



WBK Engineering

December 4, 2025

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Dear Mr. Scott,

As requested, WBK has completed an analysis of the 1.32-acre property identified as 1195 S. Milwaukee Avenue in Libertyville, IL. The Subject Property is currently improved with a freestanding, single-story structure with an approximately 5,338 sq. ft. footprint in which Prairie Retail Holdings, LLC (known hereafter as "the Applicant") is proposing to improve. As part of improvements, the Applicant proposes to remove the existing glass eating area along the east façade and subdivide the remaining space into two tenant spaces. The first tenant space will be a 2,687 sq. ft. Adult Use Cannabis Dispensing Organization leaving a remaining secondary retail trade space of approximately 1,777 sq. ft.

WBK has inspected the Subject Property and surrounding area in order to make an opinion as to the impact that granting a Special Use to operate an Adult Use Cannabis Dispensing Organization would have on the neighborhood and surrounding uses.

The proposed use is compatible with the surrounding area in terms of site plan, building architecture, scale, and overall design as the proposed Adult Use Cannabis Dispensing Organization will operate in an existing vacant structure on an already improved site. The Subject Property is located along a highly trafficked commercial/retail corridor surrounded by commonly zoned properties and comparable existing retail land uses.

The proposed Adult Use Cannabis Dispensing Organization will operate in a comparable manner to other retail uses in the vicinity with similar hours of operation. Outdoor lighting and security enhancements such as the installation of cameras/surveillance equipment will be added for security purposes and installed to prevent any impact on surrounding properties. The Subject Property provides adequate parking to accommodate the typical traffic generated by the existing use and other comparable retail uses.

The Subject Property will meet all special location and buffer requirements to protected uses outlined in the Village's Code. The proposed Adult Use Cannabis Dispensing Organization will meet all State of Illinois and local regulations and laws in order to maintain its licensure, in good standing, along with all other regulations and provisions named under the Illinois Cannabis Regulation and Tax Act.

Given the location, existing improvements, and proposed operating characteristics, the proposed Adult Use Cannabis Dispensing Organization is well suited to serve the immediate area while having no significant adverse impact on the continued or future use of the surrounding neighborhood and development.

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## REQUEST

The Applicant is requesting special use approval to establish an Adult Use Cannabis Dispensing Organization at 1195 S. Milwaukee Avenue, in the Village of Libertyville, IL.

## PROPERTY LOCATION

The Subject Property is located at 1195 S. Milwaukee Avenue. The 1.32-acre site is generally located at the northwest quarter of the intersection of S. Milwaukee Avenue and Greentree Parkway as an out lot in an established existing commercial area known as Greentree Plaza. See Figure 1 - Location Map.

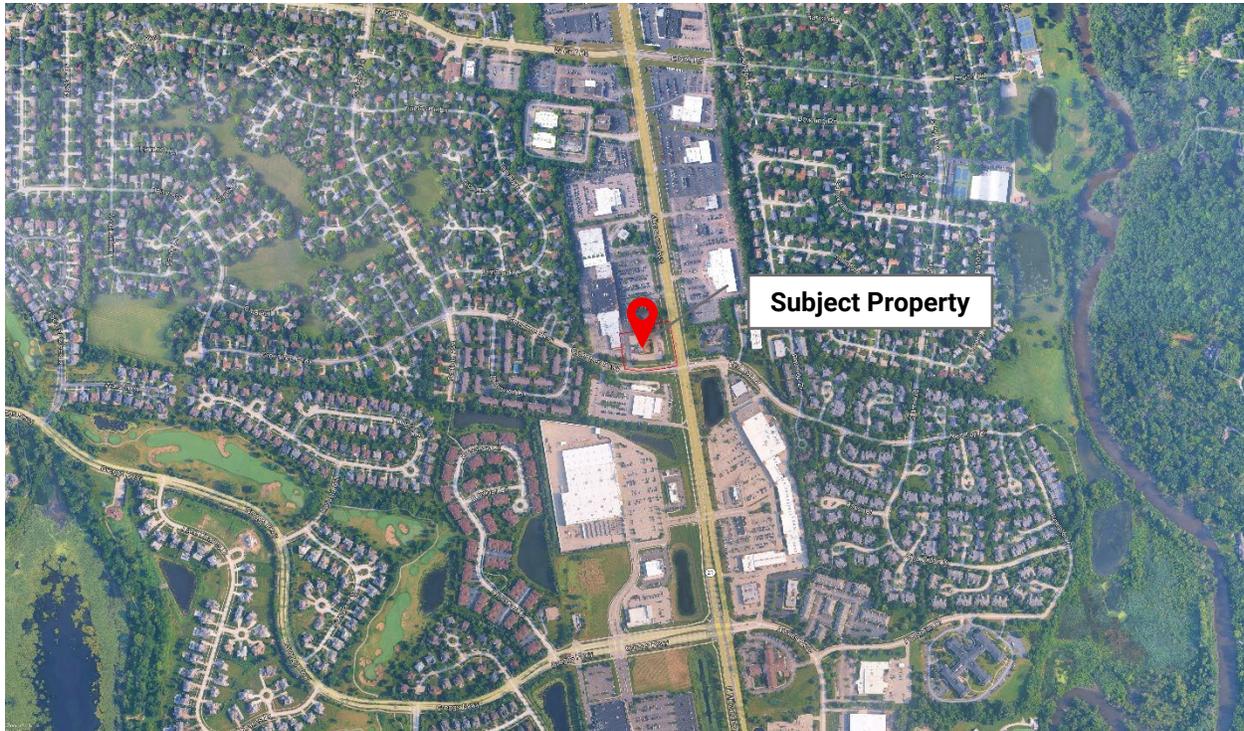


Figure 1 - Location Map

## ZONING

The Subject Property is zoned C-4 (Shopping Center Commercial). A text amendment to allow Adult Use Cannabis Dispensing Organizations as a special use in the C-4 district is currently under consideration concurrently with the Applicant's request for special use permit. Chapter 26 Article 5 of the Village's Zoning Ordinance defines the purpose of the Shopping Center Commercial district as *"Established to provide locations along major arterial streets for retail-oriented commercial development that serves citizens of the village and the surrounding area. The C-4 Shopping Center Commercial District will be characterized by large-scale mixed-use development that is unified in design, ownership, and control."*

The Subject Property is located along an established commercial corridor (Milwaukee Avenue) consisting of other C-4 and C-5 (Vehicle Dealer Commercial District) designations. East and west of the corridor, zoning transitions to primarily residential-oriented districts including R-5 & R-6 (Single-Family Residential), R-7 (Single-Family Attached Residential), and R-8 (Multi-Family Residential). See Figure 2 - Existing Zoning Map.

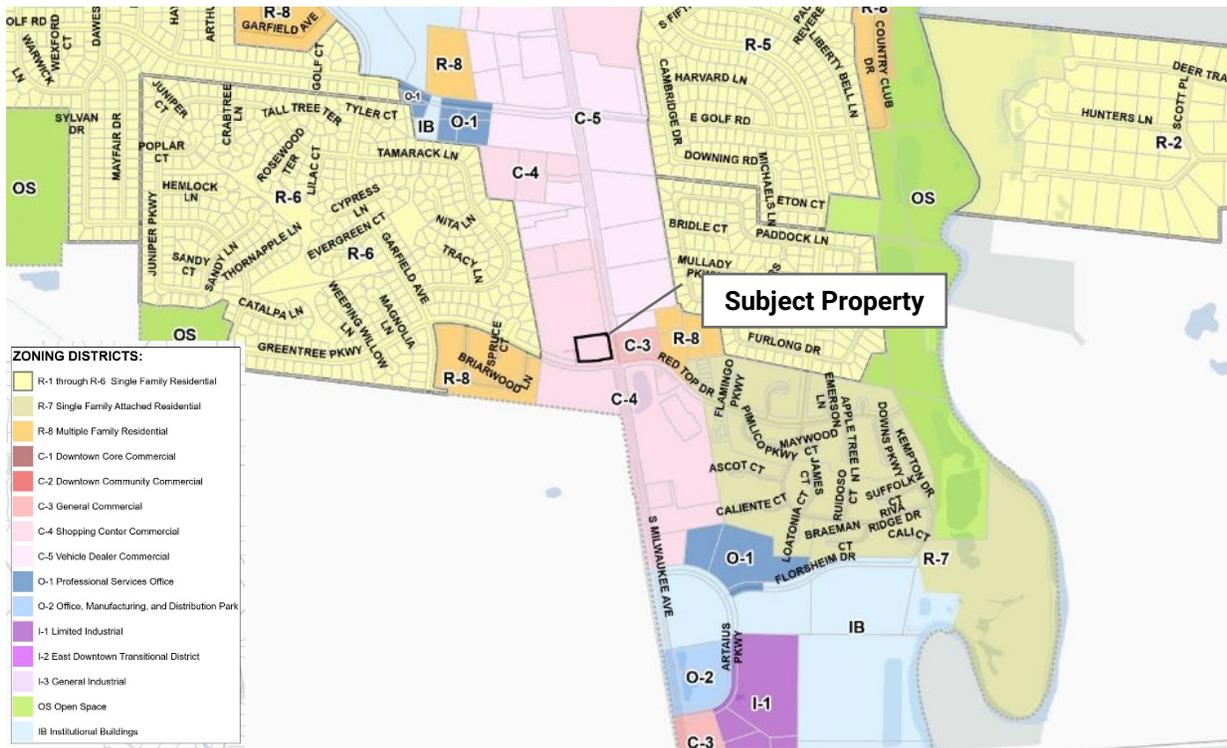


Figure 2 - Existing Zoning Map

### Commercial Districts, Bulk, Space, Setback, and Yard Requirements

Table 1 - Existing Bulk, Space, Setback, and Yard Requirements

Standard	Required	Existing	Legal, Non-Conforming
<b>Minimum Lot Area (whichever is greater)</b>			
Total (square feet)	160,000	58,299	✓
Per Dwelling Unit (square feet)	NA	NA	
<b>Minimum Lot Area Planned Development (square feet)</b>	160,000	58,299	✓
<b>Minimum Lot Width (feet)</b>	500	~213	✓
<b>Maximum Floor Area Ratio (FAR)</b>	0.5	~0.08	
<b>Maximum Lot Coverage (percent)</b>	85	~63	
<b>Minimum Yard or Setback (feet)</b>			
<b>Front and Corner Side</b>			
From Property Line	NA	NA	
From Centerline of Arterial	200	~192	✓
From Centerline of Collector	120	NA	
From Center Line of Local	100	~115	
<b>Interior Side</b>	50	~58	
Rear	50	~36	✓
<b>Maximum Building Height</b>			
Number of Stories	3	1	
Height (feet)	45	~20	



### Proposed Standards

No exterior improvements or modifications are proposed to the existing site as part of the Applicant's request for Special Use which would cause the existing building or site to become non-compliant with any existing standards in the C-4 District. See Figure 3 - Site Plan.

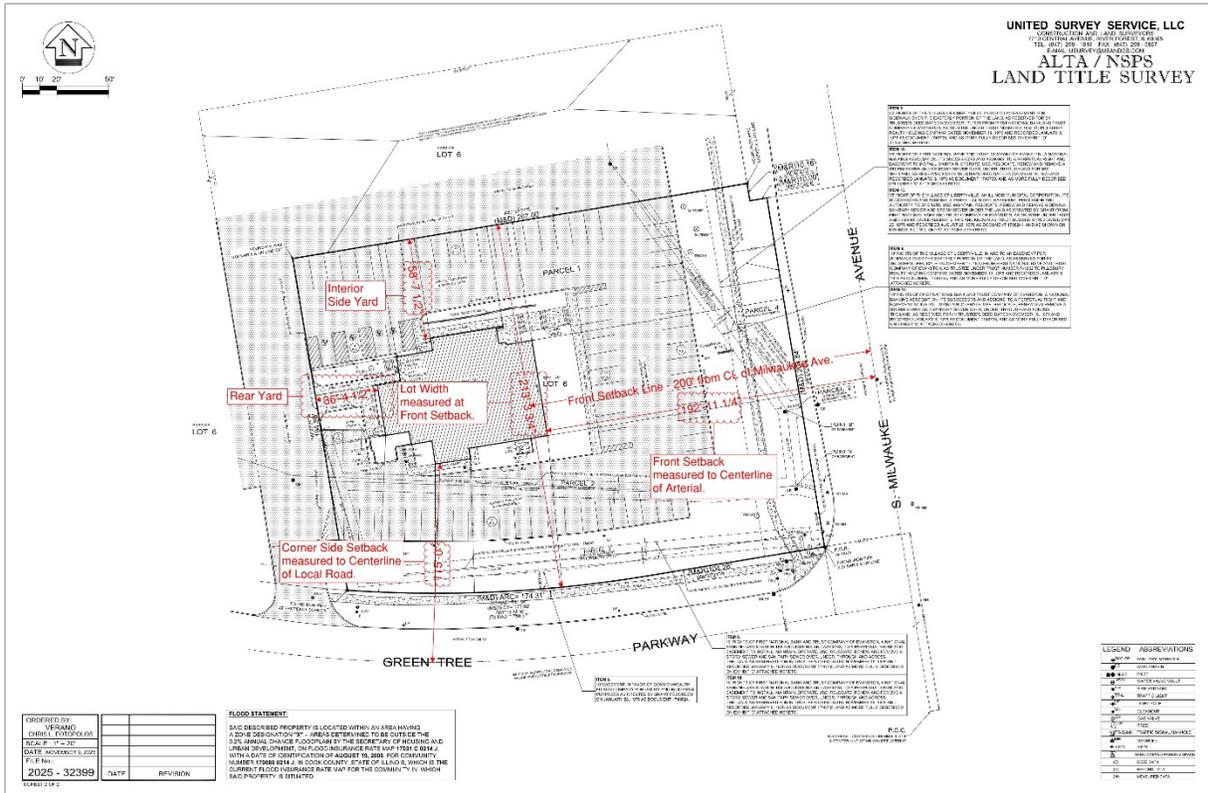


Figure 3 - Site Plan

### LAND USE

#### Existing Land Use

The existing land use of the Subject Property is commercial, which identifies all existing commercial areas primarily along Libertyville's corridor commercial areas.

#### Protected Use Analysis<sup>1</sup>

A land use reconnaissance conducted for the property located at 1195 S. Milwaukee Avenue in Libertyville, Illinois was completed. The purpose of the analysis was to document the existing land use context surrounding the subject property in relation to draft text amendment provisions governing the placement of an adult use cannabis dispensing organization in proximity to a protected use.

<sup>1</sup> All findings presented above reflect existing conditions based on available parcel data, online business research, and a field verification conducted on November 4, 2025. These findings are intended to inform ongoing discussions regarding the distance standards under consideration in the draft text amendment.



## Methodology

The reconnaissance began with the creation of a 2,500-foot study area surrounding the Subject Property. The Lake County Tax Parcel Viewer was used to generate a buffer identifying all parcels falling within this radius (see Figure 4 - Land Use Reconnaissance Buffer Area). Within the study area, all non-residential properties were reviewed through online research to determine business names, land uses, and to determine potential as “protected uses” under the draft text amendment. Multi-tenant commercial buildings and properties with inconclusive online information were further verified through an on-site field visit on November 4, 2025.

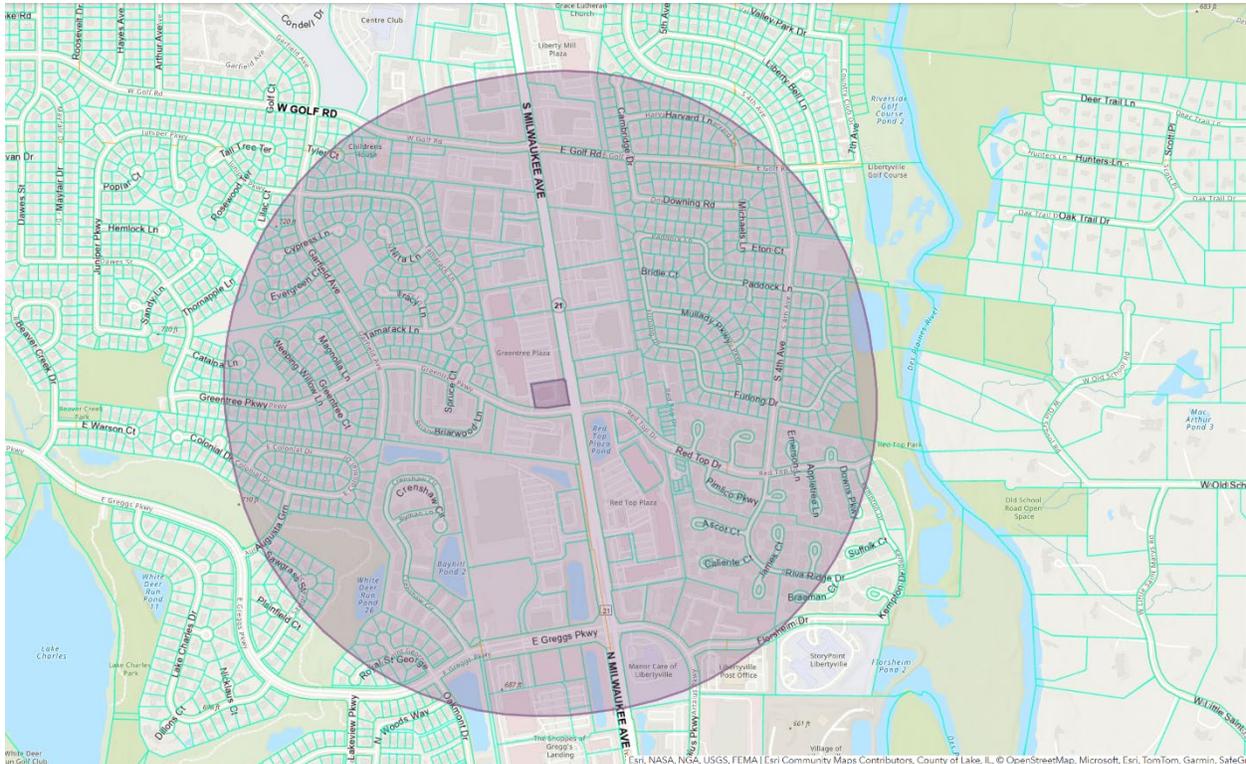


Figure 4 - Land Use Reconnaissance Buffer Area

Following the reconnaissance, the list of identified land uses was compared against the definitions of “protected uses” contained in the draft text amendment. Potential matches were highlighted for further review. A supplemental measurement was performed to estimate the straight-line distance, measured from the nearest point of building to nearest point of building, between the subject property and each identified protected use. Finally, the zoning map was reviewed to identify the nearest lot zoned for residential use (R-1 through R-8), as required in the draft ordinance.

## Findings – Protected Uses Within 2,500 Feet

The analysis identified five existing land uses within the study area that meet the draft ordinance definition of “protected uses.” These uses include residential care homes, a Montessori school, senior citizen housing, and a specialized secondary education provider. Based on the building-to-building distance estimates, these uses are located approximately 2,100 to 2,900 feet from the subject property.

The nearest protected uses include residential care facilities such as Integrated Palliative and Hospice (approximately 2,100 feet away) and Avantara (approximately 2,100 feet away). The Children’s House of



Libertyville, a Montessori school located along W. Golf Road, is situated approximately 2,300 feet from the site. Transition Pathways (School District 128), which provides specialized secondary educational services, is located approximately 2,800 feet away along S. Milwaukee Avenue. StoryPoint Senior Living, located on Florsheim Drive, is also approximately 2,800-feet away. See Appendix A – Land Use Reconnaissance.

These uses are summarized in Table 2 - Protected Uses within the Reconnaissance Study Area.

Table 2 - Protected Uses within the Reconnaissance Study Area

PIN	Address	Name	Business	Land Use	Approx. Distance	Appendix
1128201043	1195 S Milwaukee Ave	Subject Property	Adult Use Cannabis Dispensing Organization	Commercial	N/A	Not Applicable
1128104020	151 W Golf Rd	Integrated Palliative And Hospice	Residential Care Home	Institutional	~2,100-feet	Appendix B - 151 W. Golf Road (Residential Care Home)
1128104018, 1121313015	223 W Golf Rd	The Children's House Of Libertyville	Montessori School	Institutional	~2,300-feet	Appendix C - 223 W. Golf Road (Montessori School)
1121416041	904 S Milwaukee Ave	Transition Pathways (School District 128)	School (Special Ed/Individuals W Disabilities)	Commercial	~2,800-feet	Appendix D - 904 S. Milwaukee Avenue (School, Special Education for Individuals with Disabilities)
1128401003	1500 S Milwaukee Ave	Avantara	Residential Care Home	Office Park & Corporate Office	~2,100-feet	Appendix E - 1500 S. Milwaukee Avenue (Residential Care Home)
1127309002	901 Florsheim Dr	Story Point Senior Living	Senior Citizen Housing	Institutional	~2,800-feet	Appendix F - 901 Florsheim Drive (Senior Citizen Housing)

### Findings – Proximity to Residential Zoning Districts

Within the reconnaissance area, the nearest residentially zoned property was identified as the reference point for applying distance standards (i.e. building-to-building) between the subject property and R-districts. This property, located at 200 Greentree Parkway, is zoned R-6 Residential and developed with a detached single-family home. The estimated straight-line distance between this building and the building on the subject property is approximately 350 feet. This location represents the closest residential zoning district boundary to the site and establishes the baseline separation for any future distance requirement applicable between adult-use cannabis dispensing organizations and residentially-zoned parcels.

Table 3 - Closest Residential Properties within the Reconnaissance Study Area

PIN	Address	Zoning	Land Use	Type	Approx. Distance	Appendix
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1128201042	200 Greentree Parkway	R-6 Residential	Single-Family Residential	Single-Family, Detached	~350-feet	Appendix F - 200 Greentree Parkway (R-6, Residential Property)
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**Proposed Land Use**

**Adult Use Cannabis Dispensing Organization**

*Adult-use cannabis dispensing organization* means a facility operated by an organization or business that is licensed by the Illinois Department of Financial and Professional Regulation to acquire cannabis from licensed cannabis business establishments for the purpose of selling or dispensing cannabis, cannabis-infused products, cannabis seeds, paraphernalia or related supplies to purchasers or to qualified registered medical cannabis patients and caregivers, per the Cannabis Regulation and Tax Act, (P.A. 101-0027), as it may be amended from time-to-time, and regulations promulgated thereunder.

**Compatibility with Surrounding Area**

The surrounding area consists of typical commercial, retail, and office uses commonly found within the Village’s commercial zoning districts, including the C-4 (Shopping Center Commercial) district. The proposed Adult Use Cannabis Dispensing Organization will operate similarly to other retailers within this commercial center, with the primary distinction being the State-mandated requirement that customers present photo identification and be 21 years of age or older in order to enter the premises.

No external improvements are planned aside from State-required signage, non-intrusive lighting, and security and surveillance systems. The proposed use will utilize the existing site plan, building footprint, scale, and architectural style, maintaining consistency with the established character of the surrounding development.

**Compatibility with Libertyville Comprehensive Plan**

The Libertyville 2030 Comprehensive Plan, adopted on March 23, 2021, identifies the Subject Property as Destination Commercial Corridor (DCC) through its Future Land Use Map:

*Destination Commercial Corridor (DCC) areas include segments of Milwaukee Avenue south of Valley Park Drive with important concentrations of shopping centers, auto dealerships, and other commercial, office, and institutional uses. The primary goal of this classifications is to maintain “destination” commercial uses and enhance the local tax base.*

The proposed special use, an Adult Use Cannabis Dispensing Organization, aligns with the proposed use identified in Village’s Future Land Use map, for the Subject Property.

**Impact on Existing or Planned Uses**

The Subject Property is situated within an established commercial shopping center along a highly trafficked and highly visible commercial corridor. This area contains major concentrations of commercial, office, and institutional uses, including auto dealerships and large shopping centers that play a significant role in supporting the local sales tax base. The corridor functions as one of the community’s primary commercial destinations, drawing regional customers and sustaining a diverse mix of businesses. The proposed use will integrate into this setting by occupying a location already characterized by its high utilization, comparable commercial operations, and complementary surrounding land uses.

The Subject Property is appropriately separated and buffered from nearby residential neighborhoods, ensuring that the proposed use will not negatively impact adjacent homes. To the west of the commercial corridor, existing single-family residences zoned R-6 are located in excess of 300-feet as measured building to building, creating substantial physical distance between the nearest residential property and the Subject Property. This separation is further reinforced by an existing visual buffer along the eastern



edge of the nearest R-6 lot, consisting of an approximately six-foot-tall privacy fence and stand of large specimen trees that effectively disrupt sightlines toward the commercial center. In addition, the intervening shopping center, which includes a single-story commercial building with a faux second-story parapet, extensive parking areas, rear service/loading areas, and internal drive aisles, provides another layer of physical and operational separation between the residences and the special use proposed for the Subject Property.

Multi-family residences zoned R-8 are located farther west and south of Greentree Parkway. Greentree Parkway itself provides a significant physical and visual buffer, with an approximately 80-foot public right-of-way that includes eastbound and westbound travel lanes totaling roughly 38 feet, a 14-foot landscaped parkway, and a five-foot sidewalk. This roadway corridor creates a meaningful separation between the residential uses and the Subject Property while maintaining safe pedestrian connectivity to the east through crosswalks at the Milwaukee Avenue intersection.

Collectively, the existing distances, physical barriers, mature landscaping, and the commercial center's built form ensure that the proposed use will not create adverse impacts on nearby residential areas.

#### **Location Restrictions**

The proposed special use will comply with all separation distance standards within the proposed text amendment as demonstrated below:

1. May not be located within 2,000-feet of a protected use such as existing public or private nursery school, preschool, primary or secondary school, child day care services, senior citizen housing, day care homes, day care center or residential care home.
2. May not be located within 300-feet of a lot zoned R-1 Single-Family Residential District, R-2 Single-Family Residential District, R-3 Single-Family Residential District, R-4 Single-Family Residential District, R-5 Single-Family Residential District, R-6 Single-Family Residential District, R-7 or R-8 Multiple-Family Residential District Attached Single-Family Residential District.
3. May not be located within 2,640-feet of any other adult use cannabis dispensary organization.



## SITE TRANSPORTATION & ACCESS

### General Context

The Subject Property is an existing commercial out lot within the Greentree Plaza Shopping Center, a multi-tenant commercial complex located along the Milwaukee Avenue commercial corridor in Libertyville. Greentree Plaza is part of a larger concentration of retail, office, and service-oriented uses situated on the west side of Milwaukee Avenue between Golf Road to the north and Greentree Parkway to the south. The site lies at the northwest corner of the signalized intersection of Milwaukee Avenue and Greentree Parkway, providing direct visibility and convenient access for customers approaching from multiple directions. See Figure 5 - Site Identification Map.

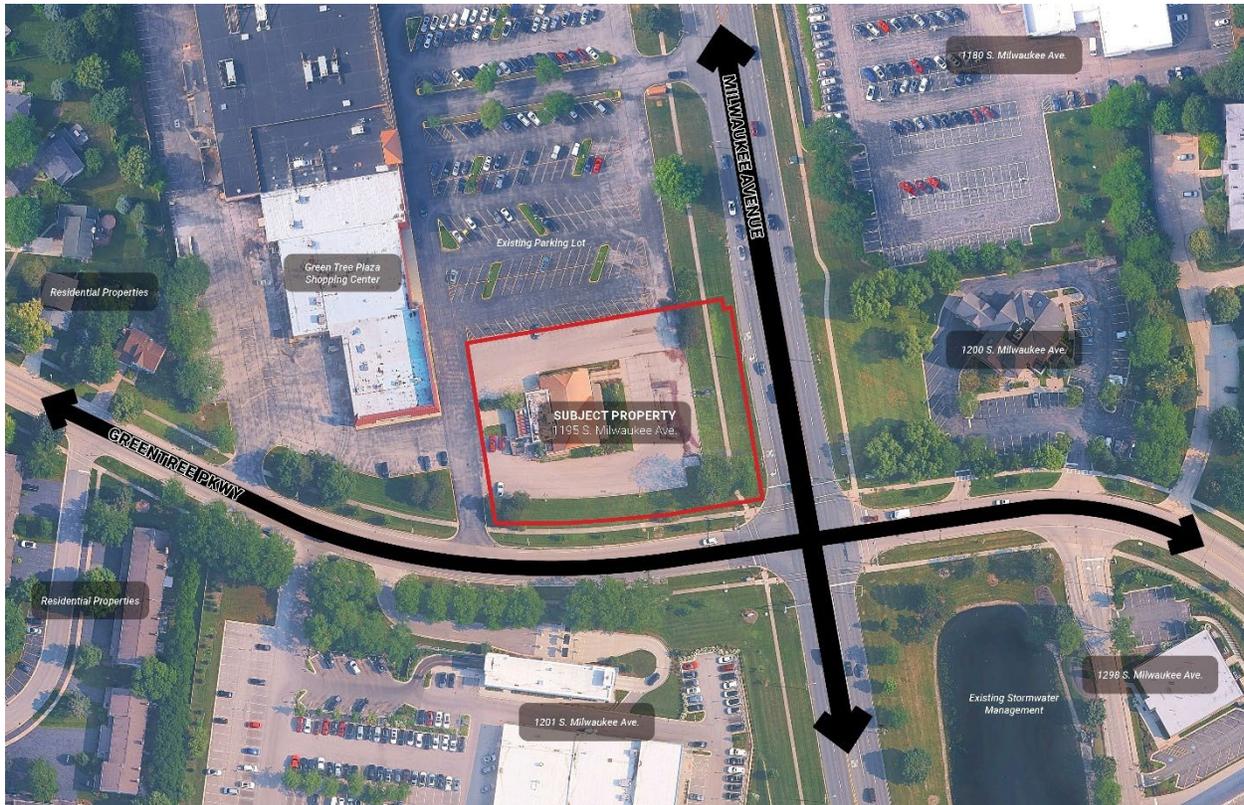


Figure 5 - Site Identification Map

### Transportation

Milwaukee Avenue at this location consists of a five-lane cross section, with two northbound travel lanes, two southbound travel lanes, and a center shared left-turn lane serving adjacent commercial properties. According to the most recently published IDOT traffic counts, this segment of Milwaukee Avenue carries approximately 25,500 average daily trips (ADT). The Lake County Highway Map identifies this roadway segment as a “State Highway Maintained by Municipality,” reflecting its role as a major north-south corridor within the region. Greentree Parkway, which intersects Milwaukee Avenue at the southeast corner of the shopping center, is a two-lane local roadway that terminates in a residential neighborhood to the west and carries approximately 2,700 ADT based on IDOT counts.

The property is also served by regional public transportation. PACE Bus Route 574 operates along Highways 45 and 21, providing connections between Libertyville, Mundelein, and Vernon Hills. Key destinations served by this route include the College of Lake County, the Libertyville Metra Station, Carmel



Catholic High School, and Hawthorn Mall. The site is accessible for pedestrians, with continuous sidewalks extending along both sides of Milwaukee Avenue and along the north and south sides of Greentree Parkway, supporting safe pedestrian mobility to and from adjacent commercial and residential areas.

### Access

Primary vehicular access to the subject property is provided through two shared access points that serve the broader Greentree Plaza Shopping Center. The first access point is located along Milwaukee Avenue via an existing curb cut approximately 515 feet north of the signalized intersection with Greentree Parkway. Southbound traffic on Milwaukee Avenue is accommodated by a designated right-turn lane, while northbound traffic may enter the center via the shared left-turn lane. Egress is stop-controlled with no turning restrictions onto Milwaukee Avenue. From this entrance, vehicles circulate through the shared shopping center parking lot and drive aisles to reach the subject property.

A second access point is located along Greentree Parkway, approximately 360 feet west of the intersection with Milwaukee Avenue. This entrance provides full ingress and egress for vehicles traveling in both directions along Greentree Parkway. Accessing the subject property from this location requires traveling past the site's frontage and utilizing internal circulation routes shared with the Greentree Plaza development.

Together, the two access points provide flexible options for site circulation and distribute traffic across the broader commercial center.

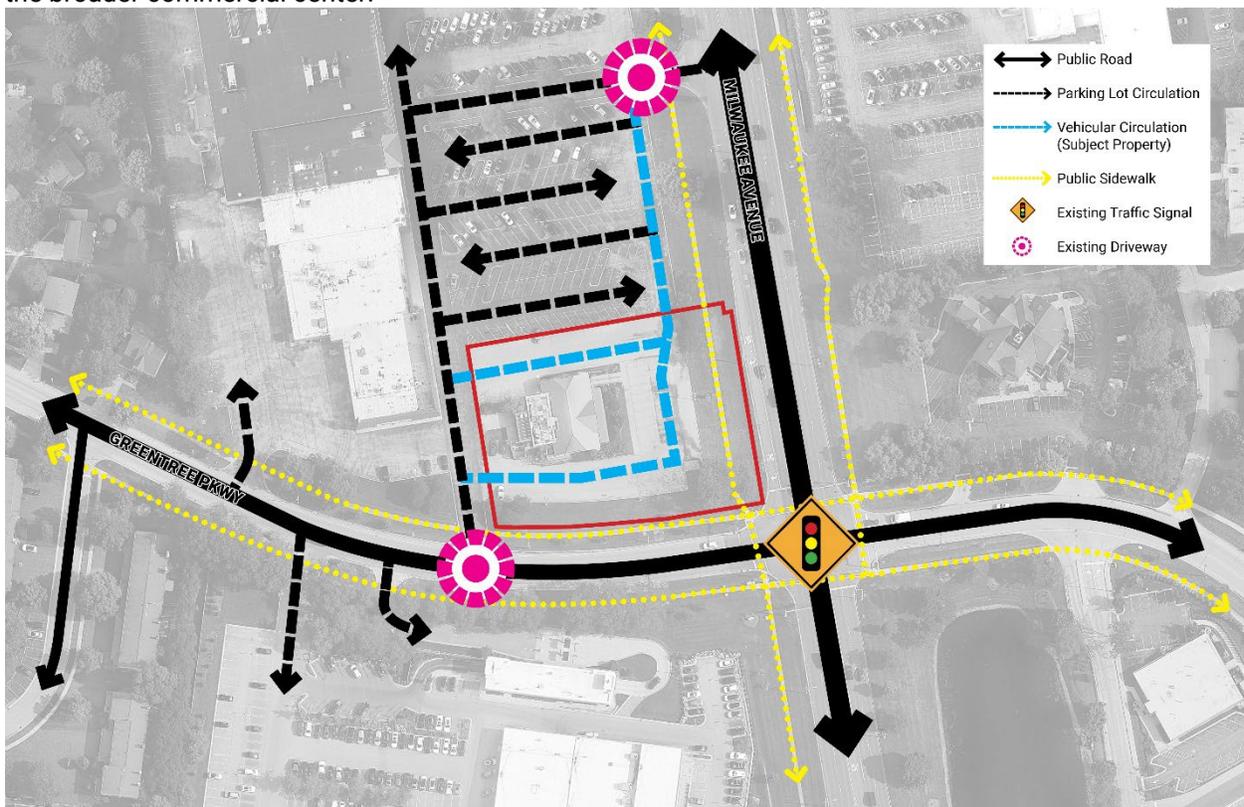


Figure 6 – Site Transportation & Access



### **Site Design**

The site design reflects its historic use as a sit-down restaurant, with a building footprint and circulation pattern typical of that commercial format. The existing structure, as proposed, will be approximately 4,644 square feet and is centrally located on the parcel, oriented eastward toward Milwaukee Avenue. Parking and circulation areas surround the building, with access provided through the larger Greentree Plaza Shopping Center.

Single-loaded drive aisles run along the north and south sides of the building, connecting to the primary internal circulation route along the west side of the parcel. This internal circulation system supports access to the broader shopping center and provides indirect access to the subject property from both Milwaukee Avenue and Greentree Parkway. Along the site's eastern frontage, facing Milwaukee Avenue, a double-loaded drive aisle accommodates parking on both sides and provides direct access to the building's main entrance.

The building is elevated on an existing plinth, and pedestrian access is provided at the northeast corner through a dual-staircase leading from the Milwaukee Avenue parking area to the front door. A substantial arrangement of foundation landscaping frames the front façade from Milwaukee Avenue.

An existing ramp along the northern façade, extends from the northeast corner of the building, providing accessible access from designated handicap parking spaces located along the north façade, to the west. A second ramp on the south side serves a rear service door and connects to the existing trash enclosure and loading area.

The west side of the building, screened from Milwaukee Avenue, functions as the site's service and delivery area. This area includes a concrete driveway that allows delivery vehicles to park off the primary north-south drive aisle shared by the larger Greentree Plaza development. The layout supports routine service operations while keeping loading functions out of public view and away from primary customer circulation routes. See Figure 7 – Site Plan.

