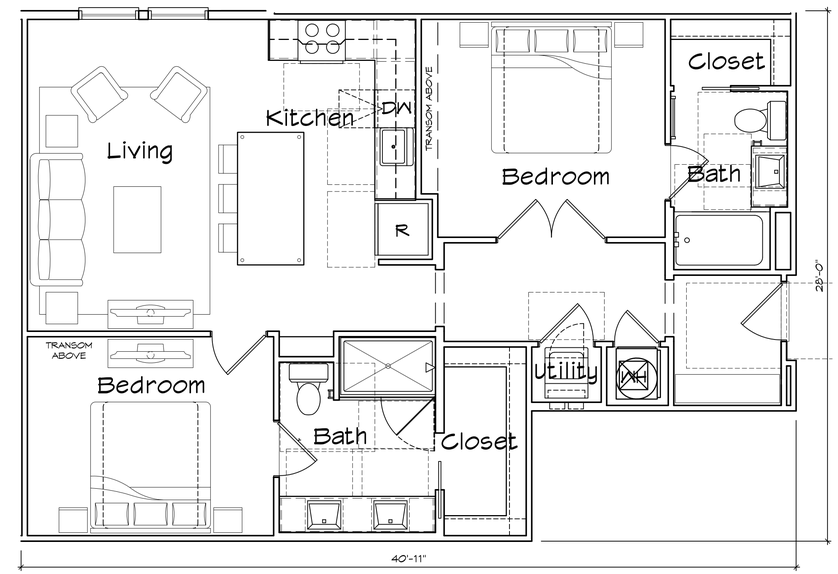


Unit B1

2 Bed /2 Bath



Unit B2

2 Bed /2 Bath

0' 2' 4' 8'
Scale: 1/4" = 1'-0"

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Unit Plans

Scale: 1/4" = 1'-0"

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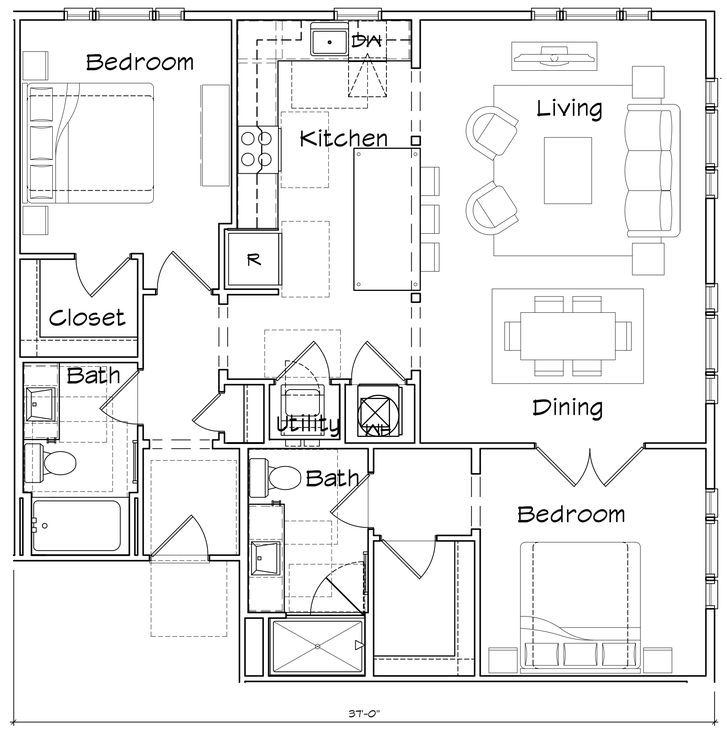

Unit B3

2 Bed /2 Bath

0' 2' 4' 8'
Scale: 1/4" = 1'-0"

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Unit Plans

Scale: 1/4" = 1'-0"

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COLOR KEY

SW 7701 CAVERN CLAY	BRICK 01 CRIMSON
SW 0046 WHITE HYACINTH	BRICK 02 SCOTTSDALE
SW 0038 LIBRARY PEWTER	BRICK 03 BORDEAUX
SW 6257 GIBRALTAR	
SW 0039 PORTAIT TONE	ROOF 01 PEWTER
SW 6254 LAZY GRAY	ROOF 02 WEATHERED WOOD

0' 4' 8' 16'
Scale: 1/8" = 1'-0"

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Building Elevations

Scale: 1/8" = 1'-0"

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COLOR KEY

SW 7701 CAVERN CLAY	BRICK 01 CRIMSON
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SW 0038 LIBRARY PEWTER	BRICK 03 BORDEAUX
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Building Elevations

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Building Elevations

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- BRICK 01 CRIMSON
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- ROOF 02 WEATHERED WOOD

0' 4' 8' 16'
Scale: 1/8" = 1'-0"

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Building Elevations

Scale: 1/8" = 1'-0"

LC

COLOR KEY

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SW 0038 LIBRARY PEWTER	BRICK 03 BORDEAUX
SW 6257 GIBRALTAR	
SW 0039 PORTAIT TONE	ROOF 01 PEWTER
SW 6254 LAZY GRAY	ROOF 02 WEATHERED WOOD

0' 4' 8' 16'
Scale: 1/8" = 1'-0"

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Building Elevations
Scale: 1/8" = 1'-0"

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0' 10' 20' 40'
Scale: 1/20" = 1'-0"

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Building Elevations

Scale: 1/20" = 1'-0"

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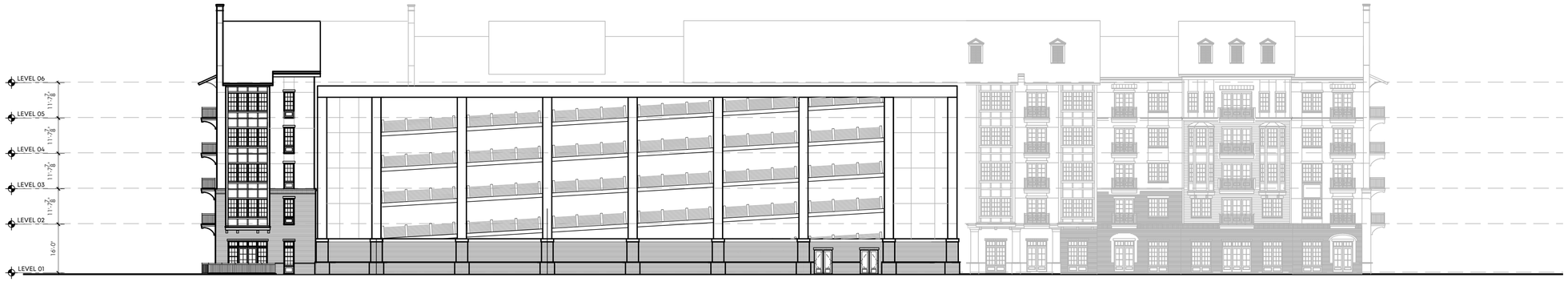

0' 10' 20' 40'
Scale: 1/20" = 1'-0"

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Building Elevations

Scale: 1/20" = 1'-0"

LC

COLOR KEY

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- SW 0046 WHITE HYACINTH
- SW 0038 LIBRARY PEWTER
- SW 6257 GIBRALTAR
- SW 0039 PORTAIT TONE
- SW 6254 LAZY GRAY
- BRICK 01 CRIMSON
- BRICK 02 SCOTTSDALE
- BRICK 03 BORDEAUX
- ROOF 01 PEWTER
- ROOF 02 WEATHERED WOOD

Scale: 1/8" = 1'-0"

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Worthington, OH | 02.15006.00 | 09.30.2020

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Building Elevations

Scale: 1/8" = 1'-0"

LC

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- SW 0046 WHITE HYACINTH
- SW 0038 LIBRARY PEWTER
- SW 6257 GIBRALTAR
- SW 0039 PORTAIT TONE
- SW 6254 LAZY GRAY
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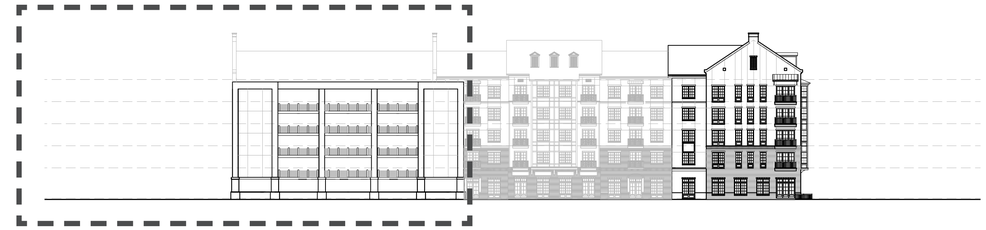

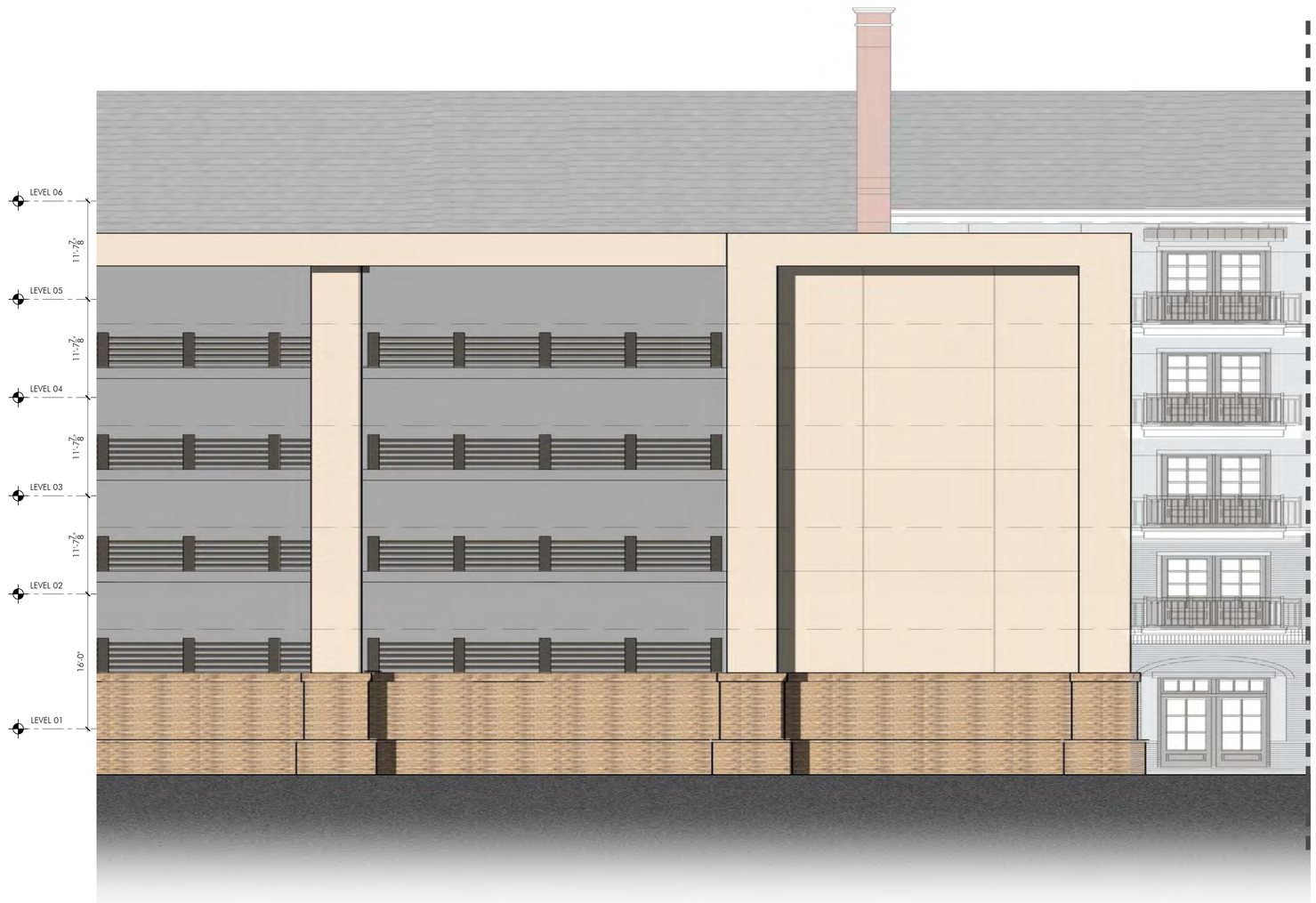

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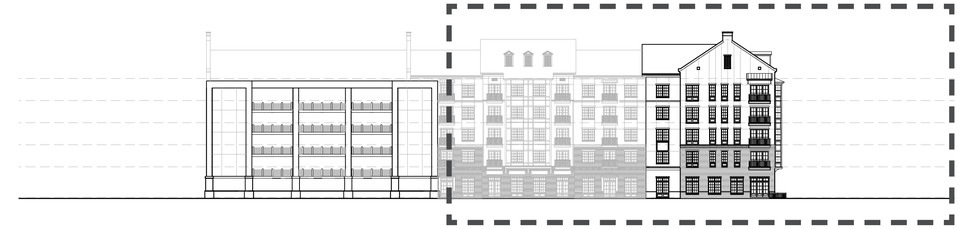

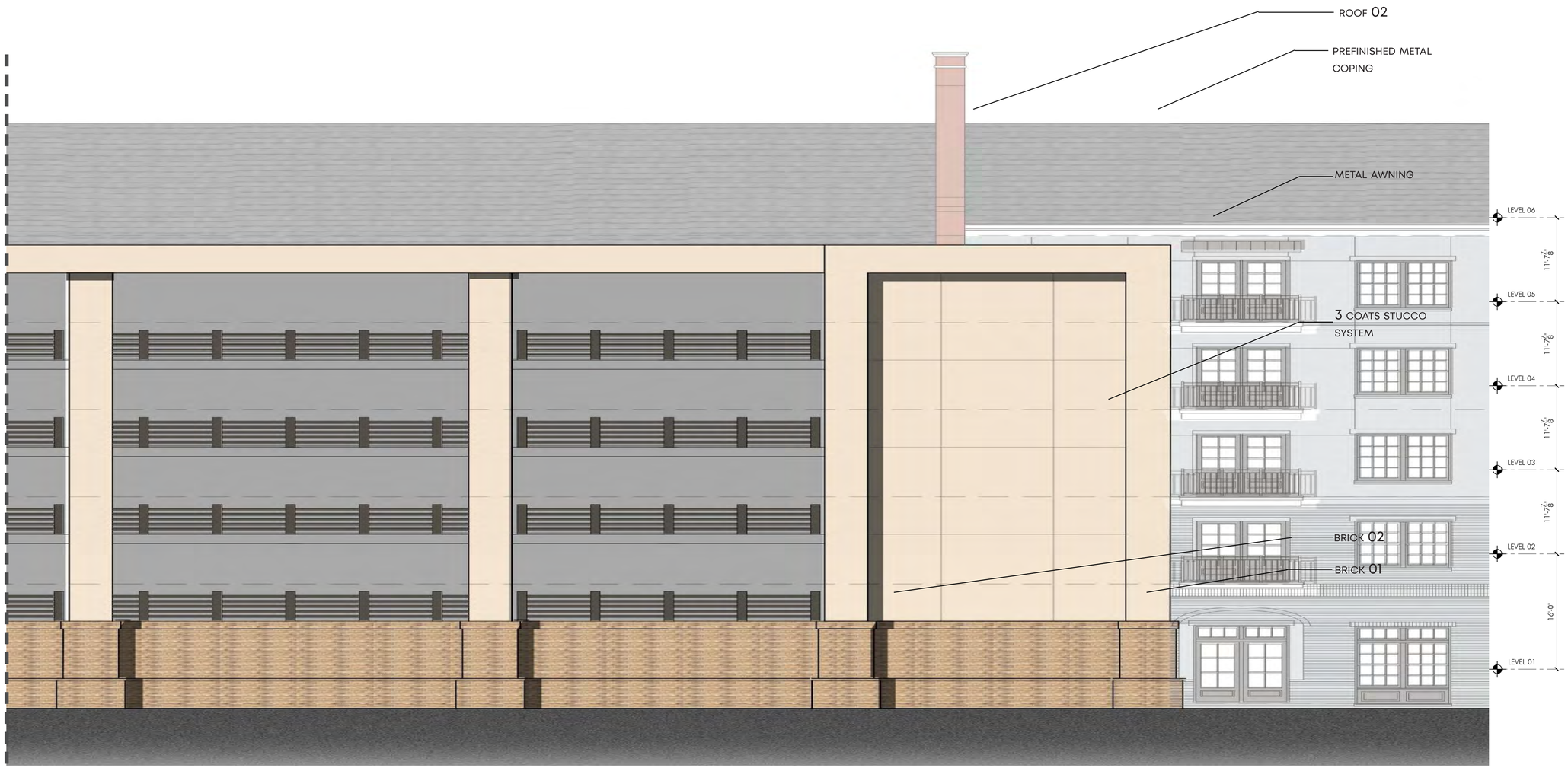

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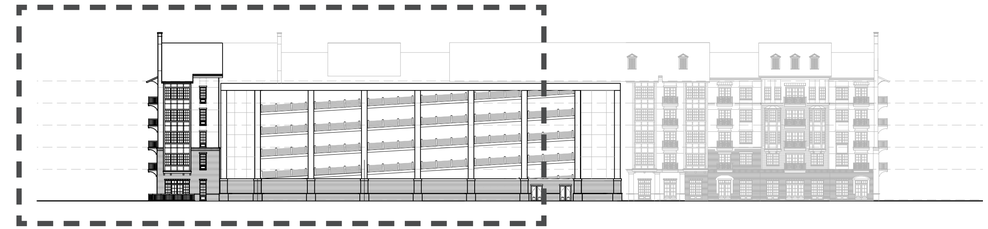

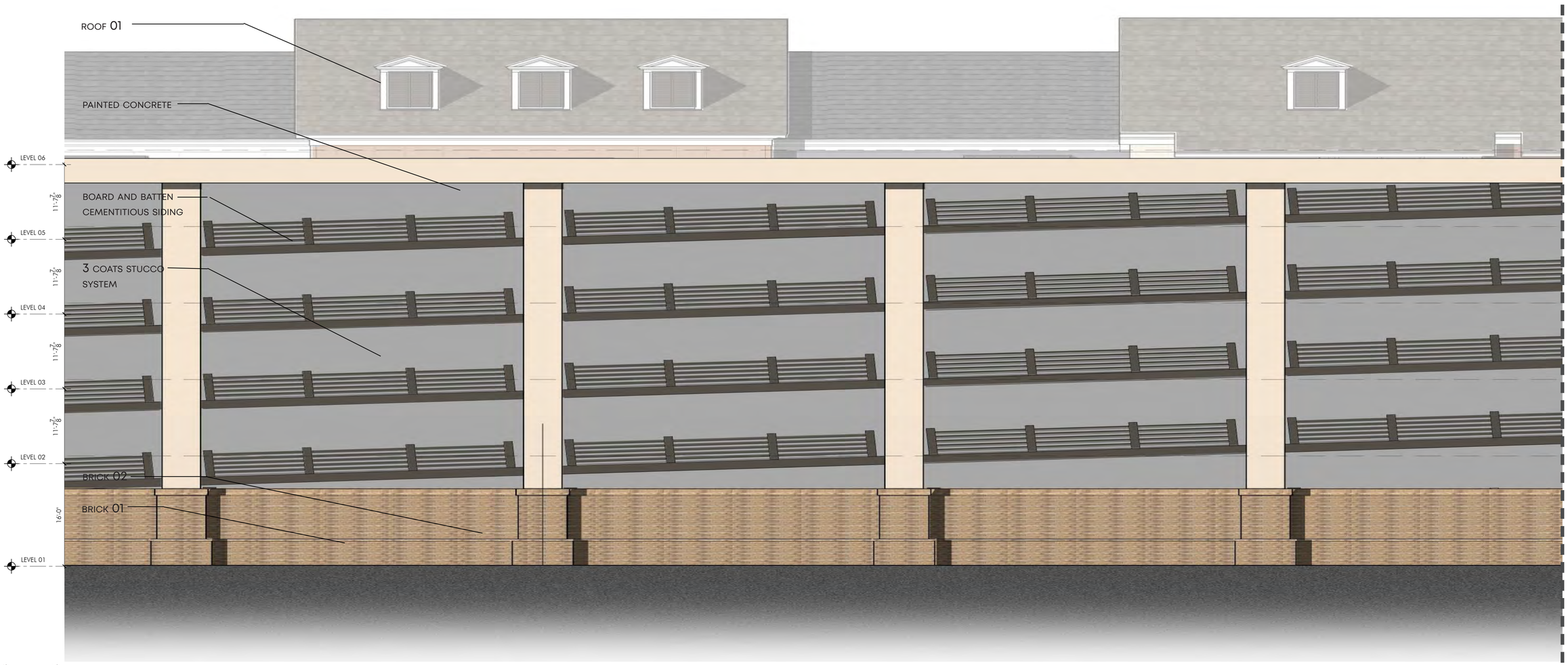

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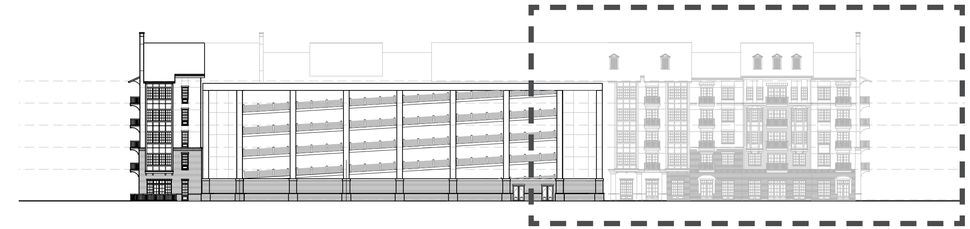

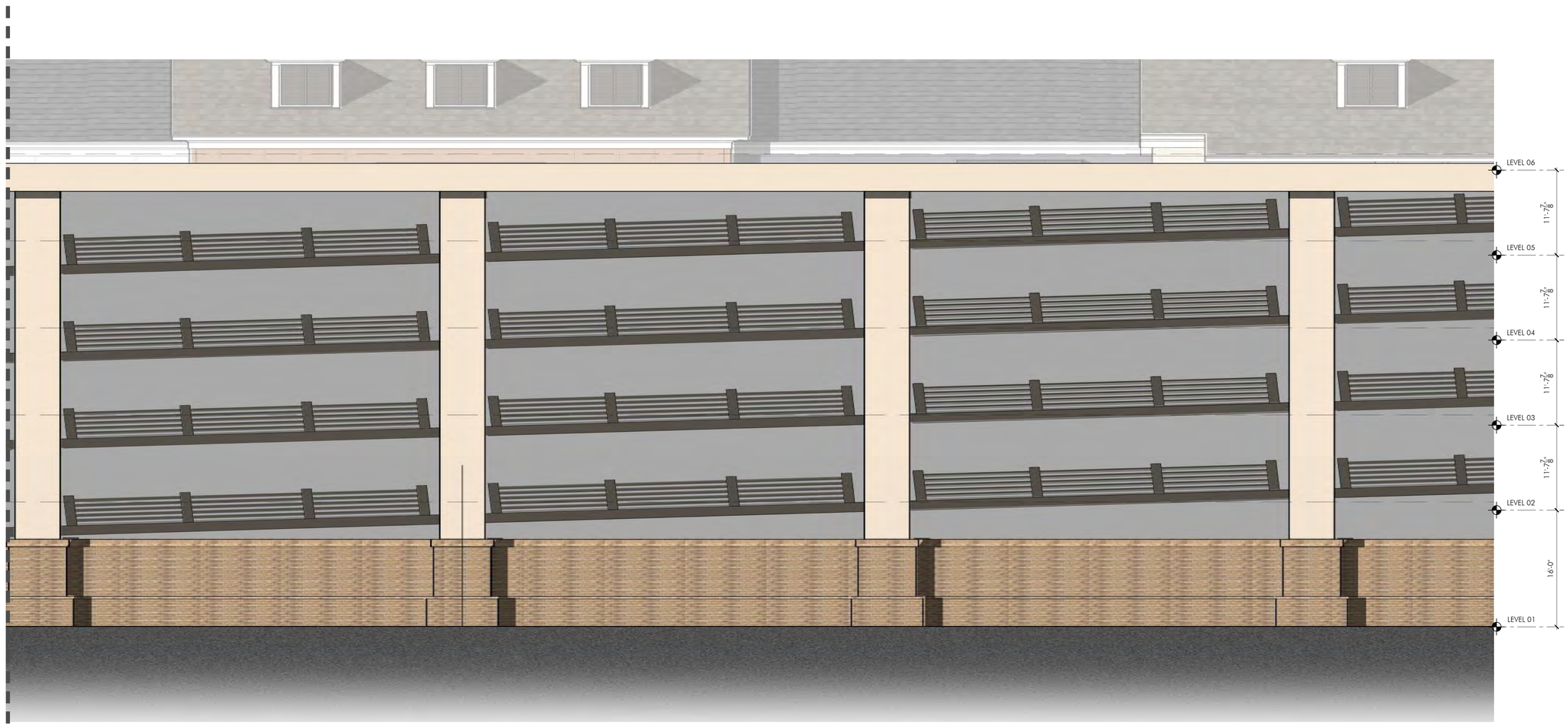

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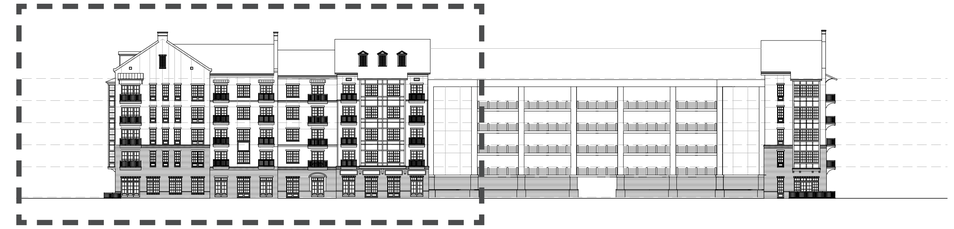

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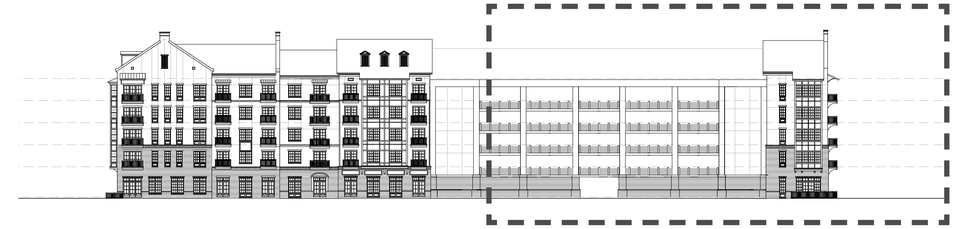

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SECTION 4 - PHOTOMETRICS

LC WORTHINGTON • PUD • ARB SUBMITTAL

OCTOBER 2, 2020

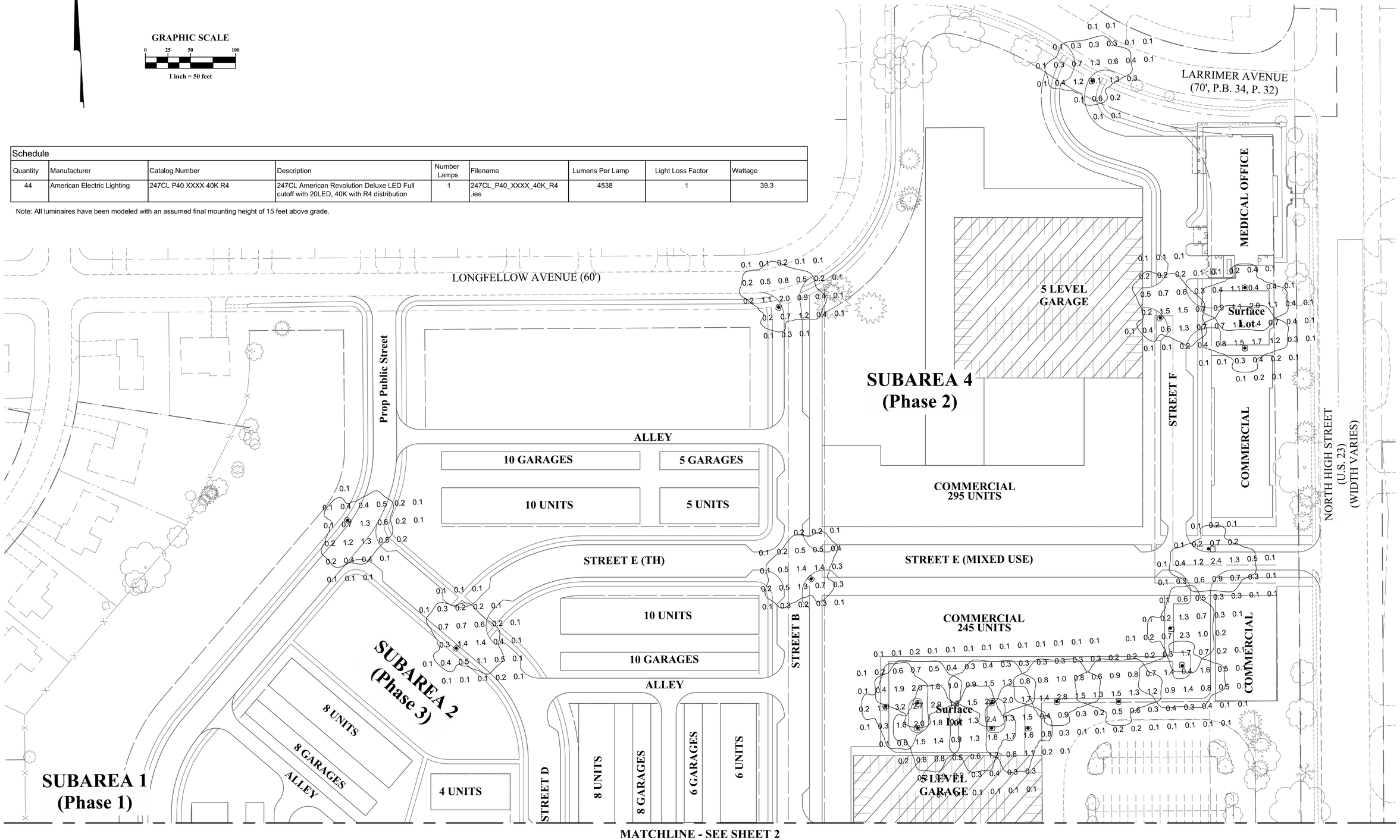
GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

Schedule								
Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
44	American Electric Lighting	247CL P40 XXXX 40K R4	247CL American Revolution Deluxe LED Full cutoff with 20LED, 40K with R4 distribution	1	247CL_P40_XXXX_40K_R4 .ies	4538	1	39.3

Note: All luminaires have been modeled with an assumed final mounting height of 15 feet above grade.



REVISIONS

MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

CITY OF WORTHINGTON, FRANKLIN COUNTY, OHIO
PUD-PRELIMINARY PLAN
ARB - SITE PLANS
FOR
LC WORTHINGTON
WORTHINGTON
PHOTOMETRIC PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

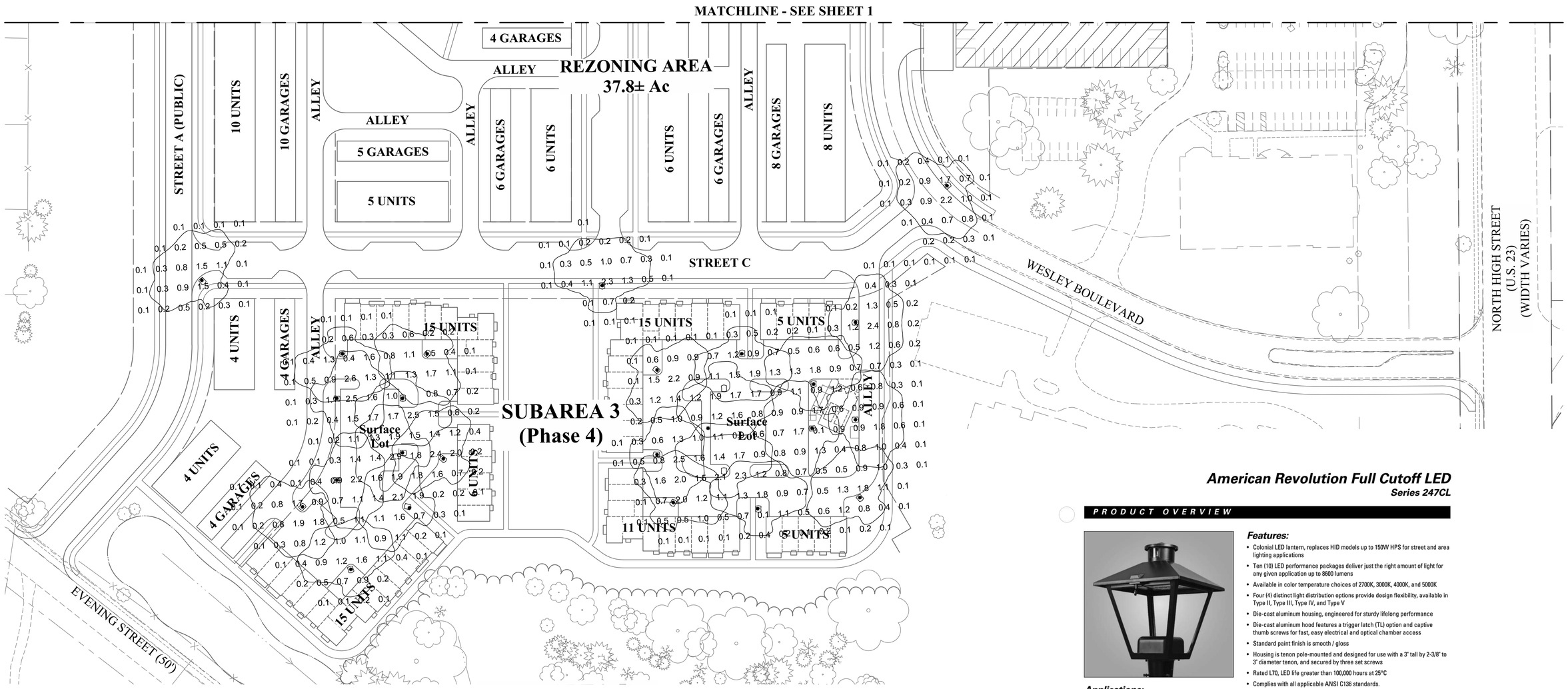
DATE
OCTOBER 2, 2020

SCALE
As Noted

JOB NO.
2018-0036

SHEET
1/2

\\emhdata01\project01\2018\0036\Dwg\04Sheets\PREL\1 Photometric Plan.dwg, Last Saved By: dmccann, 10/1/2020 1:50 PM Last Printed By: McCann, Dylan, 10/1/2020 1:59 PM
Xrefs: 2018\0036-PRP-TTB-BFFP-N 2018\0036-PS-BFFP-F 2018\0036-PS-BFFP-N



GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

American Revolution Full Cutoff LED

Series 247CL

PRODUCT OVERVIEW

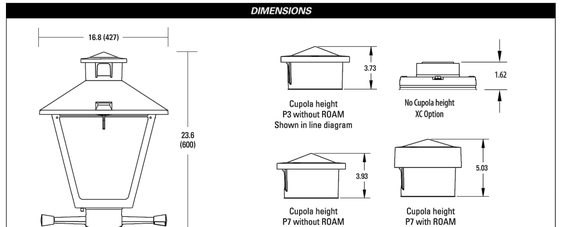
Applications:

Streetscapes
Walkways
Pathways
Parks

Features:

- Colonial LED lantern, replaces HID models up to 150W HPS for street and area lighting applications
- Ten (10) LED performance packages deliver just the right amount of light for any given application up to 8600 lumens
- Available in color temperature choices of 2700K, 3000K, 4000K, and 5000K
- Four (4) distinct light distribution options provide design flexibility, available in Type II, Type III, Type IV, and Type V
- Die-cast aluminum housing, engineered for sturdy lifelong performance
- Die-cast aluminum hood features a trigger latch (TL) option and captive thumb screws for fast, easy electrical and optical chamber access
- Standard paint finish is smooth / gloss
- Housing is tenon pole-mounted and designed for use with a 3" tall by 2-3/8" to 3" diameter tenon, and secured by three set screws
- Rated L70, LED life greater than 100,000 hours at 25°C
- Complies with all applicable ANSI C136 standards.
- CSA listed and suitable for up to 40° C ambient
- Surge protection device (standard) exceeds ANSI/IEEE C62.41-2002 Category C High (10kV/10kA) and ANSI C136.2-2015 Enhanced (10kV/5kA). 20KV Option exceeds ANSI/IEEE C62.41-2002 Category C High (10kV/10kA) and ANSI C136.2-2015 Extreme (20kV/10kA)
- Equipped with LED electronic 0-10V dimmable driver

DIMENSIONS



Effective Projected Area (EPA)
The EPA for the American Revolution Series 247 is 1.6 sq. ft.
P7 option total height is 24.9 (633).
Approx. Wt. = 36 lbs.

All dimensions are inches (millimeters) unless otherwise noted.

Note: Specifications subject to change without notice.
American Revolution Series 247CL LED

AEL American Electric Lighting

REVISIONS		
MARK	DATE	DESCRIPTION

LIFESTYLE COMMUNITIES

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As Noted

JOB NO.
2018-0036

SHEET
2/2

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Xrefs: 2018-0036-BPR-TTB-BPR-N, 2018-0036-CS-BPR-F, 2018-0036-CS-BPR-N

SECTION 5 - DEED RESTRICTIONS

LC WORTHINGTON • PUD • ARB SUBMITTAL

OCTOBER 2, 2020

Draft: For zoning application submittal purposes only and subject to finalization upon zoning approval. – 10 /2020

DECLARATION
OF
COVENANTS, EASEMENTS, RESTRICTIONS, ASSESSMENTS AND ASSESSMENT LIENS

FOR

LIFESTYLE COMMUNITIES – UMCH, WORTHINGTON

(A Planned Community Under
Chapter 5312 of the Ohio Revised Code)

Cross Reference: _____, Recorder's Office, FRANKLIN County, Ohio

INDEX

Exhibits

Exhibit A.....Property

Exhibit B.....Code of Regulations (Bylaws) of UMCH - WORTHINGTON Homeowners' Association, Inc.

DECLARATION OF COVENANTS, EASEMENTS, RESTRICTIONS, ASSESSMENTS AND ASSESSMENT LIENS FOR LIFESTYLES – UMCH, WORTHINGTON, OH SFRD

This Declaration of Covenants, Easements, Restrictions, Assessments and Assessment Liens for the UMCH - WORTHINGTON (this "**Declaration**") is made on or as of this _____ day of _____, 2019, by LIFESTYLE COMMUNITIES (NOTE: A separate legal entity will be established as the owner of the subject property and declarant upon zoning approval and the declarant name herein is a placeholder only for zoning application purposes.)**, an Ohio limited liability company, whose address is 230 West Street, Ste. 200, Columbus, OH 43215 ("**Declarant**").

Background

1. Declarant is the owner in fee simple of the real estate identified and described on Exhibit A, attached hereto incorporated herein, and made a part hereof by this reference (the "**Property**").

2. The Property is being developed and built as a residential subdivision of lots for nineteen (19) single-family homes known as The UMCH - WORTHINGTON (the "**Community**") and may include public or private streets, associated improvements, storm water drainage facilities, landscaped areas, entranceway and Community border features, reserves, open or green spaces, and various other amenities.

3. Declarant desires to restrict the use and occupancy of the Property and provide for the protection of the Property and the future Owners of the property and to provide for the preservation of the values of and amenities in the Community and for the maintenance of Common Elements for the benefit of the present and future Owners of the Lots and the Improvements constructed on them.

4. Declarant hereby declares that all of the Property shall be encumbered with the following covenants, easements, restrictions, and conditions which shall run with the land and be binding on all parties having any right, title, or interest in the Property, or any part thereof, their heirs, successors, and assigns, including the future Owner of any Lot, Declarant, Declarant's successors, and assigns, and any utility companies, whether public or private, who are granted rights herein.

5. Further, Declarant deems it desirable for the accomplishment of these objectives to create an association to which is delegated and assigned the non-exclusive right and obligation to administer and enforce the provisions hereof, to own and/or maintain certain property, to have easement rights with respect to certain property, to administer such property, and to collect and disburse funds necessary to accomplish these objectives. Accordingly, Declarant shall cause to be incorporated a homeowners' association as a non-profit corporation under and pursuant to the laws

of the State of Ohio, whose members are and will be all of the Owners of any and all Lots in the Community.

COVENANTS, EASEMENTS, RESTRICTIONS, ASSESSMENTS AND ASSESSMENT LIENS

NOW THEREFORE, in pursuance of a general plan for the protection, benefit, and mutual advantages of the property in the Community, Declarant hereby declares that all of the Property (currently being all of the property described on Exhibit A attached to this Declaration), shall be held, developed, improved, encumbered, sold, conveyed, and occupied subject to the following covenants, easements, and restrictions, and lien for assessments, which are for the purpose of protecting the values and desirability of, and which shall run with the land and each part thereof, and be binding on all parties having any right, title or interest including occupancy rights therein, and each part thereof, and their respective heirs, successors, and assigns, and shall inure to the benefit of and be enforceable by Declarant, each owner of property in the Community and their respective personal representatives, heirs successors, and assigns, and the Association.

The provisions of this Declaration of Covenants, Easements, Restrictions, Assessments and Assessment Liens, as from time to time amended, shall be considered to be a part of, and incorporated within, each deed hereinafter conveying the Lots, or any portion thereof.

1. DEFINITIONS.

The following terms used in this Declaration shall have these meanings, unless the context requires otherwise:

(a) "**Additional Easement Areas**" – those areas, whether or not shown on the plat of the Community, which Declarant has determined shall be subject to further easements for the benefit of the Community.

(b) "**Additional Property**" – property that may in the future be subjected to the plan for the Community provided hereby, and consists of such property as Declarant, in its sole discretion, may from time to time determine and designate as Additional Property.

(c) "**Architectural Review Committee**" – the group of individuals appointed by the Board having the power and authority to establish and enforce architectural standards governing the construction of all subsequent Improvements, modifications, additions to or alterations thereto in the Community.

(d) **"Articles" and "Articles of Incorporation**" – those articles, when filed with the Secretary of State of Ohio, incorporating The UMCH - WORTHINGTON Homeowners' Association, Inc. (the "**Association**") as a non-profit corporation under the provisions of

Chapter 1702 of the Revised Code of Ohio ("**Chapter 1702**"), as the same may be lawfully amended from time to time.

(e) "**Assessments**" – charges levied by the Association on Lots and their Owners, consisting of Operating Assessments, Special Assessments, and Individual Lot Assessments, or any other assessments required by the Declaration or any Supplemental Declaration.

(f) "**Association**" – an association of all of the Owners of Lots in the Community, at any time, except Owners of Exempt Property with respect to that property. The Association is being incorporated as an Ohio non-profit corporation named "The UMCH - WORTHINGTON Single-Family Homeowners' Association, Inc." or similar name, and its successors and assigns, which Association is also an "Owners' Association" as that term is defined in the Planned Community Law.

(g) "**Bylaws"** mean the Bylaws of the Association, as may be lawfully amended from time to time, that provide for the operation and procedures of the Association, as that term is used in the Planned Community Law. The "Bylaws" or the Association's "regulations" or "Code of Regulations" pursuant to Chapter 1702. A copy of the Bylaws is attached as Exhibit B hereto and made a part hereof by this reference.

(h) "**Board**" – the Board of Directors or other management body of the Association.

(i) "**Common Elements**" – all real and personal property or interest therein now or hereafter acquired by the Association in fee or in which the Association has the use of pursuant to a lease or easement or has an obligation to maintain, and property benefited by any easement to it, for the common use and the enjoyment of the Owners, or for the operation of the Association. The Common Elements may include, without limitation, open spaces, Reserves, entranceway and Community border features, landscaping and other flora, detention areas, multi-use paths and other property including the structures and Improvements thereon, designated by Declarant or the Board (as the Board will be constituted following the Turnover Date) to be Common Elements, and benefiting the Owners of the Lots and Improvements in the Community, whether within the single family development area or in other subareas of the UMCH-Worthington site. The Common Elements shall include not only real or personal property owned by the Association, but also include real and personal property for the maintenance of which the Association has responsibility under this Declaration, pursuant to applicable zoning regulations, approved plat(s), and/or under any agreement entered into by the Declarant or by the Association, the terms of which are binding upon the Association. Common Elements also include Reserves, easements or other property or interests in property dedicated to a political subdivision that are or that are required to be maintained by the Association.

(j) "**Common Expense**" – costs and expenses incurred by the Association in fulfilling its functions pursuant to the provisions of the Governing Documents or funds needed to meet

cash requirements of the Association for its operations and reasonable reserves including all costs the Association incurs in the administration, governance, and maintenance of the Community and all costs of the purchase, administration, operation, maintenance, repair, and replacement of the Common Elements.

(k) "**Community**" – all property that at any time has been subjected to the provisions of this Declaration, and initially includes all of the property described in Exhibit A, and which may be expanded to encompass all or any part of the Additional Property.

(l) **"Declaration"** or **"Covenants"** means this instrument as it may be subsequently amended.

(m) "**Declarant**" –Lifestyle Communities **, an Ohio limited liability company, and any successor or assign to which it specifically assigns any of its rights and which assumes its obligations hereunder by a written instrument.

(n) "**Exempt Property**" – means the portion of the real property comprising the Community (a) now or hereafter dedicated to common public use or owned by the United States, the State of Ohio, Franklin County, City of Worthington, any municipality, school board, or similar governmental body, or any instrumentality or agency or any such entity, for so long as any such entity or any such instrumentality or agency shall be the owner thereof, or (b) owned by the Association; provided the same is not utilized as a residence.

(o) "**Governing Documents**" – the Association's Articles of Incorporation, Bylaws, its Rules, and all amendments thereto, this Declaration, and all amendments thereto, and applicable building and zoning laws and ordinances, and any recorded plats.