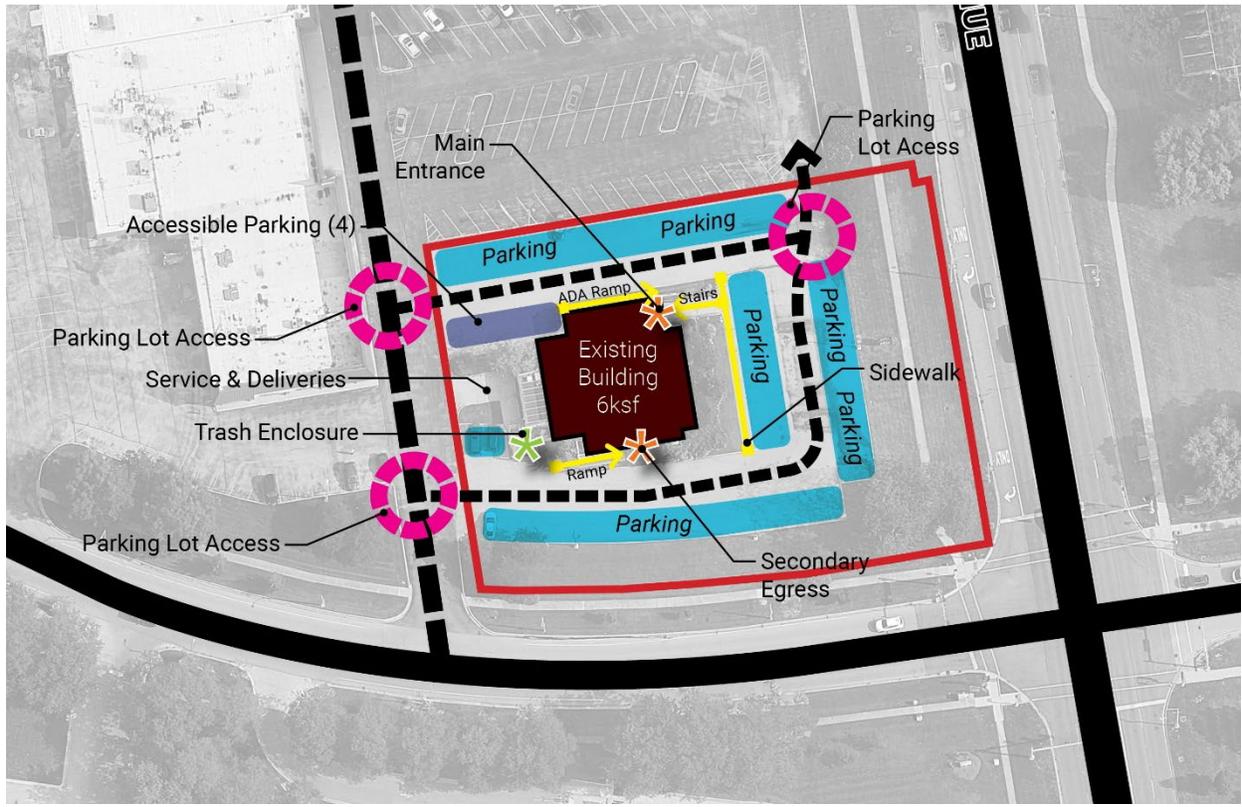


Figure 7 – Site Plan



### Parking

There are 76 parking spaces available for use by the proposed use including four (4) handicap-accessible parking spaces. See Figure 8 – Site Parking Plan

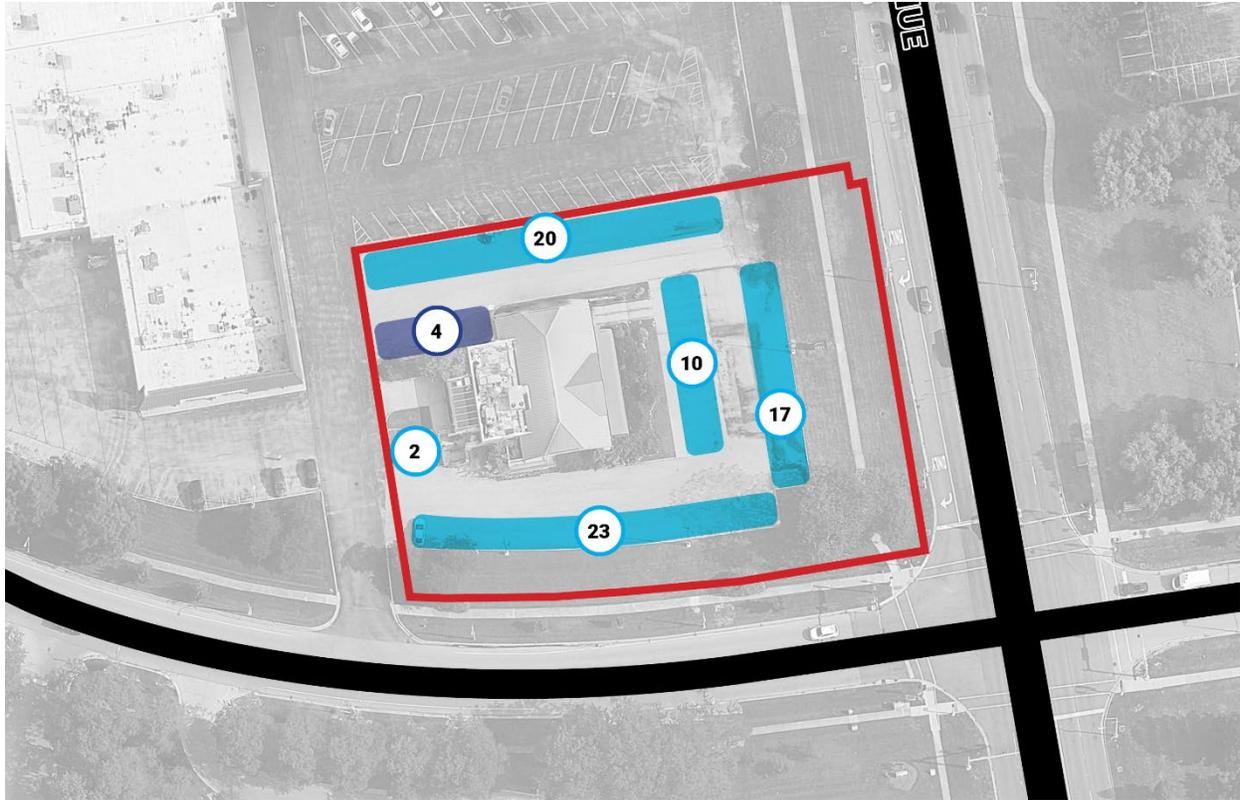


Figure 8 – Site Parking Plan

The Village of Libertyville requires one (1) parking space per each 250 square feet of floor area for a typical Retail Trade use. Based on that calculation, the proposed 4,644-square foot building, as a proposed Adult Use Cannabis Dispensing Organization and other similar retail trade uses for the balance of the building, will require approximately 19 parking spaces, according to the ordinance. Based on this standard, the Subject Property offers a surplus of 57 parking spaces.



Based on the Institute of Transportation Engineers' (ITE) Parking Generation Manual, 5th Edition, Adult Use Cannabis Dispensing Organizations typically require 7.19 parking spaces per 1,000 square feet. Although the 4,644-square-foot building will be subdivided into a dispensary and a separate retail trade tenant, the more restrictive dispensary parking rate has been applied to the entire building to ensure a conservative analysis. Using this standard, the total parking demand for the building is approximately 34 spaces. The Subject Property provides a surplus of 42 parking spaces even when applying this higher parking requirement, assuming the remaining portion of the building operates as a typical retail trade use.

Table 4 - Site Parking Comparison

<b>Subject Property</b>	<b>Use</b>	<b>Standard</b>	<b>Required</b>	<b>Net Provided</b>
<b>Subject Property</b>	Adult Use Cannabis Dispensing Organization			76
<b>Village of Libertyville</b>	Retail Trade	1 space per 250sf	19	+57
<b>ITE Parking Generation Manual</b>	Dispensary	7.19 spaces per 1,000sf	34	+42



## Appendix A – Land Use Reconnaissance

PIN	Address-1	Name	Business	Land Use	Approx. Distance (Building to Building)	Approx. Distance (Tax Parcel to Tax Parcel)
1128411013	1720 N MILWAUKEE AVE	Mariano's	Grocery Store	Commercial		
1128413070	1800 N MILWAUKEE AVE	Aldi	Grocery Store	Commercial		
1128413069	1810 N MILWAUKEE AVE	Belle Tire	Automotive Store	Commercial		
1128413066	1840 N MILWAUKEE AVE	Chase	Bank	Commercial		
1128413065	1860 N MILWAUKEE AVE	Menard's	Hardware Store	Commercial		
1128209021	1201 S MILWAUKEE AVE	Soapy Car Wash	Car Wash	Commercial		
1128201043	1195 S MILWAUKEE AVE	Subject Property	Adult-Use Cannabis Dispensing Organ	Commercial		
	122 GREENTREE PKWY	John's Tailor's Touch	Tailor	Commercial		
	118 GREENTREE PKWY	Puppy Love Pet Grooming	Pet Grooming	Commercial		
	114 GREENTREE CTR	Burt's Deli	Restaurant	Commercial		
	1199 S MILWAUKEE AVE	Beltone	Medical - Hearing Center	Commercial		
	1197 S MILWAUKEE AVE	Frunchroom Collective	Coffee Shop	Commercial		
	1193 S MILWAUKEE AVE	Frunchroom Collective	Coffee Shop	Commercial		
	1191 S MILWAUKEE AVE	Frunchroom Collective	Coffee Shop	Commercial		
	1189 S MILWAUKEE AVE	Little Steps Pediatric Therapy	Physical Therapy	Commercial		
	1187 S MILWAUKEE AVE	4 Paws Animal Hospital	Veterinary Clinic	Commercial		
	1185 S MILWAUKEE AVE	Viet Taste	Restaurant	Commercial		
	1177 S MILWAUKEE AVE	X-Golf Libertyville	Recreation Center	Commercial		
	1163 S MILWAUKEE AVE	VACANT	VACANT	Commercial		
	1151 S MILWAUKEE AVE	O'Reilly's Furniture & Amish Gallery	Furniture Store	Commercial		
	1139 S MILWAUKEE AVE	First Institute Training & Management	Job Training Center	Commercial		
1128201023	1135 S MILWAUKEE AVE	VACANT	VACANT	Commercial		
	1133 S MILWAUKEE AVE	Caravell Autism Health	Children's Autism Clinic	Commercial		
1128201049	1125 S MILWAUKEE AVE	VACANT	VACANT	Commercial		
1128201050	1123 S MILWAUKEE AVE	GLMV Chamber of Commerce	Offices	Commercial		
1128201055	1121 S MILWAUKEE AVE	Tesla	Automobile Sales	Commercial		
1128201048	1119 S MILWAUKEE AVE	VACANT	VACANT	Commercial		
1128201046	1113 S MILWAUKEE AVE					
		Justigon & Fagan PC	Accounting Services	Office Park & Corporate Office		
		Yatena Y Kozlovitser, DDS	Dental Clinic	Office Park & Corporate Office		
		Youth & Family Counseling	Mental Health Services	Office Park & Corporate Office		
		Live Lean Rx Libertyville	Wellness Center	Office Park & Corporate Office		
		MJG Enterprises, LLC	Restaurant Management	Office Park & Corporate Office		
		Body & Wellness Studio	Yoga Studio	Office Park & Corporate Office		
		The Pilates PT	Medical Clinic	Office Park & Corporate Office		
		Precision Title Company	Title Company	Office Park & Corporate Office		
		Taylor-Made Lactation	Medical Consulting	Office Park & Corporate Office		
		Law office of Ronald L. Bell	Attorney	Office Park & Corporate Office		
		Intertec Home LTD.		Office Park & Corporate Office		
		International Financial Services Corp. Robert G See	Financial Consulting	Office Park & Corporate Office		
		Motivation Consultants	Marketing Consultant	Office Park & Corporate Office		
		Farmers Insurance-Thomas Robb	Insurance Agent	Office Park & Corporate Office		
1128201045	1117 S MILWAUKEE AVE					
		Illinois Compounding Pharmacy	Medical Supply	Office Park & Corporate Office		
		Royal Prestige	Home Goods Store	Office Park & Corporate Office		
		Blissful Touch Studio	Personal Care	Office Park & Corporate Office		
		Accurate Biometrics, Inc	Fingerprinting Services	Office Park & Corporate Office		
		Blissful Touch Studio	Wellness Center	Office Park & Corporate Office		
		Borcia Adams Law Offices	Attorney	Office Park & Corporate Office		
		Vision Interior Design	Professional Services	Office Park & Corporate Office		
		Tu Construction Corp.	Construction Company	Office Park & Corporate Office		
		Law Offices of John M. Borcia	Attorney	Office Park & Corporate Office		
		Epijenetics Counseling & Consulting	Mental Health Services	Office Park & Corporate Office		
		Breakthrough Hypnotherapy	Professional Services	Office Park & Corporate Office		
		Creative Counseling	Mental Health Services	Office Park & Corporate Office		
		Swartz & Reeder	Public Accountant	Office Park & Corporate Office		
		Deborah A. Long, Attorney at Law	Attorney	Office Park & Corporate Office		
		IRIS Global	General Contractor	Office Park & Corporate Office		
		United Industrial Construction	Construction Company	Office Park & Corporate Office		
		Affinity Physical Therapy	Medical Clinic	Office Park & Corporate Office		
		Healthy Minds Behavioral Health	Mental Health Services	Office Park & Corporate Office		
		Chevelure Salon & Hair-Loss Solutions	Salon	Office Park & Corporate Office		
		Change of Mind Acupuncture	Medical Clinic	Office Park & Corporate Office		
		Oksana Mensheha, MD	Ophthalmologist	Office Park & Corporate Office		
		Addictions Associates Therapy, Inc.	Addiction Treatment	Office Park & Corporate Office		
		GolfVisions Management, Inc	Consulting	Office Park & Corporate Office		
		Breakthrough Hypnotherapy	Hypnotherapy Service	Office Park & Corporate Office		
		Kathleen V. Shea, PHD	Optometrist	Office Park & Corporate Office		
		Michael L. Klestinski ACSW & Assoc.	Accounting Services	Office Park & Corporate Office		
		All Aspects Restoration	Contractor	Office Park & Corporate Office		
		Black & White Studios	Salon	Office Park & Corporate Office		
		Equity Next, Inc.	Financial Consulting	Office Park & Corporate Office		
		Butterfield Park Center, LLC.		Office Park & Corporate Office		
		Robert J. Adams and Assoc.	Attorney	Office Park & Corporate Office		
		Crossland Development LLC.	Developer	Office Park & Corporate Office		
1128201044	0 S MILWAUKEE AVE	Public ROW	Milwaukee Avenue	ROW/Utilities/Transportation		
	1001 S MILWAUKEE AVE	Chevrolet	Automobile Sales	Commercial		
1128201061	1111 S MILWAUKEE AVE	Honda Libertyville	Automobile Sales	Commercial		
	200 W GOLF RD	British Swim School	Learning Center	Commercial		
1128104020	151 W GOLF RD	Integrated Palliative and Hospice	Residential Care Home	Institutional	~2,122-feet	~1,900-2,000-feet
1128104019	201 W GOLF RD	Libertyville Village Fire Station	Government Services	Institutional		
1128104018, 1121	223 W GOLF RD	The Children's House of Libertyville	Montessori School	Institutional	~2,341-feet	~2,200-2,300-feet
1121415035	941 S MILWAUKEE AVE	Libertyville Lincoln	Automobile Sales	Commercial		
	941 S MILWAUKEE AVE	Quicklane Automotive	Automotive Store	Commercial		
1121400016	921 S MILWAUKEE AVE	Libertyville Kia	Automobile Sales	Commercial		
1121415029	915 S MILWAUKEE AVE	Enterprise Rent-a-Car	Car Rental	Commercial		
	901 S MILWAUKEE AVE	Hyundai	Automobile Sales	Commercial		
	902 S MILWAUKEE AVE	Duxler Libertyville Tire	Automotive Store	Commercial		
1121416041	904 S MILWAUKEE AVE	O'Reilly Auto Parts	Automotive Store	Commercial		
		PSQ Dry Clean	Dry Cleaners	Commercial		
		Transition Pathways (School District 128)	School (Special Ed/Individuals w Disab	Commercial	~2,818-feet	~1,800-1,900-feet
	906 S MILWAUKEE AVE	Nu Nails	Nail Salon	Commercial		

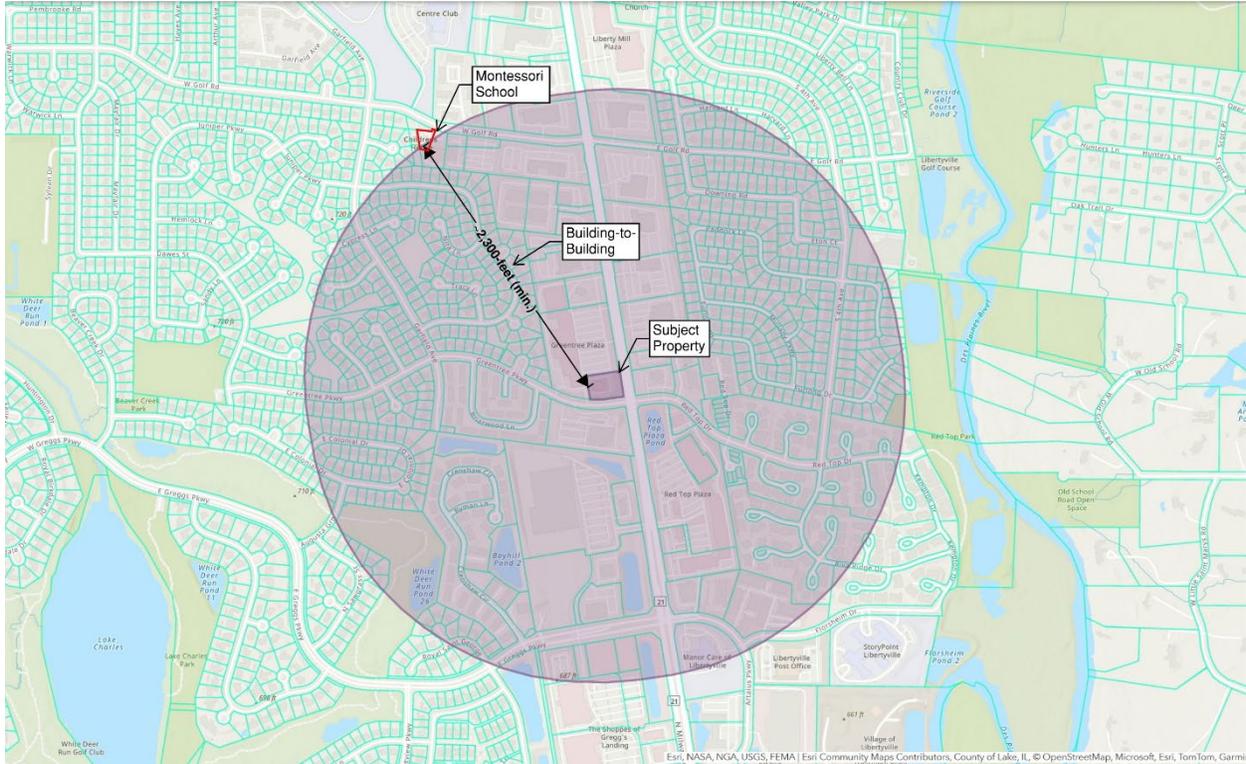
PIN	Address-1	Name	Business	Land Use	Approx. Distance (Building to Building)	Approx. Distance (Tax Parcel to Tax Parcel)
	908 S MILWAUKEE AVE	VACANT		Commercial		
	910 S MILWAUKEE AVE	VACANT		Commercial		
	918 S MILWAUKEE AVE	VACANT		Commercial		
	920 S MILWAUKEE AVE	Libertyville Volkswagen / Nissan	Automobile Sales	Commercial		
1121416042	1050 S MILWAUKEE AVE	Napleton Cadillac of Libertyville	Automobile Sales	Commercial		
1128202069	1010 S MILWAUKEE AVE	Napleton Ford of Libertyville	Automobile Sales	Commercial		
1128202173	1120 S MILWAUKEE AVE	Napleton Mazda of Libertyville	Automobile Sales	Commercial		
1128202160	1160 S MILWAUKEE AVE	AutoNation Toyota Libertyville	Automobile Sales / Partially Vacant	Commercial		
1128202163	1180 S MILWAUKEE AVE	AutoNation Toyota Libertyville	Automobile Sales	Commercial		
1128210006	1200 S MILWAUKEE AVE	Libertyville Bank & Trust	Bank	Commercial		
		Wintrust Mortgage	Mortgage Company	Commercial		
1128211002	1298 S MILWAUKEE AVE	Lake County Family Dental Care	Dental Clinic	Commercial		
1128211005	1300 S MILWAUKEE AVE	Jewel-Osco	Grocery Store	Commercial		
1128403086	1308 S MILWAUKEE AVE	Vision Care	Medical Clinic	Commercial		
	1310 S MILWAUKEE AVE	Massage Motu	Massage Therapist	Commercial		
		Renewed Movement, LLC	Chiropractor	Commercial		
		Davis Chiropractic	Chiropractor	Commercial		
	1312 S MILWAUKEE AVE	One Main Financial	Financial Consulting	Commercial		
	1314 S MILWAUKEE AVE	Warhammer	Hobby Store	Commercial		
	1316 S MILWAUKEE AVE	UBreakiFix	Mobile Phone Repair	Commercial		
		ShredTronics	Recycling Center	Commercial		
	1318 S MILWAUKEE AVE	Hunan Palace	Restaurant	Commercial		
	1322 S MILWAUKEE AVE	Stretch Lab	Fitness Center	Commercial		
	1324 S MILWAUKEE AVE	Code Ninjas	Learning Center	Commercial		
	1326 S MILWAUKEE AVE	Burger King	Restaurant	Commercial		
	1344 S MILWAUKEE AVE	The Leslie McDonnell Team	Real Estate	Commercial		
		Lynn Fairfield ReMax	Real Estate	Commercial		
	1346 S MILWAUKEE AVE	KidStrong Libertyville	Fitness Center	Commercial		
	1348 S MILWAUKEE AVE	VACANT	VACANT	Commercial		
	1350 S MILWAUKEE AVE	Fast Signs	Sign Maker	Commercial		
	1352 S MILWAUKEE AVE	Athletico	Physical Therapy	Commercial		
	1354 S MILWAUKEE AVE	Ki Taekwondo Libertyville	Learning Center	Commercial		
	1360 S MILWAUKEE AVE	Foss Swim School	Learning Center	Commercial		
1128403005	1366 S MILWAUKEE AVE	AFC Urgent Care Libertyville	Medical Clinic	Commercial		
	1400 S MILWAUKEE AVE	Phenix Salon Suites	Salon	Commercial		
1128403006	1408 S MILWAUKEE AVE	Nails First Spa Inc	Salon	Commercial		
	1414 S MILWAUKEE AVE	Studio Elevate Fit	Fitness Center	Commercial		
	1416 S MILWAUKEE AVE	L.A. Tan/Sore Wellness	Salon	Commercial		
	1418 S MILWAUKEE AVE	Great Lakes Dental	Dentist Office	Commercial		
	1420 S MILWAUKEE AVE	Plato's Closet Libertyville	Clothing Reseller	Commercial		
	1428 S MILWAUKEE AVE	La Mera Mera	Restaurant	Commercial		
	1434 S MILWAUKEE AVE	H&R Block	Taxes	Commercial		
	1436 S MILWAUKEE AVE	Lou Malnati's Pizzeria	Restaurant	Commercial		
	1438 S MILWAUKEE AVE	Max's Dawg House	Restaurant	Commercial		
		Best Catering of Libertyville	Caterer	Commercial		
	1440 S MILWAUKEE AVE	Hertz	Rental Car	Commercial		
1128403001	1470 S MILWAUKEE AVE	Walgreen's	Drugstore	Commercial		
1128403002	1512 ARTAIUS PKWY	Geode Health	Mental Health Services	Office Park & Corporate Office		
		Newland & Newland, LLP	Attorney	Office Park & Corporate Office		
		A'vanti Salon of Libertyville	Salon	Office Park & Corporate Office		
		Strauss & Hoyt	Attorney	Office Park & Corporate Office		
		Dam Snell & Taveirne	Taxes	Office Park & Corporate Office		
		PURELY PILATES	Fitness Center	Office Park & Corporate Office		
		Art of Recovery	Mental Health Services	Office Park & Corporate Office		
		Libertyville Bank & Trust	Banker	Office Park & Corporate Office		
1128403087	700 FLORSHEIM DR	HealthQuest Libertyville	Chiropractor	Office Park & Corporate Office		
		Estate & Business Law Group, PC	Attorney	Office Park & Corporate Office		
		Libertyville Chiropractic Clinic	Chiropractor	Office Park & Corporate Office		
	704 FLORSHEIM DR	Agony of De-Feet	Shoe Store	Office Park & Corporate Office		
		Wela Financia	Financial Consulting	Office Park & Corporate Office		
		Farmers Insurance - Matthew Robb	Insurance	Office Park & Corporate Office		
		Mark Pletcher MA, LCPC	Mental Health Services	Office Park & Corporate Office		
		Farmers Insurance - Darius Hennington	Insurance	Office Park & Corporate Office		
	708 FLORSHEIM DR	Law Offices of Thaddeus M. Bond, Jr & Associates	Attorney	Office Park & Corporate Office		
		Blue Fence	Real Estate	Office Park & Corporate Office		
		MedLogic Direct Primary Care	Doctor Office	Office Park & Corporate Office		
		Bond Title Services, Inc	Title Company	Office Park & Corporate Office		
		Jill Green MD	Mental Health Services	Office Park & Corporate Office		
	712 FLORSHEIM DR	Attar Dental Libertyville	Dental Clinic	Office Park & Corporate Office		
		Edward Jones - Financial Advisor	Financial Consulting	Office Park & Corporate Office		
		Carl E Mellen & Co.	Insurance	Office Park & Corporate Office		
	716 FLORSHEIM DR	IBJI MRI - Libertyville	Medical Clinic	Office Park & Corporate Office		
	720 FLORSHEIM DR	IBJI Doctors' Office	Doctor Office	Office Park & Corporate Office		
				Office Park & Corporate Office		
	724 FLORSHEIM DR	IBJI Physical & Occupational Therapy	Doctor Office	Office Park & Corporate Office		
	728 FLORSHEIM DR	Beermann Law Group	Attorney	Office Park & Corporate Office		
		Advocus	Title Insurance	Office Park & Corporate Office		
		Law Offices, Misc.	Attorney	Office Park & Corporate Office		
		Chase Professionals	Staffing Agency	Office Park & Corporate Office		
		Harrison Wallace Financial Group, Ltd.	Financial Consulting	Office Park & Corporate Office		
	732 FLORSHEIM DR	Tax Associates Inc	Taxes	Office Park & Corporate Office		
		Hannan & Associates	Accounting	Office Park & Corporate Office		
		Kulinsky & Associates	Attorney	Office Park & Corporate Office		
		Curtin Whitcombe LLC	Attorney	Office Park & Corporate Office		
		Dana McNeir DDS	Oral Surgery	Office Park & Corporate Office		
		North American Title Company	Title Company	Office Park & Corporate Office		
	736 FLORSHEIM DR	Aprio	Accounting	Office Park & Corporate Office		
		Artaius Physical Therapy & Rehab	Medical Clinic	Office Park & Corporate Office		
	740 FLORSHEIM DR	Brian Danielewicz Dentistry	Dental Clinic	Office Park & Corporate Office		
		Living Pono Counseling	Mental Health Services	Office Park & Corporate Office		
		Holden Danielewicz Dentistry	Dental Clinic	Office Park & Corporate Office		
		Friese Financial Services	Financial Consulting	Office Park & Corporate Office		

PIN	Address-1	Name	Business	Land Use	Approx. Distance (Building to Building)	Approx. Distance (Tax Parcel to Tax Parcel)
1128401003	1500 S MILWAUKEE AVE	Avantara	Residential Care Home	Office Park & Corporate Office	~2,147-feet	~1,900-2,000-feet
1127309001	1520 ARTAIUS PKWY	United States Postal Service	Mail	Institutional		
1127309002	901 FLORSHEIM DR	Story Point Senior Living	Senior Citizen Housing	Institutional	~2,833-feet	~2,500-2,600-feet
1127102013	1030 S 4TH AVE	Lifesport Athletic Club	Health & Fitness Center	Commercial		





### Appendix C - 223 W. Golf Road (Montessori School)



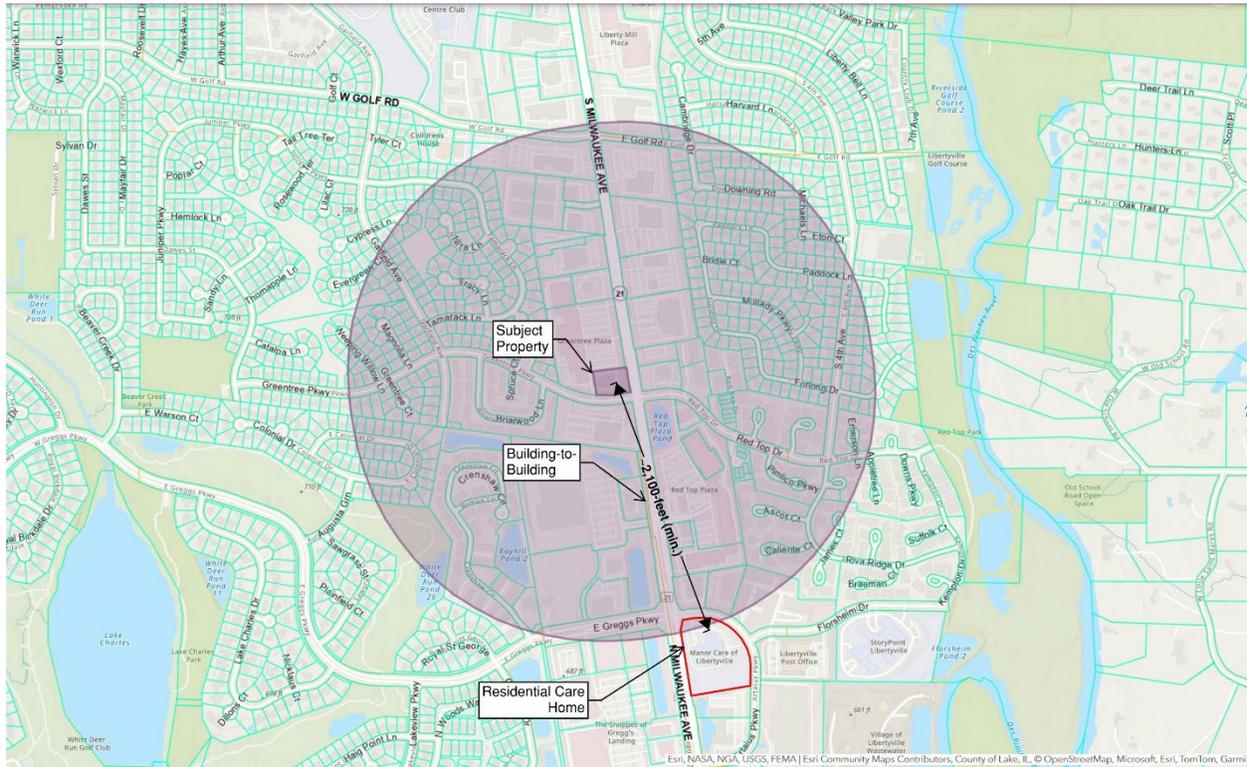


## Appendix D - 904 S. Milwaukee Avenue (School, Special Education for Individuals with Disabilities)



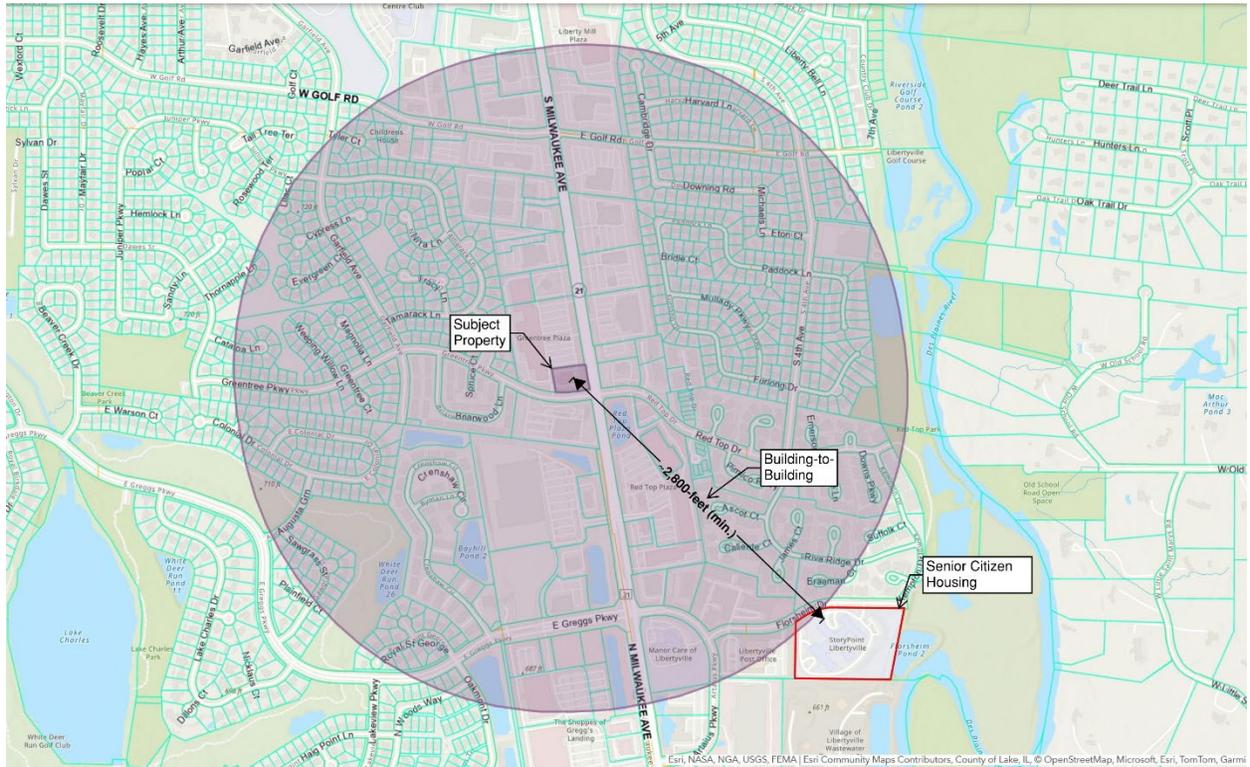


## Appendix E - 1500 S. Milwaukee Avenue (Residential Care Home)



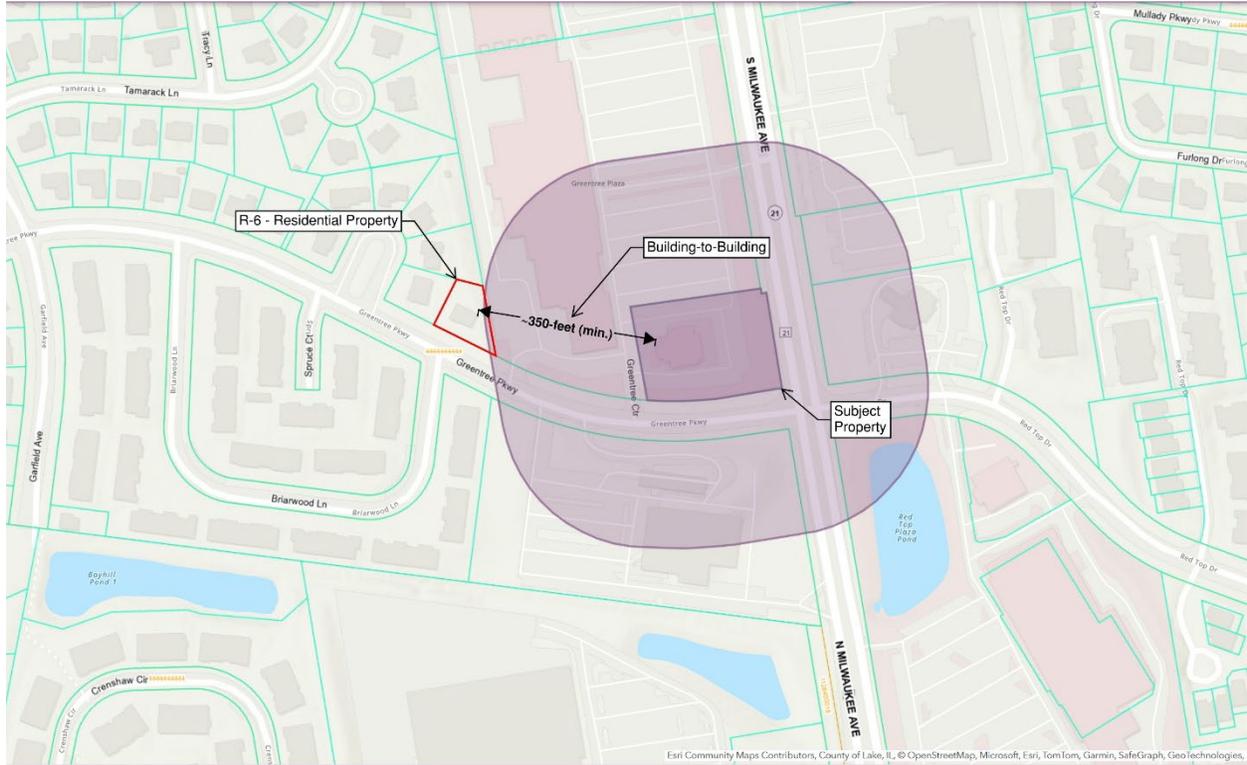


## Appendix F - 901 Florsheim Drive (Senior Citizen Housing)





## Appendix G - 200 Greentree Parkway (R-6, Residential Property)



# **Special Permit Addendum Materials**

**Prairie Retail Holdings, LLC**

**Operational Narrative**

**Address: 1195 S Milwaukee Ave**

## **PRAIRIE OPERATIONAL PLAN: 1195 S MILWAUKEE**

### **Applicant and Property Information**

The applicant for the special use and text amendment is Prairie Retail Holdings, LLC (“Prairie” or the “Company”). The Company's proposed dispensary premises is located at 1195 South Milwaukee Avenue, Libertyville, Illinois (the “Proposed Location”). The Proposed Location is a 1.32-acre property that is currently improved with a freestanding, single-story structure with an approximately 5,338 square foot footprint in which Prairie is proposing to improve. The property is a former Baker’s Square restaurant which closed in January 2020.

As part of improvements, Prairie proposes to remove the existing glass eating area along the east façade and demise the remaining space into two tenant spaces. The Company will occupy the first tenant space which is approximately 2,687. The remaining space, which totals about 1,777 square feet, will be leased to a retail, restaurant or service tenant as determined by the landlord.

### **Proposed Hours of Operation and Accompanying Benefits to Consumers**

The Company is committed to providing exceptional service to adult-use consumers, with operating hours from 9 AM to 9 PM Monday through Thursday, 9 AM to 10 PM Friday and Saturday, and 10 AM to 6 PM on Sunday. These extended hours ensure flexibility for our diverse customer base, making it easier for individuals to access regulated cannabis products.

The Company’s proposed hours of operation cater to the needs of adult-use consumers who may not have the flexibility during traditional business hours. By offering consistent operating hours, we will allow recreational customers to visit at their convenience—whether in the morning before work, after work in the evening, or on weekends. This level of accessibility will play a crucial role in reducing wait times, preventing overcrowding, and creating a relaxed, positive customer experience that reflects our commitment to serving the Libertyville community with efficiency and care.

Operating seven days a week with clearly defined hours also will provide stability for both our customers and employees. Customers can plan their visits with confidence, knowing that they will always receive the same level of service, without concerns about sudden closures or altered hours. Consistency breeds trust, and we aim to build that trust within the Libertyville community.

From an operational perspective, this schedule creates clear shifts for employees, making it easier to manage staffing coverage and optimize store performance. By offering defined morning and evening shifts, we not only create a well-structured work environment but also make it easier to attract and retain quality staff who appreciate the predictability and work-life balance this schedule provides. This, in turn, contributes to Prairie maintaining the highest standards of service excellence.