(p) "**Improvements**" – all man made or installed alterations to the Property which cause the Property to deviate from its natural conditions, including but not limited to, single-family homes, dwellings, all buildings, outbuildings, garages, and structures, overhead, aboveground and underground installations, including without limitation, utility facilities and systems, lines, pipes, wires, towers, cables, conduits, poles, antennae, and satellite dishes, flagpoles, swimming pools, swing-sets, playground equipment, playhouses and forts; tennis, and all other types of permanently installed recreational courts, fixtures and facilities, slope and drainage features, structures and conditions, roads, driveways, uncovered parking areas, and other paved areas, fences, trellises, walls, retaining walls, exterior stairs, decks, patios and porches, planted trees, hedges, shrubs and other forms of landscaping, and all other improvements and/or structures of every type.

(q) "**Individual Lot Assessment**" – an assessment that the Board may levy upon a Lot and its Owner to reimburse the Association for costs incurred solely on behalf of that Lot, or the Owner thereof, including without limitation, costs associated with making repairs that are the responsibility of the Owner of that Lot, costs of additional insurance premiums reasonably allocable to an Owner because of use of Improvements on that Lot, costs of any

utility expenses chargeable to an Owner but not separately billed by the utility company, administrative charges for violations of the Governing Documents, late charges, interest on delinquent assessments, and costs of collection of delinquent obligations to the Association, including attorney's fees and court costs, and all other charges reasonably determined by the Association to be chargeable solely to a Lot and its Owner.

(r) "**Lot**" – a separate parcel of real property now or hereafter identified upon a recorded subdivision plat of property in the Community, or any portion thereof, or recorded re-subdivision thereof, and any other separate parcel of real property designated as a Lot by Declarant, and subjected to the provisions of this Declaration, excluding the Common Elements, and any portion of the Community dedicated for public use. Declarant reserves the right to split and/or combine currently platted Lots into new platted Lots without the consent or approval of Owners of other Lots in the Community, as Declarant may deem such split or combination to be beneficial to the Property from time to time. Any and all references herein to a "Lot" shall include any such re-platted Lots. Once a split/combination is completed, the former lots shall cease to be "Lots" for any and all purposes hereunder.

(s) "**Manager**" – the Person retained by the Board to assist in the management of the Association.

(t) "**Member**" – any Person meeting the requirement for membership in the Association as provided in this Declaration, as may be amended.

(u) "**Occupant**" – the natural Person(s) lawfully residing in a dwelling on a Lot, regardless of whether such person(s) is an Owner.

(v) "**Operating Assessments**" – an assessment that the Board may levy from time to time upon all Lots, other than Exempt Property, and their Owners, pursuant to the terms of this Declaration, to provide funds to pay Common Expenses, that is, funds needed to meet cash requirements of the Association for its operations, capital improvements, and reasonable reserves.

(w) "**Owner**" – the record owner, whether one or more Persons, of fee simple title to a Lot, excluding vendors under recorded land installment contracts, but including the vendees, and excluding Declarant and all others having an interest merely as security for performance of an obligation.

(x) "**Person**" – a natural individual, trustee, corporation, partnership, limited liability company, or other legal entity capable of holding title to real property.

(y) "**Planned Community**" – community to which the Planned Community Law is applicable.

(z) "**Planned Community Law" -** means the statutory law of the State of Ohio relating to the creation and operation of planned communities and presently Chapter 5312 of the Ohio Revised Code.

(aa) **"Property"** – all of the real property described in Exhibit A attached to this Declaration and incorporated herein by this reference, any other real property that is owned in fee simple by the Association together with all property the Association has the use of pursuant to a lease or easement or has an obligation to maintain and all appurtenances thereto, and any Additional Property.

(bb) "**Reserves**" – one or more of the reserves or open spaces in the Community, as delineated and shown on a recorded plat and subjected to the provisions hereof.

(cc) "**Rules**" – the rules and regulations governing use of property and Common Elements in the Community and the conduct of Members and their respective families, guests, licensees, and invitees, as may be established by the Board from time to time.

(dd) "**Special Assessment**" – an assessment that the Board may levy upon all Lots, except Exempt Property, to pay for unanticipated operating deficiencies, or to pay for capital expenditures not regularly budgeted and not to be paid out of monetary reserves, such as costs for major capital improvement replacements, and for major new capital improvements, or any other similar purpose determined appropriate by the Board.

(ee) "**Turnover Date**" – the date on which Declarant relinquishes its exclusive right to appoint all members of the Board, which date shall be no later than the date when the Community has been fully developed, and all Lots have been deeded to bona fide purchasers unrelated to the Declarant; provided, however, Declarant reserves the right, in its sole and unfettered discretion, to turn over control of the Association, or selected functions thereof, at such earlier time as it determines in its sole discretion.

2. GOALS.

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

(a) promotion of the health, safety, and welfare of all Owners and Occupants of property in the Community;

(b) ownership, administration, preservation, beautification, and maintenance of the Community's Common Elements and all Improvements thereon;

(c) enforcement of architectural controls and restrictions applicable to the Community;

(d) compliance with all zoning and similar governmental regulations applicable to the Community;

(e) provide for mandatory membership of Owners in the Community, as it may be constituted, from time to time, in the Association and the assessment and collection of funds to fulfill its objectives;

(f) establishment of requirements for the development and use of the Property; and

(g) compliance with the Planned Community Law.

3. THE ASSOCIATION.

3.1. Purposes.

The Association shall apply all funds received by it pursuant hereto, and all other funds and property received by it from any source, to the fulfillment of the purposes of the Association as herein provided. The purposes of the Association are:

(a) own, repair, maintain, regulate the use of, and have easements with respect to, various facilities and amenities in the Community that benefit all of the Community and its Owners and Occupants, including, without limiting the generality of the foregoing, the Common Elements and such other Improvements and amenities as designated to be Common Elements by Declarant, and after the Turnover Date, by the Declarant;

(b) administer and enforce the provisions of the Governing Documents;

(c) all other purposes provided for and permitted by the Planned Community Law;

(d) assess, collect and disburse funds necessary to fulfill these purposes.

3.2. Mandatory Membership.

Every Owner shall be a Member of the Association. In the case of a Lot that is the subject of a recorded land installment contract, the vendee or vendees under that installment contract and not the vendor, while holding such interest, shall be a Member of the Association. There shall only be one membership per Lot. In the event the fee simple interest in a Lot, or ownership of the vendee interest in a Lot, is held by more than one Person, the co-interest holders of such interests while holding such interests shall have only one membership in the Association, as tenants-in-common, with respect to that Lot. Such membership is appurtenant to and inseparable from such interests. Status as a Member shall automatically transfer to the transferee of that interest at the time the fee simple interest is transferred of record. Initially, those Lots to which these membership

provisions apply shall be those Lots that are subjected hereby to the provision of this Declaration. However, as portions of the Additional Property or additional portions of the Community are subdivided and platted into Lots, and the Lots therein subjected by amendments hereto to the plan hereof, membership in the Association shall extend to and encompass the holders of fee simple interests in those Lots, and holders of vendee interests under recorded land installment contracts with respect to those Lots, on the same basis as set forth herein for membership. 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 the membership of any Owner, provided further, there shall not be a membership appurtenant to a Lot dedicated to common public use or owned by any governmental body, instrumentality, or agency for so long as such body, instrumentality, or agency owns that Lot and so long as it is not utilized as a residence, nor for a Lot, if any, that becomes a Common Element for so long as it remains a Common Element. Voting and all other matters regarding the governance and operation of the Association shall be as set forth in the Governing Documents.

3.3. Governance.

The Association shall be governed by a Board of Directors, initially consisting of five persons. Prior to the Turnover Date, the members of the Board shall be appointed by the Declarant, or the Declarant may elect to act as the Board, or it may appoint a managing agent to act as the Board on its behalf. No Members, other than the Declarant, shall have voting rights in Association matters until the Turnover Date, except that after twenty percent of the lots in the development have been deeded to bona fide purchasers unrelated to the Declarant, the Declarant shall appoint one Board member from the then existing residents of the development who is unrelated to the Declarant. The Declarant may, in the exercise of its sole discretion and without altering or waiving the foregoing provisions, cause or allow one or more meetings to occur prior to the Turnover Date, for purposes stated by the Declarant, at which the Declarant may consent to the exercise of voting rights by Members. On and after the Turnover Date, voting rights shall be exercisable by Members in accordance with the terms of the Governing Documents. The transfer of control on the Turnover Date shall take place at a meeting which shall occur no later than the date when the Community has been fully developed and all Lots have been deeded to bona fide purchasers unrelated to Declarant. Voting and all other matters regarding the governance and operation of the Association following the Turnover Date shall be set forth in the Governing Documents.

3.4. Powers; Authority; Duties.

The Association shall have all the rights, powers, and duties established, invested, or imposed on it pursuant to the Governing Documents, and the laws of the State of Ohio applicable to Ohio non-profit corporations and Planned Communities. Among other things, the Association, through its Board (and, unless otherwise provided herein, without the consent of the Members), shall have the power to acquire, own and convey real estate including any fee interest or any security interest in any portion of the Common Elements, hold easements with respect to, and maintain the Common Elements, enforce and administer this Declaration, Rules, restrictions and

covenants applicable to the Community, sue and be sued, levy and collect assessments, collect and maintain reserves for replacements or anticipated expenditures, perform the site maintenance services set forth in Section 3.12 below, enter into contracts, mortgage and pledge all revenue received and to be received and/or to assign and pledge all revenues received or to be received by it under any provisions of these covenants, including, but not limited to, the right to the assessments and the proceeds therefrom, including common assessments and any future income from assessments payable hereunder, and take such other actions as it deems appropriate to its purposes. The Association shall not be obligated to spend in any particular time period all the sums collected or received by it in such time period or in any other time period and may carry forward, as surplus, any balances remaining, nor shall the Association be obligated to apply any such surpluses to the reduction of the amount of the assessment in any year, but may carry forward from year to year and time to time such surplus as the Board in its absolute discretion may determine to be desirable for the greater financial security of the Association and the effectuation of its purposes. Notwithstanding the foregoing, the Association may not convey any fee interest or any security interest in any portion of the Common Elements unless seventy-five percent (75%) of the voting power of the Members approves the conveyance.

3.5. Other Agreements.

The Association shall have the power and authority to contract with any Person for the exercise of any one or more of the various powers and authority granted to and duties to be performed by the Association hereunder, and to delegate such powers and authority to any agent or employee of the Association, and the exercise of those powers and authority by such Person, agent or employee shall be deemed the exercise of those powers and authority by the Association, except that no independent contractor shall be deemed by virtue of these provisions to be the agent of the Association. There shall be no requirement of any bond or surety for the Association, its agents, employees, or others assuring the exercise of the powers and authority granted hereunder, except as the Board shall in its sole discretion deem necessary or desirable for the safeguarding of any funds received by the Association. The Association may enter into agreements with other community, subdivision, and condominium associations and/or master associations pursuant to which the Association agrees (i) to share in the cost of maintaining, repairing, and replacing landscaping, storm water retention facilities, mounding, public amenity features and structures, multi-use paths, open space facilities, fencing and any other Improvements or services that benefit the Community or the Members; and (ii) to grant reciprocal rights, licenses and/or easements to members of each such associations to use and enjoy each other's common elements, subject to such rules and regulations, restrictions and fees as the Association may determine from time to time.

3.6. Rules and Regulations; Remedies.

The Association may make and enforce reasonable Rules governing the use, operation and/or maintenance of the property which is a part of the Community, which shall be consistent with the other provisions of the Governing Documents. The Association shall have the power to

impose sanctions on Members and Owners for any infraction of the Governing Documents, including the provisions hereof and the Rules, which such sanctions may include without limitation: (i) Reasonable monetary administrative charges which shall be considered Individual Lot Assessments; (ii) suspension of the right to vote as a Member of the Association; and (iii) suspension of the right of the Owner and that Owner's Occupants, licensees, and invitees, to use the Common Elements or any part thereof. In addition, the Board shall have the power to seek relief, including injunctive relief, in any court for violations or to abate violations of the provisions of the Governing Documents. If the Board expends funds for attorneys' fees or litigation expenses in connection with the enforcement of any provision of the Governing Documents, the amount so expended shall be due and payable by the Owner of the Lot whose Owner, Occupant, licensee or invitee violated the provisions of the Governing Documents, and the same shall be an Individual Lot Assessment against such Owner's Lot.

3.7. Implied Rights.

The Association may exercise any other right or privilege given to it expressly by the laws of the State of Ohio or any provision of the Governing Documents or given to it as an "owners association" by the Planned Community Law, and every other right or privilege reasonably implied from the existence of any right or privilege granted thereby or in this Declaration, or reasonably necessary to affect any such right or privilege.

3.8. Managing Agent.

The Board may retain and employ on behalf of the Association a Manager, which may be Declarant, and may delegate to the Manager such duties as the Board might otherwise be authorized or obligated to perform. The compensation of the Manager shall be a Common Expense. The term of any management agreement shall allow for termination by either party, without cause and without penalty, upon no more than ninety (90) days prior written notice.

3.9. Insurance.

(a) Fire and Extended (Special Form) Coverage. The Association shall, with respect to insurable property or interests owned by it, obtain and maintain insurance for all buildings, structures, fixtures, equipment, and common personal property, now or at any time hereafter constituting a part of the Common Elements, against loss or damage by fire, lightning, and such other perils as are ordinarily insured against by standard coverage endorsements, with such limits, deductibles, and coverage as is deemed appropriate by the Board or as required by applicable Planned Community Law. This insurance:

(i) shall provide that no assessment may be made against a first mortgage lender, or its insurer or guarantor, and that any assessment under such policy

made against others may not become a lien on any Lot, or other property, and its appurtenant interest, superior to the lien of a first mortgage;

(ii) shall be obtained from an insurance company eligible to write such insurance in the State of Ohio which has a current rating of Class A-/VII, or better, as determined by the then latest edition of Best's Insurance Reports or its successor guide;

(iii) shall be written in the name of the Association;

(iv) shall not be cancelled upon less than thirty (30) days' notice to the Association;

(v) unless otherwise determined by the Board, shall contain a waiver of subrogation of rights by the carrier as to the Association, its officers and directors, and all Owners.

(b) Liability Coverage. The Association shall obtain and maintain a Commercial General Liability policy of insurance covering all of the Common Elements and the functions of the Association insuring the Association, the officers and directors, and its Members, with such limits as the Board may determine, or as may be required by applicable Planned Community Law, but no less than the greater of (i) the amounts generally required by private institutional mortgage investors for projects similar in construction, location, and use, and (ii) $1,000,000, for bodily injury, including deaths of persons, and property damage, arising out of a single occurrence. This insurance shall contain a "severability of interest" endorsement which shall preclude the insurer from denying the claim of any Member because of negligent acts of the Association, the Board, or other Members, and shall include, without limitation, coverage for legal liability of the insureds for property damage, bodily injuries and deaths of persons in connection with the operation, maintenance, or use of the Common Elements, and other legal liability, including liability under contractual indemnity clauses and liability arising out of lawsuits related to any employment contracts of the Association. Each such policy must provide that it may not be canceled or substantially modified by any party, without at least thirty (30) days prior written notice to the Association.

(c) Directors' and Officers' Liability Insurance. To the extent reasonably available, the Board shall obtain, or cause to be obtained, directors' and officers' liability insurance.

(d) Other. The Association may, in the Board's discretion, obtain and maintain the following insurance: (i) fidelity bond coverage for all officers, directors, Board members and employees of the Association and all other Persons handling or

responsible for handling funds of the Association, (ii) workers' compensation insurance, (iii) additional insurance against such other hazards and casualties as is required by law, and (iv) any other insurance the Board deems necessary.

(e) Use of Proceeds. In the event of damage or destruction of any portion of the Common Elements, the Association shall promptly repair or replace the same, to the extent that insurance proceeds are available. Each Member hereby appoints the Association as its attorney-in-fact for such purpose. If such proceeds are insufficient to cover the cost of the repair or replacement, then the Board may levy a Special Assessment pursuant to the provisions hereof to cover the additional costs.

(f) Declarant Coverage. The foregoing provisions of this Section 3.9 notwithstanding, prior to the Turnover Date the Declarant may (but shall not be obligated to) elect to cause or allow the Association and its insurable interests in the Association's property, rights and obligations, to be covered by Declarant's existing insurance plan(s), which may or may not meet the monetary limitations described herein, and which may or may not include 'self-insurance' by the Declarant, all as deemed appropriate by the Declarant in the exercise of its sole discretion.

3.10. Condemnation.

The Association shall represent the Members in any condemnation proceedings or in negotiations, settlements, and agreements with the condemning authority for acquisition of the Common Elements, or any portion thereof. Each Member hereby irrevocably appoints the Association as its attorney-in-fact for such purpose. The awards or proceeds of any condemnation action shall be payable to the Association, to be held and used for the benefit of the Members, as determined by the Board.

3.11. Books; Records.

Upon reasonable request of any Member, the Association shall be required to make reasonably available for inspection and copying by any Member all books, records, and financial statements of the Association, except, unless approved by the Board, a Member may not inspect the following: (a) Information that pertains to personnel matters; (b) communications with legal counsel or attorney work product pertaining to proposed or pending litigation; (c) 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; (d) information that relates to the enforcement of the Governing Documents against Owners; (e) information the disclosure of which is prohibited by any applicable laws, rules, or regulations; and (f) any other information the Board deems privileged, protected, or confidential. The Association may charge a reasonable fee to cover the administrative costs of handling, copying, delivering, etc., the requested documents.

3.12. Site Maintenance Services.

The Association shall cause the following site maintenance services to be provided for all Lots in the Community:

(a) Lawn mowing and trimming as deemed appropriate in the judgment of the Board;

(b) Fertilization of lawn areas as deemed appropriate in the judgment of the Board;

(c) Edging, and mulching of other beds (if any) installed by a Lot's Owner after the completion of the construction of the home on the Lot, and all weeding of all beds on the Lot and the care of all plant material located in the beds on the Lot, shall be the responsibility of the Lot Owner at such Owner's expense, provided however that if a Lot Owner fails to maintain the beds and the plant material in the beds on such Owner's Lot to a reasonable minimum standard adopted by the Board, the Association shall have the right (but not the obligation) to cause the necessary work to be done on the Owner's Lot, and to charge the Owner for the cost of such work (plus a reasonable administrative service fee for having to cause such work to be done);

(d) Such other services for the general maintenance of the Community as shall be determined by the Board from time to time, including, without limitation, snow/ice removal.

(e) Maintenance and upkeep of entry features, landscaping, and/or structure at Longfellow and Evening Streets;

(f) Contribution and support of maintenance of open spaces and public amenities within the balance of the adjacent subareas of the development accessible and used by Single Family Homeowners;

(g) Proportionate maintenance cost contribution to site development storm water facilities.

4. INTENTIONALLY BLANK.

5. THE COMMON ELEMENTS.

(h) Declarant may, from time to time, at Declarant's option, convey to the Association, for the use and benefit of the Association and the Owners and Occupants, real or personal property, or any interest therein, as part of the Common Elements, provided that property is free and clear of all encumbrances, except: (a) Real estate taxes and

assessments, if any, not presently due and payable; (b) zoning and building laws, ordinances and regulations; (c) legal highways; (d) restrictions, conditions, easements of record, including, to the extent Declarant so determines, those contained herein; and (e) all other covenants, restrictions, conditions and easements of record which do not unreasonably interfere with present lawful use. All such Common Elements shall consist solely of property (i) benefiting two or more Lots, Owners, and/or Occupants in the Community, as the same may from time to time be constituted; or (ii) as required by zoning. The Association shall accept title to any interest in any real or personal property transferred to it by Declarant. In addition, Declarant may also grant such easements to the Association as Declarant, in its sole discretion, determines to be of benefit to the Community, as the Community may be constituted from time to time. Declarant may obligate the Association to maintain real or personal property not owned or to be owned by the Association, and may also grant such easements to the Association as the Declarant, in its sole discretion, determines to be of benefit to the Community, as the Community may be constituted from time to time. The Association may also acquire, hold, manage, operate, maintain, improve, mortgage, and dispose of tangible and intangible personal property and real property in addition to that property conveyed to it by Declarant. The Association, subject to the rights of the Owners set forth in this Declaration and the Governing Documents, shall be responsible for the exclusive management and control of the Common Elements owned by the Association, if any, and all improvements thereon, and shall keep it in good, clean, attractive, and sanitary condition, order, and repair in accordance with the terms and conditions of this Declaration. The Association may maintain wooded buffer areas to keep them in a natural state, consistent with good horticultural practices. The Association shall each have the right to grant easements to third parties over, across, under and/or through the Common Elements owned by the Association, including, but not limited to, easements for the construction, extension, and/or expansion of utilities, and conservation easements, all as the Association may be legally obligated or voluntarily disposed to grant.

6. ASSESSMENTS.

6.1. Operating Fund.

The Board shall establish an Operating Fund for financing the operation of the Association, for paying necessary costs and expenses of operating the Association and repairing and maintaining the Common Elements. The Board may establish a Reserve Fund to which a portion of the Operating Assessments shall be credited to cover the costs of future capital expenditures and/or other non-recurring items not intended to be funded from the Operating Fund.

6.2. Types of Assessments.

Subject to the provisions of this Article, each Owner, shall be subject to the following Assessments, which by acceptance of a deed to a Lot (whether or not it shall be so expressed in

such deed) covenants and agrees to pay to: (a) Operating Assessments, (b) Special Assessments, and (c) Individual Lot Assessments, all of which are to be established and collected as hereinafter provided. No Owner may gain exemption from liability for any Assessment by waiving or foregoing the use or enjoyment of any of the Common Elements or by abandoning that Owner's Lot. Operating and Special Assessments shall be fixed at a uniform rate for all Lots.

6.3. Operating Assessments.

Operating Assessments may be made for the purposes of providing funds to pay any of the following:

(a) the cost of the maintenance, repair, replacement, and other services to be provided by the Association, including the site maintenance services set forth in Section 3.12;

(b) the costs for insurance and bond premiums to be provided and paid for by the Association;

(c) the cost for utility services, if any, charged to or otherwise properly payable by the Association;

(d) the cost for construction of new capital improvements on Common Elements not replacing capital improvements installed by Declarant;

(e) the estimated amount required to be collected to maintain a general operating reserve to ensure availability of funds for normal operations of the Association, in an amount deemed adequate by the Board;

(f) the costs associated with the enforcement of the declaration or the rules and regulations of the Association, including but not limited to, attorneys' fees, court costs, and other expenses;

(g) an amount deemed adequate by the Board to maintain a reserve for the cost of unexpected repairs and replacements of capital improvements and for the repair and replacement of major improvements for which cash reserves over a period of time in excess of one year shall to be maintained;

(h) the costs for the operation, management, and administration of the Association, including, but not limited to, real estate taxes and assessments for Common Elements (but not individual Owner Lots), fees for property management, landscaping, mowing, planting, lighting, pavement maintenance, snow and ice removal and mitigation, fees for legal and accounting services, costs of mailing, postage, supplies, and materials for operating the Association, and the salaries,

wages, payroll charges, and other costs to perform these services, and any other costs of operations of the Association not otherwise specifically excluded.

The Board shall establish, levy, and collect Operating Assessments against each Lot and its Owner in accordance with the following:

(a) Initial Period. Commencing the first day of the first full month after a Lot with a dwelling constructed thereon has been conveyed by Declarant to a home purchaser, each Owner shall be subject to and pay to the Association an Operating Assessment for the remainder of the calendar year, as determined by the Board, prorated in the proportion that the number of full calendar months remaining in the calendar year from the date of the closing of the conveyance of the Lot is to twelve (12). This amount may have been prepaid by Declarant and if so, a credit back to Declarant will be collected at the closing on the Lot.