In summary, the Company’s extended hours and seven-day operational model are designed to provide flexibility and convenience for the Libertyville community, while also creating an efficient, well-organized work environment that supports both our team and our

customers. We believe that this approach will allow Prairie to operate harmoniously within the local community, serving as a trusted, compliant, and reliable resource for adult-use consumers.

### **Security and Access Control Plan at Prairie**

At Prairie, the security of our facility, employees, and customers is of the utmost importance. We will implement a comprehensive security system that complies with Illinois state regulations, which will follow nationally recognized best practices, ensuring a safe and secure environment.

Our system will be designed to prevent unauthorized access, mitigate risks, and safeguard our cannabis products through an integrated approach involving alarms, surveillance, and access control technologies.

The dispensary will be equipped with a professionally monitored security alarm system that provides complete coverage across all areas. This includes entrances and exits, rooms with exterior windows, walls, roof hatches, skylights, and storage rooms that contain cannabis products and safes, as well as the entire facility perimeter. The alarm system will be designed to send a prerecorded voice message to law enforcement, public safety, or emergency services in the event of a breach or emergency.

Additionally, the system will include failure notifications, providing immediate alerts to designated company personnel and local authorities if there is a security breach or equipment malfunction. To ensure constant protection, the facility will be equipped with auxiliary power systems consisting of backup batteries and an uninterruptible power supply system. These systems activate automatically during power outages to maintain full functionality of security and surveillance systems.

Prairie's video surveillance system will be strategically designed to cover all sensitive areas, including entrances, exits, cannabis storage rooms, and high-traffic zones. Surveillance cameras will be positioned to provide clear and comprehensive footage of all areas both inside and outside the facility. All recordings will be securely stored and retained for ninety days, in accordance with state regulations, ensuring the availability of video evidence as needed.

In addition, the Company will install motion detectors in every room to detect unauthorized movement, along with glass break sensors along exterior windows to monitor for potential breaches.

Access to the dispensary will be carefully managed through a key fob system that only allows authorized personnel to enter specific areas of the facility. Each key fob will be uniquely linked to an individual employee, enabling real-time monitoring of their movement within the dispensary. This system will provide a digital record of employee activity, ensuring accountability and preventing unauthorized access to sensitive areas.

For visitors, a strict management system will be put in place to vet and monitor all non-employees while they are onsite. The Company must receive state approval before allowing any visitor to access sensitive restricted areas.

To further enhance security, duress and panic alarms will be installed in every room, giving employees the ability to quickly and silently alert emergency services, if necessary. The

facility will also be equipped with smoke and fire alarms to detect potential hazards. Master and secondary alarm keypads will be strategically placed within the dispensary to ensure multiple points of control over the security system and to act as a safeguard for alarm activation.

The security alarm and video surveillance systems will be routinely audited to ensure they are operating properly and in compliance with state law. Illinois has one of the strictest security testing cadences in the nation and requires monthly system testing. Any issues identified during these tests would be promptly resolved to maintain a robust security system.

Additionally, the Company's secure vault will house all cannabis products during non-operational hours. Illinois' vault standards for dispensaries exceed those of most other cannabis markets. The vault's walls, floors, and ceiling must be constructed of at least eight inches of reinforced concrete or steel that meets the requirements of the American Society for Testing and Materials. The vault door and frame must also meet the following security specifications: 30 man-minutes against surreptitious entry, 10 man-minutes against forced entry, 20 man-hours against lock manipulation, and 20 man-hours against radiological techniques. The vault's perimeter must detect any unauthorized entry and transmit a breach signal to our security provider, who will immediately contact law enforcement.

In summary, Prairie will employ a multifaceted approach to security, incorporating cutting-edge technology, continuous monitoring, and strict access control measures. These combined efforts reflect our commitment to maintaining a safe environment for our operations, employees, and customers, while upholding the trust of the local community.

### **Proposed Installed Signage for Prairie Dispensary**

Prairie is fully committed to maintaining strict compliance with Illinois' regulations concerning internal signage, ensuring that our dispensary meets the highest standards of safety, transparency, and accountability.

As such, the Company will ensure all external signage complies with the requirements articulated in Libertyville's Ordinance No. 15-O-40. Specifically, the Company will ensure all signage is displayed in accordance with requirements found in Article 11 of the Libertyville Zoning Code. The Company has provided a rendering of its proposed exterior signage as part of the application materials. As provided within the rendering, the Company is proposing to utilize its standard, conservative "Company" logo, and will place one 10' – 0" by 3' – 2" sign on the east elevation, while leaving room for the secondary retail trade tenant to place a sign up to 32 square feet and will place a second 10' – 0" by 3' – 2" sign on the south elevation. The company will also refurbish the existing double face LED-illuminated monument sign located on the east side of the Proposed Location along Milwaukee Avenue. The Company will provide an 8'-1" by 5'- 1/4" sign panel on the monument sign for the proposed dispensary and will leave the remainder of the monument sign for the secondary retail trade tenant. Please note that the Company will also be submitting formal signage permits for Libertyville's review and approval *prior* to any signage installation.

In addition to our external signage and as part of Prairie's operational plan, we will incorporate all required internal signage throughout the facility to both inform and protect our customers. Illinois has some of the most stringent requirements for dispensary signage,

and we recognize that adherence to these standards is not only a legal obligation but also an important part of fostering a safe and responsible environment for cannabis sales.

One of the most important signs displayed in our facility is the prohibition of any on-site consumption by customers, or employees. If Company employees observe onsite consumption by adult-use customers, those individuals will be banned from all Illinois Company dispensaries and law enforcement will be notified.

Illinois law also requires the Company to clearly post signage that warns consumers that cannabis consumption can impair cognition and driving, is for adult use only, may be habit forming, and should not be used by pregnant or breastfeeding women. This sign reminds customers to consume cannabis responsibly. Additionally, we will prominently display the state-mandated notice stating that the distribution of adult-use cannabis to anyone under 21 is prohibited.

To further promote responsible usage, the Company will provide educational handouts emphasizing the importance of safe storage and proper disposal of cannabis products. These educational handouts will be placed in visible locations to educate customers on how to store cannabis securely, particularly in households with children or pets, and to encourage the proper disposal of any unused product to prevent misuse. Prairie takes its role in promoting public safety seriously, and these signs are an essential part of our educational outreach efforts.

It is important to note that Illinois takes the matter of required signage very seriously, and dispensaries cannot pass state inspections without meeting all signage requirements. Facilities are subject to fines and citations for failing to maintain proper signage, making compliance a top priority for Prairie. The Company will demonstrate attention to detail in ensuring that all required information is clearly posted throughout our facilities.

In summary, Prairie will be fully compliant with all Illinois signage regulations. Our facility will be designed to meet and exceed the state's strict requirements, with clear, visible signs that address patient safety, product quality, and consumer rights. We are committed to maintaining this high standard and ensuring that our dispensary operates in full alignment with state guidelines.

### **Odor Mitigation Plan for Prairie Dispensary**

At Prairie, we prioritize the comfort of our surrounding community by ensuring effective odor control measures are in place. While dispensaries generally require less infrastructure for odor mitigation compared to cultivation facilities, we will employ a combination of equipment controls and administrative measures to prevent any facility-related odors from becoming a concern beyond our property boundaries.

Prairie will utilize a combination of equipment controls and administrative measures to effectively manage odor mitigation at the dispensary. The facility will be equipped with a state-of-the-art HVAC system designed to regulate airflow and maintain a controlled environment, ensuring optimal conditions inside the dispensary. Integrated within this system are carbon filters, which capture and neutralize any odors before they can escape the facility, preventing them from affecting the surrounding area.

In addition to the above equipment controls, we will implement comprehensive administrative measures to support the effectiveness of our odor mitigation strategies. Employees will undergo thorough training to follow established protocols and ensure that all equipment is functioning properly to prevent odor issues. Regular monitoring and inspections will be conducted to verify the performance of the Company's odor control systems and address any potential concerns.

Furthermore, we will maintain detailed records of all inspections, maintenance activities, and any odor-related incidents. This recordkeeping will not only demonstrate our commitment to compliance but also will allow for a quick and efficient response in the rare event of an issue arising.

In the unlikely event of an odor complaint from a state or local regulatory agency, Prairie will promptly conduct an internal investigation to determine whether employees followed established protocols. This investigation will also assess whether any equipment needs to be repaired or replaced to restore full odor control capabilities.

Please note that it is illegal in Illinois for any finished cannabis product to be opened within Prairie's licensed dispensary premises. **Accordingly, there is no practical risk to an odor-causing event within the facility, as cannabis products are never allowed to be opened or used on Company property.**

Prairie will undertake the efforts above to showcase our commitment to maintaining a positive and compliant presence within the communities we serve.

### **Parking, Traffic, and Circulation Plans for Prairie**

At Prairie, we understand the importance of minimizing any potential disruptions to local traffic patterns and ensuring that parking and customer circulation is seamless for the surrounding community.

Our facility will be designed with ample parking to accommodate our customers, ensuring that visitors can easily find spaces without creating overflow parking issues in nearby areas.

Our dispensary will feature two dedicated ingress and egress points, allowing for smooth entry and exit without causing bottlenecks or confusion. These access points will be strategically placed to support the flow of traffic, reduce congestion, and provide clear, easy navigation for customers as they enter and leave the premises.

Additionally, the Company will coordinate with local law enforcement, keeping them informed of our peak hours so they can monitor and keep tabs on traffic conditions during our busiest times. This partnership with law enforcement will further support the Company's efforts to maintain safe, efficient traffic patterns and minimize any disruption to the local Libertyville community.

From the outset, we have designed our operational plan to handle increased traffic, particularly during the initial weeks following our opening, when we expect higher-than-normal customer volumes due to the excitement for our grand opening.

To manage this influx of traffic, we will deploy multiple employees to monitor and direct vehicles entering and exiting our facility. These staff members will be tasked with

ensuring that the flow of traffic is smooth and organized, preventing any unnecessary backups on nearby roads and ensuring safe access for both our customers and passersby. This temporary traffic management strategy will remain in place until we observe a decline in the initial grand opening attention, ensuring that any short-term congestion is properly managed.

In addition to monitoring traffic, we will also increase staffing levels during peak operating hours to ensure that adult-use consumers are able to move quickly through the dispensary. By adding staff during busy times, we aim to streamline the customer experience, allowing visitors to complete their transactions efficiently and spend less time inside the store. This will not only enhance customer satisfaction but also reduce any potential strain on parking and minimize the impact on local traffic.

Prairie's parking, traffic, and circulation plan has been thoughtfully designed to accommodate customer needs while minimizing any negative impact on the surrounding area. Through proactive staffing, ample parking spaces, and clear ingress and egress points, along with ongoing communication with local law enforcement, we are confident in our ability to ensure a smooth, well-organized operation that integrates seamlessly with the local traffic environment.

### **Appropriate Siting & Operation within the Libertyville Community**

As demonstrated in the Company's attached *Sensitive Use Surveys*, the *Proposed Location* is appropriately situated within the Libertyville community. Indeed, the Company's *Proposed Location* is at least 2,000 feet from any regulated sensitive use, such as schools, daycares, and community centers, as well as over 2,000 feet from senior citizen housing and residential care homes.

The Company's *Proposed Location* was chosen because it has sufficient distance from regulated or sensitive areas within the Libertyville community and is appropriately classified with C-4 zoning.

### **Training and Education Provided**

Prairie's onboarding process for dispensing organization agents is extensive and exceeds the stringent standards set by the State of Illinois.

All agents must complete the two-hour, state-mandated Responsible Vendor Training at the start of employment and annually thereafter. This comprehensive course covers:

- Health and safety considerations of cannabis use;
- Laws and regulations related to driving;
- Operating watercraft, or operating snowmobiles under the influence;
- Prohibitions on sales to minors;
- Purchase quantity limits;
- Acceptable forms of identification;
- Safe storage of cannabis;

- Compliance with inventory-tracking system requirements;
- Waste handling and disposal;
- Health and safety standards;
- Security and surveillance requirements;
- Permitting inspections by state and local authorities;
- Purchaser privacy; and
- Packaging and labeling requirements.

Agents must pass an exam to receive credit and a certificate for this training.

The State of Illinois also requires each dispensing organization agent to complete eight hours of continuing education annually. Two of these hours are satisfied by the Responsible Vendor Training. The remaining six hours may cover a wide range of topics, including:

- Seed-to-sale system training;
- Point-of-sale training;
- Product brands;
- Proper dosing;
- Security updates;
- De-escalation;
- Customer service;
- Cannabis science; and
- Inventory best practices.

This annual education ensures agents remain current and well-informed in all aspects of dispensary operations.

Additionally, the Company's training team will provide a full day of in-person instruction as part of the onboarding process. New employees will be familiarized with the Company's Standard Operating Procedures, culture, and human resources policies. Training continues on-site during the employee's first few weeks to reinforce these standards and support a successful transition into their role.

Prairie's commitment to thorough training and continuous education will ensure that all dispensing organization agents are fully prepared to perform their duties safely, responsibly, and in full compliance with state regulations. By combining state-mandated coursework, ongoing professional development, and hands-on onboarding, the Company will maintain a knowledgeable, well-trained team.

### **Procedures for Delivery of Cannabis**

Prairie will establish comprehensive procedures to prevent the diversion, theft, or loss of cannabis during deliveries from licensed Illinois cultivation centers. All receiving activities will occur within a restricted-access, camera-monitored receiving area, as the facility does not

have an enclosed garage.

Only authorized dispensing organization agents will participate in deliveries, and each intake requires two employees and a security guard to ensure proper oversight, safety, and compliance.

Cultivation center drivers will notify the facility of their estimated arrival time. When the delivery vehicle arrives, Employee A and the security guard will meet the driver outside the secure receiving entrance, verify the individual's government-issued identification, Illinois Department of Agriculture agent badge, and confirm their affiliation with the licensed cultivation center. Employee A will use a two-way radio to communicate with Employee B, who remains inside the secured receiving area. If the driver's identity and credentials are verified, Employee A would give the command to "open," allowing Employee B to unlock the secure receiving door. If anything appears irregular or unsafe, Employee A would issue a predetermined "distress" command, prompting Employee B to keep the facility locked and contact law enforcement while Employee A instructs the driver to leave the premises.

Once verified, the delivery driver will be escorted into the monitored receiving area. The driver will unload all sealed transport containers and sign into the vendor log. Employees will then review the delivery manifest in detail to confirm the dispensing organization information, product descriptions, strain names, batch numbers, Marijuana Enforcement Tracking Reporting Compliance ("MetrC") package tags, unit quantities, and all other State-required fields.

Employees will unpack and count each SKU individually, ensuring that every quantity matches both the manifest and MetrC package information exactly. Any discrepancy will be immediately communicated to the driver and must be corrected before product is accepted; any item that does not match the manifest exactly will be rejected. Products will be organized neatly on receiving tables or shelving units that remain fully visible to the surveillance system throughout the process.

After all items are counted and verified, both the cultivation center driver and the dispensary agent will sign the manifest. A copy will be retained at the dispensary, and the original is returned to the driver, who then will sign out of the vendor log. Employee A and the security guard will escort the driver back to the secured exit. Once the driver leaves, Employee A will re-secure the exterior door while Employee B ensures the receiving area is fully relocked and access-controlled.

Immediately after reconciliation, all cannabis products will be entered into MetrC and into the Sweed Point-of-Sale system. No product will ever be left unattended, unentered, or outside restricted-access areas. Once inventoried, all items will be transported directly to the vault for secure long-term storage. The vault will be organized by product type or cultivator, with all MetrC tags visible and aligned in clearly labeled rows. Older inventory will be sold before newer inventory in accordance with a strict First-In, First-Out process. Products not yet ready for sale will be placed in a clearly marked holding area within the vault until they are eligible for retail. The vault will be inspected daily to ensure it remains clean, pest-free, and secure.

Through clear communication, controlled access, continuous surveillance coverage, strict manifest management, precise inventory reconciliation, and full adherence to MetrC

requirements, Prairie will ensure that all cannabis deliveries are received safely and securely, minimizing any risk of diversion, theft, or loss during the delivery process.

### **Procedures to Secure the Dispensary and Prevent Diversion**

Prairie will maintain a comprehensive security and monitoring program designed to protect the dispensing organization, its agents, purchasers, and visitors while preventing the diversion, theft, or loss of cannabis or currency. All security personnel will operate under a strict chain of command and report exclusively to management to avoid any conflict of interest. Security agents will be trained and expected to monitor dispensary activities through continuous observation.

Company management is responsible for hiring security staff and prioritizes candidates with at least two years of military, corrections, law enforcement, or professional security experience. All security personnel receive robust training in threat detection, de-escalation, and emergency procedures. They continuously scan the interior and exterior environment for anything that could compromise the safety or security of customers, staff, or stored assets.

The Company will limit access to sensitive equipment and surveillance infrastructure in accordance with Illinois regulations. The security equipment room will be restricted to the small number of individuals essential to surveillance operations, including the management team, authorized service technicians, law enforcement acting within their lawful jurisdiction, and state inspectors. A current list of authorized personnel will be maintained by the general manager and posted on the security room door. All other employees and visitors will be prohibited from entering this room.

During business hours, security personnel will conduct regular patrols inside and outside the facility. They will walk the perimeter to discourage loitering and to ensure no one is consuming cannabis or cannabis-infused products in the parking lot or on facility grounds. Customers will be required to leave the premises within ten minutes of completing their transactions unless they receive express permission to remain. Security personnel will carry an emergency call button at all times, enabling immediate contact with local law enforcement if needed. They will monitor the parking lot for suspicious behavior, including extended idling, repeated passenger exchanges, or unusual interactions that may indicate attempted diversion.

The facility's vault will serve as the primary secure storage area for cannabis and cannabis-infused products. Video surveillance will cover all storage areas and every point of entry or exit. This reinforced, climate-controlled room will maintain regulated temperature, humidity, ventilation, and odor containment. Lighting and airflow will be maintained by management to ensure a clean, secure environment. Access to the vault will be governed by key-card technology that logs every entry and exit; this electronic log will be available for printing and inspection by regulatory agencies and the Illinois State Police at any time. Only authorized agents may enter the vault. The vault undergoes weekly cleaning and maintenance to prevent contamination and pest intrusion. Damaged, tampered, misbranded, or adulterated cannabis products will be placed in a locked quarantine container within the vault and destroyed within one week, with a manager documenting the destruction in the inventory tracking system. All quarantined cannabis will be destroyed under two-person verification.

Currency handling procedures will be equally secure. A currency safe located within the vault will be used for storing daily revenue, as required by the State. At the end of each

business day, cash will be removed from registers and placed into the safe under management supervision, following strict two-person verification. Currency will remain secured in the vault until bank deposits are made.

Employee safety is integral to Company operations. Employees will be trained to stay aware of their surroundings when entering or exiting the building. Any suspicious behavior is immediately reported to management and, if necessary, to 911. Employees will receive instruction on safety protocols, including personal protective equipment requirements. Management is responsible for maintaining all security equipment and ensuring employees receive ongoing security-related training.

Personal information regarding purchasers will be treated as confidential and will not be released without written consent unless required by law. Paper records will be kept in locked cabinets accessible only to employees with a legitimate business need. Sensitive documents not retained will be shredded. All agents with access to personal information will receive training on confidentiality, ethics, and professional conduct, and must report any unauthorized use or suspicious activity involving personal data to management.

Diversion prevention will be reinforced through layered security measures, including full camera coverage of the facility (except in restrooms). All individuals entering the premises—employees, purchasers, cardholders, and visitors—will be informed that they are under video surveillance.

Physical inventory counts will be performed daily in accordance with state regulations to ensure inventory accuracy. The Metrc inventory system will serve as a real-time diversion-prevention tool accessible to management, the IDFPR, and the Illinois State Police. Metrc will record each day's beginning inventory, deliveries, sales, disposals, and ending inventory. It will maintain complete data on each product received, including quantity, strain, batch number, originating cultivation center, and identifying information for cultivation and dispensing agents involved in the delivery. Any discrepancies identified during counts will be immediately investigated. If diversion is detected, the incident will be reported immediately to the IDFPR and the Illinois State Police.

Through integrated and overlapping security procedures—continuous monitoring, strict access control, a constant security presence, detailed recordkeeping, and multi-layered diversion-prevention protocols—Prairie will ensure the safety of its facility, its employees, its customers, and the cannabis and currency stored inside. These measures will collectively establish a secure and compliant operational environment fully aligned with the requirements set forth by the State of Illinois.

### **Procedures to Restrict Access to Limited Access and Restricted Access Areas**

Prairie will maintain strict access control procedures to ensure that only authorized individuals may enter limited access areas and restricted access areas of the dispensary. Security is treated as a core operational priority, and the facility will be designed so that every person who enters is screened, recorded, and monitored.

The dispensary will be divided into clearly defined access zones, each regulated through controlled entry points, electronic key-card systems, and oversight by on-site security personnel.

The limited access area includes the sales floor, which is separated from the lobby by a

controlled entry vestibule. Every purchaser or authorized visitor must present a valid government-issued photo ID before being granted access. The intake receptionist will verify that the individual is 21 years of age or older and then unlock the door to the limited access area. Customers may not enter further into the facility until their identification is authenticated and their purpose for entering is validated.

Authorized visitors will be limited to individuals whose presence is necessary for regulatory compliance or facility operations, including IDFPR or ISP personnel, local law enforcement, and State-approved vendors. All authorized visitors—except state officials—must state the reason for their visit, sign the visitor log, and receive a visitor badge that must remain visible at all times.

The visitor log includes the visitor's name, company, badge number when applicable, reason for entry, time in, time out, and signature. Once logged, visitors will be escorted at all times by an employee with the appropriate access level. When the visit concludes, the visitor signs out and returns the badge. Visitor logs will be maintained onsite and remain available for inspection by the IDFPR at any time.

Restricted access areas contain the facility's most sensitive operational spaces, including back-of-house workrooms, secure surveillance and IT equipment rooms, and the vault. Only dispensary agents with appropriate access credentials may enter these areas. A limited number of visitors—typically service technicians performing essential maintenance or repairs—may enter restricted access areas, but only with a visitor badge and continuous escort by an authorized employee. The manager will obtain approval from the dispensary's assigned IDFPR agent in advance when restricted access visitation is expected. If emergency personnel or law enforcement must enter a restricted access area, the manager will notify the IDFPR agent once the emergency has concluded. Purchasers and cardholders are never permitted in any restricted access area for any reason.

Conspicuous signs will be posted at all restricted access entry points stating: "Do Not Enter – Restricted Access Area – Authorized Personnel Only." These signs will measure at least 12" x 12" with lettering no smaller than one inch in height. All entry into restricted access areas will require scanning a valid key card encoded with the correct permissions. Some rooms—such as the vault or IT room—will have additional layers of restriction and may be accessed only by pre-authorized agents whose job duties require entry.

Through the use of controlled entry vestibules, electronic key-card access, detailed visitor tracking, continuous security oversight, escort requirements, and clear posting of access restrictions, Prairie will ensure that only properly authorized individuals may enter or remain in limited or restricted access areas. These procedures will safeguard products, assets, employees, and customers while maintaining strict compliance with Illinois law.

## **Landscaping**

The Company proposes limited removal of certain dead shrubs and trees around the Proposed Location as depicted on the landscape plan. Once those species are removed, the Company will then replace and add various species of shrubs and trees as outlined in the landscape plan. All existing landscape areas within the site limits for Proposed Location will be weeded, mowed, trimmed, dead plants replaced, and re-seeded by the Company's landscape contractor to provide an aesthetically pleasing appearance.

## **Lighting**

The Company's lighting for the Proposed Location consists of wall lighting and light poles. The type and placement for each light is detailed on the photometric plan.

**PRAIRIE RETAIL HOLDINGS, LLC**

**FISCAL IMPACT ANALYSIS FOR LIBERTYVILLE, ILLINOIS**

\* \* \* \* \*

**I. INTRODUCTION**

Prairie Retail Holdings, LLC (“Prairie” or the “Company”) is eager to demonstrate the financial feasibility of operating a licensed cannabis dispensary at 1195 S. Milwaukee Avenue, Libertyville, Illinois (collectively, the “Proposed Location”).

For the reasons set forth below, the Village of Libertyville has the opportunity to capture significant taxable revenue from a highly regulated and state licensed operator.

The below *Fiscal Impact Analysis* provides a high-level estimate of municipal excise tax revenue that Libertyville may realize from a dispensary at the Company’s Proposed Location.

**II. ILLINOIS STATE LAW & MUNICIPAL TAX CONSIDERATIONS**

Under Illinois law, municipalities are authorized to impose a local retailers’ occupation tax on the gross receipts of adult-use cannabis sold at retail within their corporate limits (the Municipal Cannabis Retailers’ Occupation Tax, or “MCAN”).

Libertyville’s ordinances currently allow the Village to collect a 3% tax on the gross receipts of adult use cannabis, which is the maximum amount permitted under Illinois law.

Accordingly, should the Village permit the Company to operate an adult-use cannabis dispensary at the Proposed Location, then the Village is entitled to a three percent (3%) municipal excise tax on the gross receipts of all cannabis sales onsite. The Village is also entitled to a one percent (1%) non-home rule Retailer’s Occupation Tax and one percent (1%) local distributive share of the State of Illinois’ Retailer Occupation Tax of six and one quarter percent (6.25%).

As set forth in greater detail below, the municipal tax revenue could be substantial.

**III. ILLINOIS’ STATEWIDE CANNABIS DISPENSARY SALES FIGURES**

According to BDS Analytics (“BDSA”), two-hundred and fifty-three (253) adult-use and medical cannabis dispensaries are currently operating in Illinois.

Illinois continues to experience strong statewide cannabis sales, with the state reporting approximately \$113.1 million in adult-use retail cannabis sales in October 2025 alone.

Publicly available data shows that Illinois’ gross daily sales figures for each licensed operator ranges from \$1,900 to \$84,000 per day, and the median (average) gross daily sales for all cannabis operators in Illinois is approximately \$17,000.

#### **IV. LIBERTYVILLE'S POTENTIAL EXCISE TAX REVENUE**

For the reasons set forth below, the Company believes that its Proposed Location will generate municipal excise tax revenue far beyond the state average of \$17,000 in gross daily sales receipts.

Foremost, the Company notes that the nearest adult-use cannabis dispensary is only four (4) miles away in Mundelein. According to publicly available data from BDSA, the Mundelein adult-use cannabis dispensary is the second highest grossing dispensary in Illinois, generating over \$78,000 in daily gross sales receipts.

Moreover, the Company's Proposed Location has excessive local population metrics evidencing a strong potential customer base. Publicly available data demonstrates that there are over 20,195 & 127,840 people within a 5-minute and 10-minute drive, respectively, from the Company's Proposed Location. Prairie is confident that it will capture a majority of prospective purchasers within a 10-minute drive of the Proposed Location.

In addition to the Company's proximity to the second-highest grossing store in the State and an excessive local population to draw from, Prairie's Proposed Location is sufficiently situated to capture a majority of the adult-use cannabis purchasers northeast of Mundelein and prospective purchasers from Libertyville to Lake Forest. Indeed, there are no licensed adult-use cannabis dispensaries from Libertyville east to Lake Forest, and the Company's Proposed Location is ideally situated in the southern portion of the Village's commercial corridor for convenient access.

With appropriate siting, strong local population metrics, and a demonstrated moat from other licensed operators east of the Village, the Company's anticipated annual sales range from \$4,800,000 on the conservative end to \$8,400,000 or more on the higher end. Based on this range of annual sales, Libertyville's potential sales tax revenue from the Company's Proposed Location would be from \$240,000 to \$420,000.

As set forth above, the Company's Proposed Location is ideally situated to capture prospective adult-use cannabis purchasers in Libertyville and the surrounding area. Accordingly, the Village of Libertyville has an excellent opportunity to increase its tax base for the benefit of its residents.

In addition to the dispensary, it is anticipated that a second retain tenant will occupy the southern, approximately 1,777 square feet of the building. Using a conservative estimate of \$300 per square foot of sales, the additional tenant could yield about \$10,000 more in sales taxes to the Village.

#### **V. LIBERTYVILLE'S POTENTIAL PROPERTY TAX REVENUE**

In addition to the taxes based on gross receipts, the Company anticipates that the restoration of the vacant building at the Proposed Location will increase the current assessed value of the now-vacant building from approximately \$125,000 to \$313,000. The increase in assessed value for the

building is based on an average of building assessed values for similarly situated adult-use cannabis dispensaries located in municipalities in DuPage County and Lake County. With this increase in building assessed value, the Proposed Location would generate an estimated \$46,227 in annual property taxes, which is an estimated increase of approximately \$16,000 over the current property taxes of \$30,164 per year. Based on the current tax levies, the Village of Libertyville, Community High School District #128, and Hawthorn Community Consolidated School District #73 are estimated to collectively receive approximately \$13,445 of the \$16,000 increase in property tax revenue each year with the majority of that increase flowing to the school districts. This increase in taxes to the school districts comes with no new student population burden.

## **VI. IMPACT ON MUNICIPAL SERVICES**

The Company expects to have a minimal impact on municipal services, such as law enforcement and fire department responses. Onsite disturbances requiring law enforcement response are rare, and the Company expects that most interaction with law enforcement would be to share camera footage of the parking lots. In addition, it has been shown that there is a negative and significant relationship between dispensary allowances and property crime rates<sup>1</sup>. In short, the Company expects to have a significant, net positive impact on City revenues since it does not expect to have a high demand for Village police and emergency services.

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<sup>1</sup> Source: Hunt, P., et al. (2018). High on Crime? Exploring the Effects of Marijuana Dispensary Laws on Crime in California Counties. Institute of Labor Economics. Accessed from <http://ftp.iza.org/dp11567.pdf>.

## SUMMARY OF CODE COMPLIANCE AND ADHERENCE TO SPECIAL USE STANDARDS

As detailed in the Site Evaluation Report, the proposed Adult Use Cannabis Dispensing Organization at 1195 S. Milwaukee Avenue shall comply with all applicable requirements and standards set forth in the proposed Amendment to Article XVIII of Chapter 13, permitting Adult-Use Cannabis Dispensing Organizations, subject to special-use, in the Village of Libertyville along with all provisions outlined in the Illinois Cannabis Regulation and Tax Act and Illinois Department of Financial and Professional Regulation (IDFPR) regulations, and all other rules and regulations required to maintain an active and license in good standing with the State of Illinois.

The below findings of fact were made in reliance on the professional opinions of Urban Planners from Bodwé - WBK Engineering in reference to Village of Libertyville Zoning Code Chapter 26 Article 16 Part D Sec. 26-16-9 Special Permits.

No special use permit shall be recommended or granted pursuant to section 26-16-9 unless the applicant shall establish that:

1. *Code and plan purposes.* The proposed use and development will be in harmony with the general and specific purposes for which this chapter was enacted and for which the regulations of the district in question were established and with the general purpose and intent of the official comprehensive plan.
  - a. The proposed Adult Use Cannabis Dispensing Organization is consistent with the purpose and intent of the C-4 Shopping Center Commercial District and the Village's Comprehensive Plan.
  - b. The C-4 district is intended to accommodate retail-oriented, destination-scale commercial development along major arterial corridors. The Subject Property is located within the Milwaukee Avenue commercial corridor, surrounded by comparable commercial and retail land uses, and the proposed use will occupy an existing commercial structure without altering the established development pattern.
  - c. The Comprehensive Plan's Future Land Use Map designates the site as Destination Commercial Corridor, an area intended to support shopping centers, auto dealerships, and related commercial uses to strengthen the Village's tax base. The proposed use aligns with this designation by reactivating a long-vacant building with a high-quality commercial tenant that contributes to corridor vitality and supports the Village's economic objectives.
2. *Adverse impact.* The proposed use and development will not have a substantial adverse effect upon adjacent property, the character of the area, or the public health, safety, and general welfare.
  - a. The proposed Adult Use Cannabis Dispensing Organization will serve the public convenience and will contribute to the general welfare of the neighborhood and community at the proposed location at 1195 S. Milwaukee Avenue.
  - b. The proposed special use will afford a safe, well run and easily accessible facility for which consumers can purchase adult-use cannabis products. The proposed Adult Use Cannabis Dispensing Organization will be the first dispensary to locate in the Village of Libertyville and thus will fill an existing retail gap, at the Village level, for consumers seeking a convenient and accessible location to purchase adult-use cannabis products.
  - c. The proposed special use would provide critical tax revenue dollars to utilize towards the Village's capital expenditures. The proposed Adult Use Cannabis Dispensing Organization would provide substantial tax revenues critical to filling existing budget needs in the Village of Libertyville.



- d. The proposed special use would activate an under-utilized, retail space with a new use. The proposed Adult Use Cannabis Dispensing Organization will inhabit an existing, vacant retail space along the Village's primary commercial corridor and improve the space with planned exterior façade enhancements and floor plan improvements to subdivide the space to incorporate additional retail trade uses within the existing structure.
  - e. The existing road network, as configured, provides safe and convenient access to the property. Access to the property will continue to occur from driveways off Milwaukee Avenue and Greentree Parkway. No additional improvements will be required to adjacent area roadways or access in order to accommodate the proposed Adult Use Cannabis Dispensing Organization.
  - f. The proposed building offers large commercial floor space. The proposed Adult Use Cannabis Dispensing Organization will occupy approximately 2,687 sq. ft. of the existing structure which will be reduced from 5,338 sq. ft. to 4,644 sq. ft. Improvements to the floor plan will subdivide the space into two retail storefronts. The design will provide the proposed Adult Use Cannabis Dispensing Organization with a sizable product inventory and vault space, a large order fulfillment area, and more generous retail sales floor which will comfortably accommodate the larger crowds seen on specific peak business days.
  - g. Adequate parking for the proposed Adult Use Cannabis Dispensing Organization will be provided in a parking lot designated solely for use by the Applicant and future retail-trade businesses. There are 76 parking spaces located on the Subject Property. Based on the Institute of Transportation Engineers' (ITE) Parking Generation Manual, 5th Edition, Adult Use Cannabis Dispensing Organizations typically require 7.19 parking spaces per 1,000 square feet. Although the 4,644-square-foot building will be subdivided into a dispensary and a separate retail trade tenant, the more restrictive dispensary parking rate has been applied to the entire building to ensure a conservative analysis. Using this standard, the total parking demand for the building is approximately 34 spaces. The Subject Property provides a surplus of 42 parking spaces even when applying this higher parking requirement, assuming the remaining portion of the building operates as a typical retail trade use.
  - h. The proposed special use will meet all use standards in the Village of Libertyville. The use standards adopted by the Village, with the special use process, combined with the State's stringent licensing requirements, were designed to protect the general welfare of the neighborhood and surrounding community. The proposed Adult Use Cannabis Dispensing Organization will be operated in strict compliance with all standards and laws to ensure no adverse impacts on the general welfare of the neighborhood or community at large.
3. *Interference with surrounding development.* The proposed use and development will be constructed, arranged, and operated so as not to dominate the immediate vicinity or to interfere with the use and development of neighboring property in accordance with the applicable district regulations.
- a. The proposed Adult Use Cannabis Dispensing Organization will be located along a commercial corridor surrounded by compatible land uses with shared access, a connected network of vehicular circulation, shared stormwater management, and common area landscaping. The property is zoned to allow typical retail uses such as the proposed Adult Use Cannabis Dispensing Organization.
  - b. Granting a special use will not materially change the use of the property for which it has been historically utilized. The Village has adopted proposed use standards for Adult Use Cannabis Dispensing Organizations, and the proposed special use complies with each of those standards. Through compatibility with surrounding retail uses and compliance with



adopted zoning ordinance use standards, the proposed special use will not dominate the immediate vicinity or interfere with the use and development of neighboring property in accordance with the applicable district regulations.

4. *Adequate public facilities.* The proposed use and development will be served adequately by essential public facilities and services such as streets, public utilities, drainage structures, police and fire protection, refuse disposal, parks, libraries, and schools, or the applicant will provide adequately for such services.
  - a. Any adverse impact of type or volume of traffic flow from the proposed Adult Use Cannabis Dispensing Organization has been minimized. Access to the Subject Property will continue to occur primarily off driveways from Milwaukee Avenue and Greentree Parkway. Site impacts on the adjacent streets will be minimal with no improvements necessary to existing access points required to accommodate the traffic from the proposed development. A surplus of parking beyond those standards typical for proposed Adult Use Cannabis Dispensing Organizations is present.
  - b. The proposed building is connected to Village of Libertyville public sewer and water services and there are no known drainage issues on the site. There will be no changes to existing grades or increase in impervious surface areas which would modify or increase stormwater runoff. The proposed Adult Use Cannabis Dispensing Organization will not have a substantially adverse effect upon existing public utilities.
  - c. The proposed special use has been reviewed with the Village of Libertyville Police and Fire Department, and all emergency management plans will be coordinated with Village services.
  - d. The proposed special use will follow strict refuse disposal processes as required by the Illinois Department of Public Health. Cannabis waste must be rendered unusable by grinding and mixing it with other ground materials, either compostable or non-compostable, resulting in a mixture that is at least 50% non-cannabis waste by volume. Disposal of topical patches, gummy candy products, and topical canisters will follow best practices involving liquification, liquid disposal, and mixing with compostable or non-compostable materials.
  - e. The proposed special use will have no negative impact on Village parks, libraries, and/or schools.
5. *Traffic congestion.* The proposed use and development will not cause undue traffic congestion nor draw significant amounts of traffic through local streets and will, when required by the board of trustees, incorporate appropriate vehicular trip reduction features such as, but not limited to, pedestrian/bicycle linkages within and between land uses, the use of traffic mitigation plans, and the incorporation of elements to encourage and facilitate the use of public transportation.
  - a. The proposed Adult Use Cannabis Dispensing Organization is located along a commercial corridor surrounded by compatible land uses with shared access, a connected network of vehicular circulation, and designated parking provided in surplus to typical parking standards.
  - b. The site is accessible for pedestrians, with continuous sidewalks extending along both sides of Milwaukee Avenue and along the north and south sides of Greentree Parkway, supporting safe pedestrian mobility to and from adjacent commercial and residential areas.
  - c. The property is also served by regional public transportation. PACE Bus Route 574 operates along Highways 45 and 21, providing connections between Libertyville, Mundelein, and Vernon Hills. Key destinations served by this route include the College of Lake County, the Libertyville Metra Station, Carmel Catholic High School, and Hawthorn Mall.