(b) Subsequent Calendar Year. Prior to January 1 (or a reasonable time thereafter) of each calendar year thereafter, the Board shall establish a budget for anticipated operating expenses for the next following Operating Assessment period commencing January 1 and ending the following December 31, and apportion the amount so determined in equal shares among all Lots in the Community that have had a dwelling constructed thereon and that have been conveyed to a bona fide home purchaser, and assess each such Lot and its Owner for the apportioned amount.

For each year or partial year during which the Declarant continues to own Lots, the Declarant may pay, in the exercise of its sole and absolute discretion, (i) an amount equal to the per Lot Operating Assessment multiplied by the number of Lots owned by Declarant as of the first day of such year; or (ii) an amount necessary to fund the actual difference between the Association's actual cost of operations for such year, and the amount of Operating Assessments assessed to Lot Owners for the year. If and to the extent funds provided by the Declarant to the Association are necessary as a result of the failure of Lot Owner(s) to pay all or any portion of duly levied Assessments to the Association, such amounts provided by Declarant may be characterized as non-interest bearing 'advances' or 'loans' by the Declarant to the Association, which the Association shall be obligated to repay to the Declarant upon demand, or which may be credited to the Declarant's payment of deficit(s) in any future year(s).

(c) Due Dates. The Operating Assessments shall be due in monthly, quarterly, semi-annual, or annual installments, as the Board may determine. Except for the initial payment of Operating Assessments, notice of Operating Assessments, or if payable in installments, the dates those installments are due, shall be given to an Owner not

less than thirty (30) days prior to the date the Operating Assessment, or first installment thereof, is due.

6.4. Special Assessments.

The Board may levy against all Lots subject to Operating Assessments, and their Owners, Special Assessments to pay for capital expenditures, interest expense on indebtedness incurred for the purpose of making capital expenditures (not to be paid out of reserves), unanticipated operating deficiencies, or any other purpose determined appropriate by the Board in furtherance of its functions hereunder. Those Special Assessments shall be allocated among Lots on the same basis as Operating Assessments are to be allocated, and shall be due and payable on such basis and at such times as the Board directs, provided that no such Special Assessment shall be due and payable on fewer than thirty (30) days written notice.

6.5. Individual Lot Assessments.

The Board may levy an Individual Lot Assessment against any Owner to reimburse the Association for costs incurred on behalf of that Lot, including assessments for utility service that are imposed or levied in accordance with this Declaration, as well as the expenses the Board incurs in collecting those assessments, and costs of maintenance, repair, or replacement incurred due to the willful or negligent act or omission by any Owner, Occupant, or invitee thereof, or their family, tenants, guests, 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, all other administrative and enforcement charges, including attorneys' fees, court costs, and other expenses due or incurred by the Association reasonably determined to be an Individual Lot Assessment by the Board, and all costs or charges the Governing Documents, Planned Community Law or Ohio law permits. By way of illustration, and not of limitation, the Board may levy an Individual Lot Assessment in the nature of an administrative charge reasonably determined by the Board against any Owner who violates any provision of the Governing Documents, or who suffers or permits the Members, guests, invitees or tenants of that Owner's Lot to violate the same or any provision of the Governing Documents, including the restrictions contained herein and in the Rules. Upon its determination to levy an Individual Lot Assessment, the Board shall give the affected Owner written notice and the right to be heard by the Board or a duly appointed committee thereof in connection with such Individual Lot Assessment no fewer than ten (10) days prior to the effective date of the levy of any such Lot Assessment.

(a) Notice of Assessment. Except in the case of Individual Lot Assessments for utility charges, interest, late charges, returned check charges, court costs, arbitration costs, and/or attorneys' fees, prior to levying an Individual Lot Assessment, the Board shall give the Owner or Owners written notice of the proposed Individual Lot Assessment that includes:

i. a description of the property damaged or of the violation of the restriction, rule or regulation allegedly violated;

ii. the amount of the proposed Individual Lot Assessment;

iii. a statement that the Owner has a right to a hearing before the Board to contest the proposed Individual Lot Assessment by delivering to the Board a written notice requesting a hearing within ten (10) days after the Owner receives written notice of the proposed Individual Lot Assessment; and

iv. in the case of a charge for violation of a restriction, rule or regulation, a reasonable date by which the Owner must cure the alleged violation to avoid the proposed Individual Lot Assessment.

The notice by the Board given pursuant to the foregoing may be delivered personally to the Owner to whom an Individual Lot Assessment is proposed to be charged, personally to an Occupant of a dwelling on that Owner's Lot, by certified mail, return receipt requested, or by regular mail.

(b) Hearing on Assessment.

i. To request a hearing, the Owner shall deliver a written notice to the Board not later than the tenth (10th) day after receiving the notice of assessment from the Board. If the Owner fails to make a timely request for a hearing, the right to that hearing is waived, and the board immediately may impose a charge for damages or an enforcement assessment pursuant to this section.

ii. If the Owner requests a hearing, the Board shall provide the Owner with a written notice at least seven (7) days prior to the hearing that includes the date, time, and location of the hearing.

iii. The Board shall not levy the charge or assessment before holding any hearing requested pursuant to this section.

iv. Within thirty (30) days following a hearing at which the Board imposes a charge or assessment, the Association shall deliver a written notice of the charge or assessment to the Owner.

v. Any written notice that this section requires shall be delivered to the Owner or any Occupant of the dwelling unit by personal delivery, by certified mail, return receipt requested, or by regular mail.

6.6. Remedies.

(a) Acceleration. If any installment of an Assessment, or portion thereof, is not paid within ten (10) days after the same has become due, the Board, at its option, without demand or notice, may call the entire balance of the Assessment due.

(b) Late Charge. If any portion of any Assessment remains unpaid for ten (10) days after all or any part thereof shall become due and payable, the Board may charge interest on the entire unpaid balance from and after that date at the lesser of (i) twelve percent (12%) per annum; or (ii) the highest rate permitted by law, together with a reasonable administrative collection charge, as established by the Board.

(c) Application of Payments. Unless otherwise provided by the Bylaws or Rules, the Association shall credit any amount it receives from a Lot Owner in the following priority: (i) to interest accrued on the delinquent Assessment(s), or installments or portions of installments thereof; (ii) to administrative late fees charged with respect to the delinquency; (iii) to reimburse the Association for enforcement charges and collection costs, including, but not limited to, attorneys' fees and paralegal fees incurred by the Association in connection with the delinquency; and (iv) to the delinquent Assessment, or installment or portion thereof, applying to the oldest principal amounts first.

(d) Liability for Unpaid Assessments. Each Assessment or installment of an Assessment, together with interest thereon and any and all costs of collection, including reasonable attorneys' fees, shall become the joint and several personal obligation of the Owners of the Lot charged the same, beginning on the date the Assessment or installment thereof becomes due and payable. The Board may authorize the Association to institute and prosecute to completion an action at law on behalf of the Association against the Owner personally obligated to pay any delinquent Assessment, and/or an action to foreclose the Association's lien or liens against a Lot or Lots for unpaid Assessments owed by that Lot and the Owner thereof. In any such action, interests and costs of such action, including reasonable attorneys' fees, shall be added to the amounts owed by the Owner of the Lot to the extent permitted by Ohio law. An Owner's personal obligation for a Lot's delinquent Assessments (including accrued interest, late fees, and costs of collection including attorneys' fees) shall also be the personal obligation of his/her successors in title who acquire an interest after an Assessment becomes due and payable, and both such Owner and his/her successor in title shall be jointly and severally liable therefor. Except as otherwise provided herein, the transfer of an interest in a Lot shall neither impair the Association's lien against that Lot for any delinquent Assessment nor prohibit the Association from foreclosing that lien.

(e) Liens. All unpaid Assessments, or portions thereof, together with any interest and charges thereon or costs of collection, including but not limited to attorneys' fees, shall constitute a continuing charge in favor of the Association and a lien on the Lot against which the Assessment was levied. If any Assessment, or portion thereof, remains unpaid for ten (10) days after it is due, then the Board may authorize any officer or appointed agent of the Association to file a certificate of lien for all or any part of the unpaid balance of that Assessment, together with interest and collection costs, including attorneys' fees, with the appropriate governmental office. The certificate shall contain a description of the Lot which the lien encumbers, the name of the Owner or Owners of that Lot, and the amount of the unpaid portion of the Assessment. The certificate may be signed by any officer, authorized agent or the Manager of the Association, or the Association's authorized representative. Upon the filing of the certificate, the subject Lot shall be encumbered by a continuing lien in favor of the 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 continued, released earlier, or satisfied in the same manner provided by the law of the State of Ohio for the release and satisfaction of mortgages on real property, or until the lien is discharged by the final judgment or order of any court having jurisdiction.

(f) Subordination of Lien. The lien of the Assessments provided for herein shall be subject and subordinate to the lien of any duly executed first mortgage on a Lot recorded prior to the date on which such lien of the Association is perfected by recording a certificate of lien.

(g) Contested Lien. Any Owner who believes that an Assessment chargeable to that Owner or Owner's Lot, and for which a certificate of lien has been filed by the Association has been improperly charged against that Lot, may bring an action in the Court of Common Pleas in the county where the Property is located for the discharge of that lien and/or for 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 Lot, 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.

(h) Estoppel Certificate. The Board, within a reasonable time following receipt of a written demand and for a reasonable charge, shall furnish a certificate signed by the President or other designated representative of the Association, setting forth whether the Assessments on a specified Lot have been paid. This certificate shall be conclusive evidence of payment of any Assessment therein stated to have been paid.

(i) Suspension of Vote and Use of Common Elements. If any Assessment remains unpaid for thirty (30) days after it becomes due, then the delinquent Owner's voting rights upon Association matters and privileges to use the Common Elements, 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 Lot.

7. MAINTENANCE.

7.1. Maintenance by Association.

Subject only to budgetary limitations and the right of the Board to exercise reasonable business judgment, the Association shall maintain and keep the Common Elements in good, clean, attractive, and sanitary condition, order and repair. This maintenance shall include, without limitation, maintenance, repair, and replacement of all Improvements situated upon the Common Elements, including but not limited to the reserves, any open spaces, signage, entranceways, Community border areas, the maintenance, repair, and replacement of any Additional Easement Areas (except as provided for in 6.5 above), and the maintenance, repair and replacement of all personal property used in connection with the operation of the Association or that the Association has the obligation to maintain pursuant to applicable zoning or other recorded instruments or Governing Documents. Further, the Association may, in its discretion and to the extent determined by the Board, choose to maintain property that it does not own, the maintenance of which would, in the opinion of the Board, benefit the Community.

7.2. Maintenance by Owner.

Each Owner or Occupant shall repair, replace, and maintain in good order and condition, at that Person's expense, the Owners' Lot and all portions of Improvements (including any related equipment and components) located on that Owner's Lot. This maintenance responsibility includes, without limitation, promptly furnishing all necessary materials and performing or causing to be performed at that Owner's expense all maintenance, repairs, and replacements of Improvements on such Lot. No Lot or other Improvement shall be permitted to become overgrown, unsightly, or fall into disrepair. Each Owner shall maintain that Owner's Lot in accordance with the Rules and the requirements set forth by the Association as provided for herein and in accordance with applicable law.

7.3. Right of Association to Repair Lot.

In the event any Owner fails to maintain that Owner's Lot in the manner required herein, and that Lot remains in disrepair for a period of thirty (30) days after notification by Declarant or the Association to said Owner, and if the Board or Declarant determines that any maintenance of that Lot or Improvements thereon is necessary to ensure public safety, to permit reasonable use or

enjoyment of the Common Elements by Owners, to prevent damage to or destruction of any other part of the Common Elements, to preserve the value of the Community, or to comply with the Rules or the terms of this Declaration, then the Board or Declarant may authorize its employees or agents to enter the Lot at any reasonable time to complete the necessary maintenance, and the Board may levy an Individual Lot Assessment for all reasonable expenses incurred or, if performed by Declarant, those expenses shall be reimbursed by the Owner to Declarant. The notice provisions hereof shall be reduced as necessary to allow reasonable entry on shorter notice, if the Board reasonably determines that an 'emergency' exists, or that imminent harm to person or property may occur if the standard waiting periods are observed.

7.4. Damage to Common Elements By Owner or Occupant.

In the event the need for maintenance or repair of any part of any Common Element is caused by the negligent or intentional act of any Owner or Occupant, or that Person's licensees or invitees, or in the event any Common Element is damaged by any Owner or Occupant, or that Person's licensees, or invitees, then the Board may maintain, repair, and/or replace the same and the cost thereof shall constitute an Individual Lot Assessment against such Lot and its Owner. The determination that such maintenance, repair, or replacement is necessary and/or has been caused by such Owner, shall be made by the Board in its sole discretion. The Association shall be entitled to enter a Lot to repair or maintain any Common Elements adjacent to such Lot.

8. ARCHITECTURAL STANDARDS.

All property at any time subject to the provisions hereof shall be governed and controlled by the following:

8.1. Architectural Review Committee.

The Architectural Review Committee shall be a committee consisting of three (3) natural persons. Until the Turnover Date, Declarant shall have the sole and exclusive right to appoint and remove all three (3) members of the Architectural Review Committee, at-will and may elect in the exercise of its sole discretion, to act itself as the Architectural Review Committee, or appoint an agent to act in its place, in lieu of appointing individuals. After the Turnover Date, the Board shall have the right to appoint all three (3) members to the Architectural Review Committee. The Architectural Review Committee shall have the exclusive authority, by action of two (2) or more of the members thereof, at a private or public meeting, to determine the architectural standards which shall govern the construction of any and all Improvements on a Lot. Each Owner covenants and agrees by acceptance of a deed to a Lot to comply with, and to cause that Owner's Lot and any Occupant thereof to comply with, the standards adopted by the Architectural Review Committee. No Improvement shall be placed, erected, or installed on a Lot, and no construction (which term shall include in its definition staking, clearing, excavation, grading, and other site work) shall be commenced or continued until and unless the Owner first obtains the written

approval thereof by the Architectural Review Committee and otherwise complies with any applicable zoning and building regulations and all provisions hereof.

8.2. Modifications.

Except as otherwise provided herein, the Architectural Review Committee shall have jurisdiction over all construction, modifications, additions, or alterations of Improvements on or to any and all Lots. No Person shall construct any Improvement on any Lot, including without limitation, alter surfaces of existing Improvements, change paint colors or roofing materials, construct or modify fencing, install any permanent recreational device, swing-set, playground, basketball hoop, or other similar Improvement, change the grade or contour of any Lot, change the material of any driveway, modify the exterior lighting, change the mailbox or address marker, construct any porch, deck, patio, gazebo, or pool, modify any landscaping, install any signs or satellite dishes not otherwise permitted herein or by federal law, without the prior written consent of the Architectural Review Committee. Owners shall submit plans and specifications showing the nature, kind, shape, color, size, materials, and location of Improvements and alterations to the Architectural Review Committee for its approval. The Architectural Review Committee may charge a reasonable fee in connection with the review of plans for a proposed Improvement. Nothing contained herein shall be construed to limit the right of an Owner to remodel or decorate interior Improvements without such approval.

8.3. Variances.

To avoid unnecessary hardship and/or to overcome practical difficulties in the application of these provisions, the Architectural Review Committee shall have the authority to grant reasonable variances from the provisions hereof, provided that the activity or condition is not prohibited by applicable law, including but not limited to applicable zoning or building regulations; and provided further that, in the judgment of the Architectural Review Committee, the variance is in the best interests of the Community and is within the spirit of the standards of the Architectural Review Committee. No variance granted pursuant hereto shall constitute a waiver of any provision hereof as applied to any other Person or any other part of the Community.

8.4. Improvements by Declarant.

Notwithstanding the foregoing to the contrary, all Improvements and landscaping constructed by Declarant, its agents, or its successors and/or assigns shall be deemed to comply in all respects with this Declaration and the requirements of the Architectural Review Committee. Declarant, and its successors and assigns, shall have the exclusive right to approve the initial construction of a residence upon any Lot even following the Turnover Date.

8.5. Liability Relating to Approvals.

Neither Declarant, the Association, the Board, the Architectural Review Committee, 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 Architectural Review Committee 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 Lot comply with any zoning ordinances and any easements, covenants, and conditions of record.

9. USE RESTRICTIONS.

The following restrictions and covenants concerning the use of each Lot and occupancy of Improvements thereon shall run with the land and be binding upon Declarant and every Owner or Occupant, their respective heirs, successors, and assigns, as well as their family members, guests, licensees, and invitees:

9.1. Use of Lots.

Except as otherwise specifically provided in this Declaration, no dwelling on a Lot, nor any portion of any Lot, shall be used for any purpose other than that of a residence for individuals living together as a single housekeeping unit, and uses customarily incidental thereto, Specifically, no dwelling may be used as a rooming house, group home, commercial foster home, fraternity or sorority house, or any similar type of lodging, care or treatment facility, or licensed facility to the maximum extent permitted by law. In addition, no building shall be erected, altered, placed, or permitted to remain on any Lot other than one single-family dwelling not to exceed two and one-half stories in height, and each such dwelling shall have an attached (minimum) two car garage and a basement. No home shall be constructed on any Lot having a garage with a lower elevation than the street elevation such that the garage and/or driveway are depressed below the finished grade of the Lot. No structure of a temporary character, such as a trailer, tent, shack, vehicle port, barn, pet dwelling, including pet fenced in pet areas behind houses, or other outbuilding shall be used on any Lot at any time as a residence either temporarily or permanently; provided, however, that nothing herein shall prevent the use of trailers or temporary buildings by Declarant or builders approved by Declarant, for sales and construction management and related uses during the construction and sale of homes in the Community or home remodeling after initial construction. All homes shall comply with material standards as approved under the applicable zoning regulations and/or by a regulating governmental authority for this Community, and by the Architectural Review Committee.

9.2. Minimum Square Footages.

No dwelling shall be permitted on any Lot on which the floor area of the main structure is less than what is required by the applicable zoning and subdivision control requirements governing Lots located in the Community.

9.3. Use of Common Elements.

The Common Elements may be used only in accordance with the purposes for which intended and for any reasonable purposes incidental to the residential use of Lots. All uses of the Common Elements shall benefit or promote the health, safety, welfare, convenience, comfort, recreation, and/or enjoyment of the Owners and/or Occupants, and shall comply with the provisions of this Declaration and all other Governing Documents, and the laws of the State of Ohio.

9.4. Hazardous Actions or Materials.

Nothing shall be done or kept in or on any Lot or in or on any portion of the Common Elements that is unlawful or hazardous, that might reasonably be expected to increase the cost of casualty or public liability insurance covering the Common Elements, or that might or that does unreasonably disturb the quiet occupancy of any Person residing on any other Lot. These provisions shall not be construed so as to prohibit Declarant or any other builder in the Community from construction activities consistent with reasonable or customary residential construction practices in accordance with applicable law.

9.5. Signs.

No signs of any character shall be erected, posted or displayed upon property in the Community, except: (a) marketing signs installed by Declarant while marketing Lots and residences for sale; (b) street and identification signs installed by the Association, Declarant, or any governmental agency; (c) on the Common Elements, signs regarding and regulating the use of the Common Elements, provided they are approved by the Board; (d) on any Lot, one temporary real estate sign not to exceed six (6) square feet in area advertising that such Lot is for sale; and (e) up to three (3) temporary political signs of not more than six (6) square feet each, expressing support for or opposition to an individual candidate or issue which is the subject of a current election, except to the extent preempted by federal law, and provided the same comply with any local ordinances and any Rules established by the Board. Except as set forth above, no signs shall be placed in the Common Elements.

9.6. Animals.

Except as hereinafter provided, no animals, reptiles, livestock, or poultry of any kind shall be raised, bred, or kept on any Lot, or in or upon any part of the Common Elements.

Notwithstanding the foregoing, household domestic pets, not bred or maintained for commercial purposes, may be maintained in a dwelling on a Lot, provided that: (1) the maintaining of animals shall be subject to the Rules and such other rules and regulations as the Board may from time to time promulgate, including, without limitation, the right to place limitations on the size, number, and type of such pets, and the right to levy administrative and enforcement charges against Persons who do not clean up after their pets; and (2) the right of an Owner or Occupant to maintain an animal in a dwelling on a Lot shall be subject to termination if the Board, in its full and complete discretion, determines that maintenance of the animal constitutes a nuisance, creates a detrimental effect on the Community or other Lots or Occupants, or possession of which violates any law, rule, or ordinance promulgated by a governmental or quasi-governmental entity. Any animal defined as “vicious” or “dangerous” pursuant to the provisions of Ohio Revised Code Chapter 955, as the same may be amended from time to time, is specifically prohibited. Outdoor doghouses, animal cages, or runs are prohibited without the express prior approval of the Architectural Review Committee.

9.7. Nuisances.

No noxious or offensive trade or activity shall be permitted on any property in the Community or within any dwelling, building, or structure located on any Lot. No use shall be made or condition allowed to exist on any Lot which unreasonably disturbs or interferes with the quiet occupancy of any person residing on any other Lot. No soil shall be removed for any commercial purpose.

9.8. Business.

No industry, business, trade, occupation, or profession of any kind may be conducted, operated, or established on any Lot, without the prior written approval of the Board. Notwithstanding the foregoing, (a) a “home office” use is permitted, provided such use does not entail any non-resident employees, generate any traffic or additional parking, require any signage, and is operated in compliance with all laws including any Rules established by the Board and applicable governmental regulations; (b) an Owner or Occupant may maintain a personal or professional library, keep personal business or professional records or accounts, conduct personal business, make professional telephone calls or correspond in or from a residence; and (c) during the construction and initial sales period, Lots, including dwellings and Improvements constructed thereon, and Common Elements may be used for construction and sales purposes, including the construction and operation of sales models and/or construction trailers by Declarant and by builders and Declarants as approved by Declarant, in its sole discretion, until dwellings have been constructed on all Lots and all Lots with dwellings on them have been conveyed to bona fide residential home purchasers. This section shall not be interpreted as allowing the declarant’s or other builder’s to utilize sales trailers on site.

9.9. Storage.

No storage buildings, barns, or sheds of any kind are permitted on any Lot. This section shall not apply to any storage as may be necessary during the construction or remodeling of homes on the Lots.

9.10. Hotel/Transient Uses.

No Lot or Improvement thereon may be used for hotel or transient uses, including without limitation, uses in which an 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.

9.11. Vehicles.

The Board is granted the power and the authority to create and enforce reasonable Rules concerning placement and the parking of any vehicle permitted on or in the Community. In addition to its authority to levy Individual Lot Assessments as administrative charges for the violation of the Rules, the Board shall be authorized to cause the removal of any vehicle violating this Declaration or such Rules.

Except as specified below, no trucks, no prohibited commercial vehicles, no boats, no trailers, no campers, and no mobile homes shall be parked or stored on any street or on any Lot in the Community (except in the attached garage) for any time period longer than forty-eight (48) 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 of residences on the Lots.