- d. The closest available Metra Train Station is located more than five-miles to the south. The Vernon Hills Station, on the North Central Service line, provides service between Antioch and Chicago's Union Station.
6. *Destruction of significant features.* The proposed use and development will not result in the destruction, loss, or damage of any natural, scenic, or historic feature of significant importance.
  - a. The proposed special use will be located on a site that is already developed and where comparable retail uses are in operation on surrounding properties. The proposed Adult Use Cannabis Dispensing Organization will reuse an existing, underutilized retail building. Improvements to the Subject Property will be primarily limited to the structure itself which holds no historical value. Granting the proposed special use will not result in the destruction, loss, or damage of any natural, scenic, or historic features of significant importance.
7. *Compliance with standards.* The proposed use and development complies with all additional standards imposed on it by the particular provision of this chapter authorizing such use.
  - a. As demonstrated by the evidence presented in the Site Evaluation Report, the proposed Adult Use Cannabis Dispensing Organization at 1195 S. Milwaukee Avenue shall comply with all applicable requirements and standards set forth in the Village of Libertyville Zoning Ordinance as well as all special use requirements for proposed Adult Use Cannabis Dispensing Organizations.
  - b. The proposed special use will reuse an existing building located on the Subject Property with minimal improvements focused on interior spaces and no planned changes to the site. For purposes of zoning, the existing structure shall be considered legal, non-conforming and compliant with any standards which does not meet existing bulk or setback requirements.
  - c. The property meets all distance requirements to protected uses, which are located between 2,100 and 2,900 feet away. Residential properties are separated by over 300 feet, with substantial buffering, parking fields, internal drive aisles, and commercial buildings intervening.
  - d. All operational procedures, including ID verification, security protocols, product storage, delivery procedures, and customer management, will be conducted in full accordance with State of Illinois regulations and Village ordinances governing adult-use cannabis dispensing organizations.
  - e. The proposed special use will comply with all provisions outlined in the Illinois Cannabis Regulation and Tax Act and IDFP regulations, and all other rules and regulations required to maintain an active and license in good standing with the State of Illinois.

## PROPOSED TEXT AMENDMENTS

### CHAPTER 13

#### Amendment to Existing Section 13-472:

##### **Section 13-472 Cannabis Business Establishments Prohibited.**

The following adult-use cannabis business establishments are prohibited in the Village of Libertyville. No person shall locate, operate, own, suffer, allow to be operated or aide, abet or assist in the operation within the Village of Libertyville of any of the following:

- (1) Adult-use cannabis craft grower;
- (2) Adult-use cannabis cultivation center;
- ~~(3) Adult-use cannabis dispensing organization;~~
- ~~(4)~~ (3) Adult-use cannabis infuser organization or infuser;
- ~~(5)~~ (4) Adult-use cannabis processing organization or processor; **or**
- ~~(6)~~ (5) Adult-use cannabis transporting organization or transporter.

#### New Sections:

##### **Section 13-472a Permitted Cannabis Business Establishments.**

Adult-use cannabis dispensing organizations are permitted to the extent set forth in Chapter 26 of this Code.

**Section 13-472b Operational Standards for Permitted Cannabis Business Establishments.** In addition to all other applicable standards set forth in the Libertyville, Illinois Municipal Code, each adult-use cannabis dispensary organization must comply with the following operational standards:

- (1) All cannabis or cannabis waste on the premises of the adult use cannabis dispensary must be stored within secure refuse containers located within a restricted access area of the adult-use cannabis dispensary organization at all times prior to the destruction and disposal thereof, which destruction and disposal must be performed pursuant to the requirements of Sections 15-75 and 15-90 of the Illinois Cannabis Regulation and Tax Act, 410 ILCS 705/1-1 et seq., as may be amended from time to time.
- (2) All waste other than cannabis waste must be stored within enclosed dumpsters or garbage cans, with operable doors closed at all times other than during loading and unloading.
- (3) All adult-use cannabis dispensing organizations must be equipped with a secure unloading space for the reception of deliveries of cannabis, which space must be:
  - (a) located within an enclosed area of the principal structure in which the adult-

use cannabis dispensary organization operates; (b) secured by doors that are closed and locked during all times that deliveries of cannabis are unloaded; and (c) a restricted access area.

- (4) Parking fields for adult-use cannabis dispensing organizations must be well lit and monitored by video surveillance equipment whose live images can be viewed by staff and are continually recorded in a tamper-proof format. The video surveillance system must be available 24 hours per day, and 7 days per week to the Village of Libertyville Police Department, if requested, and to other law enforcement agencies via a secure web-based portal.
- (5) Each adult-use cannabis dispensing organization must prohibit any person who is not at least 21 years of age from entering the facility. Adult-use cannabis dispensing organizations may not employ anyone under the age of 21 years old.
- (6) Security and Video Surveillance.
  - a. Each adult-use cannabis dispensing organization must provide and maintain adequate security on the entire premises on which the facility sits, including lighting, video surveillance, security personnel and alarms must be reasonably designed to ensure the safety of persons and to protect the facility from theft.
  - b. A private warning sign must be posted in a prominent location on the exterior of the premises of the adult-use cannabis dispensing organization, with substantially the following language: "THESE PREMISES ARE UNDER CONSTANT VIDEO SURVEILLANCE TO AID IN THE PROSECUTION OF ANY CRIMES COMMITTED AGAINST THE FACILITY OR ITS PATRONS".
- (7) All adult-use cannabis dispensing organizations must operate in a manner that prevents odor impacts on neighboring premises or properties and, if necessary, the facility must be ventilated with a system for odor control.
- (8) Conduct on Site.
  - a. The operator of an adult-use dispensing organization may not permit loitering on the premises.
  - b. The operator of an adult-use dispensing organization may not permit the consumption of cannabis products on the premises. A sign, at least 8.5 by 11 inches, must be posted within the facility in a conspicuous place and visible to staff and shall include the following language: "Smoking, eating, drinking, ingesting or other forms of consumption of cannabis products is prohibited on the premises."

## ZONING CODE (Chapter 26)

### **Amendment to Section 5-5.3(j) by adding the following special permit use under Retail Trade:**

(5) Adult-Use Cannabis Dispensing Organization.

### **Amendment to Section 5-5.4 by adding the following use limitations and special use application requirements for Adult-Use Cannabis Dispensing Organizations**

(g) *Adult-Use Cannabis Dispensing Organization.* In those zoning districts in which an Adult-Use Cannabis Dispensing Organization may be located, the proposed facility must comply with the following:

- (1) Sections 15-70, 15-75, 15-80, 15-85, 15-90, 15-95, and 15-100, of the Illinois Cannabis Regulation and Tax Act, 410 ILCS 705/1-1 et seq., as may be amended from time to time, are hereby adopted by reference and made a part of this \_\_\_\_\_ [to be inserted] as if fully set forth herein.
- (2) No adult-use cannabis dispensing organization may be located within 2,000 feet of any pre-existing public or private nursery school, preschool, primary or secondary school, child day care services, senior citizen housing, day care homes, day care center or residential care home, as measured. in a straight line, without regard to intervening structures, rights of way or objects, from the nearest point of the building in which an adult-use cannabis dispensing organization is located to the nearest point of the building where a protected use is located. Learning centers for sports and recreation instruction and vocational/trade centers are not to be considered a public or private school for purposes of this Section \_\_\_\_\_ [to be inserted].
- (3) No adult-use cannabis dispensing organization may be located within 300 feet of a lot zoned R-1 Single-Family Residential District, R-2 Single-Family Residential District, R-3 Single-Family Residential District, R-4 Single-Family Residential District, R-5 Single-Family Residential District, R-6 Single-Family Residential District, R-7 or R-8 Multiple-Family Residential District Attached Single-Family Residential District, as measured in a straight line, without regard to intervening structures, rights of way or objects, from the nearest point of the building in which an adult-use cannabis dispensing organization is located to the nearest point of principal residential building located in any of the zoning districts identified in this Section \_\_\_\_\_.
- (4) No adult-use cannabis dispensing organization shall located within 1,500 feet of any ~~other~~ adult-use cannabis dispensary organization, as measured in a straight line, without regard to intervening structures, rights of way or objects, from the nearest

point on the property line of the lot on which an adult-use cannabis dispensing organization is located to the nearest point on a lot on which a adult-use cannabis dispensary is proposed to be located.

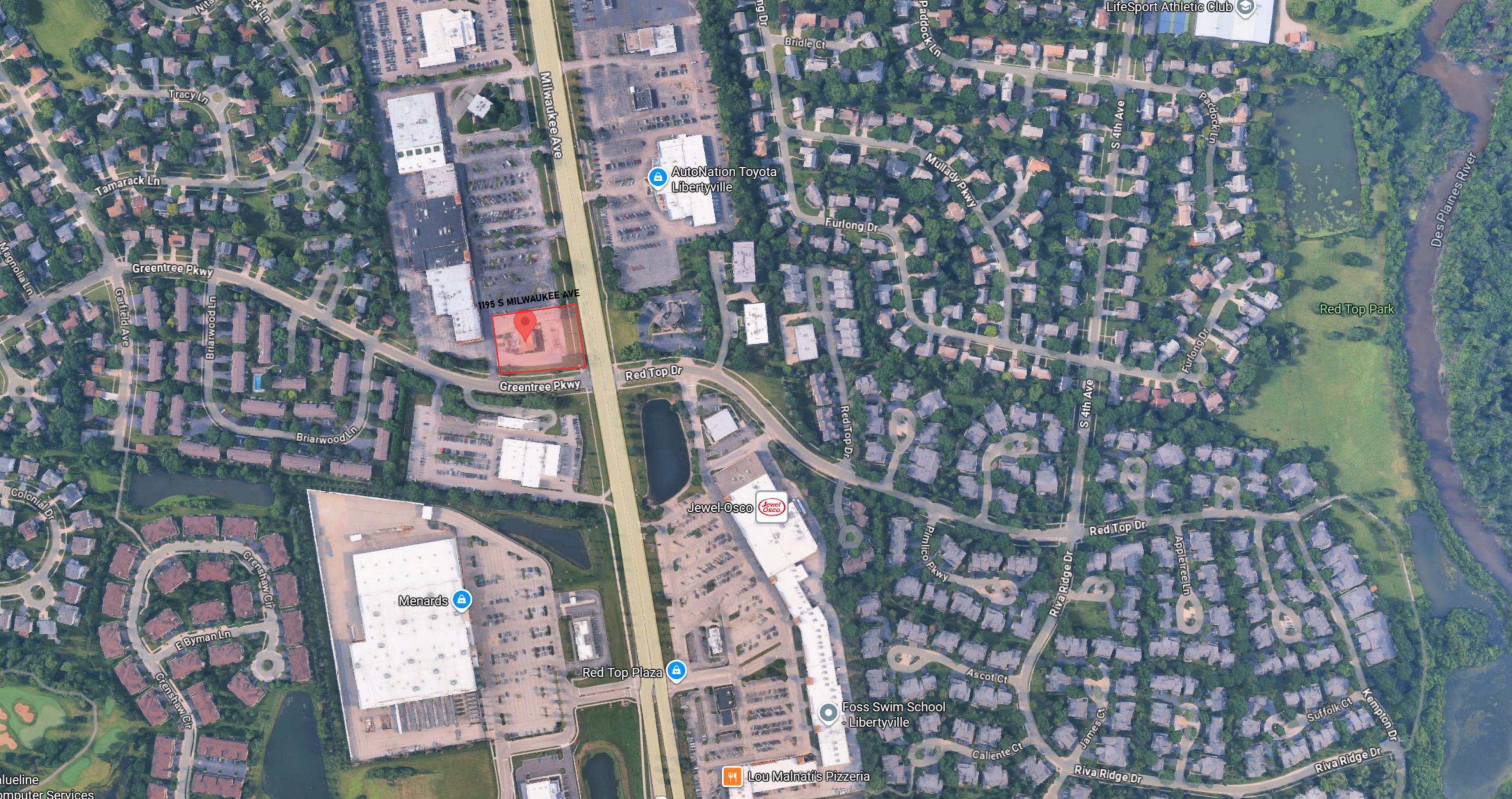
- (5) No adult-use cannabis dispensing organization may conduct any sales or distribution of cannabis other than as authorized by the Illinois Cannabis Regulation and Tax Act, 410 ILCS 705/1-1 et seq., as may be amended from time to time.
- (6) Each adult-use cannabis dispensing organization's building must be set back at least 30 feet from all property lot lines.
- (7) Signage.
  - a. Signage for each adult-use cannabis dispensary organization must comply with the applicable provisions of Article 11 of this Chapter.
  - b. Electronic message boards and temporary signs are not permitted in connection with an adult-use cannabis dispensing organization.
  - c. Signage may not contain cannabis imagery such as cannabis leaves, plants, smoke, paraphernalia, or cartoonish imagery oriented towards youth, or language referencing cannabis.

(h) *Additional Submittals for Special Use Permits for Adult-Use Cannabis Dispensing Organizations.* In addition to the requirements set forth in Section 26-16-1.5 and Section 26-16-1.6 of this Chapter relating to applications for special use permits, an application for a special use permit to operate an adult-use cannabis dispensary organization within the Village must include all of the following information and documents:

- (1) The proposed hours of operation of the proposed adult-use dispensing organization.
- (2) A description of any additional training and education that will be provided to the proposed adult-use dispensing organization agents.
- (3) A copy of a business plan for the proposed adult-use dispensing organization.
- (4) A security plan that describes how the proposed adult-use dispensing organization will comply with the security and recordkeeping regulations set forth in Sections 1290.400-1290.460 of Title 28 of the Illinois Administrative Code, 28 Ill. Admin. Code 1290.400-1290.460, as those sections may be amended from time to time. The security plan must include the following information:
  - a. A description of the procedures that the proposed adult-use dispensing organization will implement to prevent the diversion, theft, or loss of cannabis during the delivery of cannabis to the proposed adult-use dispensing organization by a cultivation center, including the use of delivery manifests;

- b. A description of the procedures that the proposed adult-use dispensing organization will implement to: (i) monitor the activities conducted within the proposed adult-use dispensing organization; (ii) secure the adult-use dispensing organization, including, without limitation, the adult-use dispensing organization agents, qualifying patients, and cannabis and currency stored at the adult-use dispensing organization; and (iii) prevent the diversion, theft or loss of cannabis; and
  - c. A description of the procedures that the proposed adult-use dispensing organization will implement to restrict access to limited access areas and restricted access areas.
- (5) A map of the area surrounding the location of the proposed adult-use dispensing organization showing that: (a) no part of the building of the proposed adult-use dispensing organization is located within 2,000 feet of the building with a protected use; (b) the proposed location for the adult-use dispensing organization is not zoned for residential use; and (3) the building of the adult-use cannabis dispensing organization is not within 300 feet of a principal building on property zoned R-1 Single-Family Residential District, R-2 Single-Family Residential District, R-3 Single-Family Residential District, R-4 Single-Family Residential District, R-5 Single-Family Residential District, R-6 Single-Family Residential District, R-7 or R-8 Multiple-Family Residential District Attached Single-Family Residential District.
- (6) Floor plans and elevations of the proposed adult-use dispensing organization building that must include, without limitation, the following information:
- a. The location, layout, floor area, name, and function of each room, including, restricted access areas, limited access areas, rooms in which cannabis will be stored when the proposed adult-use dispensing organization is open for business;
  - b. The total floor area of the proposed adult-use dispensing organization building;
  - c. The doorways or pathways between rooms;
  - d. The means of ingress and egress to and from the building of the proposed adult-use dispensing organization, including fire exits;
  - e. The location of all safes or vaults that will be used to store cannabis, cannabis products, and currency;
  - f. The locations of bullet-proof glass;
  - g. The location of each toilet facility;
  - h. The location of each video camera;

- i. The location of each panic button; and
  - j. The location of each natural and artificial lighting source.
- (7) An attestation that the proposed adult-use dispensing organization will have safes or vaults with sufficient capacity to safely store the anticipated quantities of cannabis and currency on the premises.
- (8) A sign plan for the proposed adult-use dispensing organization, consistent with the requirements set forth in Article 11 of this Chapter, that describes and depicts all proposed signs related to the proposed adult-use dispensing organization, including, without limitation, the type of each proposed sign, the sign area and sign height of each proposed sign, the content of each proposed sign, the location of each proposed sign, and the illumination of each proposed sign, if any.
- (9) A comprehensive site plan drawn to scale of the proposed adult-use dispensing organization, which site plan must depict the following features, if applicable and without limitation: streets, traffic direction, sidewalks, trees, alleys, property lines, buildings, parking areas, handicapped parking spaces, fences, exterior walled areas, garages, vehicle delivery access doors, hangars, security features, garbage enclosure areas, and outdoor areas.



LifeSport Athletic Club

AutoNation Toyota Libertyville

1195 S MILWAUKEE AVE

Greentree Pkwy

Jewel-Osco

Menards

Red Top Plaza

Foss Swim School - Libertyville

Lou Malnati's Pizzeria

Red Top Park

Des Plaines River

ueline  
omputer Services

ALDI  
Big Hauls  
Small price Tags

Menards



11

E

H



**PROJECT:**

1195 S Milwaukee Ave.  
Libertyville, IL 60048

**CUSTOMER APPROVAL:**

DATE

AUTHORIZED SIGNATURE

REPRESENTATIVE

Parker Roberts

DRAWN BY

Bill Goodwyn

DATE

11.26.25

SCALE

1/2" = 1'

SHEET NO.

1 of 2

ESTIMATE / JOB NUMBER

18782

FILE NAME

VER18782

**REVISIONS:**

1 11.26.25

2 12.1.25

3

4

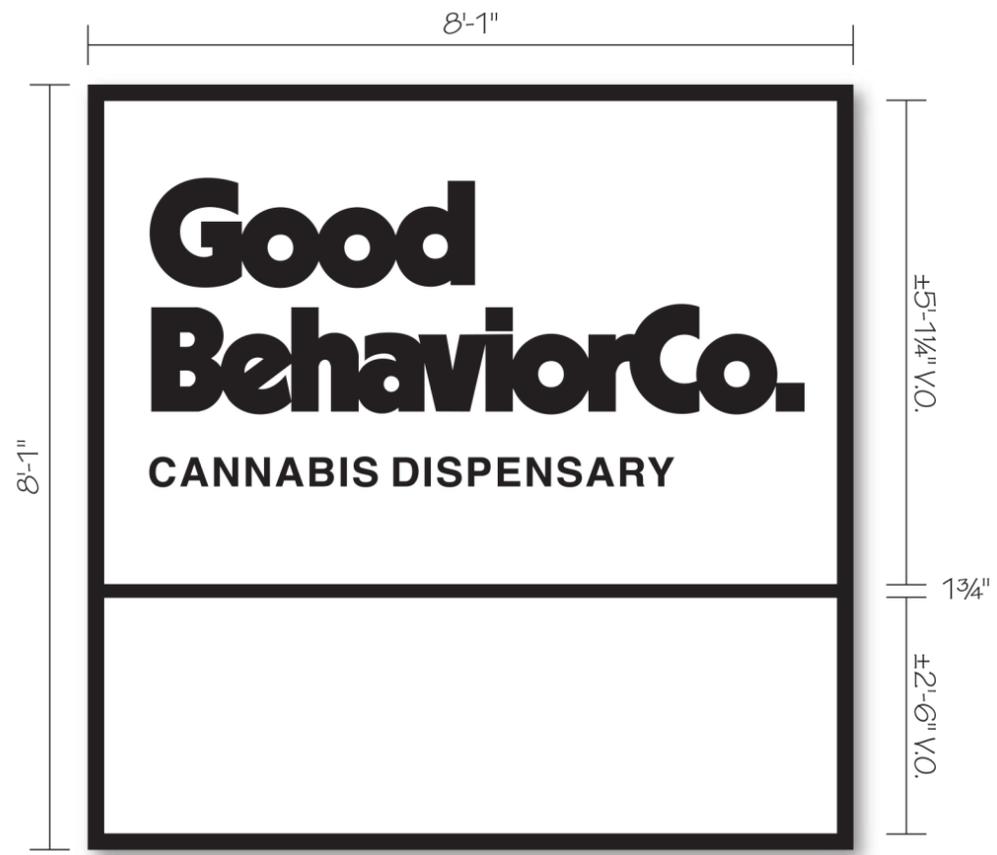
5

6

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8

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.



Refurbish (1) 8'-1" x 8'-1" Double Face LED-illuminated Monument Sign

**Tenant Cabinet:** add (1) 1 3/4" horizontal H-member per side to existing cabinets, paint to match existing (TBD)

**Tenant Panels:** (2) new 3/16" White polycarbonate per side

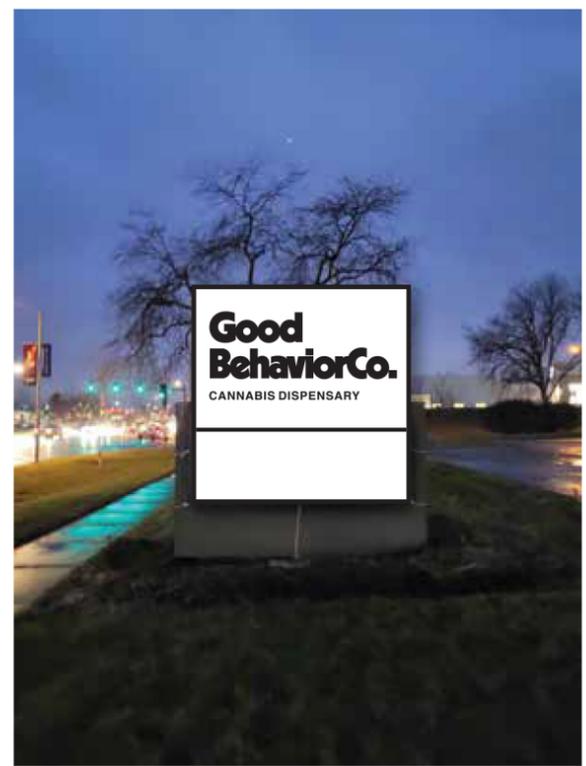
**Good Behavior Graphics:** 3M 7725-12 Black vinyl

Site survey required prior to production

Remove existing polycarbonate panels, add H-members, paint to match existing



Existing



Proposed



**PROJECT:**

1195 S Milwaukee Ave.  
Libertyville, IL 60048

**CUSTOMER APPROVAL:**

DATE

**AUTHORIZED SIGNATURE**

**REPRESENTATIVE**

Parker Roberts

**DRAWN BY**

Bill Goodwyn

**DATE**

11.26.25

**SCALE**

1/2" = 1'

**SHEET NO.**

2 of 2

**ESTIMATE / JOB NUMBER**

18782

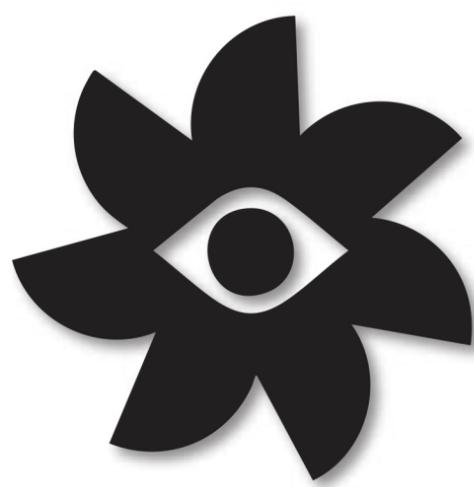
**FILE NAME**

VER18782

**REVISIONS:**

1	11.26.25
2	12.1.25
3	
4	
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8	

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.



# Good Behavior Co.

## CANNABIS DISPENSARY

10'-0"

3'-2"

5"

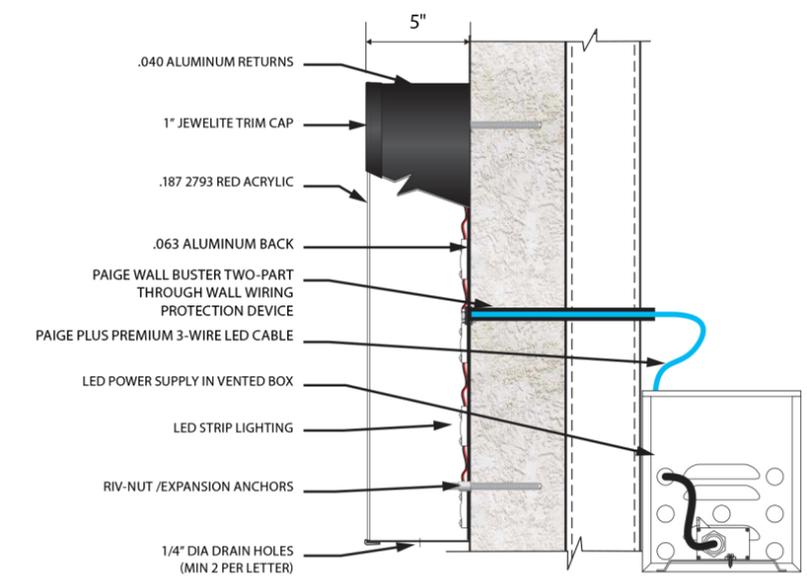


disconnect switch



disconnect switch

7 1/2"



**(1) Set 5" Deep LED-Illuminated Channel Letters and Logo w/ FCO acrylic tagline**

- Returns:** .040" aluminum coil prefinished Black
- Faces:** 3/16" thick 2447 White acrylic w/ Black perforated vinyl applied (Illuminates White)
- Illumination:** White LED modules w/ low-voltage power supplies
- Power:** (1) 20Amp @ 120Volt electrical circuit run to site by others
- Tagline:** 1/2" thick FCO acrylic painted Satin Black, flush stud-mount
- Mounting:** flush-mount on exterior wall w/ fasteners and hardware appropriate for conditions

Site survey required prior to production



**PROJECT:**

1195 S Milwaukee Ave.  
Libertyville, IL 60048

**CUSTOMER APPROVAL:**

DATE

AUTHORIZED SIGNATURE

REPRESENTATIVE

Parker Roberts

DRAWN BY

Bill Goodwyn

DATE

11.26.25

SCALE

1/2" = 1'

SHEET NO.

1 of 2

ESTIMATE / JOB NUMBER

18782

FILE NAME

VER18782

**REVISIONS:**

1 11.26.25

2 12.1.25

3

4

5

6

7

8



1 EAST ELEVATION  
1/4"=1'-0"



1 EAST ELEVATION  
1/4"=1'-0"

Nighttime Simulation

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

**PROJECT:**

1195 S Milwaukee Ave.  
Libertyville, IL 60048

**CUSTOMER APPROVAL:**

DATE

AUTHORIZED SIGNATURE

REPRESENTATIVE

Parker Roberts

DRAWN BY

Bill Goodwyn

DATE

11.26.25

SCALE

1/2" = 1'

SHEET NO.

1 of 2

ESTIMATE / JOB NUMBER

18782

FILE NAME

VER18782

**REVISIONS:**

1 11.26.25

2 12.1.25

3

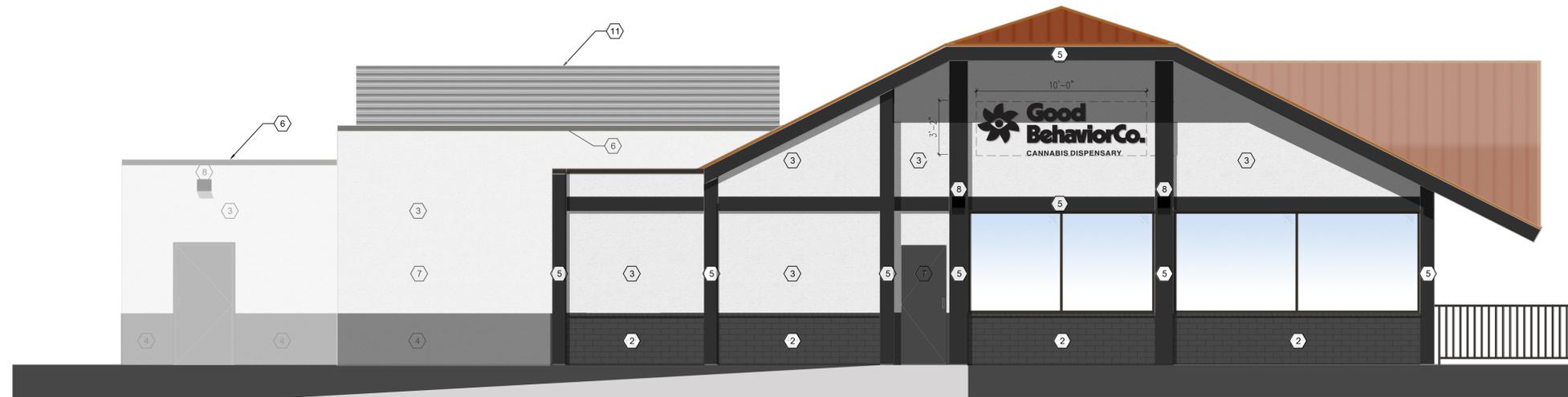
4

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7

8



2 SOUTH ELEVATION  
1/4"=1'-0"



2 SOUTH ELEVATION  
1/4"=1'-0"

Nighttime Simulation

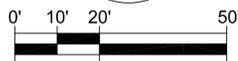


This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.





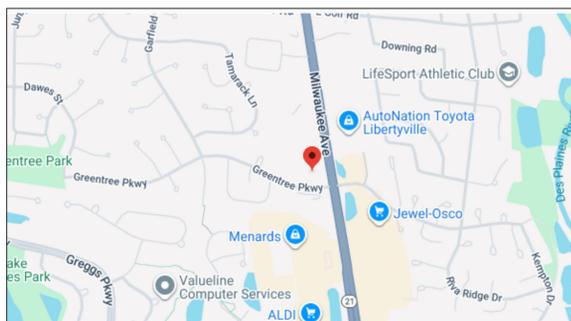




**UNITED SURVEY SERVICE, LLC**  
 CONSTRUCTION AND LAND SURVEYORS  
 7710 CENTRAL AVENUE, RIVER FOREST, IL 60305  
 TEL.: (847) 299-1010 FAX: (847) 299-5887  
 E-MAIL: USURVEY@USANDCS.COM

**ALTA / NSPS**  
**LAND TITLE SURVEY**  
 OF

**LOCATION MAP**



**FLOOD STATEMENT:**

SAID DESCRIBED PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION "X" - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN BY THE SECRETARY OF HOUSING AND URBAN DEVELOPMENT, ON FLOOD INSURANCE RATE MAP **17097 C 0164 K**, WITH A DATE OF IDENTIFICATION OF **AUGUST 19, 2008**. FOR COMMUNITY NUMBER **170377 0164 H**, IN LAKE COUNTY, STATE OF ILLINOIS, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.

VILLAGE OF LIBERTYVILLE  
 118 W COOK AVENUE  
 LIBERTYVILLE, IL 60048  
 PHONE: 847-362-2430

ZONING CLASSIFICATION:  
 UNINCORPORATED.

**NOTES:**

- THE SUBJECT PROPERTY HAS ACCESS TO AND FROM A DULY DEDICATED AND ACCEPTED PUBLIC STREETS KNOWN AS **S. MILWAUKEE AVENUE AND GREEN TREE PARKWAY** BY EASEMENT FOR INGRESS AND EGRESS.
- THE SURVEY AND THE INFORMATION, COURSES AND DISTANCES SHOWN THEREON ARE CORRECT;
- THE TITLE LINES AND LINES OF ACTUAL POSSESSION ARE THE SAME;
- THE SUBJECT PROPERTY DOES NOT SERVE ANY ADJOINING PROPERTY FOR DRAINAGE, UTILITIES, OR INGRESS OR EGRESS;
- ELECTRIC, GAS, TELEPHONE AND WATER UTILITY AND STORM AND SANITARY SEWER SYSTEMS ACCESS THE PROPERTY IN LEGALLY DEDICATED RIGHTS OF WAY THAT BENEFIT THE PROPERTY.
- THERE ARE NO VISIBLE EVIDENCE OF CEMETERIES, GRAVE SITES OR BURIAL GROUNDS LOCATED ON THE PROPERTY.
- THERE ARE NO VISIBLE EVIDENCE OF USE OF THE SITE AS A DUMP, SUMP OR SANITARY LANDFILL.
- **ITEM # 8 FROM TABLE A**  
ALL SUBSTANTIAL FEATURES OBSERVED ON THE PROPERTY HAVE BEEN PLOTTED.
- **ITEM # 9 FROM TABLE A**  
THERE ARE 76 STRIPED PARKING SPACES ON THE PROPERTY.
- **ITEM # 10 FROM TABLE A**  
THERE ARE NO PARTY WALLS (ALL WALLS ARE INDEPENDENT).
- **ITEM # 11 FROM TABLE A**  
ALL VISIBLE UTILITIES ARE PLOTTED.
- **ITEM # 16 FROM TABLE A**  
AT THE TIME OF THIS SURVEY, NO VISIBLE RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS WERE NOTED.
- **ITEM # 17 FROM TABLE A**  
AT THE TIME OF THIS SURVEY, THERE IS NO EVIDENCE OF CHANGES IN RIGHT OF WAY EITHER COMPLETED OR PROPOSED AND RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
- **ITEM # 18 OF TABLE A**  
THERE IS A OFFSITE BENEFICIAL EASEMENTS WERE REFLECTED IN TITLE.
- **ITEM # 19 FROM TABLE A**  
RELATING TO PROFESSIONAL LIABILITY INSURANCE POLICY OBTAINED BY THE SURVEYOR IN THE MINIMUM AMOUNT OF \$ 1,000,000 TO BE IN EFFECT THROUGHOUT THE CONTRACT TERM. CERTIFICATE OF INSURANCE TO BE FURNISHED UPON REQUEST.

**ENCROACHMENT LIST:**  
 ENCROACHMENT OF THE CONCRETE WALK ONTO THE STORM SEWER EASEMENT BY APPROXIMATELY 0.64' AS SHOWN ON SURVEY NO. 2025 - 32399 BY UNITED SURVEY SERVICE.

**GREATER ILLINOIS TITLE COMPANY**  
 ISSUING AGENT OF STEWART TITLE GUARANTY COMPANY

FILE NO.: 71006809  
 EFFECTIVE DATE: **OCTOBER 22, 2025**

**ITEMS CORRESPONDING TO SCHEDULE B, PART II:**

**ITEMS 1 - 7,  
 NOT SURVEY RELATED.**

**ITEM 8.**  
 EASEMENT IN FAVOR OF COMMONWEALTH EDISON COMPANY FOR UTILITY AND INCIDENTAL PURPOSES AS CREATED BY GRANT RECORDED ON JANUARY 28, 1976 AS DOCUMENT 1749824. **(PLOTTED ON THE DRAWING)**

**ITEM 9.**  
 RIGHTS OF THE VILLAGE OF LIBERTYVILLE, IN AND TO AN EASEMENT FOR SIDEWALK OVER THE EASTERLY PORTION OF THE LAND, AS RESERVED FOR BY TRUSTEE'S DEED DATED NOVEMBER 17, 1975 FROM FIRST NATIONAL BANK AND TRUST COMPANY OF EVANSTON, AS TRUSTEE UNDER TRUST NUMBER R-1852 TO PILLSBURY REALTY HOLDING COMPANY DATED NOVEMBER 19, 1975 AND RECORDED JANUARY 8, 1976 AS DOCUMENT 1746735, AND AS MORE FULLY DESCRIBED ON EXHIBIT 'D' ATTACHED HERETO. **(PLOTTED ON THE DRAWING)**

**ITEM 10.**  
 RIGHTS OF FIRST NATIONAL BANK AND TRUST COMPANY OF EVANSTON A NATIONAL BANKING ASSOCIATION, ITS SUCCESSORS AND ASSIGNS, TO A PERPETUAL RIGHT AND EASEMENT TO INSTALL, MAINTAIN, OPERATE, USE, RELOCATE, RENEW AND REMOVE A STORM SEWER AND SANITARY SEWER OVER, UNDER, THROUGH AND ACROSS THE LAND, AS RESERVED FOR IN TRUSTEE'S DEED DATED NOVEMBER 19, 1975 AND RECORDED JANUARY 8, 1976 AS DOCUMENT 1746735, AND AS MORE FULLY DESCRIBED ON EXHIBIT 'C' ATTACHED HERETO. **(PLOTTED ON THE DRAWING)**

**ITEM 11.**  
 RIGHT OF PILLSBURY REALTY HOLDING COMPANY, A DELAWARE CORPORATION, ITS SUCCESSORS AND ASSIGNS, A RIGHT OF WAY AND EASEMENT FOR INGRESS AND EGRESS TO AND FROM PART OF THE LAND HEREIN AND OVER AND ACROSS THE DRIVEWAYS TO BE ESTABLISH ON THE LAND HEREIN AS GRANTED BY INSTRUMENT DATED NOVEMBER 19, 1975 AND RECORDED JANUARY 8, 1976 AS DOCUMENT 1746735, AND AS MORE FULLY DESCRIBED ON EXHIBIT 'E' ATTACHED HERETO. **(PLOTTED ON THE DRAWING)**

**ITEM 12.**  
 RIGHT OF THE VILLAGE OF LIBERTYVILLE, AN ILLINOIS MUNICIPAL CORPORATION, ITS SUCCESSORS AND ASSIGNS, A PERPETUAL RIGHT, EASEMENT, PERMISSION AND AUTHORITY TO OPERATE, USE, MAINTAIN, RELOCATE, RENEW AND REMOVE WATER MAINS, SANITARY SEWER AND STORM SEWER UNDER AND THROUGH THAT PART OF THE LAND HEREIN AS GRANTED BY INSTRUMENT DATED JULY 16, 1976 AND RECORDED AUGUST 26, 1976 AS DOCUMENT 1788242 AND SHOWN ON EXHIBIT 'B' ATTACHED THERETO. **(PLOTTED ON THE DRAWING)**

**ITEM 13.**  
 RIGHT OF THE VILLAGE OF LIBERTYVILLE, AN ILLINOIS MUNICIPAL CORPORATION, ITS SUCCESSORS AND ASSIGNS, A PERPETUAL RIGHT, EASEMENT, PERMISSION AND AUTHORITY TO OPERATE, USE, MAINTAIN, RELOCATE, RENEW AND REMOVE SIDEWALK, SANITARY SEWER AND STORM SEWER UNDER THE LAND AS CREATED BY GRANT FROM FIRST NATIONAL BANK AND TRUST COMPANY OF EVANSTON, AS TRUSTEE UNDER TRUST AGREEMENT DATED AUGUST 5, 1975 AND KNOWN AS TRUST NUMBER R-1952 DATED MAY 20, 1976 AND RECORDED AUGUST 26, 1976 AS DOCUMENT 1786241, AND AS SHOWN ON EXHIBITS 'B-1', 'B-2' AND 'C' ATTACHED THERETO. **(PLOTTED ON THE DRAWING)**

**ITEMS 14 - 15,  
 NOT SURVEY RELATED.**

**PARCEL 1:**  
 THAT PART OF LOT 6 IN ERNST HECHT ESTATE SUBDIVISION, BEING A SUBDIVISION IN SECTIONS 20, 21, 22, 27, 28 AND 29, IN TOWNSHIP 44 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF, RECORDED MAY 23, 1918, AS DOCUMENT 177862, IN BOOK "K" OF PLATS, PAGES 10 AND 11, BOUNDED BY A LINE DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 6, SAID CORNER BEING IN THE CENTER LINE OF MILWAUKEE AVENUE; THENCE NORTH 09 DEGREES 59 MINUTES 15 SECONDS WEST ALONG SAID CENTER LINE, 506.98 FEET; THENCE SOUTH 80 DEGREES 00 MINUTES 45 SECONDS WEST 45.00 FEET TO THE INTERSECTION OF THE WESTERLY LINE OF SAID MILWAUKEE AVENUE WITH THE NORTHERLY LINE OF GREEN TREE PARKWAY AND THE POINT OF BEGINNING OF THE PARCEL TO BE DESCRIBED; THENCE NORTH 09 DEGREES 59 MINUTES 15 SECONDS WEST ALONG THE SAID WESTERLY LINE OF MILWAUKEE AVENUE, 204.84 FEET TO A JOG IN SAID LINE; THENCE SOUTH 80 DEGREES 00 MINUTES 45 SECONDS WEST 10.00 FEET; THENCE NORTH 09 DEGREES 59 MINUTES 15 SECONDS WEST ALONG THE WESTERLY LINE OF SAID MILWAUKEE AVENUE, 10.16 FEET; THENCE SOUTH 80 DEGREES 00 MINUTES 45 SECONDS WEST, 267.00 FEET; THENCE SOUTH 09 DEGREES 59 MINUTES 15 SECONDS EAST, 194.86 FEET TO A POINT IN THE NORTHERLY LINE OF GREEN TREE PARKWAY, AFORESAID; THENCE NORTH EASTERLY ALONG SAID NORTHERLY LINE BEING THE ARC OF A CIRCLE CONVEX TO THE SOUTHEAST AND HAVING A RADIUS OF 750.97 FEET, AN ARC DISTANCE OF 174.31 FEET (THE CHORD OF WHICH ARC BEARS NORTH 86 DEGREES 39 MINUTES 43 SECONDS EAST AND MEASURES 173.92 FEET) TO A POINT OF TANGENCY; THENCE NORTH 80 DEGREES 00 MINUTES 45 SECONDS EAST ALONG THE SAID NORTHERLY LINE OF GREEN TREE PARKWAY, TANGENT TO THE LAST DESCRIBED CURVED LINE, 104.26 FEET TO THE POINT OF BEGINNING, IN LAKE COUNTY, ILLINOIS.