For the purpose of this section, the terms “truck” and “prohibited commercial vehicle” shall include all vehicles that have a length of more than 21 feet and all vehicles that include any visible exterior storage of tools or materials; provided, however, that up to two (2) ladders may be visible. Dump trucks, tow trucks, flat bed car hauling trucks, panel trucks, vans larger than one-ton capacity, pickup trucks larger than one-ton capacity, and semi type tractors and trailers, shall in every instance be considered to be a prohibited truck and/or a prohibited commercial vehicle. For the purpose of this section, the word “trailer” shall include landscaping trailer, open bed trailer, 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 personal property, whether resting on wheels, jacks, tires, or other foundation.

Furthermore, no automobile, truck, or other motor-driven vehicle, or trailer, in a condition where it is unlicensed, unregistered, apparently inoperable, extensively damaged, disabled, dismantled, or otherwise not in a condition to be lawfully operated upon the public highway, or

any vehicle component or part, shall be placed, parked, or stored in any visible location on or in front of a Lot or residence for a period of time longer than thirty (30) days. After this time, the vehicle, trailer, or part shall be deemed to be a nuisance, and shall be removed. The Board shall have the right and authority to have the same removed, including on Lots, at the Owner’s expense.

9.12. Trash.

Except for the reasonably necessary activities of Declarant during the original development of the Community, no burning or storage of trash of any kind shall be permitted in the Community. All trash shall be deposited in covered, sanitary containers, and these containers shall at all times be screened from view from any other Lot or street, except when temporarily placed outside for trash collection. No emptied trash containers shall be allowed to remain visible for more than eight hours following the trash pick-up.

9.13. Antennae.

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 a Lot, 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 (l) meter, erected or installed to minimize visibility from the street which the dwelling fronts. Notwithstanding the foregoing, roof-mounted satellite dishes are to be limited to the maximum extent possible by law.

9.14. Utility Lines.

All new utility lines in the Community shall be underground, subject only to the exceptions required by governmental authorities having jurisdiction, utility companies, Declarant, and the Board.

9.15. Tanks.

No tanks for the storage of propane gas, fuel oil, or any other combustible substance shall be permitted to be located above or beneath the ground of any Lot except that propane gas grills are permitted. This section shall not apply during the construction of any homes on the Lots or to any Lot containing Declarant’s sales trailer.

9.16. Street Tree/Yard Tree.

Declarant may designate one or more trees as deemed necessary by Declarant along the street in front of each Lot at a ratio of at least 1 (one) tree per Lot (2 (two) trees per corner Lot) as a “street tree.” In addition, each Lot shall have one “yard tree.” If Declarant determines to designate street tree(s), then the Association shall care for, and if necessary, replace such tree or

trees with a like type of tree having a caliper greater than or equal to 2 ½ inches. If Declarant determines to designate yard tree(s), then each Owner agrees to care for, and if necessary, replace such tree or trees at the Owner's expense with a like type of tree having a caliper greater than or equal to 2 ½ inches.

9.17. Mailbox.

Mail shall be delivered to common mail box locations designated on the development plans as approved under United States Post office postal regulations. Alternatively, if approved by the USPO and applicable, Declarant or the Association may designate and require a curbside mailbox for each Lot with a design and composition that will provide uniformity to the subdivision. Each mailbox shall have the street numbers for the Lot on each side of such mailbox. If the mailbox is damaged, destroyed, or deteriorates, then each Owner, at such Owner's expense, shall repair or replace such mailbox with an identical mailbox, or if unavailable, with another of a like-kind, design, pattern, and color as the initial mailbox.

9.18. Yard Lights and Lamp Posts/Lighting.

All yard lights and lamp posts, if any, shall conform to the standards set forth by the Architectural Review Committee. If a yard light or lamp post is damaged, destroyed, or deteriorates, then each Owner, at such Owner's expense, shall repair or replace such yard light and/or lamp post with an identical yard light or lamppost, or if unavailable, with another of a like-kind, design, pattern, and color as the initial yard light and/or initial lamp post. Landscape and building accent lighting is permitted, however, all such illumination must be from concealed sources. All lighting shall be arranged to reflect light away from any street or adjacent property/Lot. Direct or indirect glare into the eyes of motorists or pedestrians shall be prohibited.

9.19. Fencing.

Perimeter fencing shall be allowed on any Lot and such fencing when installed shall be maintained in good condition by the homeowner. Fencing may be permitted for privacy around decks, patios, hot tubs, etc., and shall not exceed 6 feet in height and such fencing shall be maintained by the homeowner. Fences may be required to include landscaping screening where utilized by the Architectural Review Committee. Fencing shall be wood, and may be a four-rail board fence. No chain link and no wire fencing shall be permitted. Fence posts may be no higher than 6 inches above the top rail. Declarant may install fencing as part of entry feature improvements and landscape buffering and/or screening along adjacent properties, which shall be maintained by the Association. Any such entryway fencing shall not exceed 6 feet in height. Fences located forward of the rear corners of any home are prohibited.

Swimming Pools/Hot Tubs.

No swimming pool extending 12 inches or more above the finished grade of the Lot shall be permitted upon any Lot except that this restriction shall not prohibit the installation of a hot tub that is properly screened or in ground pools.

9.20. Compliance with Zoning.

Certain provisions of this Declaration may have been included herein as a result of governmental requirements established through the zoning and development plan approval processes in the state, county, city, village and/or township in which the Property is located. Compliance with all such governmental requirements, for so long as such requirements are effective and binding, and as such requirements may be amended or modified, is required by this Declaration.

9.21. Hobbies.

Hobbies or other activities which tend to detract from the aesthetic character of the Community and any Improvements used in connection with such hobbies or activities shall not be permitted unless carried out or conducted within the residence building erected upon the Lot and not viewable from either the street or adjoining Lots or Common Elements. This restriction refers specifically, but not exclusively, to activities such as automobile, bicycle, moped, motorboat, and sailboat repair.

9.22. No-Build/No-Disturb/Preservation/Conservation/Protection/Buffer Zones.

Any property, buffer areas or reserves identified in or required pursuant to applicable zoning regulations, approved plat(s), and/or under any agreement entered into by the Declarant or by the Association that identify, include, or represent portions of the Property over, across, under and through which areas are designated as FEMA zones, stream corridor protection zones, tree preservation zones, draining, clean water, storm water, buffer, protection, or no disturb areas shall be areas in which no Owner shall have the right to construct or locate any Improvements, disturb the grade or take any other action that interferes with the purpose of the limitation or restriction on the Property, including, but not limited to, fencing, landscaping, cleaning brush, or removing trees as appropriate for the limitation or restriction. These designated areas with limitations or restrictions may be parts of individual Lots instead of on Common Elements. In such cases, the Owner(s) of the Lot(s) affected by these limitations shall be and remain responsible for the ordinary care and maintenance of these areas.

9.23. Miscellaneous.

The following Improvements shall not be permitted on any Lot in the Community:

(a) outdoor clotheslines;

(b) window air conditioning units on any window visible from a street;

(c) wind turbines or similar wind-powered energy generating equipment;

(d) solar panels unless co-located on roof without extending beyond roof surface;

(e) gas and oil drilling or collection, quarrying or mining equipment;

(f) commercial vehicle unless parked in garage.

10. EASEMENTS AND LICENSES.

10.1. Easement of Access and Enjoyment Over Common Elements.

Every Owner shall have a right and easement (in common with all other Owners) of enjoyment in, over, and upon the Common Elements, and a right of access to and from that Owner's Lot, which rights shall be appurtenant to, and shall pass with the title to, that Person's Lot, subject to the terms and limitations set forth herein, and subject to the Rules. An Owner may delegate that Person's rights of access and enjoyment to Occupants, licensees, and invitees. All such easements are limited by such restrictions as may apply to the Common Elements affected thereby, and no Person shall have the right by virtue of such easements to engage in activities on the Common Elements which are not permitted according to the provisions of this Declaration and/or other Association Governing Documents, pursuant to the provisions of any applicable plat(s) or under agreements with any governmental entities or other third parties.

10.2. Right of Entry for Repair.

The duly authorized agents, officers, contractors, and employees of the Association shall have a right of entry and access to the Property, including without limitation the Lots, for the purpose of exercising the Association's rights, or performing the Association's obligations as set forth herein. The Association may enter any Lot to remove or correct any violation of any provision hereof, or any Rule, or to maintain, repair, and replace the Common Elements and/or Additional Easement Areas, but only during reasonable hours and after providing reasonable advance notice to the Owner, except in cases of an emergency.

10.3. Easement for Utilities and Other Purposes.

The Board or Declarant may convey easements over the Common Elements to any entity 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, storm sewer, storm water, telephone, cable television, and other similar utility or security services, whether of public or private nature, to the Community, and to any entity for such other purposes as the Board or Declarant deems appropriate; provided that such equipment or the exercise of such easement rights shall not unreasonably interfere with any Owner's use and enjoyment of that Owner's Lot. The Board or Declarant may grant such easements over all portions of the Community for the

benefit of adjacent properties as the Board or Declarant deems appropriate; provided that the grant of such easements imposes no undue, unreasonable, material burden, or cost upon any property in the Community, and further provided that the Board or Declarant may not convey any easement over a Lot without the prior written consent of the Owner of such Lot (which consent shall not be unreasonably withheld, delayed, or conditioned). Declarant and the Association shall have the absolute right within (l) areas designated as drainage courses on the recorded plat of the Community, (2) all areas encumbered by general utility or specific storm drainage easements, and (3) areas determined by sound engineering practice to be necessary to the proper drainage of all or part of the Community, to enter upon Lots and perform grading and other construction activities deemed appropriate in the exercise of Declarant's judgment to install, modify, alter, remove, or otherwise work on storm water drainage facilities, and conditions (including both surface grading and subsurface structures). If any such entry and/or work performed by Declarant results in damage to other portions of a Lot, or to any Improvements thereon, Declarant shall be responsible for the restoration of such portions or Improvements at Declarant's sole cost.

10.4. Easement for Services.

A non-exclusive easement is hereby granted to all police, firemen, ambulance operators, mail carriers, delivery persons, cable and television repair personnel, garbage removal personnel, and all similar persons, and to the local governmental authorities and the Association (but not to the public in general) to enter upon the Common Elements and the Lots to perform their duties.

10.5. Easements Reserved to Declarant

Non-exclusive easements exist and continue to exist or are hereby reserved to Declarant and its officers, employees, contractors, sub-contractors, and designees, over and upon the Common Elements for (a) such time as is necessary to construct and sell dwellings on all Lots, for access to and for the purposes of constructing and selling dwellings on all Lots and completing Common Element Improvements, provided that such right of access shall be to the extent, but only to the extent, that access thereto is not otherwise reasonably available, (b) the periods provided for warranties hereunder or by law, for purposes of making repairs required pursuant to those warranties or pursuant to contracts of sale made with home purchasers, and (c) for the period necessary to construct dwellings on all the Lots, and sell the same, to maintain and utilize one or more Lots, and Improvements thereon, and\or a portion or portions of the Common Elements, for sales and management offices, for storage and maintenance, for model homes, for parking areas for sales and rental purposes, and for advertising signs. The rights and easements reserved pursuant to this Section shall be exercised and utilized, as the case may be, in a reasonable manner, and in such way as not to unreasonably interfere with the operation of the Association and the rights of Owners and Occupants.

10.6. Easement for Maintenance.

A non-exclusive easement is hereby granted to the Association to enter upon, over, or

through the Property for the purpose of performing maintenance responsibilities reserved to the Association in the recorded plats for the Community or provided in this Declaration.

10.7. General.

Unless specifically limited herein otherwise, the easements described herein shall run with the land and pass with the title to the benefited and burdened properties, shall be appurtenant to the properties benefited and burdened thereby, shall be enforceable by the owners of the properties benefited thereby, and shall be perpetual. The easements and grants provided herein shall in no way affect any other recorded grant or easement. Failure to refer specifically to any or all of the easements and/or rights described in this Declaration in any deed of conveyance or in any mortgage or other evidence of obligation shall not defeat or fail to reserve said rights or easements but the same shall be deemed conveyed or encumbered, as the case may be, along with the Lot.

11. UTILITY SERVICES.

Each Owner by acceptance of a deed to a Lot agrees to pay for utility services separately metered or separately charged by the utility company to that Lot, and to reimburse the Association for that Owner's Lot's share of any utility cost that the Board, or its designee, reasonably determines is attributable to use by the Owner or Occupants of that Lot. The Association shall arrange for the provision of utility services, if any, to the Common Elements and shall pay the costs of such services separately metered to the Association.

12. MISCELLANEOUS.

12.1. Term.

The provisions hereof shall bind and run with the land for a term of thirty (30) years from and after the date that this Declaration is filed for recording with the Recorder of Franklin County, Ohio, and thereafter shall automatically renew forever for successive periods of ten (10) years each, unless earlier terminated with the unanimous consent of Members.

12.2. Enforcement.

The provisions hereof may be enforced by any proceeding at law or in equity by Declarant, any Owner, the Association, the Architectural Review Committee, and each of their respective heirs, successors, and assigns, against any Person(s) violating, or attempting to violate, any covenant, restriction, or Rule to restrain and/or to enjoin any 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) in connection with any violation. The failure or forbearance to enforce any covenant or restriction herein contained shall in no event be deemed a waiver of these rights.

12.3. Amendments.

Until the Turnover Date, Declarant may, in its sole and absolute discretion, unilaterally amend the provisions hereof at any time, and from time to time, without the consent of any other Owner or Member. Any such amendment may impose covenants, conditions, restrictions, and easements in addition to those set forth herein including, without limitation, restrictions on use and covenants to pay additional charges with respect to the maintenance and improvement of any property in the Community. After the Turnover Date, Declarant may unilaterally amend the provisions hereof, without the consent of any other Owner, 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 Lots; (c) necessary to conform to the requirements of the United States Federal Housing Administration or the Veterans Administration; or (d) necessary to correct errors; provided, however, any such amendment shall not materially adversely affect the title to any Lot unless the Owner thereof has consented to such amendment in writing. Before and after the Turnover Date, Declarant 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 all or any part of the Additional Property to the provisions hereof at any time, and from time to time, by executing and recording in the appropriate governmental office an amendment to this Declaration specifying that such Additional Property is part of the Community. An amendment hereby made by Declarant shall not require the joinder or signature of the Association, other Owners, mortgagees, or any other Person. In addition, such amendments to this Declaration may contain such supplementary, additional, different, new, varied, revised, or amended provisions and memberships as may be necessary or appropriate, as determined by Declarant, to reflect and address the different character or intended development of any such Additional Property.

In addition, this Declaration may be amended or modified after the Turnover Date with the approval of Owners holding not less than seventy-five percent (75%) of the voting power of all Owners in the Association; provided, however, that the prior written consent of Declarant shall be required for any amendment or modification which affects Declarant's rights hereunder, and further provided that the consent of all Owners shall be required for any amendment which effects a change in the voting power of any Owner, the method of allocating Common Expenses among Owners, the fundamental purpose for which the Association is organized, or terminates this Declaration, or dissolves the Association. Any amendment to this Declaration adopted with the aforesaid consent shall be executed with the same formalities as to execution as observed in this Declaration by the President and the Secretary of the Association, and shall contain their certifications that the amendment was duly adopted in accordance with the requirements of this paragraph. Any amendment so adopted and executed shall be effective upon the filing of the same with the Delaware County Recorder.

12.4. Declarant's Rights to Complete Development.

Declarant shall have the unrestricted right to: (a) complete the development, construction, promotion, marketing, sale, resale, and leasing of properties; (b) construct or alter Improvements on any property owned by Declarant; (c) construct, maintain, and operate model homes, offices for construction, sales or leasing purposes, storage areas, construction yards, or similar facilities on any property owned by Declarant or the Association; and/or (d) post signs incidental to the development, construction, promotion, marketing, sale, and leasing of property within the Community, in compliance with applicable governmental regulations. Further, Declarant shall have the right of ingress and egress through the streets, paths, and walkways located in the Community for any purpose whatsoever, including, but not limited to, purposes related to the construction, maintenance, and operation of Improvements. Nothing contained herein shall limit the rights of Declarant or require Declarant to obtain approval: (i) to excavate, cut, fill, or grade any property owned by Declarant; (ii) to construct, alter, remodel, demolish, replace, or use any Improvements on any Common Elements or any property owned by Declarant as a construction office, model home or real estate sales or leasing office in connection with the sale of any property or Lot; or (iii) of the Association or the Architectural Review Committee for any activity or Improvement on any Common Elements or any property owned by Declarant. Nothing in this Section shall limit or impair the reserved rights of Declarant as elsewhere provided in this Declaration.

12.5. Mortgagee Rights.

A holder or insurer of a first mortgage upon any Lot, upon written request to the Association (which request shall state the name and address of such holder or insurer and a description of the Lot) shall be entitled to timely written notice of:

(a) Any proposed amendment of this Declaration;

(b) Any proposed termination of the Association;

(c) Any default under the provisions hereof which gives rise to a cause of action by the Association against the Owner of the Lot subject to the mortgage of such holder or insurer, where the default has not been cured in sixty (60) days following the date a notice describing a default is sent to an Owner.

Each holder and insurer of a first mortgage on any Lot shall be entitled, upon written request and at such mortgagee's expense, to inspect the books and records of the Association during normal business hours.

12.6. Indemnification.

The Association shall indemnify, defend, and hold every officer, director, and employee of the Association harmless against any and all claims, liabilities, and expenses, including attorneys' fees, reasonably incurred by or imposed upon any officer, director, or employee in connection with any action, suit, or other proceeding (including settlement of any suit or proceeding, if approved by the Board) to which he/she may be a party by reason of being or having been an officer, Director, or employee. The officers, directors, and employees of the Association 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 officers, directors, and employees of the Association shall have no personal liability with respect to any contract or other commitment made by them, in good faith, on behalf of the Association, and the Association shall indemnify and forever hold each such officer, director, and employee free from and harmless against any and all liability to others on account of any such contract or commitment. The Association may also indemnify any agent or volunteer of the Association as provided in the Bylaws. Any right to indemnification provided herein shall not be exclusive of any other rights to which any officer, director, employee, agent, or former officer, director, or agent may be entitled by law or the provisions of any other Governing Document.

12.7. Mutuality.

All restrictions, conditions, and covenants contained herein are made for the direct, mutual, and reciprocal benefit of Declarant, the Association, and the present and future Owners of Lots in the Community, and each part thereof, and their respective personal representatives, heirs, successors, and assigns; the provisions hereof shall create mutual equitable servitudes upon the property submitted to these restrictions and each part thereof in favor of each other part thereof; and any property referred to herein as benefited hereby; the provisions hereof shall create reciprocal rights and obligations between the respective Owners of all such property and privity of contract and estate between all Owners thereof; and the provisions hereof shall, as to the Owners of any such property and those Owners' respective heirs, personal representatives, successors, and assigns, operate as covenants running with the land for the benefit of all such property and the Owners thereof.

12.8. Severability.

If any article, section, paragraph, sentence, clause, or word herein is held by a court of competent jurisdiction to be in conflict with any law, or unenforceable, 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 Declaration shall continue in full force and effect.

12.9. Enforcement; Waiver.

Failure of Declarant, the Association, or any Owner to enforce any provision of this 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 Lot, each Owner is deemed to waive the defenses of laches and statute of limitations in connection with the enforcement by the Association of the provisions hereof or the Rules.

12.10. Notices.

Notices, demands, or other communications to an Owner shall be given in writing by personal delivery, or posting at the Lot if a residence has been constructed on such Lot, or by depositing such notice in the United States Mail, first class, postage prepaid, to the address of the Owner of the Lot as shown by the records of the Association, or as otherwise designated in writing by the Owner. Any demand, notice, or other communication or action given or taken hereunder or by one of the joint Owners of a Lot shall be deemed to be given, taken, or received by all such joint Owners.

12.11. Exhibits.

The Exhibits hereto are a part of this Declaration as if set forth in full herein.

12.12. Construction.

In interpreting words and phrases herein, unless the context shall otherwise provide or require, the singular shall include the plural, the plural shall include the singular, and the use of any gender shall include all genders. Any rule of construction to the effect that any ambiguities are to be resolved against the party who drafted the document shall not be utilized in interpreting this Declaration and the Exhibits hereto.

12.13. Captions.

The caption of each article, section, and paragraph of this Declaration is inserted only for convenience and does not define, limit, or describe the scope or intent of its provisions.

IN TESTIMONY WHEREOF, Declarant has caused the execution of this Declaration on the date first set forth above.

LIFESTYLE COMMUNITIES**,
an Ohio limited liability company

By:_____

_____
Name/Title

STATE OF OHIO :
:
COUNTY OF FRANKLIN :

The foregoing instrument was acknowledged before me this _____ day of _____, 2019, by_____ of LIFESTYLE COMMUNITIES**, an Ohio limited liability company, on behalf of the company.

_____
Notary Public

This instrument prepared by:

Thomas L. Hart
Isaac Wiles Burkholder & Teetor LLC
Two Miranova Place, Ste. 700
Columbus, Ohio 43215
(614) 340-7415
thart@isaacwiles.com

EXHIBIT A

PROPERTY

Situated in the State of Ohio, City of Worthington, Franklin County

(Attach Legal Description)

EXHIBIT B

CODE OF REGULATIONS (BYLAWS)
OF **** HOMEOWNER'S ASSOCIATION, INC.**

DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS AND ASSESSMENT LIENS FOR THE LIFESTYLE-UMCH COMMUNITY

THIS DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS AND ASSESSMENT LIENS is made on the ____ day of _____, 2019, by LIFESTYLE COMMUNITIES* - (With the actual ownership entity TBD after zoning approval) , an Ohio limited liability company ("Developer" and "Declarant").

RECITALS

A. Lifestyle Communities *, an Ohio limited liability company, "Declarant" is the owner in fee simple of all of the real property hereinafter described and the improvements thereon and appurtenances thereto.

B. The Declarant desires to create at this property a site of individually owned townhome units and commonly owned elements.

1. **DEFINITIONS**

The terms used in this document shall have these meanings, unless the context requires otherwise:

a. "**Additional Property**" - the land, and improvements thereon, that may, at a subsequent time be added to the Townhome Property and become a part of the Townhome Property.

b. "**Articles" and "Articles of Incorporation**" - the articles, filed with the Secretary of State of Ohio for LIFESTYLE – UMCH Townhome Owners' Association, Inc. as a non-profit corporation under the provisions of Chapter 1702 of the Revised Code of Ohio, as same may be lawfully amended from time to time..

c. "**Assessments**" – charges levied by the Association on Townhomes and their Owners, consisting of Operating Assessments, Special Assessments and Individual Townhome Assessments, or any other assessments required by the Declaration or any Supplemental Declaration.

d. "**Association**" - an association of all of the Owners of Townhomes in the Community, at any time, except Owners of Exempt property with respect to that property. The Association is being incorporated as an Ohio non-profit corporation named "The UMCH-WORTHINGTON Townhome Townhome Owners' Association, Inc." or similar name, and its successor and assigns.

e. "**Bylaws**" – the Bylaws of the Association, as may be lawfully amended from time to time, that provide for the operation and procedures of the Association, as

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that term is defined in Planned Community Law. The "Bylaws" or the Association's "regulations" or "Code of Regulations" pursuant to Chapter 1702. A copy of the Bylaws is attached as Exhibit B hereto and made a part hereof by this reference.

f. "**Board**" – the Board of Directors or other management body of the Association.

g. "**Common Elements**" – all real and personal property or interest therein now or hereafter acquired by the Association in fee or in which the Association has the use of pursuant to a lease or easement or has an obligation to maintain, and property benefited by any easement to it, for the common use and enjoyment of the Owners' or the operation of the Association. The Common Elements may include, without limitation, open spaces, Reserves, entranceway and Community border features, landscaping and other flora, detention areas, multi-use paths and other property including structures and Improvements thereon, designated by Declarant or the Board (as the Board will be constituted following the Turnover Date) to be Common Elements, and benefiting the Owners of the Townhomes and Improvements in the Community, whether within the Townhome development area or in other subareas of the UMCH-Worthington site. The Common Elements shall include not only real or personal property owned by the Association, but also include real and personal property for the maintenance of which the Association has responsibility under this Declaration, pursuant to applicable zoning regulations, approved plat(s), and/or under any agreement entered into by the Declarant or by the Association, the terms of which are binding upon the Association. Common Elements also include Reserves, easements or other property or interests in property dedicated to a political subdivision that are or that are required to be maintained by the Association.

h. **Common Expense**" – costs and expenses incurred by the Association in fulfilling its functions pursuant to the provisions of the Governing Documents or funds needed to meet cash requirements of the Association for its operations and reasonable reserves including all costs the Association incurs in the administration, governance, and maintenance of the Community and all costs of the purchase, administration, operation, maintenance, repair, and replacement of the Common Elements.

i. "**Community**" – all property that at any time has been subjected to the provisions of this Declaration, and initially includes all of the property described in Exhibit A, and which may be expanded to encompass all or any part of the Additional Property.

j. **"Declaration"** or **"Covenants"** means this instrument as it may be subsequently amended.

k. "**Declarant**" –Lifestyle Communities **, an Ohio limited liability company,

and any successor or assign to which it specifically assigns any of its rights and which assumes its obligations hereunder by a written instrument.

l. "**Exempt Property**" – means the portion of the real property comprising the Community (a) now or hereafter dedicated to common public use or owned by the United States, the State of Ohio, Franklin County, City of Worthington, any municipality, school board, or similar governmental body, or any instrumentality or agency or any such entity, for so long as any such entity or any such instrumentality or agency shall be the owner thereof, or (b) owned by the Association; provided the same is not utilized as a residence.

m. "**Governing Documents**" – the Association's Articles of Incorporation, Bylaws, its Rules, and all amendments thereto, this Declaration, and all amendments thereto, and applicable building and zoning laws and ordinances, and any recorded plats.

n. "**Improvements**" – all man made or installed alterations to the Property which cause the Property to deviate from its natural conditions, including but not limited to, single-family town homes, dwellings, all buildings, outbuildings, garages, and structures, overhead, aboveground and underground installations, including without limitation, utility facilities and systems, lines, pipes, wires, towers, cables, conduits, poles, antennae, and satellite dishes, flagpoles, and all other types of permanently installed recreational amenities, fixtures and facilities, slope and drainage features, structures and conditions, roads, alleys, driveways, uncovered parking areas, and other paved areas, fences, trellises, walls, retaining walls, exterior stairs, decks, patios and porches, planted trees, hedges, shrubs and other forms of landscaping, and all other improvements and/or structures of every type.

o. "**Individual Townhome Assessment**" – an assessment that the Board may levy upon a Townhome and its Owner to reimburse the Association for costs incurred solely on behalf of that Townhome, or the Owner thereof, including without limitation, costs associated with making repairs that are the responsibility of the Owner of that Townhome, costs of additional insurance premiums reasonably allocable to an Owner because of use of Improvements on that Townhome, costs of any utility expenses chargeable to an Owner but not separately billed by the utility company, administrative charges for violations of the Governing Documents, late charges, interest on delinquent assessments, and costs of collection of delinquent obligations to the Association, including attorney's fees and court costs, and all other charges reasonably determined by the Association to be chargeable solely to a Townhome and its Owner.

p. "**Manager**" – the Person retained by the Board to assist in the management of the Association.

q. "**Member**" – any Person meeting the requirement for membership in the Association as provided in this Declaration, as may be amended.

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r. "**Occupant**" – the natural Person(s) lawfully residing in a dwelling on a Townhome, regardless of whether such person(s) is an Owner.

s. "**Operating Assessments**" – an assessment that the Board may levy from time to time upon all Townhomes, other than Exempt Property, and their Owners, pursuant to the terms of this Declaration, to provide funds to pay Common Expenses, that is, funds needed to meet cash requirements of the Association for its operations, capital improvements, and reasonable reserves.

t. "**Owner**" – the record owner, whether one or more Persons, of fee simple title to a Townhome, excluding vendors under recorded land installment contracts, but including the vendees, and excluding Declarant and all others having an interest merely as security for performance of an obligation.

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

v. "**Planned Community**" – community to which the Planned Community Law is applicable.

w. "**Planned Community Law" -** means the statutory law of the State of Ohio relating to the creation and operation of planned communities and presently Chapter 5312 of the Ohio Revised Code.

x**.** **"Property"** – all of the real property described in Exhibit A attached to this Declaration and incorporated herein by this reference, any other real property that is owned in fee simple by the Association together with all property the Association has the use of pursuant to a lease or easement or has an obligation to maintain and all appurtenances thereto, and any Additional Property.

y. "**Reserves**" – one or more of the reserves or open spaces in the Community, as delineated and shown on a recorded plat and subjected to the provisions hereof.

z. "**Rules**" – the rules and regulations governing use of property and Common Elements in the Community and the conduct of Members and their respective families, guests, licensees, and invitees, as may be established by the Board from time to time.

aa. "**Special Assessment**" – an assessment that the Board may levy upon all Townhomes, except Exempt Property, to pay for unanticipated operating deficiencies, or to pay for capital expenditures not regularly budgeted and not to be paid out of monetary reserves, such as costs for major capital improvement replacements, and for major new capital improvements, or any other similar purpose determined appropriate by the Board.

bb. **"Townhome" –** all owner-occupied dwellings located on the property and subject to the development standards in the City applied zoning text.

cc. "**Turnover Date**" – the date on which Declarant relinquishes its exclusive right to appoint all members of the Board, which date shall be no later than the date when the Community has been fully developed, and all Townhomes have been deeded to bona fide purchasers unrelated to the Declarant; provided, however, Declarant reserves the right, in its sole and unfettered discretion, to turn over control of the Association, or selected functions thereof, at such earlier time as it determines in its sole discretion.

2. GOALS

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

(a) promotion of the health, safety, and welfare of all Owners and Occupants of property in the Community and protection of property value;

(b) ownership, administration, preservation, beautification, and maintenance of the Community's Common Elements and all Improvements thereon;

(c) enforcement of architectural controls and restrictions applicable to the Community;

(d) compliance with all zoning and similar governmental regulations applicable to the Community;

(e) provide for mandatory membership of Owners in the Community, as it may be constituted, from time to time, in the Association and the assessment and collection of funds to fulfill its objectives;

(f) establishment of requirements for the development and use of the Property; and

(g) compliance with the Planned Community Law.

3. THE ASSOCIATION

3.1. Purposes.

The Association shall apply all funds received by it pursuant hereto, and all other funds and property received by it from any source, to the fulfillment of the purposes of the Association as herein provided. The purposes of the Association are:

(a) own, repair, maintain, regulate the use of, and have easements with respect to, various facilities and amenities in the Community that benefit all of the Community and its Owners and Occupants, including, without limiting the generality of the foregoing, the Common Elements and such other Improvements and amenities as designated to be Common Elements by Declarant, and after the Turnover Date, by the Declarant;

(b) administer and enforce the provisions of the Governing Documents;

(c) all other purposes provided for and permitted by the Planned Community Law;

(d) assess, collect and disburse funds necessary to fulfill these purposes.

3.2. Mandatory Membership.

Every Owner shall be a Member of the Association. In the case of a Townhome that is the subject of a recorded land installment contract, the vendee or vendees under that installment contract and not the vendor, while holding such interest, shall be a Member of the Association. There shall only be one membership per Townhome. In the event the fee simple interest in a Townhome, or ownership of the vendee interest in a Townhome, is held by more than one Person, the co-interest holders of such interests while holding such interests shall have only one membership in the Association, as tenants-in-common, with respect to that Townhome. Such membership is appurtenant to and inseparable from such interests. Status as a Member shall automatically transfer to the transferee of that interest at the time the fee simple interest is transferred of record. Initially, those Townhomes to which these membership provisions apply shall be those Townhomes that are subjected hereby to the provision of this Declaration. However, as portions of the Additional Property or additional portions of the Community are subdivided and platted into Townhomes, and the Townhomes therein subjected by amendments hereto to the plan hereof, membership in the Association shall extend to and encompass the holders of fee simple interests in those Townhomes, and holders of vendee interests under recorded land installment contracts with respect to those Townhomes, on the same basis as set forth herein for membership. 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 the membership of any Owner, provided further, there shall not be a membership appurtenant to a Townhome dedicated to common public use or owned by any governmental body, instrumentality, or agency for so long as such body, instrumentality, or agency owns that Townhome and so long as it is not utilized as a residence, nor for a Townhome, if any, that becomes a Common Element for so long as it remains a Common Element. Voting and all other matters regarding the governance and operation of the Association shall be as set forth in the Governing Documents.

3.3. Governance.

The Association shall be governed by a Board of Directors, initially consisting of five persons. Prior to the Turnover Date, the members of the Board shall be appointed by the Declarant, or the Declarant may elect to act as the Board, or it may appoint a managing agent to act as the Board on its behalf. No Members, other than the Declarant, shall have voting rights in Association matters until the Turnover Date, except that after twenty percent of the Townhomes in the development have been deeded to bona fide purchasers unrelated to the Declarant, the Declarant shall appoint one Board member from the then existing residents of the development who is unrelated to the Declarant. The Declarant may, in the exercise of its sole discretion and without altering or waiving the foregoing provisions, cause or allow one or more meetings to occur prior to the Turnover Date, for purposes stated by the Declarant, at which the Declarant may consent to the exercise of voting rights by Members. On and after the Turnover Date, voting rights shall be exercisable by Members in accordance with the terms of the Governing Documents. The transfer of control on the Turnover Date shall take place at a meeting which shall occur no later than the date when the Community has been fully developed and all Townhomes have been deeded to bona fide purchasers unrelated to Declarant. Voting and all other matters regarding the governance and operation of the Association following the Turnover Date shall be set forth in the Governing Documents.

3.4. Powers; Authority; Duties.

The Association shall have all the rights, powers, and duties established, invested, or imposed on it pursuant to the Governing Documents, and the laws of the State of Ohio applicable to Ohio non-profit corporations and Planned Communities. Among other things, the Association, through its Board (and, unless otherwise provided herein, without the consent of the Members), shall have the power to acquire, own and convey real estate including any fee interest or any security interest in any portion of the Common Elements, hold easements with respect to, and maintain the Common Elements, enforce and administer this Declaration, Rules, restrictions and covenants applicable to the Community, sue and be sued, levy and collect assessments, collect and maintain reserves for replacements or anticipated expenditures, perform the site maintenance services set forth in Section 3.12 below, enter into contracts, mortgage and pledge all revenue received and to be received and/or to assign and pledge all revenues received or to be received by it under any provisions of these covenants, including, but not limited to, the right to the assessments and the proceeds therefrom, including common assessments and any future income from assessments payable hereunder, and take such other actions as it deems appropriate to its purposes. The Association shall not be obligated to spend in any particular time period all the sums collected or received by it in such time period or in any other time period and may carry forward, as surplus, any balances remaining, nor shall the Association be obligated to apply any such surpluses

to the reduction of the amount of the assessment in any year, but may carry forward from year to year and time to time such surplus as the Board in its absolute discretion may determine to be desirable for the greater financial security of the Association and the effectuation of its purposes. Notwithstanding the foregoing, the Association may not convey any fee interest or any security interest in any portion of the Common Elements unless seventy-five percent (75%) of the voting power of the Members approves the conveyance.

3.5. Other Agreements.

The Association shall have the power and authority to contract with any Person for the exercise of any one or more of the various powers and authority granted to and duties to be performed by the Association hereunder, and to delegate such powers and authority to any agent or employee of the Association, and the exercise of those powers and authority by such Person, agent or employee shall be deemed the exercise of those powers and authority by the Association, except that no independent contractor shall be deemed by virtue of these provisions to be the agent of the Association. There shall be no requirement of any bond or surety for the Association, its agents, employees, or others assuring the exercise of the powers and authority granted hereunder, except as the Board shall in its sole discretion deem necessary or desirable for the safeguarding of any funds received by the Association. The Association may enter into agreements with other community, subdivision, and condominium associations and/or master associations pursuant to which the Association agrees (i) to share in the cost of maintaining, repairing, and replacing landscaping, storm water retention facilities, mounding, fencing and any other Improvements or services that benefit the Community or the Members; and (ii) to grant reciprocal rights, licenses and/or easements to members of each such associations to use and enjoy each other's common elements, subject to such rules and regulations, restrictions and fees as the Association may determine from time to time.

3.6. Rules and Regulations; Remedies.

The Association may make and enforce reasonable Rules governing the use, operation and/or maintenance of the property which is a part of the Community, which shall be consistent with the other provisions of the Governing Documents. The Association shall have the power to impose sanctions on Members and Owners for any infraction of the Governing Documents, including the provisions hereof and the Rules, which such sanctions may include without limitation: (i) Reasonable monetary administrative charges which shall be considered Individual Townhome Assessments; (ii) suspension of the right to vote as a Member of the Association; and (iii) suspension of the right of the Owner and that Owner's Occupants, licensees, and invitees, to use the Common Elements or any part thereof. In addition, the Board shall have the power to seek relief, including injunctive relief, in any court for violations or to abate violations of the provisions of the Governing Documents. If the Board expends funds for attorneys'

fees or litigation expenses in connection with the enforcement of any provision of the Governing Documents, the amount so expended shall be due and payable by the Owner of the Townhome whose Owner, Occupant, licensee or invitee violated the provisions of the Governing Documents, and the same shall be an Individual Townhome Assessment against such Owner's Townhome.

3.7. Security.

The Association may, from time to time, provide measures of security on or with respect to the Townhome Property and/or its Unit Owners, Occupants, invitees, and licensees. However, the Association is not and shall not be deemed to be a provider of security, shall have no duty to provide any security on the Property or with respect to its Owners, Occupants, invitees, and licensees, and shall not be held liable for any loss, cost, or damage arising by failure of the Association to provide security or the effectiveness of security measures it undertakes, if any. The obligation to provide security lies solely with each Uni Owner and Occupant individually.

3.8. Implied Rights.

The Association may exercise any other right or privilege given to it expressly by the laws of the State of Ohio or any provision of the Governing Documents or given to it as an "owners association" by the Planned Community Law, and every other right or privilege reasonably implied from the existence of any right or privilege granted thereby or in this Declaration, or reasonably necessary to affect any such right or privilege.

3.9. Managing Agent.

The Board may retain and employ on behalf of the Association a Manager, which may be Declarant, and may delegate to the Manager such duties as the Board might otherwise be authorized or obligated to perform. The compensation of the Manager shall be a Common Expense. The term of any management agreement shall allow for termination by either party, without cause and without penalty, upon no more than ninety (90) days prior written notice.

3.10. Insurance.

(a) Fire and Extended (Special Form) Coverage. The Association shall, with respect to insurable property or interests owned by it, obtain and maintain insurance for all buildings, structures, fixtures, equipment, and common personal property, now or at any time hereafter constituting a part of the Common Elements, against loss or damage by fire, lightning, and such other perils as are ordinarily insured against by standard coverage endorsements, with such limits, deductibles, and coverage as is deemed

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appropriate by the Board or as required by applicable Planned Community Law. This insurance:

(i) shall provide that no assessment may be made against a first mortgage lender, or its insurer or guarantor, and that any assessment under such policy made against others may not become a lien on any Townhome, or other property, and its appurtenant interest, superior to the lien of a first mortgage;

(ii) shall be obtained from an insurance company eligible to write such insurance in the State of Ohio which has a current rating of Class A-VII, or better, as determined by the then latest edition of Best's Insurance Reports or its successor guide;

(iii) shall be written in the name of the Association;

(iv) shall not be cancelled upon less than thirty (30) days' notice to the Association;

(v) unless otherwise determined by the Board, shall contain a waiver of subrogation of rights by the carrier as to the Association, its officers and directors, and all Owners.

(b) Liability Coverage. The Association shall obtain and maintain a Commercial General Liability policy of insurance covering all of the Common Elements and the functions of the Association insuring the Association, the officers and directors, and its Members, with such limits as the Board may determine, or as may be required by applicable Planned Community Law, but no less than the greater of (i) the amounts generally required by private institutional mortgage investors for projects similar in construction, location, and use, and (ii) $1,000,000, for bodily injury, including deaths of persons, and property damage, arising out of a single occurrence. This insurance shall contain a "severability of interest" endorsement which shall preclude the insurer from denying the claim of any Member because of negligent acts of the Association, the Board, or other Members, and shall include, without limitation, coverage for legal liability of the insureds for property damage, bodily injuries and deaths of persons in connection with the operation, maintenance, or use of the Common Elements, and other legal liability, including liability under contractual indemnity clauses and liability arising out of lawsuits related to any employment contracts of the Association. Each such policy must provide that it may not be canceled or substantially modified by any party, without at least thirty (30) days prior written notice to the Association.

(c) Directors' and Officers' Liability Insurance. To the extent reasonably available, the Board shall obtain, or cause to be obtained, directors' and officers' liability insurance.

(d) Other. The Association may, in the Board's discretion, obtain and maintain the following insurance: (i) fidelity bond coverage for all officers, directors, Board members and employees of the Association and all other Persons handling or responsible for handling funds of the Association, (ii) workers' compensation insurance, (iii) additional insurance against such other hazards and casualties as is required by law, and (iv) any other insurance the Board deems necessary.

(e) Use of Proceeds. In the event of damage or destruction of any portion of the Common Elements, the Association shall promptly repair or replace the same, to the extent that insurance proceeds are available. Each Member hereby appoints the Association as its attorney-in-fact for such purpose. If such proceeds are insufficient to cover the cost of the repair or replacement, then the Board may levy a Special Assessment pursuant to the provisions hereof to cover the additional costs.

(f) Declarant Coverage. The foregoing provisions of this Section 3.9 notwithstanding, prior to the Turnover Date the Declarant may (but shall not be obligated to) elect to cause or allow the Association and its insurable interests in the Association's property, rights and obligations, to be covered by Declarant's existing insurance plan(s), which may or may not meet the monetary limitations described herein, and which may or may not include 'self-insurance' by the Declarant, all as deemed appropriate by the Declarant in the exercise of its sole discretion.

3.11. Condemnation.

The Association shall represent the Members in any condemnation proceedings or in negotiations, settlements, and agreements with the condemning authority for acquisition of the Common Elements, or any portion thereof. Each Member hereby irrevocably appoints the Association as its attorney-in-fact for such purpose. The awards or proceeds of any condemnation action shall be payable to the Association, to be held and used for the benefit of the Members, as determined by the Board.

3.12. Books; Records.

Upon reasonable request of any Member, the Association shall be required to make reasonably available for inspection and copying by any Member all books, records, and financial statements of the Association, except, unless approved by the Board, a

Member may not inspect the following: (a) Information that pertains to personnel matters; (b) communications with legal counsel or attorney work product pertaining to proposed or pending litigation; (c) 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; (d) information that relates to the enforcement of the Governing Documents against Owners; (e) information the disclosure of which is prohibited by any applicable laws, rules, or regulations; and (f) any other information the Board deems privileged, protected, or confidential. The Association may charge a reasonable fee to cover the administrative costs of handling, copying, delivering, etc., the requested documents.

3.13. Site Maintenance Services.

The Association shall cause the following site maintenance services to be provided for all Townhomes in the Community, with such services subject to change from time to time as determined by the Board:

(a) Maintenance and repair of private streets, alleys, parking lots, sidewalks, multi-use paths, and outdoor amenity areas, maintenance of roofing, stoops, front door walkway, exterior siding, exterior painting, façade maintenance, and/or other outdoor maintenance as deemed appropriate in the judgment of the Board;

(b) Lawn mowing and trimming, fertilization of lawn areas as deemed appropriate in the judgment of the Board;

(c) Periodic edging and mulching of planting beds adjacent to the home on each Townhome as installed by the builder of the home on the Townhome. The Association is to install and maintain lawns, beds and bedded plantings. No additional beds or perennial plantings are allowed other than those installed by the Association.

(d) Such other services for the general maintenance of the Community as shall be determined by the Board from time to time, including, without limitation, snow/ice removal.

4. THE COMMON ELEMENTS.

(e) Declarant may, from time to time, at Declarant's option, convey to the Association, for the use and benefit of the Association and the Owners and Occupants, real or personal property, or any interest therein, as part of the Common Elements, provided that property is free and clear of all encumbrances, except: (a) Real estate taxes and assessments, if any, not presently due and

payable; (b) zoning and building laws, ordinances and regulations; (c) legal highways; (d) restrictions, conditions, easements of record, including, to the extent Declarant so determines, those contained herein; and (e) all other covenants, restrictions, conditions and easements of record which do not unreasonably interfere with present lawful use. All such Common Elements shall consist solely of property (i) benefiting two or more Townhomes, Owners, and/or Occupants in the Community, as the same may from time to time be constituted; or (ii) as required by zoning. The Association shall accept title to any interest in any real or personal property transferred to it by Declarant. In addition, Declarant may also grant such easements to the Association as Declarant, in its sole discretion, determines to be of benefit to the Community, as the Community may be constituted from time to time. Declarant may obligate the Association to maintain real or personal property not owned or to be owned by the Association, and may also grant such easements to the Association as the Declarant, in its sole discretion, determines to be of benefit to the Community, as the Community may be constituted from time to time. The Association may also acquire, hold, manage, operate, maintain, improve, mortgage, and dispose of tangible and intangible personal property and real property in addition to that property conveyed to it by Declarant. The Association, subject to the rights of the Owners set forth in this Declaration and the Governing Documents, shall be responsible for the exclusive management and control of the Common Elements owned by the Association, if any, and all improvements thereon, and shall keep it in good, clean, attractive, and sanitary condition, order, and repair in accordance with the terms and conditions of this Declaration. The Association shall maintain open space reserves and buffer areas and those areas planted with turf grasses deeded by the Declarant to the Association to keep them in a managed state, consistent with good horticultural practices. The Association shall each have the right to grant easements to third parties over, across, under and/or through the Common Elements owned by the Association, including, but not limited to, easements for the construction, extension, expansion and/or maintenance of utilities, and conservation, cross access or parking easements, all as the Association may be legally obligated or voluntarily disposed to grant.

5. ASSESSMENTS.

5.1. Operating Fund.

The Board shall establish an Operating Fund for financing the operation of the Association, for paying necessary costs and expenses of operating the Association and repairing and maintaining the Common Elements. The Board may establish a Reserve Fund to which a portion of the Operating Assessments shall be credited to cover the costs

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of future capital expenditures and/or other non-recurring items not intended to be funded from the Operating Fund.

5.2. Types of Assessments.

Subject to the provisions of this Article, each Owner, shall be subject to the following Assessments, which by acceptance of a deed to a Townhome (whether or not it shall be so expressed in such deed) covenants and agrees to pay to: (a) Operating Assessments, (b) Special Assessments, and (c) Individual Townhome Assessments, all of which are to be established and collected as hereinafter provided. No Owner may gain exemption from liability for any Assessment by waiving or foregoing the use or enjoyment of any of the Common Elements or by abandoning that Owner's Townhome. Operating and Special Assessments shall be fixed at a uniform rate for all Townhomes.