**PARCEL 2:**  
 THAT PART OF LOT 6 IN ERNST HECHT ESTATE SUBDIVISION, BEING A SUBDIVISION IN SECTIONS 20, 21, 22, 27, 28 AND 29, IN TOWNSHIP 44 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED MAY 23, 1918, AS DOCUMENT 177862, IN BOOK "K" OF PLATS, PAGES 10 AND 11, LYING FIVE FEET ON EITHER SIDE OF CENTER LINES, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 6, SAID POINT BEING IN THE CENTER LINE OF MILWAUKEE AVENUE; THENCE NORTH 09 DEGREES 59 MINUTES 15 SECONDS WEST ALONG SAID CENTER LINE, 506.98 FEET; THENCE SOUTH 80 DEGREES 45 SECONDS WEST, 45.0 FEET TO THE WESTERLY LINE OF SAID MILWAUKEE AVENUE; THENCE NORTH 09 DEGREES 59 MINUTES 15 SECONDS WEST, 33.46 FEET ALONG WESTERLY LINE OF MILWAUKEE AVENUE TO THE POINT OF BEGINNING OF STORM SEWER EASEMENT ONE; THENCE NORTH 78 DEGREES 21 MINUTES 56 SECONDS WEST, 11.20 FEET TO POINT "A"; THENCE SOUTH 83 DEGREES 57 MINUTES 52 SECONDS WEST, 48.92 FEET; THENCE NORTH 88 DEGREES 43 MINUTES 08 SECONDS WEST, 222.07 FEET TO THE INTERSECTION WITH THE WEST LINE OF THE PREMISES CONVEYED; ALSO; STORM SEWER EASEMENT TWO COMMENCING FROM POINT "A" NORTH 07 DEGREES 44 MINUTES 19 SECONDS WEST, 43.99 FEET TO POINT "B"; THENCE NORTH 36 DEGREES 11 MINUTES 31 SECONDS WEST, 148.75 FEET TO THE INTERSECTION WITH THE NORTH LINE OF PREMISES CONVEYED; AND ALSO; STORM SEWER EASEMENT THREE COMMENCING FROM POINT "B" NORTH 79 DEGREES 57 MINUTES 55 SECONDS EAST 8.68 FEET TO THE INTERSECTION WITH THE EAST LINE OF THE PREMISES CONVEYED, ALL IN LAKE COUNTY, ILLINOIS.

**PARCEL 3:**  
 THAT PART OF LOT 6 IN ERNST HECHT ESTATE SUBDIVISION, BEING A SUBDIVISION IN SECTIONS 20, 21, 22, 27, 28 AND 29, IN TOWNSHIP 44 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED MAY 23, 1918, AS DOCUMENT 177862, IN BOOK "K" OF PLATS, PAGES 10 AND 11, LYING FIVE FEET ON EITHER SIDE OF CENTER LINE, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 6, SAID POINT BEING IN THE CENTER LINE OF MILWAUKEE AVENUE; THENCE NORTH 09 DEGREES 59 MINUTES 15 SECONDS WEST ALONG SAID CENTER LINE, 506.98 FEET; THENCE SOUTH 80 DEGREES 00 MINUTES 45 SECONDS WEST, 45 FEET TO THE WESTERLY LINE OF SAID MILWAUKEE AVENUE; THENCE SOUTH 80 DEGREES 00 MINUTES 45 SECONDS WEST, 11.68 FEET ALONG NORTHERLY LINE OF GREEN TREE PARKWAY TO THE POINT OF BEGINNING OF SANITARY EASEMENT; THENCE NORTH 09 DEGREES 59 MINUTES 15 SECONDS WEST, 8 FEET; THENCE SOUTH 83 DEGREES 58 MINUTES 06 SECONDS WEST, 254.70 FEET; THENCE NORTH 17 DEGREES 10 MINUTES 27 SECONDS WEST, 89.75 FEET TO THE INTERSECTION WITH THE WEST LINE OF THE PREMISES CONVEYED, ALL IN LAKE COUNTY, ILLINOIS.

**PARCEL 4:**  
 THAT PORTION OF THE PREMISES CONVEYED LYING EAST OF A LINE DRAWN 35 FEET WEST OF AND PARALLEL TO THE WEST LINE OF MILWAUKEE AVENUE AND WEST OF THE WEST LINE OF MILWAUKEE AVENUE AS MEASURED ON THE SOUTH LINE OF THE PREMISES CONVEYED, ALL IN LAKE COUNTY, ILLINOIS.

KNOWN AS: **1195 S. MILWAUKEE AVENUE, LIBERTYVILLE, ILLINOIS 60084**

PERMANENT INDEX NUMBER: 11 - 28 - 201 - 043 - 0000

AREA = 58,299 SQ. FT. OR 1.338 ACRES

NOTE:  
 THIS LEGAL DESCRIPTION DESCRIBES THE SAME PROPERTY AS INSURED IN THE TITLE COMMITMENT AND ANY EXCEPTIONS HAVE BEEN NOTED HEREIN.

PARKING SPACE TABLE	
TYPE OF SPACE	TOTAL EXISTING
REGULAR	72
HANDICAP	4
TOTAL	76

STATE OF ILLINOIS )  
 ) SS  
 COUNTY OF COOK )

**I, ROY G. LAWNICZAK**, A REGISTERED LAND SURVEYOR, LICENSE NO. 35-2290, IN AND FOR THE STATE OF ILLINOIS AND LEGALLY DOING BUSINESS IN COOK COUNTY, DO HEREBY CERTIFY TO:

- **1195 S. MILWAUKEE, LLC**

- **GREATER ILLINOIS TITLE COMPANY**

AND TO THEIR SUCCESSORS AND ASSIGNS, THAT:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA / NSPS LAND TITLE SURVEYS JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(b), 7(a), 7(b)(1),(7)(c), 8, 9, 10(a), 11(a), 14, 16, 17, 18 AND 19 OF TABLE A THEREOF.

THE FIELD WORK WAS COMPLETED ON NOVEMBER 9, 2025.

DATE OF PLAT: NOVEMBER 13, 2025.



BY: *Roy G. Lawniczak*  
 ROY G. LAWNICZAK, REGISTERED ILLINOIS LAND SURVEYOR NO. 35-2290  
 LICENSE EXPIRES: NOVEMBER 30, 2026  
 PROFESSIONAL DESIGN FIRM LICENSE NO.: 184-004576  
 LICENSE EXPIRES: APRIL 30, 2027

ORDERED BY:  
 1195 S. MILWAUKEE, LLC  
 PRAIRIE RETAIL HOLDINGS, LLC

SCALE : 1" = 20'

DATE : NOVEMBER 9, 2025

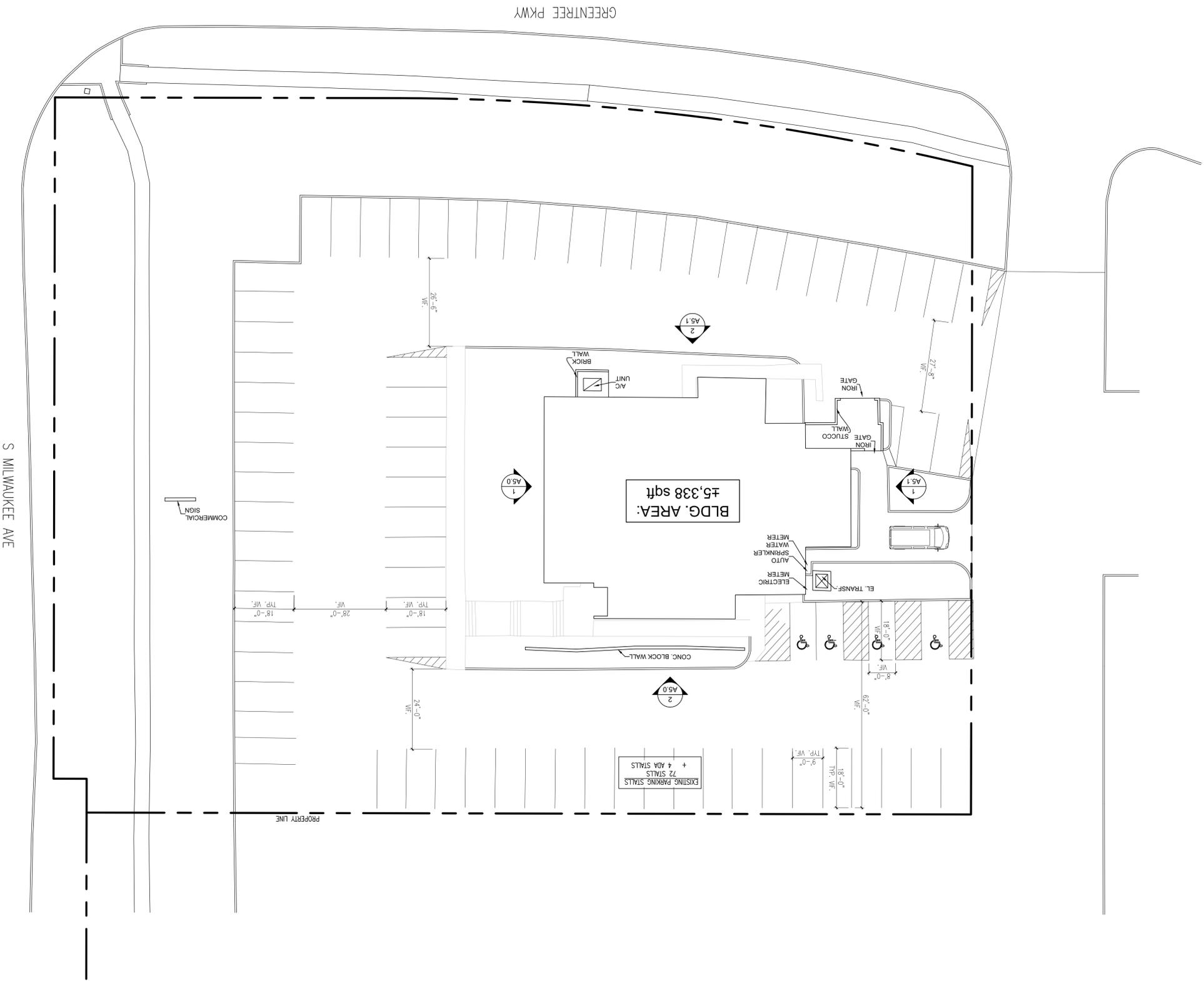
FILE No.:

**2025 - 32399**

DATE	REVISION

This document is the firm's professional work and shall not be used for any other project without the express written permission of JTS Architects, LLC. It is the user's responsibility to check the validity of all information contained herein. The user shall assume all risks and liabilities resulting from the use of the information contained herein when the attached file.

1/16"=1'-0"  
EXISTING SITE PLAN



SITE INFORMATION	
ZONING:	COMMERCIAL
LAND AREA:	±1.33 ACRES
ZONE:	C-4
BUILDING DATA	
BUILDING	±5,338 SF
PARKING DATA	
EXISTING (INCL. ADA)	76 STALLS
SIZE RESTRICTIONS:	
LOT COVERAGE MAX:	85%
LOT COVERAGE EXISTING:	±63%
BUILDING HEIGHT	
ALLOWED:	45' MAX
EXISTING:	21.16' MAX

NOT FOR CONSTRUCTION

| DATE |
|------|------|------|------|------|------|------|------|
|      |      |      |      |      |      |      |      |

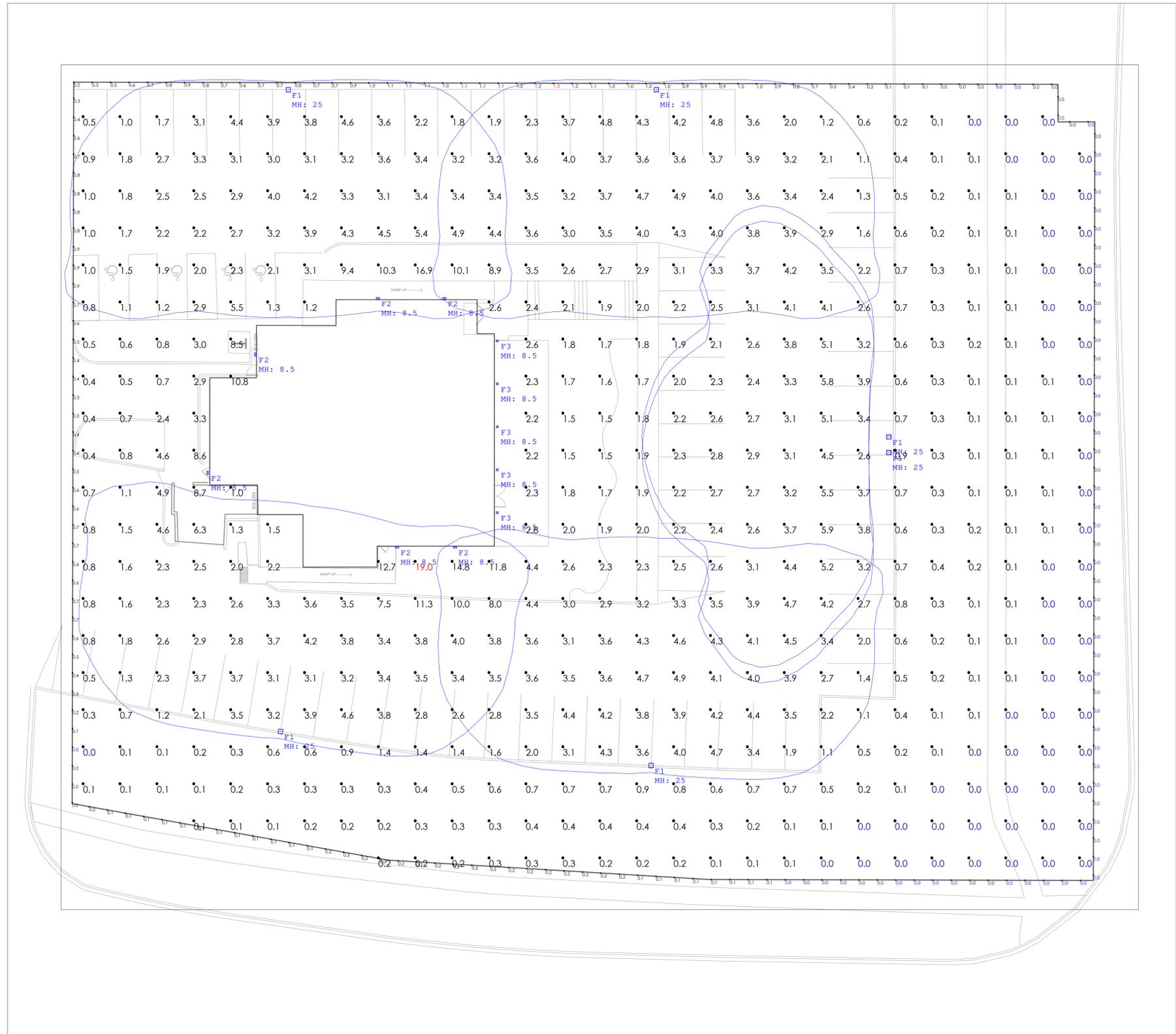
Prairie Retail Holdings, LLC  
1195 S MILWAUKEE AVE  
LIBERTYVILLE, IL 60048

JTS Architects  
1821 Walden Office Square  
Suite 205  
Schaumburg, IL 60173  
P 847.952.9970  
www.jtsarch.com

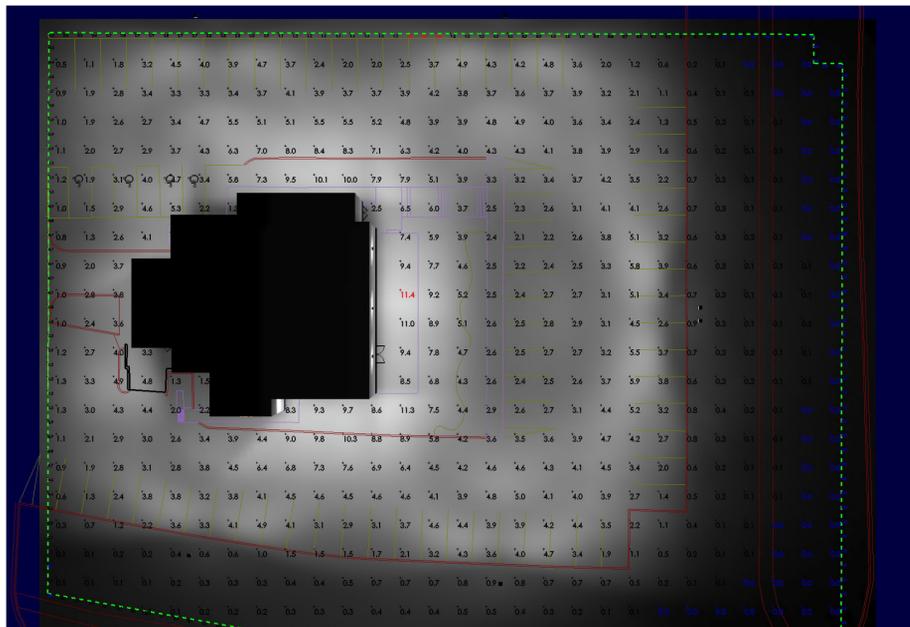
AS 1  
SHEET  
3485  
JOB NO.  
11/24/25  
DATE

EXISTING SITE  
PLAN  
SHEET TITLE

DATE  
SUBMITTED FOR



Scale: 1 inch= 15 Ft.



**NOTES**

PG-ENLIGHTEN IS NEITHER LICENSED NOR INSURED TO DETERMINE CODE COMPLIANCE. CODE COMPLIANCE REVIEW BY OTHERS.

ANY VARIANCE FROM REFLECTANCE VALUES, OBSTRUCTIONS, LIGHT LOSS FACTORS OR DIMENSIONAL DATA WILL AFFECT THE ACTUAL LIGHT LEVELS OBTAINED.

THIS ANALYSIS IS A MATHEMATICAL MODEL AND CAN BE ONLY AS ACCURATE AS IS PERMITTED BY THE THIRD-PARTY SOFTWARE AND THE IES STANDARDS USED.

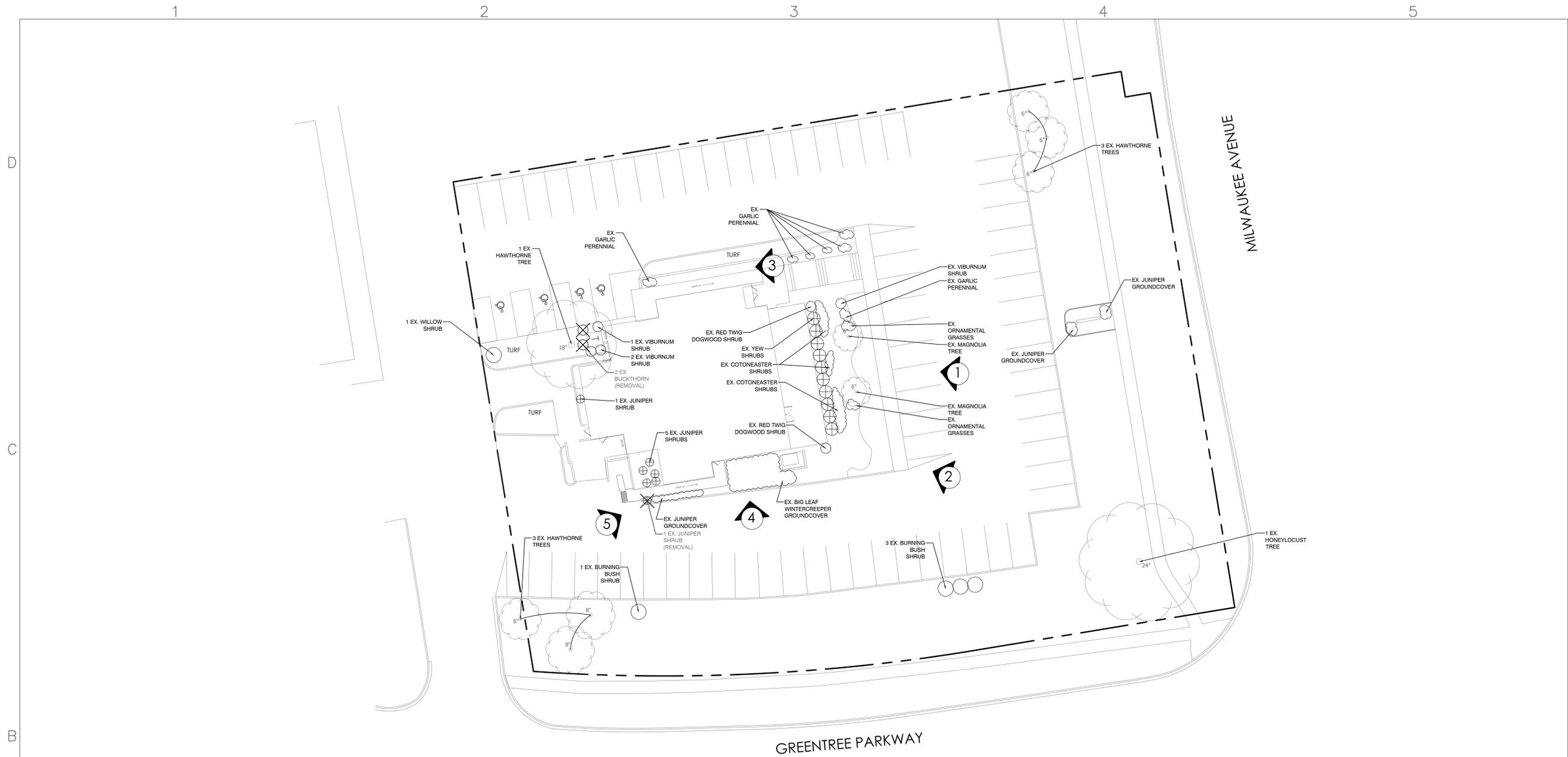
FIXTURE TYPES AND QUANTITIES MAY CHANGE BASED ON UNKNOWN OBSTRUCTIONS OR FIELD CONDITIONS. THESE CHANGES MAY RESULT IN AN INCREASED QUANTITY OF FIXTURES.

FIXTURE TYPES AND QUANTITIES BASED ON PROVIDED LAYOUT AND DRAWINGS ARE FOR REFERENCE ONLY. TYPES AND QUANTITIES MAY CHANGE WITH FUTURE REVISIONS.

CALCULATION GRID VALUES 10'-0" O.C.

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Max/Min	Calc Plane Ht
Property Line	Illuminance	Fc	0.33	1.3	0.0	N.A.	N.A.
Site at Grade_Planar	Illuminance	Fc	2.17	19.0	0.0	N.A.	0

Luminaire Schedule - Part numbers are provided by the manufacturer and are only intended to be used as a reference to output and optics used.								
Symbol	Qty	Tag	Manufacturer	Description	Luminaire Lumens	Luminaire Watts	LLF	
□	6	F1	BEACON	VP-SS-2-80L-205-4K7-4F-BC	19472	203.4	0.900	
□	6	F2	BEACON	VPW2-80L-35-4K7-4W	4735	34.2	0.900	
□	5	F3	LEDRA BRANDS	EXT-6QUD-SW-35LM-30K-90-55D-55D	3361	31.7	0.900	



REV.	COMMENT	DATE

SEAL:



DATE: 12/3/2025  
 JOB NO.: 25-138D  
 DRAWN BY: TS  
 CHECKED BY: TS

DRAWING TITLE:  
 EXISTING  
 LANDSCAPE &  
 REMOVALS PLAN

SHEET NO.:  
**LP-100**



1 EXISTING CONDITIONS PHOTO



2 EXISTING CONDITIONS PHOTO



3 EXISTING CONDITIONS PHOTO

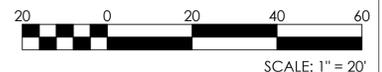


4 EXISTING CONDITIONS PHOTO



5 EXISTING CONDITIONS PHOTO

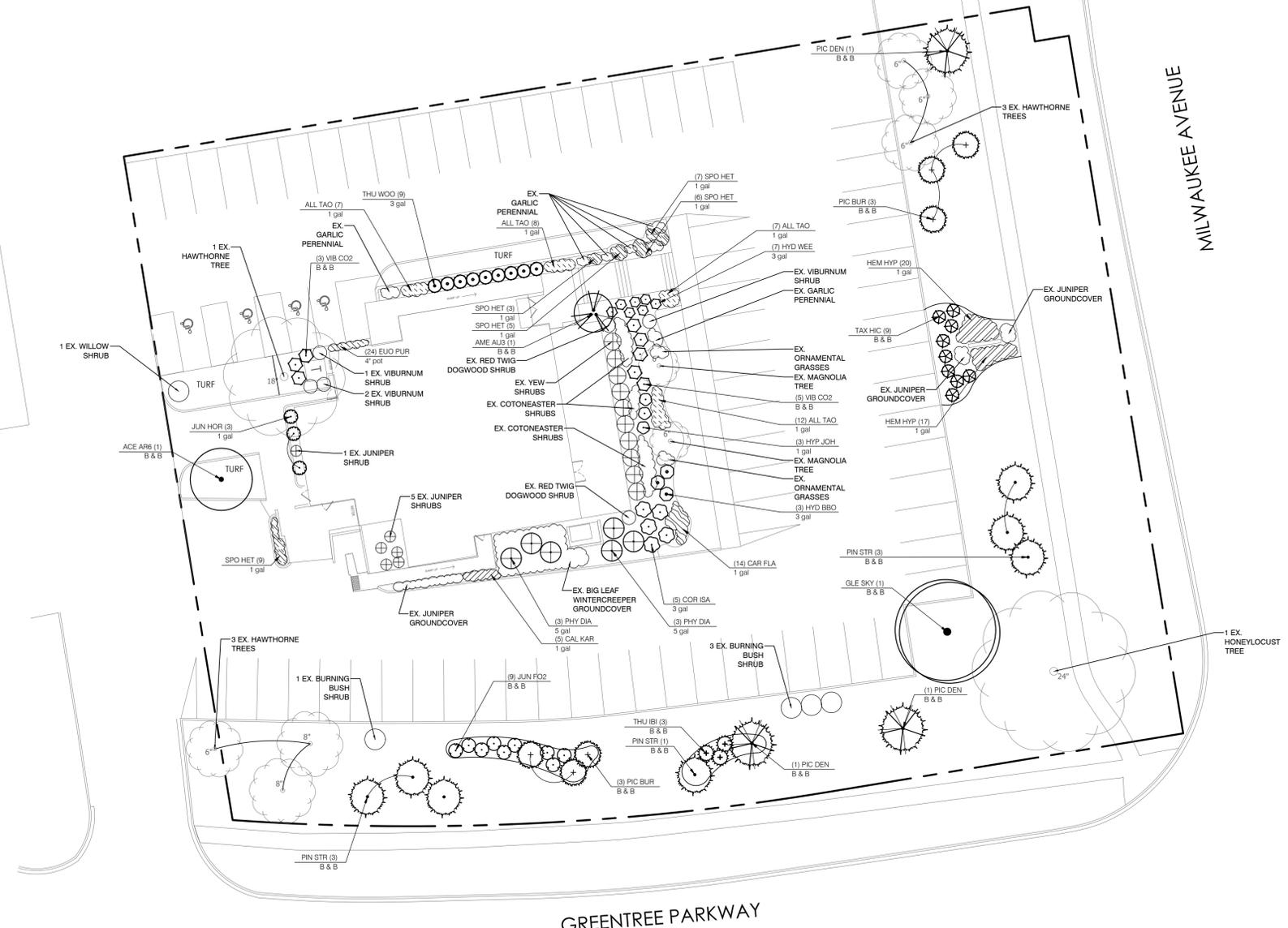
X = LANDSCAPE TO BE REMOVED



SURVEY INFORMATION  
 PROVIDED BY OTHERS.



1167 Hobson Mill Drive  
 Naperville, Illinois 60540  
 Telephone: (630) 606-0776  
 www.design-perspectives.net



**PLANT SCHEDULE**

CODE	BOTANICAL / COMMON NAME	CONT	SIZE	QTY	REMARKS
<b>TREES</b>					
ACE AR6	Acer x freemanii 'Armstrong' / Armstrong Freeman Maple	B & B	2.5' Cal	1	
AME AU3	Amelanchier canadensis 'Autumn Brilliance' / Autumn Brilliance Serviceberry	B & B	6' H. (Multi-Stem)	1	
GLE SKY	Gleditsia triacanthos 'Skyline' / Skyline Honey Locust	B & B	2.5' Cal	1	
PIC DEN	Picea glauca 'Densata' / Black Hills Spruce	B & B	6' H.	3	
PIC BUR	Picea omorika 'Bruns' / Bruns Spruce	B & B	6' H.	6	
PIN STR	Pinus strobus / White Pine	B & B	6' H.	7	
<b>SHRUBS</b>					
COR ISA	Cornus sericea 'Isanti' / Isanti Red Twig Dogwood	3 gal	15' H.	5	
HYD BBO	Hydrangea paniculata 'LVOBO' TM / Bobo Panicle Hydrangea	3 gal	15' H.	3	
HYD WEE	Hydrangea quercifolia 'Pee Wee' / Oakleaf Hydrangea	3 gal	15' H.	7	
HYP JOH	Hypericum kalmianum / Kalm St. Johnswort	1 gal	12" H.	3	
JUN FO2	Juniperus chinensis 'Sea Green' / Sea Green Juniper	B & B	36" H.	9	
JUN HOR	Juniperus horizontalis 'Blue Chip' / Blue Chip Juniper	1 gal	15" H.	3	
PHY DIA	Physocarpus opulifolius 'Monro' TM / Diabolo Purple Ninebark	5 gal	4' H.	6	
TAX HIC	Taxus x media 'Hicksii' / Hicks Yew	B & B	36" H.	9	
THU WOO	Thuja occidentalis 'Woodwardii' / Woodward Arborvitae	3 gal	36" H.	9	
THU IBI	Thuja x plicata Junior Giant / Junior Green Giant Arborvitae	B & B	6' H.	3	
VIB CO2	Viburnum carlesii 'Compactum' / Korean Spice Viburnum	B & B	36" H.	8	
CODE	BOTANICAL / COMMON NAME	CONT	SPACING	QTY	REMARKS
<b>GROUND COVERS</b>					
ALL TAO	Allium x 'Millenium' / Millenium Ornamental Onion	1 gal	24" o.c.	34	
CAL KAR	Calamagrostis x acutiflora 'Karl Foerster' / Feather Reed Grass	1 gal	30" o.c.	5	
CAR FLA	Carex flacca / Blue Sedge	1 gal	24" o.c.	14	
EUO PUR	Euonymus coloratus / Purple Wintercreeper	4" pot	12" o.c.	24	
HEM HYP	Hemerocallis x 'Hyperion' / Hyperion Daylily	1 gal	24" o.c.	37	
SPO HET	Sporobolus heterolepis / Prairie Dropseed	1 gal	24" o.c.	30	

**LANDSCAPE CALCULATIONS:**

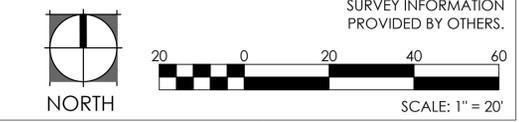
GREENTREE PARKWAY 276 LF  
 $\frac{276}{50} = 6$  SHADE/ORNAMENTAL TREES  
 $\frac{276}{25} = 11$  EVERGREEN TREES  
 11 EVERGREEN SHRUBS

EXISTING TREE CREDIT= 8 TREES  
 17 REQ-8 TREE CREDIT=9  
 EVERGREEN TREES REQ.

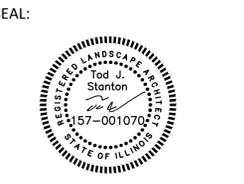
MILWAUKEE AVENUE 215 LF  
 $\frac{215}{50} = 5$  SHADE/ORNAMENTAL TREES  
 $\frac{215}{25} = 9$  EVERGREEN TREES  
 9 EVERGREEN SHRUBS

EXISTING TREE CREDIT= 16 TREES  
 14 REQ-7 TREE CREDIT=7  
 EVERGREEN TREES REQ.

ANY AND ALL EXISTING LANDSCAPE AREAS WITHIN THE PROJECT LIMITS FOR THE SITE SHALL BE WEEDED, MOWED, TRIMMED, DEAD PLANTS REPLACED, RE-SEED, ETC. BY THE LANDSCAPE CONTRACTOR TO PROVIDE AN AESTHETICALLY PLEASING APPEARANCE. (TYPICAL.)



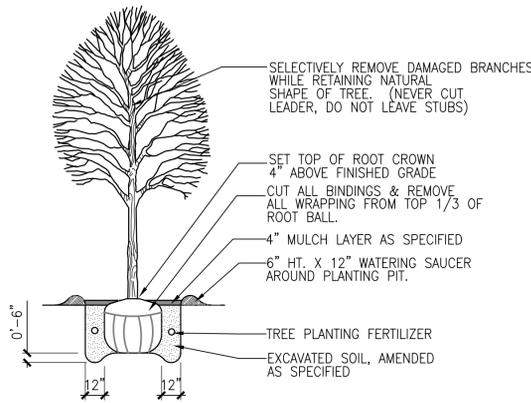
REV.	COMMENT	DATE



DATE: 12/3/2025  
 JOB NO.: 25-138D  
 DRAWN BY: TS  
 CHECKED BY: TS

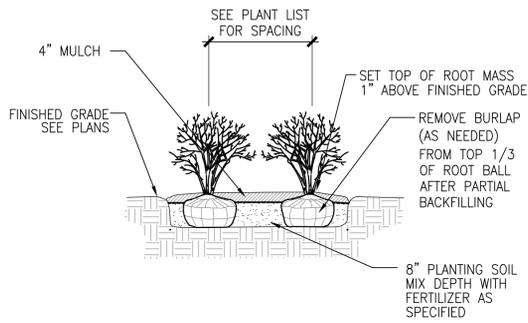
DRAWING TITLE:  
**LANDSCAPE PLAN**

SHEET NO.:  
**LP-101**



**SHADE TREE PLANTING**

SCALE: NTS

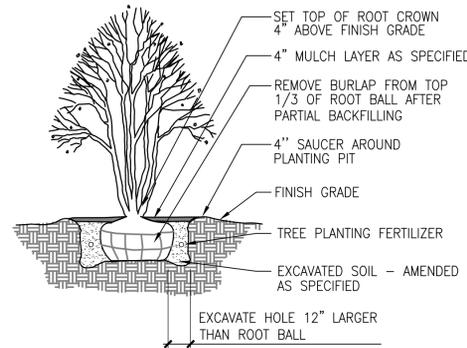


ALL PLANTS TO BE INSTALLED IN STAGGERED ROWS UNLESS OTHERWISE NOTED ON PLANS

**SHRUB PLANTING**

SCALE: 1/2"=1'-0"

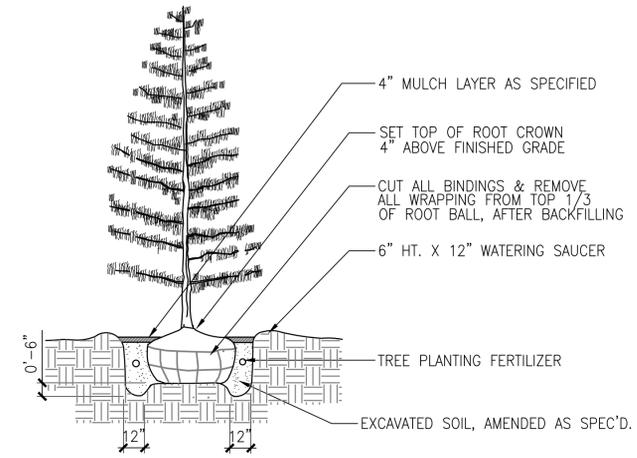
DT-shrub-gyn



**ORNAMENTAL TREE PLANTING**

SCALE: 1/4"=1'-0"

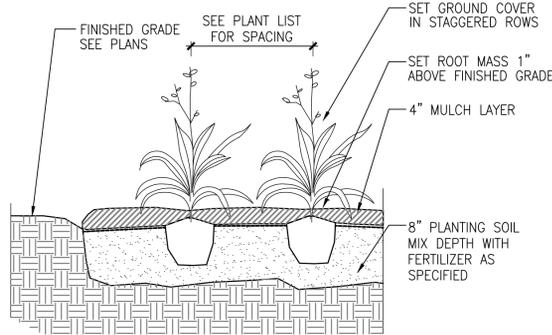
DT-ornamentaltree-gyn



**EVERGREEN TREE PLANTING**

SCALE: 1/4"=1'-0"

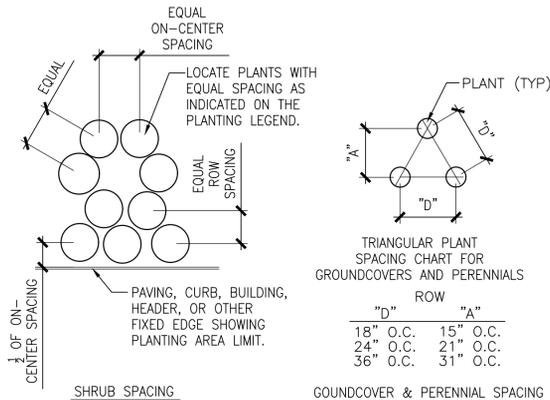
DT-evergreen-gyn



**GROUNDCOVER PLANTING**

SCALE: 1"=1'-0"

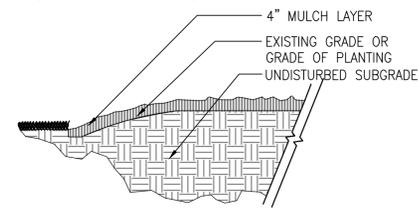
DT-groundcover-gyn



**PLANT SPACING DETAIL**

SCALE: 1/2"=1'-0"

DT-plantspace-gyn



**TRENCH EDGE DETAIL**

SCALE: 1"=1'-0"

DT-trench-gyn

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES AND STRUCTURES. SEE CONSTRUCTION NOTES.
2. DO NOT WILLFULLY PROCEED WITH PLANTINGS AS DESIGNED WHEN IT IS OBVIOUS THAT OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING THE DESIGN PROCESS. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER. THE LANDSCAPE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY NECESSARY REVISIONS AND COSTS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AND/OR SUPPLIERS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
4. THE LANDSCAPE CONTRACTOR IS TO RECEIVE THE SITE AT +/- 1/10TH OF AN INCH. THE LANDSCAPE CONTRACTOR SHALL OBTAIN A LETTER OF GRADE FROM THE GENERAL CONTRACTOR PRIOR TO BEGINNING WORK.
5. REFER TO SPECIFICATIONS FOR PLANTING REQUIREMENTS, MATERIALS, AND EXECUTION.
6. ALL TREES SHALL BE TAGGED BY THE PROJECT MANAGER AT A NURSERY SELECTED BY THE LANDSCAPE CONTRACTOR OR AT THE DISCRETION OF THE PROJECT MANAGER.

**PLANTING NOTES**

SCALE: NTS

DT-plantnote-gyn

7. FINAL LOCATION OF ALL PLANT MATERIAL SHALL BE SUBJECT TO APPROVAL OF THE PROJECT MANAGER PRIOR TO DIGGING ANY HOLES. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROJECT MANAGER ADEQUATE ADVANCE NOTICE FOR ON-SITE APPROVALS. THE LANDSCAPE CONTRACTOR IS TO FOLLOWING BEFORE BEGINNING INSTALLING PLANTINGS:
  - SHRUBS - LAY OUT THE ACTUAL CONTAINERS ON-SITE BEFORE DIGGING HOLES.
  - TREES - STAKE THE LOCATIONS BEFORE DIGGING HOLES. ANY TREE PLANTED WITHOUT ITS FINAL LOCATION APPROVED BY THE PROJECT MANAGER MAY BE REQUESTED TO BE RELOCATED AT THE SOLE EXPENSE OF THE LANDSCAPE CONTRACTOR.
8. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER AT LEAST 48 HOURS IN ADVANCE PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT OBSERVATION SCHEDULES.
9. IF CONFLICTS ARISE BETWEEN THE ACTUAL SIZE OF AREAS ON THE SITE AND THE DRAWINGS, CONTACT THE PROJECT MANAGER FOR RESOLUTION.
10. IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO FURNISH PLANTS FREE OF PESTS AND/OR DISEASES. PRE-SELECTED OR "PROJECT MANAGER TAGGED" PLANT MATERIAL MUST BE INSPECTED BY THE LANDSCAPE CONTRACTOR AND CERTIFIED PEST AND DISEASE FREE. IT IS THE LANDSCAPE CONTRACTOR'S OBLIGATION TO WARRANTY ALL PLANT MATERIAL PER THE SPECIFICATIONS.

11. GROUNDCOVERS AND SHRUBS ARE TO BE TRIANGULARLY SPACED UNLESS INDICATED ON THE PLANS.
12. ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING FORM, UNLESS OTHERWISE NOTED.
13. ALL TREES, SHRUB AND GROUNDCOVER AREAS (EXCLUDING TURF AND SLOPE AREAS) ARE TO BE MULCHED PER DETAILS.
14. ALL MULCH TO BE DOUBLE SHREDDED HARDWOOD MULCH, BROWN IN COLOR MINIMUM 4" THICK.
15. TREES SHALL BE SET BACK A MINIMUM OF TEN FEET (10') HORIZONTALLY FROM UTILITY STRUCTURES, INCLUDING, BUT NOT LIMITED TO, MANHOLES, VALVE VAULTS, VALVE BOXES, FIRE HYDRANTS, TRANSFORMERS AND SWITCH CANS. TREES SHALL BE SET BACK A MINIMUM OF FIVE (5') HORIZONTALLY FROM SANITARY SEWER AND WATER SERVICES. CONTRACTOR TO MAKE NECESSARY ADJUSTMENTS UNDER THE APPROVAL OF OWNER.
16. PLANTING RESTRICTIONS: PLANT DURING ONE OF THE FOLLOWING PERIODS. COORDINATE PLANTING PERIODS WITH MAINTENANCE PERIODS TO PROVIDE REQUIRED MAINTENANCE FROM DATE OF SUBSTANTIAL COMPLETION.
  1. SPRING PLANTING: 5/1 - 6/15
  2. FALL PLANTING: 9/15 - 12/1

REV.	COMMENT	DATE

SEAL:



DATE: 12/3/2025  
JOB NO.: 25-138D  
DRAWN BY: TS  
CHECKED BY: TS

DRAWING TITLE:  
LANDSCAPE DETAILS

SHEET NO.:  
LP-500

SECTION 02920 - LANDSCAPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Retain or delete this article in all Sections of Project Manual.

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Furnish all trees, shrubs, and other plant materials, labor equipment, and non-plant materials required to complete installation of planting indicated on the Landscape Drawings and Details.

Furnish all soil preparation, fertilizer, soil mulching, trees, shrubs, groundcovers, sodding, bed mulching, labor and equipment required to landscape all areas as indicated on the Landscape Drawings.

- B. Section Includes:
  1. Trees
  2. Shrubs
  3. Perennials
  4. Annuals
  5. Ornamental grasses
  6. Mulch
  7. Pruning
  8. Guying and Staking
  9. Landscape Edging
  10. Tree Watering Devices
  11. Seeding.
  12. Hydroseeding.
  13. Sodding.
  14. Plugging.
  15. Meadow grasses and wildflowers.
  16. Turf renovation.
  17. Erosion-control material(s).

C. Related Requirements (If Used):

- 1. Section 02231 "Tree Protection and Trimming" for protecting, trimming, pruning, repairing, and replacing existing trees to remain that interfere with, or are affected by, execution of the Work.
- 2. Section 02810 "Design-Build Irrigation System".
- 3. Section 02300 "Earthwork".

1.3 ALLOWANCES

- A. Perform planting work under quantity allowances and only as authorized. Authorized work includes work required by Drawings and the Specifications and work authorized in writing by the Project Manager.
- B. Notify Project Manager weekly of extent of work performed that is attributable to quantity allowances.
- C. Furnish trees as part of tree allowance.

1.4 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 01270 "Unit Prices."
- B. Unit prices apply to authorized work covered by quantity allowances.
- C. Unit prices apply to additions to and deletions from the Work as authorized by Change Orders.

1.4 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Ball and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with a ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- D. Finish Grade: Elevation of finished surface of planting soil.
- E. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- F. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- G. Planting Area: Areas to be planted
- H. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. Plant; Plants; Plant Material: The terms refer to vegetation in general, including trees, shrubs, vines, groundcovers, ornamental grasses, bulbs, plugs, or herbaceous vegetation.
- I. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- J. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- K. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.6 COORDINATION

- A. Coordination with turf areas (lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
  1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

1.7 SUBMITTALS

- A. Qualification Data: For landscape Installer.
- B. Product Data: For each type of product.
  1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
  2. Plant Photographs: Include color photographs in digital format of each species and size of plant materials as it will be furnished to the Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include scale rod or other measuring device in each photograph. For species where more than ten (10) plants are required, include a minimum of three (3) photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full botanical name of the plant, plant size, and name of the growing nursery.
- C. Grower or Nursery Certifications
  1. All State, Federal, or other certificates shall be submitted to the Project Manager prior to acceptance of plant material along with other information showing the source or origin.
  2. Current grower or nursery certifications indicating that all contractor supplied plant material is healthy, vigorous, and free from insects, pests, plant diseases, and injuries.
- D. Certification of Topsoil Mixture: Submit topsoil mix test reports to Project Manager for review. If existing material is to be re-used, topsoil to be tested and reviewed by Project Manager
- E. Certification of each sod/seed mixture. Include identification of source and name and telephone number of supplier.
- F. Product Certificates: For fertilizers, from manufacturer.
- G. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.
- H. Samples: Submit physical samples of each of the following materials for approval. All samples shall be submitted in a one quart, clear, plastic bag (Ziploc type) or appropriate container. Submittals must be made prior to commencing any activities. All samples shall be clearly labeled with the following information.
  - Project Name Site Improvements
  - Material name as shown on plans and specifications
  - Supplier or distributor's name
  - Supplier or distributor's product name and/or order number
 Required samples are as follows
  1. Mulch
  2. Compost
- I. Slow-Release, Tree-Watering Device: One (1) unit of each size required.
- J. Edging Materials and Accessories:
  1. Manufacturer's product information sheet.
  2. 12" length of Manufacturer's standard size, to verify color selected.

1.8 CONSTRUCTION SCHEDULE

- A. Prior to beginning installation of the landscape, the Contractor is to submit a project construction schedule to the Project Manager for approval. The schedule should include the areas and types of construction to be undertaken and the sequence which will be used to accomplish the completion of the project. Schedule must be submitted prior to commencing any activities.
- B. At the completion of the work, furnish three (3) copies of written maintenance instructions to the Owner for maintenance and care of the landscaping. Instructions shall include directions for irrigation, weeding, pruning, fertilization, and spraying as required for continuance of proper maintenance through a full growing season and dormant period.
- C. Guarantee of Warranty: At completion of work, furnish written guarantee, and warranty, to the Owner based on the requirements of this section.

1.9 QUALITY ASSURANCE

- A. Reference Standards
  1. U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act and equal in quality to standards for Certified Seed.
  2. Requirements for measurements, grading, branching, quality, and the balling and burlapping of plants listed in the plant list shall follow the current issue of American Standards for Nursery Stock issued by the American Association of Nurserymen, Inc. (ANSI-Z 60.1-1990)
  3. Plants shall equal or exceed the measurements specified in the plant list, which are minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting.
- B. Quality of Materials
  1. All materials shall be subject to inspection and approval. The Project Manager reserves the right to reject at any time or place, prior to acceptance, the work and all materials which in the Project Manager's opinion fails to meet these specification requirements.
  2. Inspection is primarily for quality, however, other requirements are not waived even though visual inspection at the place of growth shall not preclude the right of rejection at the site. Inspection may be made periodically during installation of materials, at completion, and at the end of guarantee periods by the Project Manager. Plants shall have a habit of growth that is normal for the species. They shall be healthy, vigorous, and free from insect pests, plant diseases, and injuries. All plant material shall be inspected stock conforming to all State and Federal Regulations.
  3. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches (150 mm) above the root flare for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the root flare for larger sizes.
  4. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- C. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of plants.
  1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
  2. Experience: Five years' experience in landscape installation in addition to requirements in Section 01400 "Quality Requirements."
  3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  4. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:
    - a. Landscape Industry Certified Technician - Exterior.
    - b. Landscape Industry Certified Horticultural Technician.
    5. Pesticide Applicator: State licensed, commercial.
- D. Plant Material Observation: Project Manager may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Project Manager may also observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.
  1. Notify Project Manager of sources of planting materials five days in advance of delivery to site.

4

- E. Vandalism: The Contractor will not be responsible for malicious destruction of plantings after final acceptance of the project. He will, however, be responsible for replacement of vandalized materials stored but not yet installed, and vandalized material prior to final acceptance. All cases of vandalism shall be promptly reported to the Owner. The Contractor shall inform the Owner in writing if additional protection must be installed to protect the landscaping from damage after installation.

1.1 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping
  1. Deliver fertilizer to site in original unopened containers bearing the manufacturer's guaranteed chemical analysis, name, trade name, trademark, and conformance to State law. Notify Project Manager of delivery schedule in advance so material may be inspected upon arrival at the job site.
  2. Deliver packaged materials in original, unopened containers showing weight, analysis and name of manufacturer, and indication of compliance with state and Federal laws, if applicable. Provide copies of delivery receipts for materials to be incorporated into the construction to the Project Manager as deliveries are made. Materials to be accounted for include: fertilizers, soil amendments, peat moss, manure, grass seed, plant tabs, and mulch.
  3. Plants shall be containerized with limbs bound, properly wrapped and prepared for shipping in accordance with recognized standard practice. The root system shall be kept moist and plants shall be protected from adverse conditions due to climate and transportation, between the time they are dug and actual planting.
  4. Each plant shall be identified by means of a grower's label affixed to the plant. The grower's label shall give the data necessary to indicate conformance to specifications. Use durable waterproof labels with water resistant ink which will remain legible for at least 60 days. Notify the Project Manager prior to delivery of plant materials to the site so that a pre-planting inspection may be made or indicate delivery schedule in advance so plant material may be inspected upon arrival at job site, whichever is more appropriate. Grower's labels shall be removed prior to the walk through for initial acceptance.
  5. Do not prune trees and shrubs before delivery.
  6. Handle planting stock by root ball. Do not drop plants. Do not lift plants by the trunk, stems, or foliage. The ball of the plant shall be natural, and the plant shall be handled by the ball at all times. All plants shall be protected at all times from drying out or other injury. Minor broken and damaged roots shall be pruned before planting.
- B. Acceptance at Site
  1. Remove unacceptable plant material immediately from job site.
  2. Major damage shall be cause for rejection.
  3. No balled or burlapped plant shall be accepted if the ball is broken or the trunk is loose in the ball.
- C. Storage and Protection
  1. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, shade), protect from weather and mechanical damage, and keep roots moist.
    - a. Heel-in bare-root stock. Soak roots that are in less than moist conditions in water for two hours. Reject plants with dry roots.
    - b. Set balled stock on ground and cover ball with soil, peat moss, mulch, or other acceptable material.
    - c. Do not remove container-grown stock from containers before time of planting.
    - d. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.
  2. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as they destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
  3. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
    - a. If deciduous trees or shrubs are moved in full leaf, spray with antiesiccant at nursery before moving and again two weeks after planting.
  4. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.
  5. Protect all existing and newly planted trees, shrubs, and groundcover within the areas of construction and related excavation as herein specified. Provide suitable barricades and/or fences as required.
  6. Store bulbs in a dry place at 60 to 65 deg. F (16 to 18 deg. C) until planting.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.
- C. Bulk Materials:
  1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
  2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  3. Accompany each delivery of bulk materials with appropriate certificates.

1.12 SEQUENCING AND SCHEDULING

- A. Planting Schedule
 

Schedule each type of landscape work required during the normal season for such work in the area of the site. Establish dates for each type of work and establish a completion date. Correlate work with specified maintenance periods to provide maintenance until accepted by the Owner. Do not depart from the accepted schedule, except with written authorization. Submit request to the Project Manager for changes in the planting schedule. When delays in the planting schedule are unavoidable, include documentation of the reason for delay.
- B. Plant trees and shrubs during normal season for such work in the location of the project.
- C. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.
- D. Coordination with Lawns
 

Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to the Project Manager. If planting of trees and shrubs occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

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REV.	COMMENT	DATE

SEAL:



DATE: 12/3/2025  
JOB NO.: 25-138D  
DRAWN BY: TS  
CHECKED BY: TS

DRAWING TITLE:  
LANDSCAPE  
SPECIFICATIONS

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1.13 WARRANTY AND GUARANTEE

- A. Guarantee trees, shrubs, groundcovers and all plant material for a period of one year from the date of final acceptance against defects not resulting from neglect of Owner, or abuse and damage by others.
- B. For a period of one year after acceptance of work, at no additional cost to the Owner, the Contractor is to replace any plants that are dead, or that are in unhealthy or unsightly condition, or have lost their natural shape due to dead branches or excessive pruning and replace planting materials/products due to faulty performance and/or deterioration beyond normal weathering. Inadequate maintenance by the Owner shall not be cause for replacement. All replacement planting is to be done no later than the succeeding season.
- C. Replacement plants shall be of the same variety and size or larger as originally specified in the plant list. Plants shall be planted as originally specified. All areas damaged by planting or replacement operations shall be fully restored to their original condition as specified. Remove all dead or defective plant material from the site immediately.
- D. A one year warranty shall also apply to the plants replaced at the first warranty walk-through.
- E. Begin interim maintenance period immediately after planting of landscape materials, and after planting of lawn areas, and continue interim maintenance until landscape work is deemed substantially complete and accepted by the Owner or Landscape Architect.
- F. The maintenance period, as specified on the bid form, will commence when all areas have received substantial completion. Large or phased projects may require adjustments to this date. This can be negotiated with the Owner and Landscape Architect after installation has begun.
- G. Meet with the Owner prior to final acceptance, and prior to the termination of the maintenance period, to go over maintenance requirements of the project. Note that information conveyed to the Owner shall be consistent with the maintenance instructions provided by the contractor, as part of the contract close out submittals.

PART 2 - PRODUCTS

- A. Mulches
  - 1. Refer to plans for specified materials.
- B. Stakes and Guys (Use only if specified)
  - 1. Stakes - 6' and 2' long, heavy-duty t-bar steel posts.
  - 2. Guys - 12 gauge galvanized steel wire
  - 3. Nylon straps - 1 1/2", with metal grommets ends.
  - 4. 3/4" White, PVC pipe, 24" lengths.
- C. Tree wrapping
  - Clark's Tree Wrap, 4" wide, designed to prevent winter bark injury. Secure with flexible grafting ties.
- D. Landscape Edging (Use only if specified)
  - 1. Steel edging: Standard commercial-steel edging, fabricated in sections of standard lengths, with loops stamped from or welded to face of sections to receive stakes.
    - a. Manufacturer: Sure-loc Steel Edging, 800-787-3562, or equal
  - 2. Edging size: 1/2" x 5" x 16", unless specified otherwise on plans.
  - 3. Stakes: Tapered steel, a minimum of 12 inches long.
  - 4. Accessories: Standard tapered ends, corners, and splicers.
  - 5. Finish: Black powder coat, unless specified otherwise on plans.
- E. Tree-Watering Devices
  - 1. Slow-Release Watering Device: Standard product manufactured for drip irrigation of plants and emptying its water contents over 5 to 9 hours; manufactured from UV-light stabilized nylon-reinforced polyethylene sheet, PVC, or HDPE plastic.
    - a. Manufacturer: Treegator by Spectrum Products, Inc., 866-873-3428, or equal
- F. Turf Seed
  - 1. Grass seed: Fresh clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
  - 2. Refer to plans for seed mixture.
  - 3. Seed mixture is to be applied at a rate of 800 lbs/acre.
- G. Turf Sod
  - 1. Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.
  - 2. Refer to plans for specified sod blend.
- H. Native Prairie, Bioswale, Detention Area, and/or Wetland Seed
  - 1. Fresh, clean, and dry new seed from a source specializing in native seed production. Seed shall be sourced no more than 350 miles from the Project site.
  - 2. Refer to plans for seed mixture.
  - 3. Refer to plans for seeding rate.
  - 4. Install a mycorrhizal inoculant with seed mix at a rate of 40 lbs/acre.
  - 5. Refer to plans for cover crop species and seeding rate. At no time should annual or perennial Rye (*Lolium multiflorum* or *perenne*) be utilized as a cover crop.
- I. Fertilizer
  - 1. Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
    - a. In the spring (April 1-15), fertilize trees, shrubs, ornamental grasses, and groundcover with 18-7-10 formulation, slow release fertilizer at the rate of 6 oz/1,000 sq. ft. Use a broadcast method for application of fertilizer.
      - (a) For lawns areas (turf grass) April 1-15: Application of 20-5-10-1% Fe 25% SCU at the rate of 5 lbs. per 1,000 sq. ft. for 1 lb. Actual Nitrogen per 1,000 sq. ft. Thoroughly sweep curb, gutter, and walks after application of fertilizer and prior to irrigating. Do not apply fertilizer during rainfall or when rainfall is imminent. Protect all concrete fr'
        - (v) Trace element forms Zinc, Copper, Boron, and Manganese
    - August 1-15: Repeat June application
    - October 1-15: 24-6-12 no Fe 30%SCU

- J. Pesticides
  - 1. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
  - 2. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
  - 3. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.
- K. Erosion Control Materials
  - 1. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.
  - 2. Erosion-Control Fiber Mesh: Biodegradable burlap or spun-coir mesh, a minimum of 0.92 lb/sq. yd. (0.5 kg/sq. m), with 50 to 65 percent open area. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.
  - 3. Erosion-Control Mats: Cellular, nonbiodegradable slope-stabilization mats designed to isolate and contain small areas of soil over steeply sloped surface, mat thickness as specified on the Drawings. Include manufacturer's recommended anchorage system for slope conditions

- L. Water
  - 1. Free of substances harmful to plant growth. Be responsible for furnishing water from underground sprinkler system, quick couplers, or other source.
- M. Trees, Shrubs, Ornamental Grasses, and Perennials
  - 1. Provide nursery grown trees, shrubs, ornamental grasses, and perennials except as otherwise indicated, grown in a recognized nursery in accordance with good horticultural practice, with healthy root systems developed by transplanting or root pruning. Provide only healthy vigorous stock, free of diseases, insects, eggs, larvae, and defects such as knots, sunscald, injuries, abrasions, or disfigurement. Plants grown in Hardiness Zones 2, 3, 4, 5, and 6 only, will be accepted. Hardiness Zones are defined in U.S. Department of Agriculture publications. Grower's certificates may be required when doubt exists as to the origin of the plant material.
  - 2. Provide trees, shrubs, ornamental grasses, and perennials true to name and variety established by the American Joint Committee on Horticultural Nomenclature "Standardized Plant Names", Second Edition, 1942.
  - 3. Provide trees, shrubs, ornamental grasses, and perennials of the size shown or specified in the plant list and in accordance with the dimensional relationship requirements of ANSI Z60.1 for the kind and type of plant material required. Plant material of larger than specified size may be used, in which case the sizes of the root balls will be increased proportionately.
  - 4. Label each tree and shrub with a securely attached waterproof tag bearing legible designation of botanical and common name and size during shipping. Labels shall be removed prior to initial acceptance (substantial completion).
  - 5. Where formal arrangements or consecutive order of plants are shown, select stock for uniform height and spread, and temporarily label with numbers (if necessary) to assure symmetry in planting. Labels shall be removed prior to initial acceptance (substantial completion).
  - 6. Provide plant material complying with the recommendations and requirements of ANSI Z60.1 "Standard For Nursery Stock" and as further specified.

- N. Deciduous Trees
  - 1. Provide trees of the height and caliper listed or shown.
  - 2. Where shade trees are required, provide single stem trees with straight trunk and intact leader, free of branches to a point.
  - 3. Where small trees of upright or spreading type are required, provide trees with single stem, branched or pruned naturally according to species and type, and with the relationship of caliper and branching recommended by ANSI Z60.1, unless otherwise shown.
  - 4. Where shown as "bush form" provide trees with 3 or more stems starting close to the ground in the manner of a shrub.
  - 5. Where shown as a "clump form" provide trees with 3 or more stems starting from the ground.
  - 6. Provide balled and burlapped deciduous trees unless noted as container plants. Balled and burlapped plants shall be dug with firm, natural balls of earth of the diameter specified or larger, to encompass the fibrous and feeding root system necessary for full recovery of the plant. No balled or burlapped plant shall be accepted if the ball is broken or the trunk is loose in the ball.
  - 7. All labels and tags shall be removed prior to initial acceptance (substantial completion).

- O. Deciduous Shrubs and Groundcovers
  - 1. Provide deciduous shrubs with not less than the minimum number of canes required by ANSI Z60.1 for the type and height of shrub specified.
  - 2. Plants furnished in containers shall have been grown in pots, cans, or baskets long enough to have sufficient roots to hold earth together intact after removal from container, without being root bound.
  - 3. All labels and tags shall be removed prior to initial acceptance (substantial completion).

- P. Coniferous and Broadleaf Evergreens
  - 1. Provide evergreens of the size shown. Dimension indicates minimum spread for spreading and semi-evergreen type evergreens and height for all other types such as globe, dwarf, cone, pyramidal, broad-up-right, and columnar.
  - 2. Provide evergreens with well-balanced form complying with requirements for other size relationships to the primary dimension shown.
  - 3. Trees shall exhibit consistent growth periods, and shall not exhibit signs of accelerated growth.
  - 4. Provide balled and burlapped evergreen trees unless noted as container or collected stock.
  - 5. Foliage shall have a good intense color.
  - 6. Trees shall contain a central dominant leader with evenly spaced branches. Plants containing multiple central leaders will be rejected, unless the Project Manager has made special exception or tagged plant material at the nursery.
  - 7. All labels and tags shall be removed prior to initial acceptance (substantial completion).

- Q. Requirements for Balled and Burlapped Stock:
  - 1. Where shown or specified to be balled and burlapped, provide trees and shrubs dug with a firm, natural ball of earth in which they were grown.
  - 2. Provide ball size of not less than the diameter and depth recommended by ANSI Z60.1 for the type and size of tree or shrub required. Increase ball size or modify ratio of depth to diameter as required to encompass the fibrous and feeding root system necessary for full recovery of trees or shrubs subject to unusual or atypical conditions of growth, soil conditions, or horticultural practice.
  - 3. Wrap and tie the earth ball as recommended by ANSI Z60.1 for the size of balls required. Drum-lace balls with a diameter of thirty inches (30") or greater.
  - 4. All labels and tags shall be removed prior to initial acceptance (substantial completion).

- R. Requirements for Container Grown Stock
  - 1. Where specified as acceptable, provide healthy, vigorous well rooted shrubs or ornamental grasses established in the container in which they are sold.
  - 2. No bare rooted or recently containerized stock will be accepted.
  - 3. Established container stock is defined as a tree or shrub transplanted into a container and grown in the container for a length of time sufficient to develop new fibrous roots so that the root mass will retain its shape and hold together when removed from the container.
  - 4. Use rigid container which will hold ball shape and protect root mass during shipment.
  - 5. Provide trees and shrubs established in containers of not less than the minimum sizes recommended by ANSI Z60.1 for the kind, type, and size of trees and shrubs required.
  - 6. All labels and tags shall be removed prior to initial acceptance (substantial completion).

- S. Plugs
  - 1. Provide plugs in 2-3/8" square x 3-3/4" deep open-bottomed pots from a source specializing in native species. Plugs shall be sourced no more than 350 miles from the Project site.
  - 2. Plugs shall be thoroughly rooted throughout the container.
  - 3. See plans for species and spacing.
  - 4. All plug installations shall be accompanied by goose enclosure, per the Drawing details, for up to 12 months after installation. Contractor to remove goose enclosure after 12 months.

PART 3 - EXECUTION

- 3.1 EXAMINATION
  - A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
    - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
    - 2. Verify that plants and vehicles loaded with plants can travel to planting locations with adequate overhead clearance.
    - 3. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
    - 4. Uniformly moisten excessively dry soil that is not workable or which is dusty.
  - B. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Project Manager and replace with new planting soil.
  - C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
  - 1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray if used.
  - 2. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 INSTALLATION

- A. General: Prepare planting area for soil placement and mix planting soil as indicated on the drawings.
- B. Before planting, obtain Project Manager's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.
- C. Proceed with and complete the landscape work as rapidly as portions of the site become available, working within the seasonal limitations for each kind of landscape work required.
- D. Cooperate with any other Contractors and trades which may be working in and adjacent to the landscape work areas. Examine drawings which show the development of the entire site and become familiar with the scope of all work required.

3.4 FINAL PLANT LOCATIONS

- A. Stake location of individual trees, for approval by Project Manager, prior to planting or excavating
- B. If a new tree or shrub relocation is necessary due to interference with underground piping or wiring, the Contractor shall notify the Project Manager and receive approval of a new location.
- C. The Project Manager must approve the precise location of all plants prior to pit excavation and installation.
- D. Make minor adjustments as requested by the Project Manager, or as necessary to avoid conflicts with utility locations.

3.5 EXCAVATION FOR PLANTING

- A. Where rubble fill is encountered, notify Project Manager and prepare planting pits properly by removal of rubble or other acceptable methods.
- B. If rock, underground construction work, or other obstructions are encountered in excavation for planting of trees or shrubs, notify the Project Manager. If necessary, new locations may be selected by the Project Manager
- C. If subsoil conditions indicate the retention of water in planting areas, as shown by seepage or other evidence indication the presence of underground water, notify the Project Manager before backfilling.
- D. Planting Pits and Trenches: Excavate circular planting pits
  - 1. Excavate planting pits with sides sloping at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
  - 2. Excavate at least 2-times the diameter of the root ball in width.
  - 3. Do not excavate deeper than depth of root ball, measured from the root flare to the bottom of the root ball.
  - 4. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
  - 5. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
  - 6. Maintain supervision of excavations during working hours.
  - 7. Keep excavations covered or otherwise protected when unattended by Installer's personnel.
  - 8. If drain tile is indicated on Drawings, or required under planting areas, excavate to top of porous backfill over tile.
- E. At the Project Manager's option, plant pits will be filled with water and must drain completely within twenty-four hours to be acceptable. Pits that do not drain shall be provided with twelve inch (12") diameter X thirty six inch (36") deep auger holes (one per tree pit) to be filled with 1 1/2" gravel. A change order will be issued if the Project Manager determines drain holes shall be installed.
- F. Backfill Soil: Subsoil and topsoil removed from excavation may be used as backfill soil unless otherwise indicated.

3.6 TREE, SHRUB, ORNAMENTAL GRASS, AND PERENNIAL PLANTING

- A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Set container grown stock, excavate as specified for balled and burlapped stock except container width and depth shall govern. Pit shall be at least twice as wide as the container.
- D. Set tree ball, plumb and in the center of pit or trench with top of ball 2", minimum, above adjacent landscape grades. Remove burlap from sides and tops of balls, but do not remove from under balls. Remove platforms, if any, before setting. Do not use stock if ball is cracked, or broken before or during planting operation. When setting place additional backfill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill. No burlap shall be pulled out from under balls.
- E. A minimum of three-quarters of the wire basket and surplus nylon or binding shall be completely removed, taking care not to damage the root ball. Any roots which are bruised or broken shall be pruned at the time of planting.
- F. Set container grown stock as specified for balled and burlapped stock, except cut cans on 2 sides with a metal cutter, and remove bottoms of wooden boxes before setting. Carefully remove cans and sides of wooden boxes after partial backfilling so as not to damage root balls.
- G. Set out ornamental grasses, perennials, and groundcovers at spacing noted on the Plans in even rows with triangular spacing. Dig holes large enough for spreading of roots. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- H. For plantings in non-turf areas, provide berm around the edge of excavations to form shallow saucer to collect water and to hold mulch.
- I. After planting, the Contractor shall water each plant regularly until final acceptance.
- J. All labels and tags shall be removed.

3.7 EDGING INSTALLATION

- A. Anchor Edging: Install steel edging where indicated on the Drawings according to manufacturer's written instructions. Steel with steel stakes spaced approximately 30 inches apart, driven below top elevation of edging.
- B. Shovel-Cut (Spade) Edging: Separate mulched areas from turf areas with a 45-degree, 4 - 6 inch deep shovel-cut edge at bedlines shown on the Drawings.

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- C. Mow-Strip/Maintenance Edge Installation:
  1. Excavate for mow strip or maintenance edge as indicated on Drawings.
  2. Compact subgrade uniformly beneath mow strip or maintenance edge.
  3. For mow strips, apply nonselective, pre-emergent herbicide that inhibits growth of grass and weeds. For maintenance edges, install 6-oz non-woven geotextile fabric as shown on the Drawing Details.
  4. Install steel edging, delineating the edge of the mow strip or maintenance edge.
  5. Place indicated thickness of mulch or stone.
  6. Rake mulch to a uniform surface level with adjacent finish grades.
- D. Outline Edger lines with stakes or paint for acceptance by Project Manager before installing irrigation.
- E. Spade cut edger shall be in all locations identified on the Drawings. Minor fine tuning of these lines may be required after the placement of sod.

- 3.8 MULCHING
  - A. Fine grade all planting beds to be mulched allowing for full depth of specified mulch.
  - B. Place specified mulch evenly over all areas at depth indicated on plans.
  - C. Rake and feather finish grade of mulch level and ½" below adjacent edger surfaces (if edger is specified).
  - D. Make sure mulch is at full depth at adjacent walks and paved surfaces and that mulch doesn't protrude above these surfaces.
  - E. Mulch a 36" diameter ring around all trees in turf areas with specified depth of wood mulch, after irrigation areas have been watered in.
  - F. All trees and shrubs in native areas are to have a mulch ring equal to the diameter of the planting pit. Mulch shall be a uniform three inches in depth. Do not remove saucer (or berm) around plants in native areas when mulching.

- 3.9 PRUNING
  - A. Remove only dead, dying, or broken branches. Do not prune for shape.
  - B. Do not cut tree leaders, and remove only injured or dead branches from flowering trees, if any.
  - C. Prune shrubs to retain their natural character and shape, and to accomplish their use in the landscape design.
  - D. Do not apply pruning paint to wounds.
  - E. Required shrub sizes are the size after pruning.
  - F. Remove and replace excessively pruned or deformed stock resulting from improper pruning.

- 3.10 GUYING AND STAKING
  - A. Standard guying system
    1. Pound stakes into undisturbed soil beyond the planting pit so that stake is secure (2' deep minimum). Secure wire through metal grommets on nylon strap and wrap above first branch or at mid-point of tree. Secure guy wire to stake so that it is taut but allows some movement and so that no sharp projection of wire are extending from post. Adjust tension on wire if needed. Flag guy wire with 3/4" PVC pipe for visibility.
  - B. Alternate (conifer) guying system
    1. Pound stakes into undisturbed soil beyond the planting pit so that stake is secure (2' deep min.), angling away from planting pit and so that top is flush with finish grade. Secure wire through metal grommets on canvas strap and wrap at mid-point of tree. Secure guy wire to stake so that it is taut but not overly tight and so that no sharp projection of wire are extending from post. Adjust tension on wire if needed. Flag guy wire with 3/4" PVC for visibility.

- 3.11 INSTALLING SLOW-RELEASE WATERING DEVICE
  - A. Provide one device for each tree.
  - B. Place device on top of the mulch at base of tree stem and fill with water according to manufacturer's written instructions.

- 3.12 MECHANIZED TREE-SPADE PLANTING (FOR ON-SITE TRANSPLANTS, IF INDICATED ON PLANS)
  - A. Trees may be planted with an approved mechanized tree spade at the designated locations. Do not use tree spade to move trees larger than the maximum size allowed for a similar field-grown, balled-and-burlapped root ball diameter according to ANSI Z60.1, or larger than manufacturer's maximum size recommendation for the tree spade being used, whichever is smaller.
  - B. Use the same tree spade to excavate the planting hole as will be used to extract and transport the tree.
  - C. When extracting the tree, center the trunk within the tree spade and move tree with a solid ball of earth.
  - D. Cut exposed roots cleanly during transplanting operations.
  - E. Plant trees following procedures in "Tree, Shrub, Ornamental Grass, and Perennial Planting" Article.
  - F. Where possible, orient the tree in the same direction as in its original location (north side north).

- 3.13 PLACING SOIL IN PLANTERS
  - A. Place a layer of drainage gravel at least 4 inches thick in bottom of planter. Cover bottom with filter fabric and wrap filter fabric 4 inches up on all sides. Duct tape along the entire top edge of filter fabric to secure the filter fabric against the sides during the soil-filling process.
  - B. Fill planter with planting soil. Place soil in lightly compacted layers to an elevation of 1-1/2 inches below top of planter, allowing natural settlement.

- 3.14 TURF AREA PREPARATION
  - A. General: Prepare planting area for soil placement and mix planting soil as indicated on the Drawings.
  - B. Placing Planting Soil: Place planting soil as indicated on the Drawings.
    1. Reduce elevation of planting soil to allow for soil thickness of sod.
  - C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
  - D. Before planting, obtain Project Manager's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

- 3.15 PREPARATION FOR EROSION-CONTROL MATERIALS
  - A. Prepare area as specified in "Turf Area Preparation" Article.
  - B. For erosion-control mats, install planting soil in two lifts, with second lift equal to thickness of erosion-control mats. Install erosion-control mat and fasten as recommended by material manufacturer.
  - C. Fill cells of erosion-control mat with planting soil and compact before planting.
  - D. For erosion-control blanket or mesh, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.
  - E. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

- 3.16 SEEDING
  - A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h).
    1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
    2. Do not use wet seed or seed that is moldy or otherwise damaged.
    3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
  - B. Sow seed at a total rate according to the written recommendations of the seed supplier.
  - C. Rake seed lightly into top 1/8 inch (3 mm) of soil, roll lightly, and water with fine spray.