5.3. Operating Assessments.

Operating Assessments may be made for the purposes of providing funds to pay any of the following:

(a) the cost of the maintenance, repair, replacement, and other services to be provided by the Association, including the site maintenance services set forth in Section 3.13;

(b) the costs for insurance and bond premiums to be provided and paid for by the Association;

(c) the cost for utility services, if any, charged to or otherwise properly payable by the Association;

(d) the cost for construction of new capital improvements on Common Elements not replacing capital improvements installed by Declarant;

(e) the estimated amount required to be collected to maintain a general operating reserve to ensure availability of funds for normal operations of the Association, in an amount deemed adequate by the Board;

(f) the costs associated with the enforcement of the declaration or the rules and regulations of the Association, including but not limited to, attorneys' fees, court costs, and other expenses;

(g) an amount deemed adequate by the Board to maintain a reserve for the cost of unexpected repairs and replacements of capital improvements and for the repair and replacement of major improvements for which cash

reserves over a period of time in excess of one year ought to be maintained;

(h) the costs for the operation, management, and administration of the Association, including, but not limited to, real estate taxes and assessments for Common Elements (but not individual Owner Townhomes), fees for property management, landscaping, mowing, planting, lighting, pavement maintenance, snow and ice removal and mitigation, fees for legal and accounting services, costs of mailing, postage, supplies, and materials for operating the Association, and the salaries, wages, payroll charges, and other costs to perform these services, and any other costs of operations of the Association not otherwise specifically excluded.

The Board shall establish, levy, and collect Operating Assessments against each Townhome and its Owner in accordance with the following:

(a) Initial Period. Commencing the first day of the first full month after a Townhome with a dwelling constructed thereon has been conveyed by Declarant to a home purchaser, each Owner shall be subject to and pay to the Association an Operating Assessment for the remainder of the calendar year, as determined by the Board, prorated in the proportion that the number of full calendar months remaining in the calendar year from the date of the closing of the conveyance of the Townhome is to twelve (12). This amount may have been prepaid by Declarant and if so, a credit back to Declarant will be collected at the closing on the Townhome.

(b) Subsequent Calendar Year. Prior to January 1 (or a reasonable time thereafter) of each calendar year thereafter, the Board shall establish a budget for anticipated operating expenses for the next following Operating Assessment period commencing January 1 and ending the following December 31, and apportion the amount so determined in equal shares among all Townhomes in the Community that have had a dwelling constructed thereon and that have been conveyed to a bona fide home purchaser, and assess each such Townhome and its Owner for the apportioned amount.

For each year or partial year during which the Declarant continues to own Townhomes, the Declarant may pay, in the exercise of its sole and absolute discretion, (i) an amount equal to the per Townhome Operating Assessment multiplied by the number of Townhomes owned by Declarant as of the first day of such year; or (ii) an amount necessary to fund the actual difference between the Association's actual cost of operations for such year, and the amount of Operating Assessments assessed to Townhome Owners for the year. If and to the extent funds provided by the Declarant to the Association

are necessary as a result of the failure of Townhome Owner(s) to pay all or any portion of duly levied Assessments to the Association, such amounts provided by Declarant may be characterized as non-interest bearing 'advances' or 'loans' by the Declarant to the Association, which the Association shall be obligated to repay to the Declarant upon demand, or which may be credited to the Declarant's payment of deficit(s) in any future year(s).

(c) Due Dates. The Operating Assessments shall be due in monthly, quarterly, semi-annual, or annual installments, as the Board may determine. Except for the initial payment of Operating Assessments, notice of Operating Assessments, or if payable in installments, the dates those installments are due, shall be given to an Owner not less than thirty (30) days prior to the date the Operating Assessment, or first installment thereof, is due.

5.4. Special Assessments.

The Board may levy against all Townhomes subject to Operating Assessments, and their Owners, Special Assessments to pay for capital expenditures, interest expense on indebtedness incurred for the purpose of making capital expenditures (not to be paid out of reserves), unanticipated operating deficiencies, or any other purpose determined appropriate by the Board in furtherance of its functions hereunder. Those Special Assessments shall be allocated among Townhomes on the same basis as Operating Assessments are to be allocated, and shall be due and payable on such basis and at such times as the Board directs, provided that no such Special Assessment shall be due and payable on fewer than thirty (30) days written notice.

5.5. Individual Townhome Assessments.

The Board may levy an Individual Townhome Assessment against any Owner to reimburse the Association for costs incurred on behalf of that Townhome, including assessments for utility service that are imposed or levied in accordance with this Declaration, as well as the expenses the Board incurs in collecting those assessments, and costs of maintenance, repair, or replacement incurred due to the willful or negligent act or omission by any Owner, Occupant, or invitee thereof, or their family, tenants, guests, 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, all other administrative and enforcement charges, including attorneys' fees, court costs, and other expenses due or incurred by the Association reasonably determined to be an Individual Townhome Assessment by the Board, and all costs or charges the Governing Documents, Planned Community Law or Ohio law permits. By way of illustration, and not of limitation, the Board may levy an Individual

Townhome Assessment in the nature of an administrative charge reasonably determined by the Board against any Owner who violates any provision of the Governing Documents, or who suffers or permits the Members, guests, invitees or tenants of that Owner's Townhome to violate the same or any provision of the Governing Documents, including the restrictions contained herein and in the Rules. Upon its determination to levy an Individual Townhome Assessment, the Board shall give the affected Owner written notice and the right to be heard by the Board or a duly appointed committee thereof in connection with such Individual Townhome Assessment no fewer than ten (10) days prior to the effective date of the levy of any such Townhome Assessment.

(a) Notice of Assessment. Except in the case of Individual Townhome Assessments for utility charges, interest, late charges, returned check charges, court costs, arbitration costs, and/or attorneys' fees, prior to levying an Individual Townhome Assessment, the Board shall give the Owner or Owners written notice of the proposed Individual Townhome Assessment that includes:

i. a description of the property damaged or of the violation of the restriction, rule or regulation allegedly violated;

ii. the amount of the proposed Individual Townhome Assessment;

iii. a statement that the Owner has a right to a hearing before the Board to contest the proposed Individual Townhome Assessment by delivering to the Board a written notice requesting a hearing within ten (10) days after the Owner receives written notice of the proposed Individual Townhome Assessment; and

iv. in the case of a charge for violation of a restriction, rule or regulation, a reasonable date by which the Owner must cure the alleged violation to avoid the proposed Individual Townhome Assessment.

The notice by the Board given pursuant to the foregoing may be delivered personally to the Owner to whom an Individual Townhome Assessment is proposed to be charged, personally to an Occupant of a dwelling on that Owner's Townhome, by certified mail, return receipt requested, or by regular mail.

(b) Hearing on Assessment.

i. To request a hearing, the Owner shall deliver a written notice to the Board not later than the tenth (10th) day after receiving the notice of assessment from the Board. If the Owner fails to make a timely

request for a hearing, the right to that hearing is waived, and the board immediately may impose a charge for damages or an enforcement assessment pursuant to this section.

ii. If the Owner requests a hearing, the Board shall provide the Owner with a written notice at least seven (7) days prior to the hearing that includes the date, time, and location of the hearing.

iii. The Board shall not levy the charge or assessment before holding any hearing requested pursuant to this section.

iv. Within thirty (30) days following a hearing at which the Board imposes a charge or assessment, the Association shall deliver a written notice of the charge or assessment to the Owner.

v. Any written notice that this section requires shall be delivered to the Owner or any Occupant of the dwelling unit by personal delivery, by certified mail, return receipt requested, or by regular mail.

5.6. Remedies.

(a) Acceleration. If any installment of an Assessment, or portion thereof, is not paid within ten (10) days after the same has become due, the Board, at its option, without demand or notice, may call the entire balance of the Assessment due.

(b) Late Charge. If any portion of any Assessment remains unpaid for ten (10) days after all or any part thereof shall become due and payable, the Board may charge interest on the entire unpaid balance from and after that date at the lesser of (i) twelve percent (12%) per annum; or (ii) the highest rate permitted by law, together with a reasonable administrative collection charge, as established by the Board.

(c) Application of Payments. Unless otherwise provided by the Bylaws or Rules, the Association shall credit any amount it receives from a Townhome Owner in the following priority: (i) to interest accrued on the delinquent Assessment(s), or installments or portions of installments thereof; (ii) to administrative late fees charged with respect to the delinquency; (iii) to reimburse the Association for enforcement charges and collection costs, including, but not limited to, attorneys' fees and paralegal fees incurred by the Association in connection with the delinquency; and (iv) to the delinquent Assessment, or installment or portion thereof, applying to the

oldest principal amounts first.

(d) Liability for Unpaid Assessments. Each Assessment or installment of an Assessment, together with interest thereon and any and all costs of collection, including reasonable attorneys' fees, shall become the joint and several personal obligation of the Owners of the Townhome charged the same, beginning on the date the Assessment or installment thereof becomes due and payable. The Board may authorize the Association to institute and prosecute to completion an action at law on behalf of the Association against the Owner personally obligated to pay any delinquent Assessment, and/or an action to foreclose the Association's lien or liens against a Townhome or Townhomes for unpaid Assessments owed by that Townhome and the Owner thereof. In any such action, interests and costs of such action, including reasonable attorneys' fees, shall be added to the amounts owed by the Owner of the Townhome to the extent permitted by Ohio law. An Owner's personal obligation for a Townhome's delinquent Assessments (including accrued interest, late fees, and costs of collection including attorneys' fees) shall also be the personal obligation of his/her successors in title who acquire an interest after an Assessment becomes due and payable, and both such Owner and his/her successor in title shall be jointly and severally liable therefor. Except as otherwise provided herein, the transfer of an interest in a Townhome shall neither impair the Association's lien against that Townhome for any delinquent Assessment nor prohibit the Association from foreclosing that lien.

(e) Liens. All unpaid Assessments, or portions thereof, together with any interest and charges thereon or costs of collection, including but not limited to attorneys' fees, shall constitute a continuing charge in favor of the Association and a lien on the Townhome against which the Assessment was levied. If any Assessment, or portion thereof, remains unpaid for ten (10) days after it is due, then the Board may authorize any officer or appointed agent of the Association to file a certificate of lien for all or any part of the unpaid balance of that Assessment, together with interest and collection costs, including attorneys' fees, with the appropriate governmental office. The certificate shall contain a description of the Townhome which the lien encumbers, the name of the Owner or Owners of that Townhome, and the amount of the unpaid portion of the Assessment. The certificate may be signed by any officer, authorized agent or the Manager of the Association, or the Association's authorized representative. Upon the filing of the certificate, the subject Townhome shall be encumbered by a continuing lien in favor of the 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 continued, released

earlier, or satisfied in the same manner provided by the law of the State of Ohio for the release and satisfaction of mortgages on real property, or until the lien is discharged by the final judgment or order of any court having jurisdiction.

(f) Subordination of Lien. The lien of the Assessments provided for herein shall be subject and subordinate to the lien of any duly executed first mortgage on a Townhome recorded prior to the date on which such lien of the Association is perfected by recording a certificate of lien.

(g) Contested Lien. Any Owner who believes that an Assessment chargeable to that Owner or Owner's Townhome, and for which a certificate of lien has been filed by the Association has been improperly charged against that Townhome, may bring an action in the Court of Common Pleas in the county where the Property is located for the discharge of that lien and/or for 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 Townhome, 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.

(h) Estoppel Certificate. The Board, within a reasonable time following receipt of a written demand and for a reasonable charge, shall furnish a certificate signed by the President or other designated representative of the Association, setting forth whether the Assessments on a specified Townhome have been paid. This certificate shall be conclusive evidence of payment of any Assessment therein stated to have been paid.

(i) Suspension of Vote and Use of Common Elements. If any Assessment remains unpaid for thirty (30) days after it becomes due, then the delinquent Owner's voting rights upon Association matters and privileges to use the Common Elements, 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 Townhome.

6. MAINTENANCE.

6.1. Maintenance by Association.

Subject only to budgetary limitations and the right of the Board to exercise reasonable business judgment, the Association shall maintain and keep the Common Elements in good, clean, attractive, and sanitary condition, order and repair. This maintenance shall include, without limitation, maintenance, repair, and replacement of all Improvements situated upon the Common Elements, including but not limited to the reserves, any open spaces, signage, entranceways, Community border areas, streets, alleys, sidewalks, parking lots, and multi-use paths, the maintenance, repair, and replacement of any Additional Easement Areas (except as provided for in 6.5 above), and the maintenance, repair and replacement of all personal property used in connection with the operation of the Association or that the Association has the obligation to maintain pursuant to applicable zoning or other recorded instruments or Governing Documents. Further, the Association may, in its discretion and to the extent determined by the Board, choose to maintain property that it does not own, the maintenance of which would, in the opinion of the Board, benefit the Community.

6.2. Maintenance by Owner.

Each Owner or Occupant shall repair, replace, and maintain in good order and condition, at that Person's expense, the Owners' Townhome and all portions of Improvements (including any related equipment and components) located on that Owner's Townhome. This maintenance responsibility includes, without limitation, promptly furnishing all necessary materials and performing or causing to be performed at that Owner's expense all maintenance, repairs, and replacements of Improvements on such Townhome and garage. Windows and doors are to be maintained by the Townhome Owner, but with the prior approval of the Association in the case of replacements. No Townhome or other Improvement shall be permitted to become overgrown, unsightly, or fall into disrepair. Each Owner shall maintain that Owner's Townhome in accordance with the Rules and the requirements set forth by the Association as provided for herein and in accordance with applicable law.

6.3. Right of Association to Repair Townhome.

In the event any Owner fails to maintain that Owner's Townhome or garage in the manner required herein, and that Townhome or garage remains in disrepair for a period of thirty (30) days after notification by Declarant or the Association to said Owner, and if the Board or Declarant determines that any maintenance of that Townhome or Improvements thereon is necessary to ensure public safety, to permit reasonable use or enjoyment of the Common Elements by Owners, to prevent damage to or destruction of any other part of the Common Elements, to preserve the value of the Community, or to

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comply with the Rules or the terms of this Declaration, then the Board or Declarant may authorize its employees or agents to enter the Townhome and/or garage at any reasonable time to complete the necessary maintenance, and the Board may levy an Individual Townhome Assessment for all reasonable expenses incurred or, if performed by Declarant, those expenses shall be reimbursed by the Owner to Declarant. The notice provisions hereof shall be reduced as necessary to allow reasonable entry on shorter notice, if the Board reasonably determines that an 'emergency' exists, or that imminent harm to person or property may occur if the standard waiting periods are observed.

6.4. Damage to Common Elements By Owner or Occupant.

In the event the need for maintenance or repair of any part of any Common Element is caused by the negligent or intentional act of any Owner or Occupant, or that Person's licensees or invitees, or in the event any Common Element is damaged by any Owner or Occupant, or that Person's licensees, or invitees, then the Board may maintain, repair, and/or replace the same and the cost thereof shall constitute an Individual Townhome Assessment against such Townhome and its Owner. The determination that such maintenance, repair, or replacement is necessary and/or has been caused by such Owner, shall be made by the Board in its sole discretion. The Association shall be entitled to enter a Townhome to repair or maintain any Common Elements adjacent to such Townhome.

7. ARCHITECTURAL STANDARDS.

All property at any time subject to the provisions hereof shall be governed and controlled by the following:

Architectural Review Committee.

The Architectural Review Committee shall be a committee consisting of three (3) natural persons. Until the Turnover Date, Declarant shall have the sole and exclusive right to appoint and remove all three (3) members of the Architectural Review Committee, at-will and may elect in the exercise of its sole discretion, to act itself as the Architectural Review Committee, or appoint an agent to act in its place, in lieu of appointing individuals. After the Turnover Date, the Board shall have the right to appoint all three (3) members to the Architectural Review Committee. The Architectural Review Committee shall have the exclusive authority, by action of two (2) or more of the members thereof, at a private or public meeting, to determine the architectural standards which shall govern the construction, maintenance or modifications and all Improvements on a Townhome, garage and Townhome lot. Each Owner covenants and agrees by acceptance of a deed to a Townhome to comply with, and to cause that Owner's Townhome and any Occupant thereof to comply with, the standards adopted by the Architectural Review Committee.

No Improvement shall be placed, erected, or installed on a Townhome, and no construction (which term shall include in its definition staking, clearing, excavation, grading, and other site work) shall be commenced or continued until and unless the Owner first obtains the written approval thereof by the Architectural Review Committee and otherwise complies with any applicable zoning and building regulations and all provisions hereof.

Modifications.

Except as otherwise provided herein, the Architectural Review Committee shall have jurisdiction over all construction, modifications, additions, or alterations of Improvements on or to any and all Townhomes, garages or lot improvements. No Person shall construct or modify any Improvement on any Townhome or garage, including without limitation, alter surfaces of existing Improvements, change paint colors or roofing materials, construct or modify fencing, install any permanent recreational device, swing-set, playground, basketball hoop, or other similar Improvement, change the grade or contour of any Townhome, change the material of any driveway, modify the exterior lighting, change the mailbox or address marker, construct any porch, deck, patio, gazebo, or pool, modify any landscaping, install any signs or satellite dishes not otherwise permitted herein or by federal law, without the prior written consent of the Architectural Review Committee. In all cases, reasonable attempts shall be made to keep satellite dishes out of or away from front yard locations. Owners shall submit plans and specifications showing the nature, kind, shape, color, size, materials, and location of Improvements and alterations to the Architectural Review Committee for its approval. The Architectural Review Committee may charge a reasonable fee in connection with the review of plans for a proposed Improvement. Nothing contained herein shall be construed to limit the right of an Owner to remodel or decorate interior Improvements without such approval.

Variances.

To avoid unnecessary hardship and/or to overcome practical difficulties in the application of these provisions, the Architectural Review Committee shall have the authority to grant reasonable variances from the provisions hereof, provided that the activity or condition is not prohibited by applicable law, including but not limited to applicable zoning or building regulations; and provided further that, in the judgment of the Architectural Review Committee, the variance is in the best interests of the Community and is within the spirit of the standards of the Architectural Review Committee. No variance granted pursuant hereto shall constitute a waiver of any provision hereof as applied to any other Person or any other part of the Community.

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Improvements by Declarant.

Improvements by Declarant shall be determined and documented with approval of the final zoning text and at filing of a final development plan.

8. USE RESTRICTIONS.

The following restrictions and covenants concerning the use of each Townhome and occupancy of Improvements thereon shall run with the land and be binding upon Declarant and every Owner or Occupant, their respective heirs, successors, and assigns, as well as their family members, guests, licensees, and invitees:

8.1. Use of Townhomes.

Except as otherwise specifically provided in this Declaration, no Townhome, nor any portion of any Townhome, shall be used for any purpose other than that of a residence for individuals living together as a single housekeeping unit, and uses customarily incidental thereto, Specifically, no dwelling may be used as a rooming house, group home, commercial foster home, fraternity or sorority house, or any similar type of lodging, care or treatment facility, or licensed facility to the maximum extent permitted by law. Townhomes shall be one single-family dwelling not to exceed three stories in height, and each such dwelling shall have an detached garage. No structure of a temporary character, such as a trailer, tent, shack, vehicle port, barn, pet dwelling, including pet fenced in pet areas behind houses, or other outbuilding shall be used on any Townhome at any time as a residence either temporarily or permanently; provided, however, that nothing herein shall prevent the use of trailers or temporary buildings by Declarant or builders approved by Declarant, for sales and construction management and related uses during the construction and sale of homes in the Community or home remodeling after initial construction. All homes shall comply with material standards as approved under the applicable zoning regulations and/or by a regulating governmental authority for this Community, and by the Architectural Review Committee.

8.2. Minimum Square Footages.

No Townhome dwelling unit shall be permitted which the floor area of the main structure is less than what is required by the applicable zoning and subdivision control requirements governing Townhomes located in the Community.

8.3. Use of Common Elements.

The Common Elements may be used only in accordance with the purposes for which intended and for any reasonable purposes incidental to the residential use of Townhomes. All uses of the Common Elements shall benefit or promote the health,

safety, welfare, convenience, comfort, recreation, and/or enjoyment of the Owners and/or Occupants, and shall comply with the provisions of this Declaration and all other Governing Documents, and the laws of the State of Ohio.

8.4. Hazardous Actions or Materials.

Nothing shall be done or kept in or on any Townhome or in or on any portion of the Common Elements that is unlawful or hazardous, that might reasonably be expected to increase the cost of casualty or public liability insurance covering the Common Elements, or that might or that does unreasonably disturb the quiet occupancy of any Person residing on any other Townhome. These provisions shall not be construed so as to prohibit Declarant or any other builder in the Community from construction activities consistent with reasonable or customary residential construction practices in accordance with applicable law.

8.5. Signs.

No signs of any character shall be erected, posted or displayed upon property in the Community, except: (a) marketing signs installed by Declarant while marketing Townhomes and residences for sale; (b) street and identification signs installed by the Association, Declarant, or any governmental agency; (c) on the Common Elements, signs regarding and regulating the use of the Common Elements, provided they are approved by the Board; (d) on any Townhome, one temporary real estate sign not to exceed six (6) square feet in area advertising that such Townhome is for sale; and (e) up to three (3) temporary political signs of not more than six (6) square feet each, expressing support for or opposition to an individual candidate or issue which is the subject of a current election, except to the extent preempted by federal law, and provided the same comply with any local ordinances and any Rules established by the Board. Except as set forth above, no signs shall be placed in the Common Elements.

8.6. Animals.

Except as hereinafter provided, no animals, reptiles, livestock, or poultry of any kind shall be raised, bred, or kept in any Townhome, or in or upon any part of the Common Elements. Notwithstanding the foregoing, household domestic pets, not bred or maintained for commercial purposes, may be maintained in a Townhome, provided that: (1) the maintaining of animals shall be subject to the Rules and such other rules and regulations as the Board may from time to time promulgate, including, without limitation, the right to place limitations on the size, number, and type of such pets, and the right to levy administrative and enforcement charges against Persons who do not clean up after their pets; and (2) the right of an Owner or Occupant to maintain an animal in a Townhome shall be subject to termination if the Board, in its full and complete discretion, determines that maintenance of the animal constitutes a nuisance, creates a detrimental effect on the

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Community or other Townhomes or Occupants, or possession of which violates any law, rule, or ordinance promulgated by a governmental or quasi-governmental entity. Any animal defined as “vicious” or “dangerous” pursuant to the provisions of Ohio Revised Code Chapter 955, as the same may be amended from time to time, is specifically prohibited. Outdoor doghouses, animal cages, or runs are prohibited without the express prior approval of the Association Board.

8.7. Nuisances.

No noxious or offensive trade or activity shall be permitted on any property in the Community or within any dwelling, building, or structure located on any Townhome. No use shall be made or condition allowed to exist on any Townhome which unreasonably disturbs or interferes with the quiet occupancy of any person residing on any other Townhome. No soil shall be removed for any commercial purpose.