- D. Protect seeded areas with slopes exceeding 1:4 with erosion-control blanket installed and stapled according to manufacturer's written instructions.
- E. Protect seeded areas with erosion-control mats where indicated on Drawings; install and anchor according to manufacturer's written instructions.
- F. Protect seeded areas with slopes not exceeding 1:4 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre > to form a continuous blanket 1-1/2 inches (38 mm) in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.
  1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.
  2. Bond straw mulch by spraying with asphalt emulsion at a rate of 10 to 13 gal./1000 sq. ft. (38 to 49 L/92.9 sq. m) Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.
- G. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch (4.8 mm) and roll surface smooth.

- 3.17 HYDROSEEDING
  - A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
    1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
    2. Spray-apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre (15.6-kg/92.9 sq. m) dry weight, and seed component is deposited at not less than the specified seed-sowing rate.
    3. Spray-apply slurry uniformly to all areas to be seeded in a two-step process. Apply first slurry coat at a rate so that mulch component is deposited at not less than 500-lb/acre (5.2-kg/92.9 sq. m) dry weight, and seed component is deposited at not less than the specified seed-sowing rate. Apply slurry cover coat of fiber mulch (hydromulching) at a rate of 1000 lb/acre (10.4 kg/92.9 sq. m).

- 3.18 SODDING
  - A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
  - B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
    1. Lay sod across slopes exceeding 1:3.
    2. Anchor sod on slopes exceeding 1:6 with bio-degradable stakes spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.
  - C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below sod.

- 3.19 PLUGGING
  - A. Plant plugs in holes or furrows, at spacings indicated on the Drawings in triangular pattern. On slopes, contour furrows to near level.

- 3.20 TURF RENOVATION
  - A. Renovate existing turf where indicated.
  - B. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.
    1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
    2. Install new planting soil as required.
  - C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
  - D. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.
  - E. Mow, dethatch, core aerate, and rake existing turf.
  - F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
  - G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.
  - H. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches (150 mm).
  - I. Apply soil amendments as required based on site-specific soil conditions and initial fertilizer required for establishing new turf and mix thoroughly into top 4 inches (100 mm) of existing soil. Install new planting soil to fill low spots and meet finish grades.
    1. Initial Fertilizer: Slow-release fertilizer applied according to manufacturer's recommendations.
  - J. Apply seed and protect with straw mulch or sod (see Drawings) as required for new turf.
  - K. Water newly planted areas and keep moist until new turf is established.

- 3.21 TURF MAINTENANCE
  - A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
    1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
    2. In areas where mulch or blanket has been disturbed by wind or maintenance operations, add new mulch/blanket and anchor as required to prevent displacement.
    3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
  - B. Watering:
    1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
    2. Water turf with fine spray at a minimum rate of 1 inch (25 mm) per week unless rainfall precipitation is adequate.

- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain proper grass height
- D. Turf Post-fertilization: Apply as noted in Materials Article, I. Fertilizer, based on season.

- 3.22 SATISFACTORY TURF
  - A. Turf installations shall meet the following criteria as determined by Project Manager:
    1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 5 by 5 inches (125 by 125 mm)
    2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.

- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

- 3.23 PESTICIDE APPLICATION
  - A. Apply pesticides and other chemical products and biological control agents according to requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

- B. Pre-Emergent Herbicides (Selective and Nonselective): Apply to tree, shrub, and groundcover areas according to manufacturer's written recommendations. Do not apply to seeded areas.

- C. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

- 3.24 FIELD QUALITY CONTROL
  - A. When all the landscape work is completed, the Project Manager shall, upon seven (7) calendar days advance notice, make an inspection of the landscape work to determine if the work is complete. The Project Manager shall prepare a punch list of items improperly installed, inadequately sized or otherwise deficient based on the findings of his inspection. The punch list shall be completed not more than seven (7) working days after the field inspection. When the Contractor has remedied all deficiencies and completed all items on the punch list, the Contractor shall request another inspection by the Project Manager to determine whether the deficiencies have been adequately corrected. Once the punch list items have been corrected and re-inspected, the Project Manager shall issue a written certificate to the Owner who will then respond to the Contractor in writing formally accepting the work and beginning the warranty and guarantee period.

- B. Additional landscape inspections shall be conducted upon request by the Project Manager, to determine the condition of the work at the completion of the guarantee period.

- C. The required maintenance instructions shall be forwarded to the Owner's representative prior to the final acceptance to inform the Owner of any maintenance responsibilities that would be required for the project.

3.25 CLEANING AND PROTECTION

- A. During landscape work, store materials and equipment where directed.
- B. Keep pavements clean and work areas in an orderly condition.
- C. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas. At the time of the final inspection of the work and before the issuance of Final Acceptance, all paved areas shall be thoroughly cleaned by the Contractor by sweeping, and washing. All construction equipment and excess materials shall have been removed and any debris or rubbish shall have been removed from the site.

- D. Protect landscape work from loss, damage, and deterioration during storage, installation, and maintenance periods.

- E. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

- F. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.

- G. Protect from unauthorized persons (trespassers), as well as from operations by other Contractors and tradesmen and landscape operations.

- H. Remove non-degradable erosion-control measures after grass establishment period.

END OF SECTION 02920

Prairie Retail Holdings, LLC  
 1195 S. Milwaukee Ave.  
 Libertyville, IL 60048



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 Naperville, Illinois 60540  
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REV.	COMMENT	DATE

SEAL:



DATE: 12/3/2025  
 JOB NO.: 25-138D  
 DRAWN BY: TS  
 CHECKED BY: TS

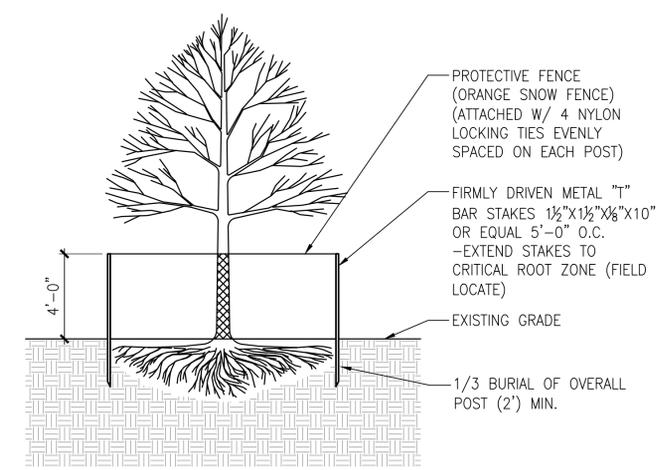
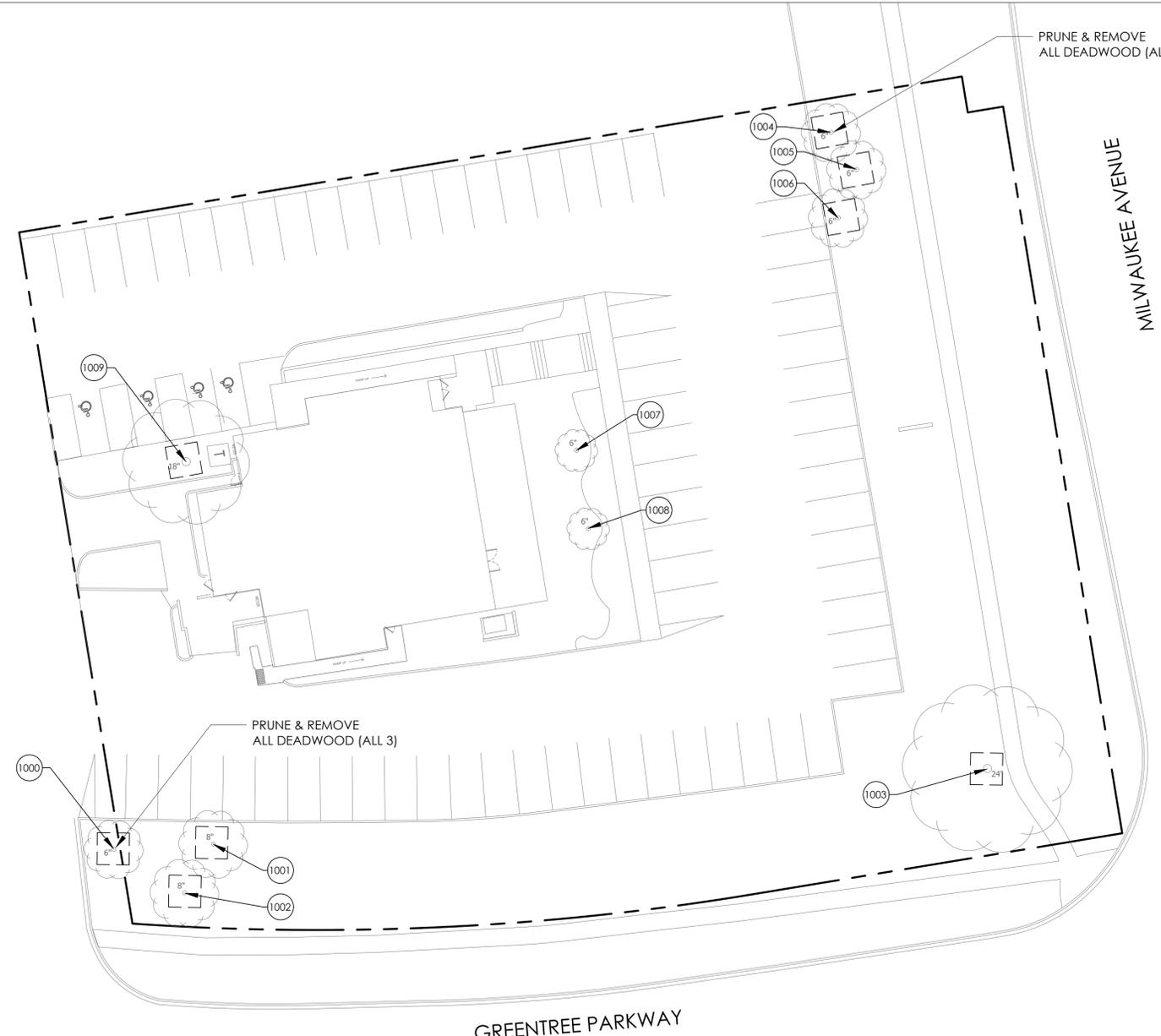
DRAWING TITLE:  
 LANDSCAPE  
 SPECIFICATIONS

SHEET NO.:  
 LP-503

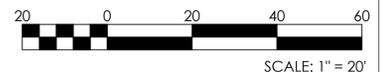
EXISTING TREE SURVEY:

NUMBER	DBH	ACTION	SPECIES	CONDITION
1000	6" (MULTI)	REMAIN	CRATAEGUS SP. (HAWTHORN)	2 (GOOD)
1001	8" (MULTI)	REMAIN	CRATAEGUS SP. (HAWTHORN)	2 (GOOD)
1002	8" (MULTI)	REMAIN	CRATAEGUS SP. (HAWTHORN)	2 (GOOD)
1003	24"	REMAIN	GLEDITSIA SP. (HONEYLOCUST)	2 (GOOD)
1004	6" (MULTI)	REMAIN	CRATAEGUS SP. (HAWTHORN)	2 (GOOD)
1005	6" (MULTI)	REMAIN	CRATAEGUS SP. (HAWTHORN)	2 (GOOD)
1006	6" (MULTI)	REMAIN	CRATAEGUS SP. (HAWTHORN)	2 (GOOD)
1007	6" (MULTI)	REMAIN	MAGNOLIA SP. (MAGNOLIA)	2 (GOOD)
1008	6" (MULTI)	REMAIN	MAGNOLIA SP. (MAGNOLIA)	2 (GOOD)
1009	18"	REMAIN	CRATAEGUS SP. (HAWTHORN)	2 (GOOD)

[ ] = TREE PROTECTION FENCING



○ TREE PROTECTION FENCE  
SCALE: NTS  
LS\_Tree\_Protection



SURVEY INFORMATION PROVIDED BY OTHERS.

Prairie Retail Holdings, LLC  
1195 S. Milwaukee Ave.  
Libertyville, IL 60048



1167 Hobson Mill Drive  
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www.design-perspectives.net

REV.	COMMENT	DATE

SEAL:



DATE: 12/3/2025  
JOB NO.: 25-138D  
DRAWN BY: TS  
CHECKED BY: TS

DRAWING TITLE:  
**TREE SURVEY & PROTECTION/REMOVAL PLAN**  
SHEET NO.:  
**TP-100**





# Traffic Impact Study

## Proposed Retail Development 1195 S. Milwaukee Avenue Libertyville, Illinois

**December 1, 2025**

**Prepared by:**

**Lynn M. Means, P.E., PTOE, RSP<sub>1</sub>**  
**Senior Transportation Engineer**

CONSULTING  
ENGINEERS



**BLA, Inc.**

# Table of Contents

<b>Description</b>	<b>Page</b>
Executive Summary .....	1
Introduction.....	3
Existing Conditions.....	5
Future Conditions .....	10
Traffic Analysis .....	17
Parking Analysis .....	20
Conclusions and Recommendations .....	21

## Appendix

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## Executive Summary

BLA, Inc. has conducted a Traffic Impact Study (TIS) for the proposed retail development located at 1195 S. Milwaukee Avenue in Libertyville, Illinois. The existing site is located at the northwest corner of Milwaukee Avenue (IL Route 21) and Greentree Parkway/Red Top Drive and is currently vacant, formerly containing a Bakers Square restaurant. The site is an outlot to the existing Greentree Plaza shopping center. Access to the site is shared with the adjacent shopping center and is provided via two full access driveways on Greentree Parkway and three full access driveways on Milwaukee Avenue, with the northernmost access also shared with the Tesla dealership to the north. Greentree Parkway is under Village of Libertyville jurisdiction, and Milwaukee Avenue is under the jurisdiction of the Illinois Department of Transportation (IDOT).

The project will include redeveloping the site, which includes modifications to the existing building (removal of the existing glass eating area), to provide a two-tenant retail building, including a cannabis dispensary. Access to the site will be maintained via the existing driveways on Greentree Parkway and Milwaukee Avenue.

Our determination is that the proposed development's traffic impact on the existing street system will be minimal. No improvements to the study area intersections, including the adjacent signalized intersection, are required to accommodate the site traffic.

The TIS has been prepared in accordance with guidelines recommended by the Institute of Transportation Engineers (ITE) and includes the following:

- Existing traffic conditions within the study area were established by reviewing recent IDOT traffic counts performed along the study area roadways and collecting weekday morning and evening and Saturday midday peak period traffic counts in November 2025.
- Crash data was reviewed and considered for the last five calendar years from the IDOT Division of Safety.
- Future (non-site) traffic volume conditions were developed for the anticipated opening year of the development (year 2026) plus five years (year 2031), including a compounded annual growth rate of 0.6 percent along the study area roadways.
- Trip generation for the proposed development was quantified for the weekday morning and evening, Saturday midday and daily basis using the ITE trip generation rates contained in the 12<sup>th</sup> Edition of the *Manual Trip Generation*. *Note: To provide a conservative analysis scenario, no reduction was applied for the former site use (Bakers Square restaurant).*
- Analyses have been conducted for all study intersections under existing and future (2031 design year) traffic conditions to determine the impact from the planned development.
- Parking demand for the proposed development was calculated based on data contained in the *ITE Parking Generation Manual*, 6<sup>th</sup> Edition, along with Village of Libertyville requirements.

Conclusions of the evaluation are presented below:

- Our determination is that the proposed development's traffic can be accommodated on the adjacent roadway network and with the proposed site access.
- The proposed cannabis dispensary use is anticipated to generate similar peak hour trips as the former sit-down restaurant use, with comparable operating characteristics expected on the surrounding roadway network. *This use's traffic generation would be like any other retail development that occupies the current vacant space.*
- A substantial portion of the site traffic is pass-by traffic, i.e., traffic that is already present in the adjacent traffic stream of traffic or is diverted from another route to the proposed site. In addition, internal trips between the site and the adjacent land uses within the existing Greentree Plaza shopping center are also anticipated to occur. *This will minimize new traffic on the adjacent streets.*
- The proposed cannabis dispensary component of the development is not anticipated to be open during the weekday AM peak hour of adjacent street traffic, which will minimize impact on the adjacent roadway network.

- Approximately 80 percent of all purchases for the cannabis dispensary component of the development are pre-ordered on-line or via a mobile phone app. This helps to save time spent inside the store when the order is picked up. *This increases the turnover rate (more customers per parking space), which minimizes the parking demand.*
- The proposed off-street parking supply will be adequate to accommodate the projected demand for the development.
- The following recommendations should be considered to facilitate traffic both on- and off-site:
  - Deliveries, to the extent feasible, should occur during off-peak hours.
  - The Stop sign on the northbound approach of the internal intersection at the Greentree Plaza shopping center's south Milwaukee Avenue access is currently faded and should be replaced.
  - Employees should be encouraged to park in remote spaces (furthest from the site entrance) to provide convenient parking for customers.

## Introduction

BLA, Inc. (BLA) has conducted a Traffic Impact Study for the proposed retail development located at 1195 S. Milwaukee Avenue in Libertyville, Illinois. The site is located at the northwest corner of Milwaukee Avenue (IL Route 21) and Greentree Parkway / Red Top Drive. It is currently vacant, formerly containing a 5,338 square-foot, high-turnover, sit-down restaurant (Bakers Square), served by 76 parking spaces, including four accessible spaces. The site is an outlot to the existing Greentree Plaza shopping center. Access to the site is shared with the adjacent shopping center and is provided via two full access driveways on Greentree Parkway and three full access driveways on Milwaukee Avenue, with the northernmost access also shared with the Tesla auto dealership to the north. The site location is illustrated on *Exhibit 1*.

As currently proposed, the project will include redeveloping the site, which includes modifications to the existing building (removal of the existing glass eating area), to provide a 4,464 square-foot, two-tenant retail building, including a 2,687 square-foot cannabis dispensary. The tenant of the second space is currently undefined and could include a restaurant, retail or office use. The development will continue to be served by 76 parking spaces, including four accessible spaces. Access to the site will be maintained via the existing driveways on Greentree Parkway and Milwaukee Avenue, with the closest intersections (east access on Greentree Parkway and south access on Milwaukee Avenue) anticipated to be used by the proposed site.

The following summarizes BLA's methodology, data collection, analyses and identifies improvements, as necessary, to mitigate the impact the development's traffic may have on the adjacent roadway network.

**Exhibit 1: Site Location Map**



## Existing Conditions

### Area Land Use

The site is currently vacant, formerly containing a Bakers Square restaurant. The site is bound by Milwaukee Avenue, AutoNation Toyota dealership and Libertyville Bank & Trust to the east; Greentree Parkway, Gregory Infiniti dealership and Soapy Car Wash to the south; Greentree Plaza shopping center and single-family residence to the west; and Tesla dealership to the north.

### Street/Roadway Network

The existing traffic operations in the site area are illustrated on *Exhibit 2*.

#### Milwaukee Avenue (IL Route 21)

Milwaukee Avenue (IL Route 21) is a north-south, principal arterial roadway under the jurisdiction of the Illinois Department of Transportation (IDOT), with a posted speed limit of 40 miles per hour (mph) in the site vicinity. It is designated as a Strategic Regional Arterial (SRA) route. The SRA designation controls roadway and signal installation to facilitate efficient and safe transportation.

At its signalized intersection with Greentree Parkway/Red Top Drive, Milwaukee Avenue provides a left-turn lane, a through lane and a shared through/right-turn lane in the northbound direction and a left-turn lane, two through lanes and a right-turn lane in the southbound direction.

At the Greentree Plaza south access, Milwaukee Avenue provides a left-turn lane and two through lanes in the northbound direction and two through lanes and a right-turn lane in the southbound direction. *Note: At the internal shopping center intersection, just west of Milwaukee Avenue, the Stop sign for the northbound approach (south leg) is currently faded (see photo to right).*

#### Greentree Parkway / Red Top Drive

Greentree Parkway is an east-west, major collector roadway extending westerly from Milwaukee Avenue. To the east of Milwaukee Avenue, it becomes Red Top Drive, also a major collector roadway. Greentree Parkway and Red Top Drive are both under the jurisdiction of the Village of Libertyville and have a posted speed limit of 25 mph.

At its signalized intersection with Milwaukee Avenue, Greentree Parkway and Red Top Drive each provide a left-turn lane and shared through right-turn lane in the eastbound and westbound directions, respectively.

At the Greentree Plaza east access, Greentree Parkway provides a shared left-turn/through lane in the eastbound direction and a shared through/right-turn lane in the westbound direction.



Looking north on IL 21, south of Greentree Pkwy.



Looking north on shopping center internal access, west of IL 21.



Looking east on Greentree Pkwy, west of IL 21.



**LEGEND**

-  Existing Travel Lane
-  Pedestrian Crosswalk
-  Traffic Signal
-  Posted Speed Limit



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## Pedestrian / Bicycle Facilities

Within the study area, a sidewalk is provided as follows:

- The east and west sides of Milwaukee Avenue, north of Greentree Parkway/Red Top Drive.
- The west side of Milwaukee Avenue, south of Greentree Parkway/Red Top Drive.
- The north and south sides of Greentree Parkway.
- The north and south sides of Red Top Drive.

Push-button activated pedestrian signals, along with marked crosswalks, are provided for crossing all four approaches of the Milwaukee Avenue and Greentree Parkway/Red Top Drive intersection.

## Public Transportation

Pace operates the following existing bus route in the site vicinity: #574 CLC – Hawthorn Mall, providing weekday and Saturday service between the College of Lake County (Grayslake) and Hawthorn Mall shopping center (Vernon Hills). It operates along Milwaukee Avenue in the study area.

## Existing Traffic

Traffic turning movement counts were conducted in November 2025, during the weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) and Saturday midday (11:00 AM to 1:00 PM) peak periods at the following intersections:

- 1<sup>st</sup> Avenue (IL Route 171) at Cermak Road
- 1<sup>st</sup> Avenue at 1<sup>st</sup> Avenue Cutoff Road
- Cermak Road at 1<sup>st</sup> Avenue Cutoff Road

The results indicate that the peak hour existing traffic during the weekday morning occurred between 8:00 and 9:00 AM, the weekday evening peak hour occurred from 4:15 to 5:15 PM and the Saturday Midday peak hour occurred from 12:00 to 1:00 PM. However, the peak hour for each individual intersection was used in the analysis to provide a conservative analysis scenario, and the intersection volumes were balanced where appropriate.

**Table 1** summarizes the annual average daily traffic (AADT) volumes obtained from IDOT ([www.gettingaroundillinois.com](http://www.gettingaroundillinois.com)) near the site:

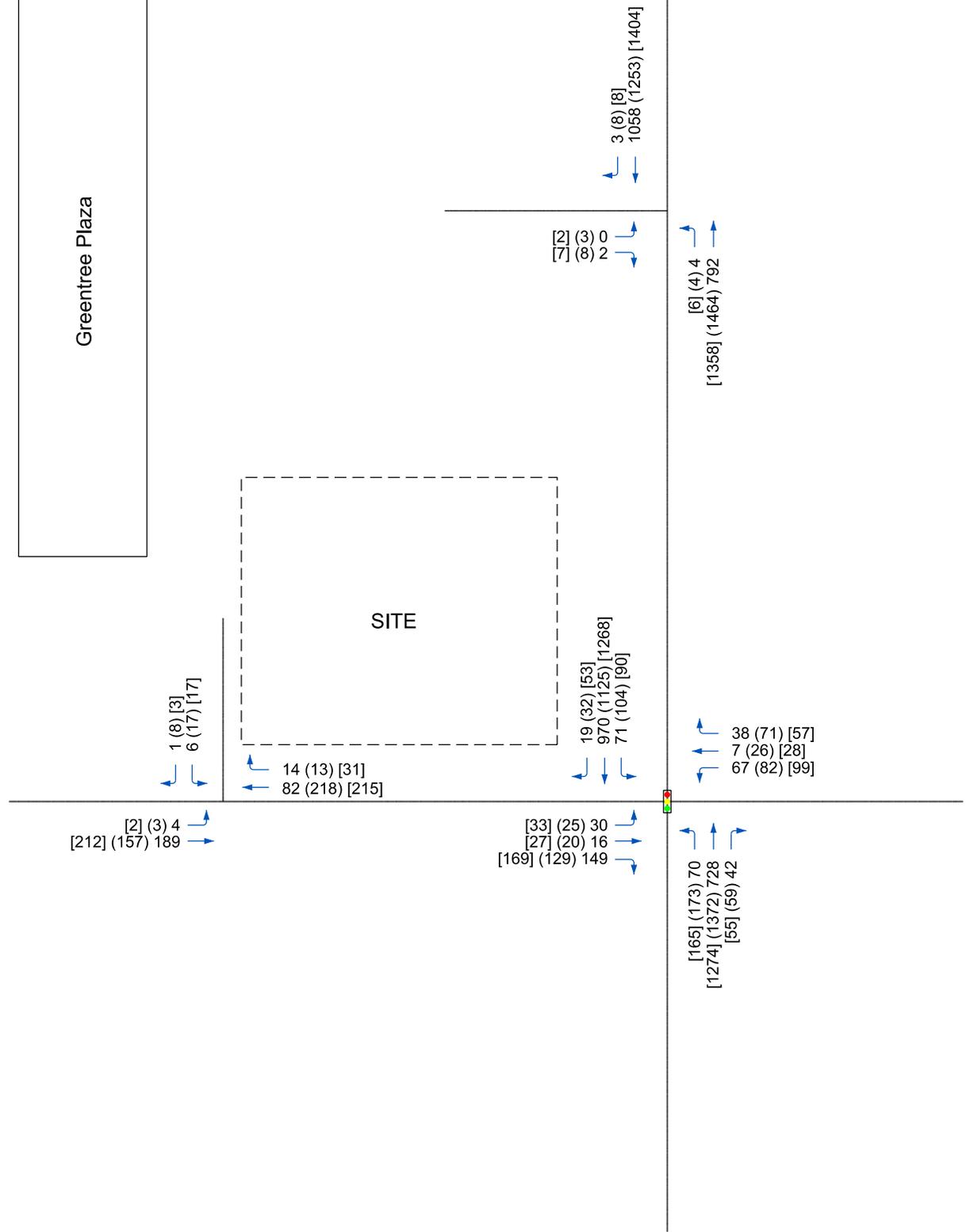
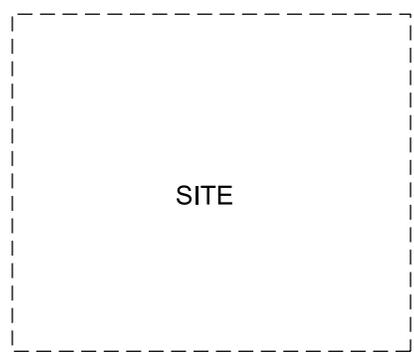
**Table 1: Summary of IDOT AADT Volumes**

Location	IDOT AADT (year 2023)
<b>Milwaukee Avenue (IL 21)</b>	
Between Golf Road and Red Top Drive	25,500
Between Red Top Drive and Townline Road (IL 60)	28,200
<b>Red Top Drive</b>	
Between Milwaukee Avenue and 4 <sup>th</sup> Avenue	1,950

The existing peak hour volumes are illustrated on **Exhibit 3**. Summaries of the intersection turning movement count data are contained in **Appendix A**.



Greentree Plaza



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**LEGEND**

XX = Weekday AM Peak Hour  
(8:00 - 9:00 AM)  
(XX) = Weekday PM Peak Hour  
(4:15 - 5:15 PM)

[XX] = Saturday Midday Peak Hour  
(12:00 - 1:00 PM)  
 Existing Traffic Signal

**Exhibit 3**  
**Existing Traffic**

## Crash Summary

Crash data was obtained from the IDOT Division of Transportation Safety for the last five calendar years available, 2020 through 2024. A summary of the crash data is provided in *Table 2*.

**Table 2: Crash Summary (2020-24) – Intersections (Crashes within 250’ of Intersection)**

Location / Year	No. of Crashes	Severity <sup>A</sup>					Crash Type <sup>C</sup>						Percent During Wet/Icy Conditions
		PD	PI <sup>B</sup>			F	RE	SSSD	SSOD	FO	T	Ped	
			A	B	C								
<b>Milwaukee Avenue at Greentree Parkway and Redtop Drive</b>													
2020	5	4	--	1	--	--	4	--	1	--	--	--	20%
2021	7	5	--	1	1	--	5	--	--	1	1	--	14%
2022	5	3	--	1	1	--	2	1	--	1	1	--	20%
2023	10	9	--	--	1	--	6	1	--	--	3	--	10%
2024	2	1	--	--	1	--	1	1	--	--	--	--	0%
<i>Total</i>	<i>29</i>	<i>22</i>	<i>0</i>	<i>3</i>	<i>4</i>	<i>0</i>	<i>18</i>	<i>3</i>	<i>1</i>	<i>2</i>	<i>5</i>	<i>0</i>	<i>14%</i>
<b>Greentree Parkway at Greentree Plaza East Access</b>													
2020	--	--	--	--	--	--	--	--	--	--	--	--	--
2021	1	1	--	--	--	--	--	--	--	1	--	--	100%
2022	--	--	--	--	--	--	--	--	--	--	--	--	--
2023	--	--	--	--	--	--	--	--	--	--	--	--	--
2024	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>Total</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>100%</i>
<b>Milwaukee Avenue at Greentree Plaza North Access</b>													
2020	1	1	--	--	--	--	1	--	--	--	--	--	0%
2021	1	1	--	--	--	--	1	--	--	--	--	--	0%
2022	1	--	--	1	--	--	--	--	--	--	1	--	100%
2023	--	--	--	--	--	--	--	--	--	--	--	--	--
2024	1	1	--	--	--	--	--	--	--	1	--	--	0%
<i>Total</i>	<i>4</i>	<i>3</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>25%</i>

<sup>A</sup> PD = property damage only; PI = personal injury; F = fatality.

<sup>B</sup> Type A (incapacitating injury); Type B (non-incapacitating injury); Type C (possible injury).

<sup>C</sup> RE = rear end; SSSD = Sideswipe same direction; SSOD = Sideswipe opposite direction; FO = fixed object; T = Turning; Ped = pedestrian/bicyclist.

As shown in *Table 2*, the signalized intersection of Milwaukee Avenue at Greentree Parkway/Red Top Drive has experienced a total of 29 crashes over the five-year analysis period, averaging approximately six crashes per year. Approximately 76 percent (22 of 29) of the crashes involved property damage only and approximately 62 percent (18 of 29) were rear-end type crashes, with approximately 14 percent occurring during wet/icy roadway conditions.

There was one crash that occurred at the unsignalized intersection of Greentree Parkway and Greentree Plaza east access. It involved property damage only, a fixed-object type crash and occurred under wet/icy roadway conditions.

There were four crashes that occurred at the unsignalized intersection of Milwaukee Avenue and Greentree Plaza south access, averaging approximately one crash per year. Seventy-five (75) percent (3 of 4) of the crashes involved property damage only and half (2 of 4) of the crashes were rear-end type crashes, with 25 percent occurring during wet/icy roadway conditions.

The signalized intersection of Milwaukee Avenue and Greentree Parkway/Red Top Drive, along with the adjacent Milwaukee Avenue and Greentree Parkway/Red Top Drive corridors, have been identified by IDOT as Safety Tier “Low.” IDOT’s safety tier designations identify the need for improvements compared to other locations within the State with the highest level/need designated as “High” and “Low” indicates the location is less likely to have safety benefits from treatments (*see map to right for safety tier ranking*).



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## Future Conditions

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### Traffic Growth

Construction and occupancy of the proposed retail development is anticipated to occur by the year 2026. Future traffic volumes were developed for the year 2031, anticipated build-out year of the development plus five years. Traffic growth in the area is a function of expected land development in the region. Based on a review of historical traffic volumes (see *Appendix B*), traffic volumes along the study area roadways are assumed to experience a compounded growth rate of 0.6 percent.

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### 2031 No-Build (Non-Site) Conditions

The 2031 No-Build peak hour traffic volumes were accordingly developed by applying a 0.6 percent compounded annual growth rate to the existing traffic (*Exhibit 3*). The 2031 No-Build traffic volume networks are graphically depicted on *Exhibit 4*.

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### Proposed Development Plan

As proposed, the project includes redeveloping the site, which includes modifications to the existing building (removal of the existing glass eating area), to provide a two-tenant, 4,464 square-foot retail building, including a 2,687 square-foot cannabis dispensary. The tenant of the second space is currently undefined and could include a restaurant, retail or office use. The site is served by a total of 76 parking spaces, including four accessible spaces. Access to the site will be maintained via the existing driveways on Milwaukee Avenue and Greentree Parkway, which are shared with the adjacent shopping center. The closest intersections (east access on Greentree Parkway and south access on Milwaukee Avenue) are anticipated to be used by the proposed site.

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### Proposed Operational Characteristics – Cannabis Dispensary

- The anticipated hours of operation are 9:00 AM to 9:00 PM, Monday through Thursday; 9:00 AM to 10:00 PM Friday and Saturday; and 10:00 AM to 6:00 PM on Sunday.
- The development is anticipated to be served by a total of 20 employees (full and part-time), with a maximum of 8 to 10 employees present during peak operations. During typical operations, 4 to 5 employees are present.
- Customers are anticipated to spend on average less than 5 minutes in the cannabis dispensary.
- On average, approximately 80 percent of all purchases are pre-ordered on-line or via a mobile phone app. This helps to save time spent inside the store when the order is picked up.
- The proposed use is not open during the morning peak hour of adjacent street traffic.
- Consumption is prohibited on-site.
- The site is anticipated to be served by an average of 5 to 6 deliveries per week. The typical size of the delivery vehicles is a small sprinter van. Deliveries are expected to occur at the rear of the building in the morning, prior to opening.

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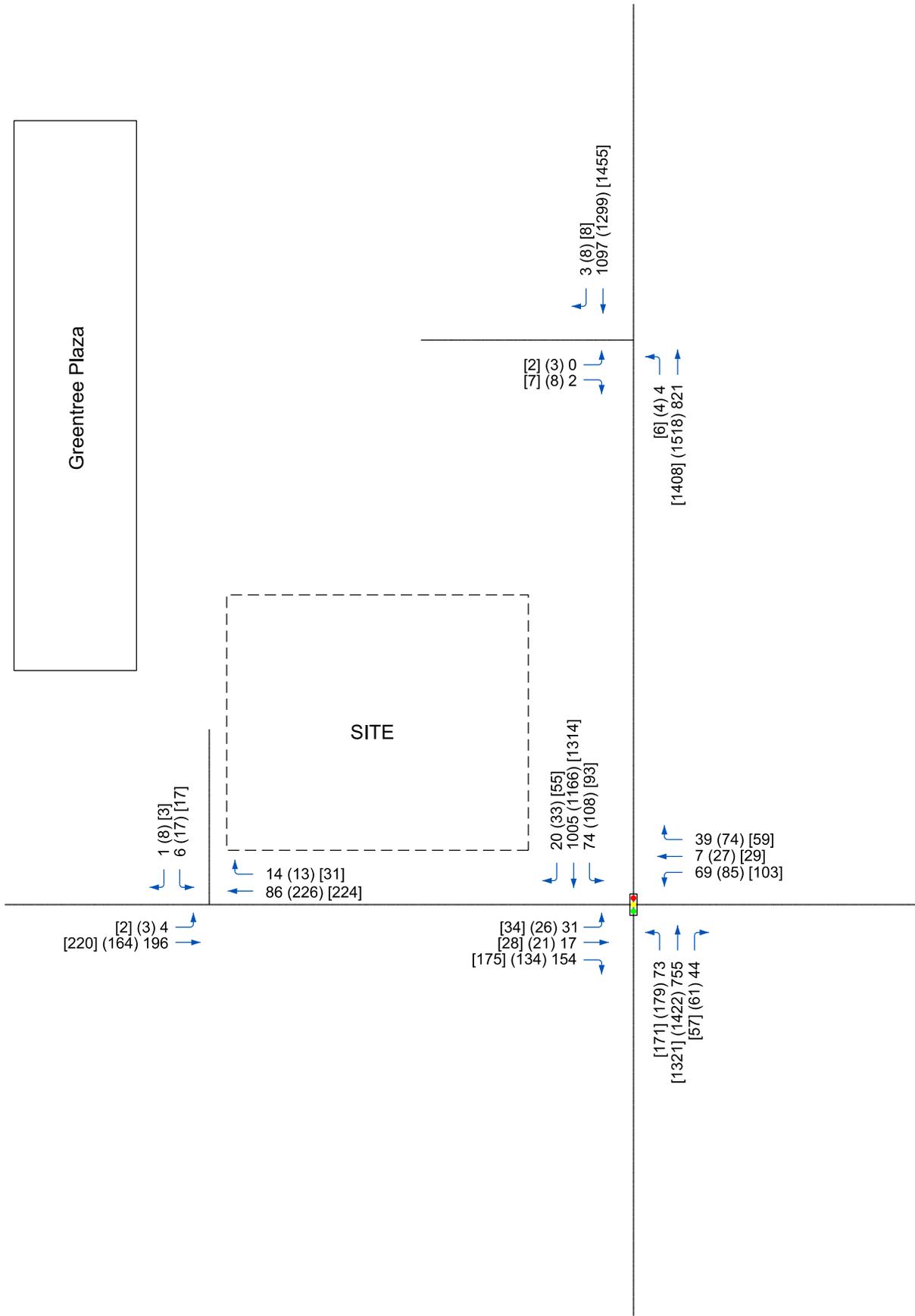
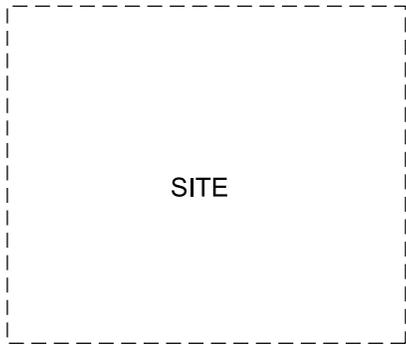
### Trip Generation

The amount of traffic generated by a development depends on the type and density of the land use. Trip generation estimates for the development were calculated based on information published in the Institute of Transportation Engineers (ITE) Manual *Trip Generation*, 12<sup>th</sup> Edition (see *Appendix C*). The ITE manual is a compilation of national traffic data surveys used to estimate traffic volumes for various land uses.