8.8. Business.

No industry, business, trade, occupation, or profession of any kind may be conducted, operated, or established on any Townhome, without the prior written approval of the Board. Notwithstanding the foregoing, (a) a “home office” use is permitted, provided such use does not entail any non-resident employees, generate any traffic or additional parking, require any signage, and is operated in compliance with all laws including any Rules established by the Board and applicable governmental regulations; (b) an Owner or Occupant may maintain a personal or professional library, keep personal business or professional records or accounts, conduct personal business, make professional telephone calls or correspond in or from a residence; and (c) during the construction and initial sales period, Townhomes, including dwellings and Improvements constructed thereon, and Common Elements may be used for construction and sales purposes, including the construction and operation of sales models and/or construction trailers by Declarant and by builders and Declarants as approved by Declarant, in its sole discretion, until dwellings have been constructed on all Townhomes and all Townhomes with dwellings on them have been conveyed to bona fide residential home purchasers. This section shall not be interpreted as allowing the declarant’s or other builder’s to utilize sales trailers on site.

8.9. Storage.

No storage buildings, barns, or sheds of any kind are permitted on any Townhome. This section shall not apply to any storage as may be necessary during the construction or remodeling of homes on the Townhomes.

8.10. Hotel/Transient Uses.

No Townhome or Improvement thereon may be used for hotel or transient uses, including without limitation, uses in which an 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.

8.11. Vehicles.

The Board is granted the power and the authority to create and enforce reasonable Rules concerning placement and the parking of any vehicle permitted on or in the Community. In addition to its authority to levy Individual Townhome Assessments as administrative charges for the violation of the Rules, the Board shall be authorized to cause the removal of any vehicle violating this Declaration or such Rules.

Except as specified below, no trucks, no prohibited commercial vehicles, no boats, no trailers, no campers, and no mobile homes shall be parked or stored on any street or on any Townhome in the Community (except in the attached garage) for any time period longer than forty-eight (48) 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 of residences on the Townhomes.

For the purpose of this section, the terms “truck” and “prohibited commercial vehicle” shall include all vehicles that have a length of more than 21 feet and all vehicles that include any visible exterior storage of tools or materials; provided, however, that up to two (2) ladders may be visible. Dump trucks, tow trucks, flat bed car hauling trucks, panel trucks, vans larger than one-ton capacity, pickup trucks larger than one-ton capacity, and semi type tractors and trailers, shall in every instance be considered to be a prohibited truck and/or a prohibited commercial vehicle. For the purpose of this section, the word “trailer” shall include landscaping trailer, open bed trailer, 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 personal property, whether resting on wheels, jacks, tires, or other foundation.

Furthermore, no automobile, truck, or other motor-driven vehicle, or trailer, in a condition where it is unlicensed, unregistered, apparently inoperable, extensively damaged, disabled, dismantled, or otherwise not in a condition to be lawfully operated upon the public highway, or any vehicle component or part, shall be placed, parked, or stored in any visible location on or in front of a Townhome or residence for a period of time longer than thirty (30) days. After this time, the vehicle, trailer, or part shall be deemed to be a nuisance, and shall be removed. The Board shall have the right and authority to have the same removed, including on Townhomes, at the Owner’s expense.

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8.12. Trash.

Except for the reasonably necessary activities of Declarant during the original development of the Community, no burning or storage of trash of any kind shall be permitted in the Community. All trash shall be deposited in covered, sanitary containers, and these containers shall at all times be screened from view from any other Townhome or street, except when temporarily placed outside for trash collection. No emptied trash containers shall be allowed to remain visible for more than eight hours following the trash pick-up.

8.13. Antennae.

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 a Townhome, 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 (l) meter, erected or installed to minimize visibility from the street which the dwelling fronts. Notwithstanding the foregoing, roof-mounted satellite dishes are to be limited to the maximum extent possible by law.

8.14. Utility Lines.

All new utility lines in the Community shall be underground, subject only to the exceptions required by governmental authorities having jurisdiction, utility companies, Declarant, and the Board.

8.15. Tanks.

No tanks for the storage of propane gas, fuel oil, or any other combustible substance shall be permitted to be located above or beneath the ground of any Townhome except that propane gas grills are permitted. This section shall not apply during the construction of any homes on the Townhomes or to any Townhome containing Declarant’s sales trailer.

8.16. Street Tree/Yard Tree.

Declarant may designate one or more trees as deemed necessary by Declarant along the street in front of the Townhomes, as a “street tree” as shown on the approved master landscape plan as part of final development plan approval. If Declarant determines to designate street tree(s), then the Association agrees to care for, and, if

necessary, replace such tree or trees with a like type of tree having a caliper greater than or equal to 2 ½ inches.

8.17. Mailbox.

Mail shall be delivered to common mail box locations designated on development plans as approved under United States Post Office postal regulations. Alternatively, if approved by the USPO and applicable, Declarant or the Association may designate and require a curbside mailbox for each Townhome with a design and composition that will provide uniformity to the subdivision. Each mailbox shall have the street numbers for the Townhome on each side of such mailbox. If the mailbox is damaged, destroyed, or deteriorates, then each Owner, at such Owner's expense, shall repair or replace such mailbox with an identical mailbox, or if unavailable, with another of a like-kind, design, pattern, and color as the initial mailbox.

8.18. Yard Lights and Lamp Posts/Lighting.

All yard lights and/or lamp posts, if any, shall be installed and maintained by the declarant and/or Association.

8.19. Fencing.

Other than the fencing installed during initial construction by the declarant, no perimeter fencing shall be allowed around any Townhome. Such perimeter fencing that is installed shall be maintained by the homeowner. Fencing may be permitted for privacy around decks, patios, hot tubs, etc., and shall not exceed 6 feet in height. Such fencing shall be maintained by the homeowner. Fences may be required to include landscaping screening where utilized by the Architectural Review Committee. Fencing shall be wood and may be a four-rail board fence. No chain link and no wire fencing shall be permitted. Fence posts may be no higher than 6 inches above the top rail. . Declarant may install fencing as part of entry feature improvements and landscape buffering and/or screening along adjacent properties, which shall be maintained by the Association. Any such entryway fencing may not exceed 6 feet in height. Fences located forward of the rear corners of any home are prohibited.

8.20. Swimming Pools/Hot Tubs.

No in-ground swimming pool or above-ground swimming pool shall be permitted upon any Townhome except that this restriction shall not prohibit the installation of a hot tub that is properly screened.

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8.21. Compliance with Zoning.

Certain provisions of this Declaration may have been included herein as a result of governmental requirements established through the zoning and development plan approval processes in the state, county, city, village and/or township in which the Property is located. Compliance with all such governmental requirements, for so long as such requirements are effective and binding, and as such requirements may be amended or modified, is required by this Declaration.

8.22. Hobbies.

Hobbies or other activities which tend to detract from the aesthetic character of the Community and any Improvements used in connection with such hobbies or activities shall not be permitted unless carried out or conducted within the residence building erected upon the Townhome and not viewable from either the street or adjoining Townhomes or Common Elements. This restriction refers specifically, but not exclusively, to activities such as automobile, bicycle, moped, motorboat, and sailboat repair.

8.23. No-Build/No-Disturb/Preservation/Conservation/Protection/Buffer Zones.

Any property, buffer areas or reserves identified in or required pursuant to applicable zoning regulations, approved plat(s), and/or under any agreement entered into by the Declarant or by the Association that identify, include, or represent portions of the Property over, across, under and through which areas are designated as FEMA zones, stream corridor protection zones, tree preservation zones, draining, clean water, storm water, buffer, protection, or no disturb areas shall be areas in which no Owner shall have the right to construct or locate any Improvements, disturb the grade or take any other action that interferes with the purpose of the limitation or restriction on the Property, including, but not limited to, fencing, landscaping, cleaning brush, or removing trees as appropriate for the limitation or restriction. These designated areas with limitations or restrictions may be parts of individual Townhomes instead of on Common Elements. In such cases, the Owner(s) of the Townhome(s) affected by these limitations shall be and remain responsible for the ordinary care and maintenance of these areas.

8.24. Conveyances.

Each Townhome shall be conveyed or transferred (voluntarily or involuntarily) as a separately designated and legally described freehold estate subject to the terms, conditions and provisions hereof. The undivided interest of a Unit in the Common Elements shall be deemed to be conveyed or encumbered with the Townhome even though that interest is not expressly mentioned or described in the deed, mortgage or

other instrument of conveyance or encumbrance. Any conveyance, encumbrance, judicial sale or other transfer (voluntary or involuntary) of an interest in the Common Elements will be void unless the Townhome to which that interest is allocated is also transferred to the same transferee. The right of a Townhome Owners to sell, transfer or otherwise convey that owner's Townhome is not subject to any right of first refusal or similar restriction, and any Townhome Owner may transfer that owner's Townhome free of any such limitation. To enable Association to maintain accurate records of the names and addresses of Townhome Owners, each Townhome Owner agrees to notify the Association in writing within thirty (30) days after an interest in a Townhome has been transferred to another person.

8.25. Miscellaneous.

The following Improvements shall not be permitted on any Townhome in the Community:

(a) outdoor clotheslines;

(b) window air conditioning units on any window facing a street;

(c) wind turbines or similar wind-powered energy generating equipment;

(d) solar panels;

(e) gas and oil drilling or collection, quarrying or mining equipment.

9. EASEMENTS AND LICENSES.

9.1. Easement of Access and Enjoyment Over Common Elements.

Every Owner shall have a right and easement (in common with all other Owners) of enjoyment in, over, and upon the Common Elements, and a right of access to and from that Owner's Townhome, which rights shall be appurtenant to, and shall pass with the title to, that Person's Townhome, subject to the terms and limitations set forth herein, and subject to the Rules. An Owner may delegate that Person's rights of access and enjoyment to Occupants, licensees, and invitees. All such easements are limited by such restrictions as may apply to the Common Elements affected thereby, and no Person shall have the right by virtue of such easements to engage in activities on the Common Elements which are not permitted according to the provisions of this Declaration and/or other Association Governing Documents, pursuant to the provisions of any applicable plat(s) or under agreements with any governmental entities or other third parties.

9.2. Right of Entry for Repair.

The duly authorized agents, officers, contractors, and employees of the Association shall have a right of entry and access to the Property, including without limitation the Townhomes, for the purpose of exercising the Association's rights, or performing the Association's obligations as set forth herein. The Association may enter any Townhome to remove or correct any violation of any provision hereof, or any Rule, or to maintain, repair, and replace the Common Elements and/or Additional Easement Areas, but only during reasonable hours and after providing reasonable advance notice to the Owner, except in cases of an emergency.

9.3. Easement for Utilities and Other Purposes.

The Board or Declarant may convey easements over the Common Elements to any entity 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, storm sewer, storm water, telephone, cable television, and other similar utility or security services, whether of public or private nature, to the Community, and to any entity for such other purposes as the Board or Declarant deems appropriate; provided that such equipment or the exercise of such easement rights shall not unreasonably interfere with any Owner's use and enjoyment of that Owner's Townhome. The Board or Declarant may grant such easements over all portions of the Community for the benefit of adjacent properties as the Board or Declarant deems appropriate; provided that the grant of such easements imposes no undue, unreasonable, material burden, or cost upon any property in the Community, and further provided that the Board or Declarant may not convey any easement over a Townhome without the prior written consent of the Owner of such Townhome (which consent shall not be unreasonably withheld, delayed, or conditioned). Declarant and the Association shall have the absolute right within (l) areas designated as drainage courses on the recorded plat of the Community, (2) all areas encumbered by general utility or specific storm drainage easements, and (3) areas determined by sound engineering practice to be necessary to the proper drainage of all or part of the Community, to enter upon Townhomes and perform grading and other construction activities deemed appropriate in the exercise of Declarant's judgment to install, modify, alter, remove, or otherwise work on storm water drainage facilities, and conditions (including both surface grading and subsurface structures). If any such entry and/or work performed by Declarant results in damage to other portions of a Townhome, or to any Improvements thereon, Declarant shall be responsible for the restoration of such portions or Improvements at Declarant's sole cost.

9.4. Easement for Services.

A non-exclusive easement is hereby granted to all police, firemen, ambulance operators, mail carriers, delivery persons, cable and television repair personnel, garbage

removal personnel, and all similar persons, and to the local governmental authorities and the Association (but not to the public in general) to enter upon the Common Elements and the Townhomes to perform their duties.

9.5. Easements Reserved to Declarant

Non-exclusive easements exist and continue to exist or are hereby reserved to Declarant and its officers, employees, contractors, sub-contractors, and designees, over and upon the Common Elements for (a) such time as is necessary to construct and sell dwellings on all Townhomes, for access to and for the purposes of constructing and selling dwellings on all Townhomes and completing Common Element Improvements, provided that such right of access shall be to the extent, but only to the extent, that access thereto is not otherwise reasonably available, (b) the periods provided for warranties hereunder or by law, for purposes of making repairs required pursuant to those warranties or pursuant to contracts of sale made with home purchasers, and (c) for the period necessary to construct dwellings on all the Townhomes, and sell the same, to maintain and utilize one or more Townhomes, and Improvements thereon, and\or a portion or portions of the Common Elements, for sales and management offices, for storage and maintenance, for model homes, for parking areas for sales and rental purposes, and for advertising signs. The rights and easements reserved pursuant to this Section shall be exercised and utilized, as the case may be, in a reasonable manner, and in such way as not to unreasonably interfere with the operation of the Association and the rights of Owners and Occupants.

9.6. Easement for Maintenance.

A non-exclusive easement is hereby granted to the Association to enter upon, over, or through the Property for the purpose of performing maintenance responsibilities reserved to the Association in the recorded plats for the Community or provided in this Declaration.

9.7. General.

Unless specifically limited herein otherwise, the easements described herein shall run with the land and pass with the title to the benefited and burdened properties, shall be appurtenant to the properties benefited and burdened thereby, shall be enforceable by the owners of the properties benefited thereby, and shall be perpetual. The easements and grants provided herein shall in no way affect any other recorded grant or easement. Failure to refer specifically to any or all of the easements and/or rights described in this Declaration in any deed of conveyance or in any mortgage or other evidence of obligation shall not defeat or fail to reserve said rights or easements but the same shall be deemed conveyed or encumbered, as the case may be, along with the Townhome.

10. UTILITY SERVICES.

Each Owner by acceptance of a deed to a Townhome agrees to pay for utility services separately metered or separately charged by the utility company to that Townhome, and to reimburse the Association for that Owner's Townhome's share of any utility cost that the Board, or its designee, reasonably determines is attributable to use by the Owner or Occupants of that Townhome. The Association shall arrange for the provision of utility services, if any, to the Common Elements and shall pay the costs of such services separately metered to the Association.

11. MISCELLANEOUS.

11.1. Term.

The provisions hereof shall bind and run with the land for a term of thirty (30) years from and after the date that this Declaration is filed for recording with the Recorder of Franklin County, Ohio, and thereafter shall automatically renew forever for successive periods of ten (10) years each, unless earlier terminated with the unanimous consent of Members.

11.2. Enforcement.

The provisions hereof may be enforced by any proceeding at law or in equity by Declarant, any Owner, the Association, the Architectural Review Committee, and each of their respective heirs, successors, and assigns, against any Person(s) violating, or attempting to violate, any covenant, restriction, or Rule to restrain and/or to enjoin any 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) in connection with any violation. The failure or forbearance to enforce any covenant or restriction herein contained shall in no event be deemed a waiver of these rights.

11.3. Amendments.

Until the Turnover Date, Declarant may, in its sole and absolute discretion, unilaterally amend the provisions hereof at any time, and from time to time, without the consent of any other Owner or Member. Any such amendment may impose covenants, conditions, restrictions, and easements in addition to those set forth herein including, without limitation, restrictions on use and covenants to pay additional charges with respect to the maintenance and improvement of any property in the Community. After the Turnover Date, Declarant may unilaterally amend the provisions hereof, without the consent of any other Owner, 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 Townhomes; (c) necessary to conform to the requirements of the United States Federal Housing Administration or the Veterans Administration; or (d) necessary to correct errors; provided, however, any such amendment shall not materially adversely affect the title to any Townhome unless the Owner thereof has consented to such amendment in writing. Before and after the Turnover Date, Declarant 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 all or any part of the Additional Property to the provisions hereof at any time, and from time to time, by executing and recording in the appropriate governmental office an amendment to this Declaration specifying that such Additional Property is part of the Community. An amendment hereby made by Declarant shall not require the joinder or signature of the Association, other Owners, mortgagees, or any other Person. In addition, such amendments to this Declaration may contain such supplementary, additional, different, new, varied, revised, or amended provisions and memberships as may be necessary or appropriate, as determined by Declarant, to reflect and address the different character or intended development of any such Additional Property.

In addition, this Declaration may be amended or modified after the Turnover Date with the approval of Owners holding not less than seventy-five percent (75%) of the voting power of all Owners in the Association; provided, however, that the prior written consent of Declarant shall be required for any amendment or modification which affects Declarant's rights hereunder, and further provided that the consent of all Owners shall be required for any amendment which effects a change in the voting power of any Owner, the method of allocating Common Expenses among Owners, the fundamental purpose for which the Association is organized, or terminates this Declaration, or dissolves the Association. Any amendment to this Declaration adopted with the aforesaid consent shall be executed with the same formalities as to execution as observed in this Declaration by the President and the Secretary of the Association, and shall contain their certifications that the amendment was duly adopted in accordance with the requirements of this paragraph. Any amendment so adopted and executed shall be effective upon the filing of the same with the Delaware County Recorder.

11.4. Declarant's Rights to Complete Development.

Declarant shall have the unrestricted right to: (a) complete the development, construction, promotion, marketing, sale, resale, and leasing of properties; (b) construct or alter Improvements on any property owned by Declarant; (c) construct, maintain, and operate model homes, offices for construction, sales or leasing purposes, storage areas, construction yards, or similar facilities on any property owned by Declarant or the Association; and/or (d) post signs incidental to the development, construction, promotion, marketing, sale, and leasing of property within the Community, in compliance with

applicable governmental regulations. Further, Declarant shall have the right of ingress and egress through the streets, paths, and walkways located in the Community for any purpose whatsoever, including, but not limited to, purposes related to the construction, maintenance, and operation of Improvements. Nothing contained herein shall limit the rights of Declarant or require Declarant to obtain approval: (i) to excavate, cut, fill, or grade any property owned by Declarant; (ii) to construct, alter, remodel, demolish, replace, or use any Improvements on any Common Elements or any property owned by Declarant as a construction office, model home or real estate sales or leasing office in connection with the sale of any property or Townhome; or (iii) of the Association or the Architectural Review Committee for any activity or Improvement on any Common Elements or any property owned by Declarant. Nothing in this Section shall limit or impair the reserved rights of Declarant as elsewhere provided in this Declaration.

11.5. Mortgagee Rights.

A holder or insurer of a first mortgage upon any Townhome, upon written request to the Association (which request shall state the name and address of such holder or insurer and a description of the Townhome) shall be entitled to timely written notice of:

(a) Any proposed amendment of this Declaration;

(b) Any proposed termination of the Association;

(c) Any default under the provisions hereof which gives rise to a cause of action by the Association against the Owner of the Townhome subject to the mortgage of such holder or insurer, where the default has not been cured in sixty (60) days following the date a notice describing a default is sent to an Owner.

Each holder and insurer of a first mortgage on any Townhome shall be entitled, upon written request and at such mortgagee's expense, to inspect the books and records of the Association during normal business hours.

11.6. Indemnification.

The Association shall indemnify, defend, and hold every officer, director, and employee of the Association harmless against any and all claims, liabilities, and expenses, including attorneys' fees, reasonably incurred by or imposed upon any officer, director, or employee in connection with any action, suit, or other proceeding (including settlement of any suit or proceeding, if approved by the Board) to which he/she may be a party by reason of being or having been an officer, Director, or employee. The officers, directors, and employees of the Association 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 officers, directors, and employees of the Association shall have no personal liability with respect to any contract or other commitment made by them, in good faith, on behalf of the Association, and the Association shall indemnify and forever hold each such officer, director, and employee free from and harmless against any and all liability to others on account of any such contract or commitment. The Association may also indemnify any agent or volunteer of the Association as provided in the Bylaws. Any right to indemnification provided herein shall not be exclusive of any other rights to which any officer, director, employee, agent, or former officer, director, or agent may be entitled by law or the provisions of any other Governing Document.

11.7. Mutuality.

All restrictions, conditions, and covenants contained herein are made for the direct, mutual, and reciprocal benefit of Declarant, the Association, and the present and future Owners of Townhomes in the Community, and each part thereof, and their respective personal representatives, heirs, successors, and assigns; the provisions hereof shall create mutual equitable servitudes upon the property submitted to these restrictions and each part thereof in favor of each other part thereof; and any property referred to herein as benefited hereby; the provisions hereof shall create reciprocal rights and obligations between the respective Owners of all such property and privity of contract and estate between all Owners thereof; and the provisions hereof shall, as to the Owners of any such property and those Owners' respective heirs, personal representatives, successors, and assigns, operate as covenants running with the land for the benefit of all such property and the Owners thereof.

11.8. Severability.

If any article, section, paragraph, sentence, clause, or word herein is held by a court of competent jurisdiction to be in conflict with any law, or unenforceable, 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 Declaration shall continue in full force and effect.

11.9. Enforcement; Waiver.

Failure of Declarant, the Association, or any Owner to enforce any provision of this 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 Townhome, each Owner is deemed to waive the defenses of laches and statute of limitations in connection with the enforcement by the Association of the provisions hereof or the Rules.

11.20. Notices.

Notices, demands, or other communications to an Owner shall be given in writing by personal delivery, or posting at the Townhome if a residence has been constructed on such Townhome, or by depositing such notice in the United States Mail, first class, postage prepaid, to the address of the Owner of the Townhome as shown by the records of the Association, or as otherwise designated in writing by the Owner. Any demand, notice, or other communication or action given or taken hereunder or by one of the joint Owners of a Townhome shall be deemed to be given, taken, or received by all such joint Owners.

11.21. Exhibits.

The Exhibits hereto are a part of this Declaration as if set forth in full herein.

11.22. Construction.

In interpreting words and phrases herein, unless the context shall otherwise provide or require, the singular shall include the plural, the plural shall include the singular, and the use of any gender shall include all genders. Any rule of construction to the effect that any ambiguities are to be resolved against the party who drafted the document shall not be utilized in interpreting this Declaration and the Exhibits hereto.

11.23. Captions.

The caption of each article, section, and paragraph of this Declaration is inserted only for convenience and does not define, limit, or describe the scope or intent of its provisions.

IN TESTIMONY WHEREOF, Declarant has caused the execution of this Declaration on the date first set forth above.

LIFESTYLE COMMUNITIES*,
an Ohio limited liability company

By:_____
_____
Name/Title

STATE OF OHIO :
:
COUNTY OF FRANKLIN :

The foregoing instrument was acknowledged before me this _____ day of _____, 2019, by_____ of LIFESTYLE COMMUNITIES*, an Ohio limited liability company, on behalf of the company.

_____
Notary Public

This instrument prepared by:

Thomas L. Hart
Isaac Wiles Burkholder & Teetor LLC
Two Miranova Place, Ste. 700
Columbus, Ohio 43215
(614) 340-7415
thart@isaacwiles.com

EXHIBIT A

PROPERTY

Situated in the State of Ohio, City of Worthington, Franklin County

(Attach Legal Description)

Subarea 2 on the Approved Development Plan

EXHIBIT B

CODE OF REGULATIONS (BYLAWS)
OF **** HOMEOWNER'S ASSOCIATION, INC.**

4820-1788-2829.1