ITE land use code (LUC) 882 was used for the proposed cannabis dispensary. The trip generation for the second, unknown tenant was estimated using three different LUCs: 930, fast casual restaurant; 822, strip retail plaza; and 712, small office building. To provide a conservative analysis scenario, the highest trip generation was assumed (highlighted in gray in *Table 3*).



Greentree Plaza



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**LEGEND**

XX = Weekday AM Peak Hour  
(8:00 - 9:00 AM)  
(XX) = Weekday PM Peak Hour  
(4:15 - 5:15 PM)

[XX] = Saturday Midday Peak Hour  
(12:00 - 1:00 PM)



Existing Traffic Signal

**Exhibit 4**

**2031 No Build Traffic**

Not all vehicle trips expected to be generated by the proposed project represent new trips on the study area roadway system. Studies have shown that for retail and restaurant developments, a substantial portion of the site-generated vehicle trips are already present in the adjacent passing stream of traffic or are diverted from another route to the proposed site. Based on data presented in the ITE *Trip Generation Handbook, 3<sup>rd</sup> Edition*, the average pass-by trip percentage for retail and restaurant uses is between 31 and 40 percent. However, to provide a conservative analysis, a 30 percent reduction for pass-by traffic was applied to the development site-generated trips. It should be noted that the volume of pass-by traffic does not reduce the total trips generated and those trip volumes will still be realized as turning movements at the site driveways.

For multi-use developments or developments with cross-access and shared access driveways, internal trips between the land uses within the development are expected to occur. These are multi-purpose trips from one land use within the development to another land use within the same development. *However, to provide a conservative analysis scenario, a reduction for internal capture was not applied.*

**Table 3** provides a summary of the total number of trips (employees, customers, deliveries, etc.) to be generated by the proposed development.

**Table 3: Estimated Trip Generation**

Land Use / Size	ITE LUC	Weekday									Saturday			
		AM Peak Hour <sup>1</sup>			PM Peak Hour			Daily			Peak Hour			
		In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Cannabis Dispensary / 2,687 SF	882	14	13	27	35	34	69	307	307	614	42	44	86	
Fast Casual Restaurant	1,777 SF	930	2	1	3	14	12	26	182	182	364	32	26	58
Retail		822	4	3	7	12	12	24	153	153	306	6	6	12
Office		712	2	1	3	1	3	4	13	13	26	1	1	2
Subtotal		18	16	34	49	46	95	489	489	978	74	70	144	
<i>less pass-by trips (30%)</i>		-5	-5	-10	-14	-14	-28	-147	-147	-294	-22	-22	-44	
<b>New Trips</b>		<b>13</b>	<b>11</b>	<b>24</b>	<b>35</b>	<b>32</b>	<b>67</b>	<b>342</b>	<b>342</b>	<b>684</b>	<b>52</b>	<b>48</b>	<b>100</b>	

<sup>1</sup> The proposed cannabis dispensary is not anticipated to be open during the weekday am peak hour of adjacent street traffic; however, weekday am trips were assumed to be conservative, to account for any potential customers or employees that arrive/depart during this timeframe and/or should the hours of operation be extended to include the weekday am timeframe.

*Note: The existing site formerly contained a high-turnover, sit-down restaurant use, thus, the trips as presented above in Table 3 provide a conservative analysis scenario (do not discount for the former site use).*

### Directional Distribution

The anticipated trip distribution of *new* site traffic is summarized in **Table 4**. This was based on current travel patterns, competing opportunities, the operational characteristics of the street system and site access.

**Table 4: Trip Distribution**

Route & Direction	Percent Route (To/From)
<b>Milwaukee Avenue</b>	
North of Site	40
South of Greentree Parkway/Red Top Drive	50
<b>Greentree Parkway</b>	
West of Site	5
<b>Red Top Drive</b>	
East of Milwaukee Avenue	5
<b>Total</b>	<b>100%</b>

### **Site Traffic Assignment**

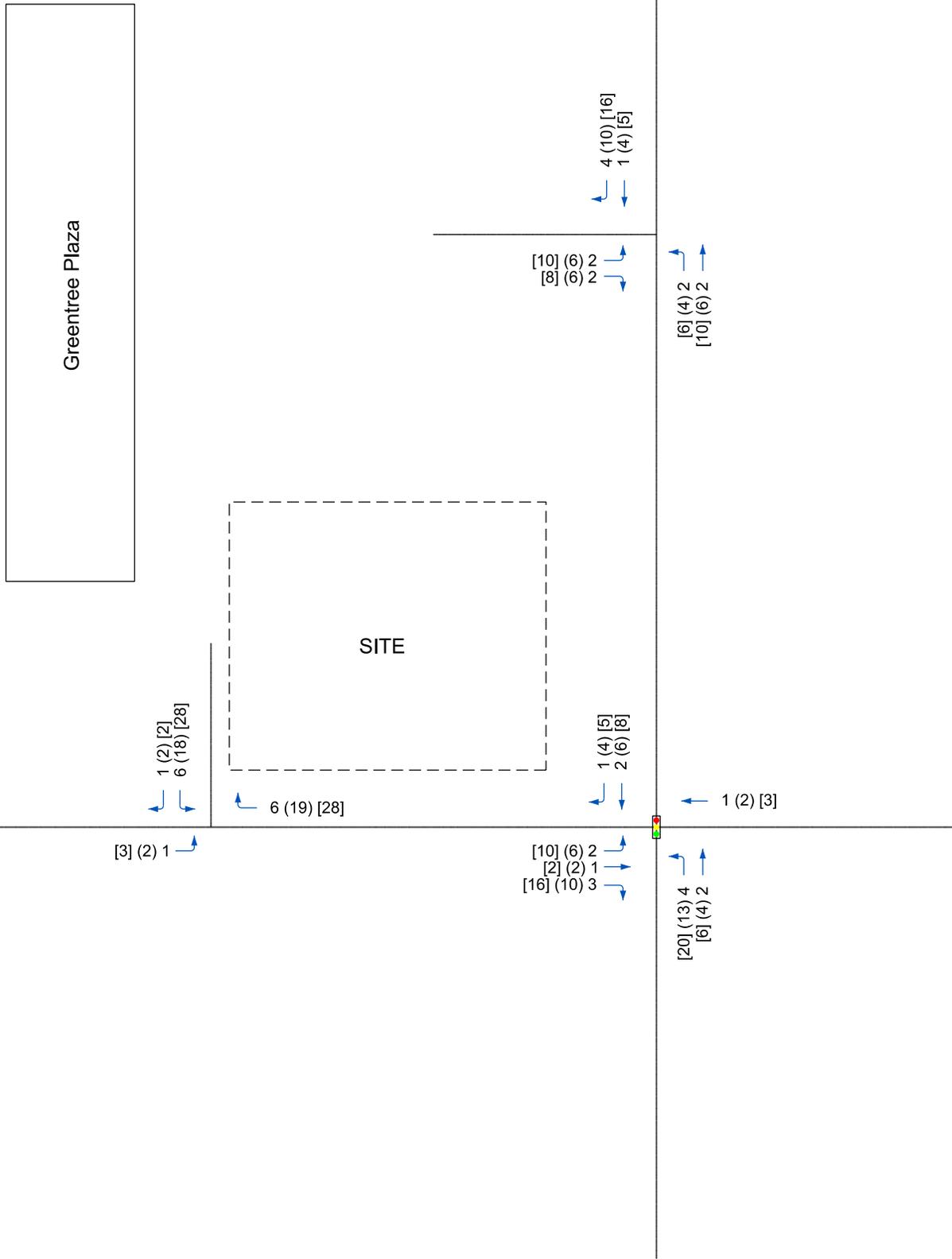
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Based on the direction of travel, the site-generated trips were assigned to the roadway network using the site estimated trips listed in *Table 3* and the anticipated directional distribution outlined in *Table 4*. The site vehicular traffic assignment is illustrated on *Exhibits 5A and 5B* for the new and pass-by traffic, respectively.

### **2031 Total Traffic Conditions**

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The site-generated traffic volumes (*Exhibits 5A and 5B*) were then added to the 2031 No-Build traffic volumes (*Exhibit 4*) to develop the 2031 Total traffic volumes. The Total traffic volumes for the year 2031 are shown on *Exhibit 6*.



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**LEGEND**

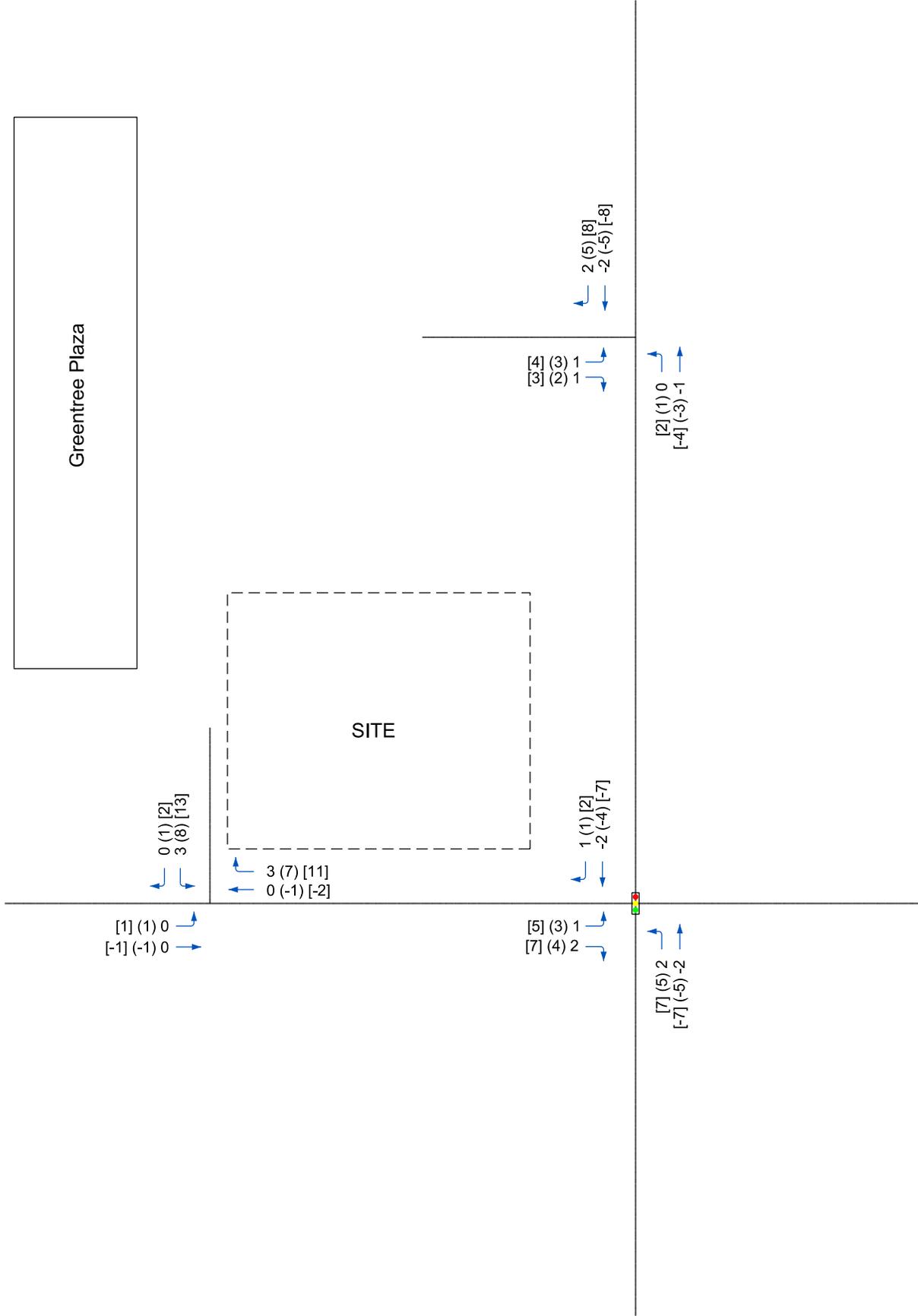
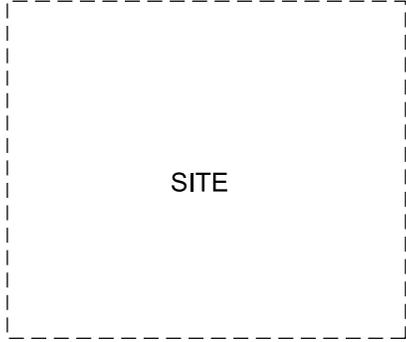
XX = Weekday AM Peak Hour (8:00 - 9:00 AM)  
 (XX) = Weekday PM Peak Hour (4:15 - 5:15 PM)

[XX] = Saturday Midday Peak Hour (12:00 - 1:00 PM)

 Existing Traffic Signal



Greentree Plaza



0 (1) [2]  
3 (8) [13]  
[1] (1) 0  
[-1] (-1) 0

3 (7) [11]  
0 (-1) [-2]

1 (1) [2]  
-2 (-4) [-7]

[5] (3) 1  
[7] (4) 2

[7] (5) 2  
[-7] (-5) -2

[4] (3) 1  
[3] (2) 1

2 (5) [8]  
-2 (-5) [-8]

[2] (1) 0  
[-4] (-3) -1

**LEGEND**

XX = Weekday AM Peak Hour (8:00 - 9:00 AM)  
(XX) = Weekday PM Peak Hour (4:15 - 5:15 PM)

[XX] = Saturday Midday Peak Hour (12:00 - 1:00 PM)

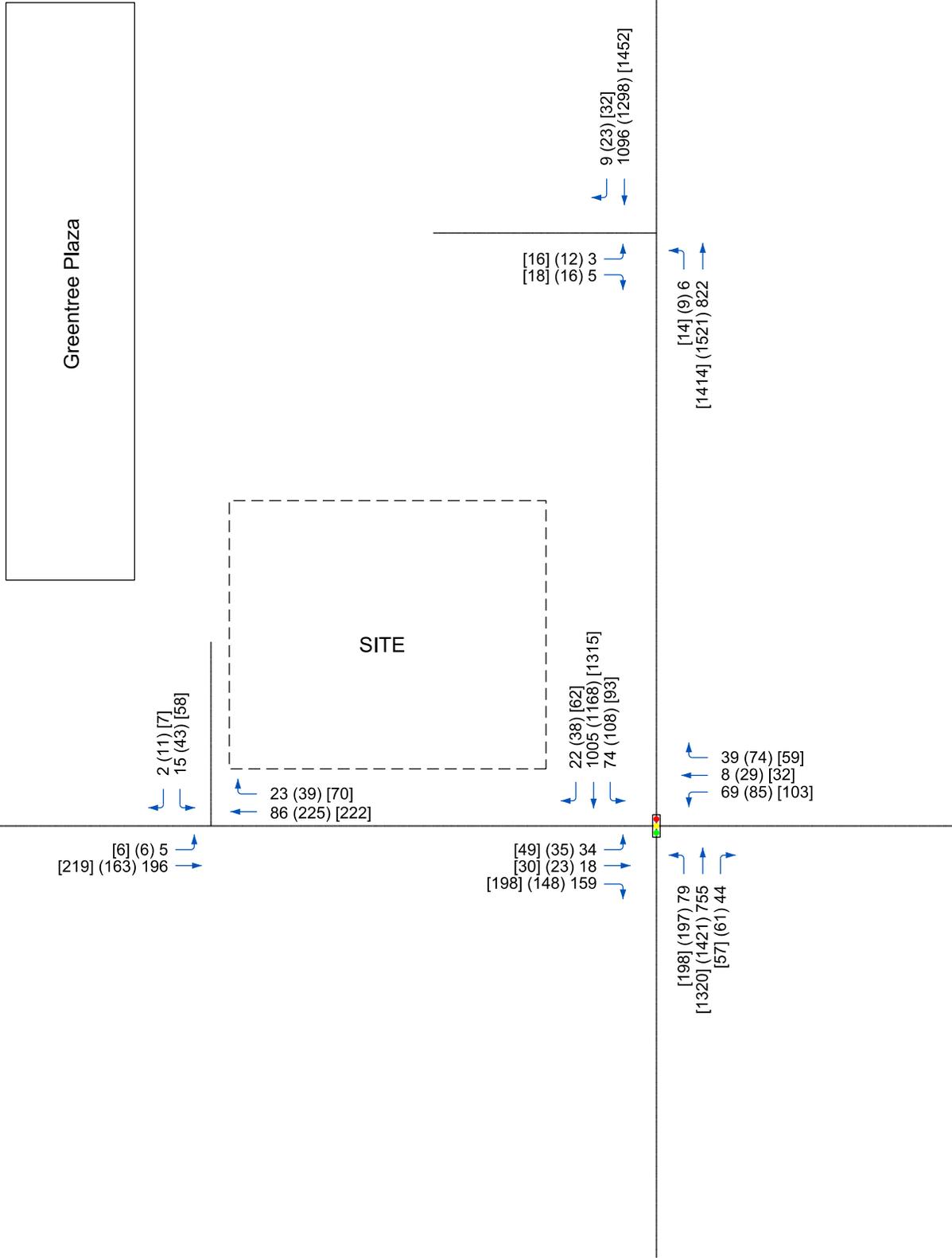


Existing Traffic Signal



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**Exhibit 5B**  
**Site Traffic**  
**Pass By Trips**



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**LEGEND**

XX = Weekday AM Peak Hour (8:00 - 9:00 AM)  
(XX) = Weekday PM Peak Hour (4:15 - 5:15 PM)

[XX] = Saturday Midday Peak Hour (12:00 - 1:00 PM)



Existing Traffic Signal

# Traffic Analysis

## Auxiliary Lane Analysis

The IDOT Bureau of Design and Environment Manual (BDE) was used to determine the need for auxiliary lanes on Greentree Parkway at the Greentree Plaza east site access under 2031 Total traffic conditions. *Recall a right-turn lane and left-turn lane are currently present on Milwaukee Avenue at the Greentree Plaza south site access.*

Section 36-3 Auxiliary Turn Lanes indicates that a right-turn lane is considered when the criterion is met on Figure 36-A for Two-Lane Highways. Based on the projected approach and right-turn volumes, a right-turn lane is *not* warranted on westbound Greentree Parkway at the Greentree Plaza east site access under 2031 Total traffic conditions.

In addition, a left-turn is warranted at any unsignalized intersection that satisfies the guidelines on Figure 36-3G for Two-Lane Highways with a design speed of 40 mph (lowest design chart available) for Greentree Parkway. Based on the geometric design and lane usage and the estimate volume of site-generated traffic, a left-turn lane is *not* warranted on eastbound Greentree Parkway at the Greentree Plaza east site access under 2031 Total traffic conditions.

A summary of the application of the turn lane warrants is provided in *Appendix D*.

## Capacity and Queue Analysis

A primary result of capacity analysis is the assignment of levels of service to traffic facilities under various traffic flow conditions. The capacity analysis methodology is based on the concepts and procedures in the Transportation Research Board's (TRB) *Highway Capacity Manual (HCM)*, 7<sup>th</sup> Edition. The concept of level of service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is often considered acceptable for design purposes and LOS D is usually considered as providing the lower threshold of acceptable operations. Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week or period of year. A description of the operating conditions under each level of service is provided in *Table 5*.

**Table 5: Level of Service (LOS) Summary**

LOS	Description	Average Control Delay (sec/veh)	
		Signalized	Unsignalized
A	Describes conditions with little to no delay for motorists.	≤ 10	≤ 10
B	Represents a desirable level with relatively low delays to motorists.	>10 and ≤ 20	>10 and ≤ 15
C	Describes conditions with average delays to motorists.	>20 and ≤ 35	>15 and ≤ 25
D	Describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.	>35 and ≤ 55	>25 and ≤ 35
E	Represents operating conditions with high delay values. This level is often considered within urban settings or for minor streets intersecting major arterial roadways to be the limit of acceptable delay.	>55 and ≤ 80	>35 and ≤ 50
F	It is considered unacceptable to most drivers with high delays that often occur when arrival flow rates exceed the capacity of the intersection.	>80	>50

Capacity and queue analyses were conducted at all study intersections through application of the procedures described above. These analyses were conducted under Existing, 2031 No-Build and 2031 Total traffic-volume conditions. The impact of site-generated traffic can be measured by comparing 2031 No-Build conditions to 2031 Total conditions. The results of the intersection analyses are discussed below and are summarized in **Table 6**. All analysis worksheets are provided in **Appendix E**.

**Table 6: Level-of-Service and Queue Analysis Summary**

Intersection/ Peak Hr/Movement	Existing			2031 No-Build			2031 Total		
	Delay <sup>1</sup>	LOS <sup>2</sup>	Queue <sup>3</sup>	Delay	LOS	Queue	Delay	LOS	Queue
<b>Milwaukee Avenue at Greentree Parkway and Red Top Drive</b>									
<b>Weekday AM</b>									
Greentree Pkwy EB left turns	48.4	D	53	48.4	D	54	48.5	D	57
Greentree Pkwy EB thru/rights	24.5	C	99	24.6	C	101	24.8	C	103
Red Top Dr WB left turns	60.0	E	103	60.5	E	105	58.9	E	105
Red Top Dr WB thru/rights	24.4	C	51	23.9	C	51	26.1	C	52
Milwaukee Ave NB left turns	5.1	A	31	5.3	A	33	5.4	A	35
Milwaukee Ave NB thru/rights	9.6	A	223	9.8	A	235	9.9	A	236
Milwaukee Ave SB left turns	4.8	A	32	4.9	A	33	5.0	A	34
Milwaukee Ave SB thru	9.9	A	290	10.5	B	305	10.6	B	308
Milwaukee Ave SB right turns	0.1	A	0	0.1	A	0	0.0	A	0
<b>Overall Intersection</b>	<b>12.8</b>	<b>B</b>		<b>13.2</b>	<b>B</b>		<b>13.3</b>	<b>B</b>	
<b>Weekday PM</b>									
Greentree Pkwy EB left turns	52.1	D	50	52.0	D	52	52.7	D	62
Greentree Pkwy EB thru/rights	27.5	C	93	27.5	C	96	27.4	C	100
Red Top Dr WB left turns	67.4	E	126	68.4	E	129	66.8	E	128
Red Top Dr WB thru/rights	27.6	C	90	29.0	C	96	34.1	C	103
Milwaukee Ave NB left turns	9.7	A	71	10.7	B	74	12.0	B	83
Milwaukee Ave NB thru/rights	14.7	B	567	15.8	B	623	16.0	B	630
Milwaukee Ave SB left turns	10.1	B	44	11.3	B	46	11.6	B	47
Milwaukee Ave SB thru	12.6	B	386	13.2	B	422	13.9	B	444
Milwaukee Ave SB right turns	0.1	A	0	0.1	A	1	0.5	A	4
<b>Overall Intersection</b>	<b>16.0</b>	<b>B</b>		<b>16.9</b>	<b>B</b>		<b>17.5</b>	<b>B</b>	
<b>Saturday Midday</b>									
Greentree Pkwy EB left turns	40.5	D	49	40.4	D	50	40.7	D	64
Greentree Pkwy EB thru/rights	23.1	C	96	23.1	C	98	24.0	C	109
Red Top Dr WB left turns	54.6	D	115	55.7	E	118	53.4	D	117
Red Top Dr WB thru/rights	24.5	C	71	24.4	C	73	26.1	C	75
Milwaukee Ave NB left turns	11.5	B	66	14.0	B	76	19.1	B	113
Milwaukee Ave NB thru/rights	15.3	B	460	16.0	B	491	16.4	B	500
Milwaukee Ave SB left turns	8.5	A	39	9.3	A	41	9.5	A	42
Milwaukee Ave SB thru	15.7	B	453	16.3	B	477	17.2	B	477
Milwaukee Ave SB right turns	1.0	A	7	1.1	A	8	1.5	A	12
<b>Overall Intersection</b>	<b>17.0</b>	<b>B</b>		<b>17.7</b>	<b>B</b>		<b>18.6</b>	<b>B</b>	

<sup>1</sup> Average control delay in seconds per vehicle.

<sup>2</sup> Level of service.

<sup>3</sup> 95<sup>th</sup> percentile queue length in feet per lane.

**Table 6: Level-of-Service and Queue Analysis Summary (continued)**

Intersection/ Peak Hour/Movement	Existing			2031 No-Build			2031 Total		
	Delay <sup>1</sup>	LOS <sup>2</sup>	Queue <sup>3</sup>	Delay	LOS	Queue	Delay	LOS	Queue
<b>Greentree Parkway at Greentree Plaza East Access</b>									
<i>Weekday AM</i>									
Greentree Pkwy EB left turns	7.4	A	0	7.4	A	0	7.5	A	0
Plaza E Access SB approach	10.4	B	0	10.5	B	0	10.7	B	3
<i>Weekday PM</i>									
Greentree Pkwy EB left turns	7.8	A	0	7.8	A	0	7.9	A	0
Plaza E Access SB approach	11.1	B	3	11.2	B	3	12.1	B	10
<i>Saturday Midday</i>									
Greentree Pkwy EB left turns	7.8	A	0	7.8	A	0	7.9	A	0
Plaza E Access SB approach	11.7	B	3	11.8	B	3	13.0	B	12
<b>Milwaukee Avenue at Greentree Plaza South Access</b>									
<i>Weekday AM</i>									
Plaza S Access EB approach	12.7	B	0	12.9	B	0	17.1	C	3
Milwaukee Ave NB left turns	10.8	B	0	11.1	B	0	11.1	B	0
<i>Weekday PM</i>									
Plaza S Access EB approach	19.0	C	3	19.8	C	3	24.7	C	12
Milwaukee Ave NB left turns	12.1	B	0	12.4	B	0	12.6	B	3
<i>Saturday Midday</i>									
Plaza S Access EB approach	19.4	C	3	20.2	C	3	29.5	D	18
Milwaukee Ave NB left turns	13.0	B	0	13.4	B	0	13.7	B	3

<sup>1</sup> Average control delay in seconds per vehicle.

<sup>2</sup> Level of service.

<sup>3</sup> 95<sup>th</sup> percentile queue length in feet per lane.

**Milwaukee Avenue and Greentree Parkway / Red Top Drive**

Under Existing and Future (2031 No Build and Total) Traffic conditions, the signalized intersection of Milwaukee Avenue at Greentree Parkway and Red Top Drive operates at an overall LOS B during all three peak hours studied. All movements operate at acceptable LOS D or better except the westbound left-turn movements from Red Top Drive. These movements operate at LOS E under both existing and future conditions. However, it is not uncommon and acceptable for minor street movements to operate at these levels, since majority of the traffic signal’s green time is allocated to the mainline to provide progression along the corridor. The proposed site traffic has minimal impact on all movements and approaches, as well as the overall intersection operation. No changes to the existing signal timing and phasing are required to accommodate the development’s traffic.

**Greentree Parkway and Greentree Plaza East Access**

Under both existing and future conditions, all movements at the Greentree Plaza east site access intersection with Greentree Parkway are anticipated to operate at acceptable levels of service (at LOS B or better) during all three peak hours studied. The 95<sup>th</sup>-percentile queue lengths for southbound exiting movements, as well as left-turn entering movement from eastbound Greentree Parkway are not expected to exceed one vehicle, which will not impact operations on- or off-site.

**Milwaukee Avenue and Greentree Plaza South Access**

Under both existing and future conditions, all movements at the Greentree Plaza south site access intersection with Milwaukee Avenue are anticipated to operate at acceptable levels of service (at LOS D or better) during all three peak hours studied. The 95<sup>th</sup>-percentile queue lengths for eastbound exiting movements, as well as left-turn entering movement from northbound Milwaukee Avenue are not expected to exceed one vehicle, which will not impact operations on- or off-site.

# Parking Analysis

## Parking Demand Requirements

Based on the parking requirements outlined in the Village of Libertyville Code of Ordinance (26-10-1), 29 parking spaces are required for the proposed site. The Village’s parking requirements are summarized in **Table 7**. *Note: The parking demand for the unknown tenant was estimated with three different uses and the highest was assumed (highlighted in gray) to be conservative.*

**Table 7: Village Parking Requirements**

Use	Size	Parking Requirement	Parking Spaces	
			Required	Provided <sup>1</sup>
Cannabis Dispensary	2,687 SF	1 space per 250 SF GFA	11	76
Restaurant	1,777 SF	1 space per 100 SF GFA, with a minimum of 10; excluding the first 500 SF of Outdoor Dining	18	
Retail		1 space per 250 SF GFA	7	
Office		1 space per 350 SF GFA	5	
<b>Total</b>			<b>29</b>	

<sup>1</sup> 72 standard spaces and 4 accessible spaces.

## Parking Demand Projections

The ITE *Parking Generation, 6<sup>th</sup> Edition* publication, provides a compilation of parking demand surveys from across the country for a wide variety of uses. ITE LUC 882, Marijuana Dispensary, was referenced for the proposed cannabis dispensary component of the development, and the parking demand for the second, unknown tenant was estimated using 3 different LUCs: 930, fast casual restaurant, 820, shopping center, and 712, small office (see **Appendix F**). And, again, to be conservative, the highest parking demand was assumed (highlighted in gray). Using the ITE data, **Table 8** presents a summary of the projected peak parking demand for the proposed development.

**Table 8: Projected Peak Parking Demand: ITE – Parking Generation**

Land Use	ITE LUC	Size	Weekday				Saturday <sup>2</sup>	
			Average Rate		Fitted Curve		Average Rate	
			Rate/Unit	Spaces	Equation <sup>1</sup>	Spaces	Rate/Unit	Spaces
Cannabis Dispensary	882	2,687 SF	5.55	15	$P=3.89(X)+5.04$	16	4.76	13
Fast Casual Restaurant	930	1,777 SF	9.77	17	$P=10.38(X)-1.87$	17	7.97	14
Retail	822		2.79	5	$P=2.80(X)-0.14$	5	2.77	5
Office	712		1.85	3	$\ln(P)=0.84\ln(X)+0.81$	4	1.85 <sup>3</sup>	3
<b>Total</b>				<b>32</b>		<b>33</b>		<b>27</b>

<sup>1</sup> P = Parking Demand; X = 1,000 SF GFA

<sup>2</sup> ITE Fitted Curve Equation not available for Saturday for LUC 882, 930 & 712. Calculations for LUC 822 on a Saturday using the fitted curve equations were less than the weekday estimates.

<sup>3</sup> ITE Average Rates not available for Saturday for LUC 712, therefore, weekday rates were used in the analysis to be conservative.

As shown in **Table 8**, the projected peak parking demand for the proposed development is anticipated to be 27 to 33 spaces, which is consistent with Village Code requirements (29 spaces).

**Accordingly, the proposed parking supply of 76 spaces is anticipated to be adequate to accommodate the project parking demand for the proposed development.**

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## Conclusions and Recommendations

A Traffic Impact Study was performed for the proposed retail development located at 1195 S. Milwaukee Avenue in Libertyville, Illinois. Existing and future conditions in the study area have been described, analyzed and evaluated with respect to traffic operations and the planned development. Conclusions and recommendations for this effort are presented below:

### **Conclusions:**

1. The existing site is located at the northwest corner of Milwaukee Avenue (IL Route 21) and Greentree Parkway/Red Top Drive and is currently vacant, formerly containing a 5,338 square foot Bakers Square restaurant, served by 76 parking spaces, including four accessible. The site is an outlier to the existing Greentree Plaza shopping center. Access to the site is shared with the adjacent shopping center and is provided via two full access driveways on Greentree Parkway and three full access driveways on Milwaukee Avenue, with the northernmost access also shared with the Tesla dealership to the north.
2. The project will include redeveloping the site, which includes modifications to the existing building (removal of the existing glass eating area), to provide a 4,464 square-foot, two-tenant retail building, including a 2,687 square-foot cannabis dispensary. The tenant of the second space is currently undefined and could include a restaurant, retail or office use. The development will continue to be served by 76 parking spaces, including four accessible spaces. Access to the site will be maintained via the existing driveways on Greentree Parkway and Milwaukee Avenue.
3. The site traffic impacts on the existing street system will be minimal. No improvements to the study area intersections are required to accommodate the development traffic.
4. The proposed off-street parking supply will be adequate to accommodate the project parking demand for the proposed development.

### **Recommendations:**

1. Deliveries, to the extent feasible, should occur during off-peak hours.
2. The Stop sign on the northbound approach of the internal intersection at the Greentree Plaza shopping center's south Milwaukee Avenue access is currently faded and should be replaced.
3. Employees should be encouraged to park in remote spaces (furthest from the site entrance) to provide convenient parking for customers.

## Appendices

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## **Appendix A**

### **Traffic Count Summaries**

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**Milwaukee Avenue & Greentree Parkway - TMC**

Thu Nov 13, 2025

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357295, Location: 42.263651, -87.949266



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound							Red Top Dr Westbound							Milwaukee Ave Northbound							Milwaukee Ave Southbound							Int
	L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		
2025-11-13																													
7:00AM	2	2	29	0	33	0		17	0	6	0	23	0		10	139	8	0	157	0		9	192	4	0	205	0		418
7:15AM	1	1	33	0	35	0		22	2	9	0	33	0		5	116	5	0	126	0		10	187	0	0	197	0		391
7:30AM	3	5	34	0	42	0		19	0	7	0	26	0		5	133	5	0	143	0		12	240	3	0	255	1		466
7:45AM	1	1	43	0	45	1		19	0	7	0	26	0		16	161	5	0	182	0		15	223	2	0	240	0		493
Hourly Total	7	9	139	0	155	1		77	2	29	0	108	0		36	549	23	0	608	0		46	842	9	0	897	1		1768
8:00AM	8	4	40	0	52	0		20	1	8	0	29	0		8	156	11	0	175	0		19	237	5	0	261	0		517
8:15AM	6	3	42	0	51	0		21	1	14	0	36	1		22	163	14	0	199	0		15	253	5	0	273	1		559
8:30AM	6	3	34	0	43	0		12	3	8	0	23	0		18	201	11	0	230	0		16	209	6	0	231	1		527
8:45AM	7	4	18	0	29	0		14	2	8	0	24	0		22	201	6	0	229	0		21	264	3	0	288	1		570
Hourly Total	27	14	134	0	175	0		67	7	38	0	112	1		70	721	42	0	833	0		71	963	19	0	1053	3		2173
4:00PM	14	12	31	0	57	0		27	10	26	0	63	0		39	347	15	0	401	1		26	296	9	0	331	0		852
4:15PM	9	5	36	0	50	1		14	7	13	0	34	0		42	356	11	0	409	0		23	273	1	0	297	0		790
4:30PM	4	4	23	0	31	0		20	5	16	0	41	0		40	327	16	0	383	0		26	285	8	0	319	0		774
4:45PM	3	5	32	1	41	0		24	6	23	0	53	0		38	328	15	0	381	0		26	269	10	0	305	0		780
Hourly Total	30	26	122	1	179	1		85	28	78	0	191	0		159	1358	57	0	1574	1		101	1123	28	0	1252	0		3196
5:00PM	6	5	32	1	44	0		24	7	19	0	50	0		45	361	17	0	423	0		29	298	11	0	338	0		855
5:15PM	6	5	36	0	47	0		17	9	14	0	40	0		45	305	14	0	364	0		21	274	8	0	303	0		754
5:30PM	7	3	30	0	40	0		22	6	11	0	39	0		28	310	13	0	351	0		22	286	5	0	313	0		743
5:45PM	6	1	25	0	32	0		11	4	12	0	27	1		32	292	11	0	335	0		22	277	4	0	303	0		697
Hourly Total	25	14	123	1	163	0		74	26	56	0	156	1		150	1268	55	0	1473	0		94	1135	28	0	1257	0		3049
<b>Total</b>	89	63	518	2	672	2		303	63	201	0	567	2		415	3896	177	0	4488	1		312	4063	84	0	4459	4		10186
<b>% Approach</b>	13.2%	9.4%	77.1%	0.3%	-	-		53.4%	11.1%	35.4%	0%	-	-	9.2%	86.8%	3.9%	0%	-	-	7.0%	91.1%	1.9%	0%	-	-		-		
<b>% Total</b>	0.9%	0.6%	5.1%	0%	6.6%	-		3.0%	0.6%	2.0%	0%	5.6%	-	4.1%	38.2%	1.7%	0%	44.1%	-	3.1%	39.9%	0.8%	0%	43.8%	-		-		
<b>Lights</b>	89	60	505	2	656	-		293	61	195	0	549	-	410	3833	174	0	4417	-	310	4002	82	0	4394	-		10016		
<b>% Lights</b>	100%	95.2%	97.5%	100%	97.6%	-		96.7%	96.8%	97.0%	0%	96.8%	-	98.8%	98.4%	98.3%	0%	98.4%	-	99.4%	98.5%	97.6%	0%	98.5%	-		98.3%		
<b>Articulated Trucks</b>	0	0	2	0	2	-		1	0	0	0	1	-	0	19	0	0	19	-	0	13	0	0	13	-		35		
<b>% Articulated Trucks</b>	0%	0%	0.4%	0%	0.3%	-		0.3%	0%	0%	0%	0.2%	-	0%	0.5%	0%	0%	0.4%	-	0%	0.3%	0%	0%	0.3%	-		0.3%		
<b>Buses and Single-Unit Trucks</b>	0	3	11	0	14	-		9	2	6	0	17	-	5	44	3	0	52	-	2	48	2	0	52	-		135		
<b>% Buses and Single-Unit Trucks</b>	0%	4.8%	2.1%	0%	2.1%	-		3.0%	3.2%	3.0%	0%	3.0%	-	1.2%	1.1%	1.7%	0%	1.2%	-	0.6%	1.2%	2.4%	0%	1.2%	-		1.3%		
<b>Pedestrians</b>	-	-	-	-	-	2		-	-	-	-	2		-	-	-	-	-	1		-	-	-	-	-	4		4	
<b>% Pedestrians</b>	-	-	-	-	-	100%		-	-	-	-	100%		-	-	-	-	-	100%		-	-	-	-	-	100%		-	

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Milwaukee Avenue & Greentree Parkway - TMC

Thu Nov 13, 2025

AM Peak (8 AM - 9 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357295, Location: 42.263651, -87.949266



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound						Red Top Dr Westbound						Milwaukee Ave Northbound						Milwaukee Ave Southbound						Int
	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	
2025-11-13																									
8:00AM	8	4	40	0	52	0	20	1	8	0	29	0	8	156	11	0	175	0	19	237	5	0	261	0	517
8:15AM	6	3	42	0	51	0	21	1	14	0	36	1	22	163	14	0	199	0	15	253	5	0	273	1	559
8:30AM	6	3	34	0	43	0	12	3	8	0	23	0	18	201	11	0	230	0	16	209	6	0	231	1	527
8:45AM	7	4	18	0	29	0	14	2	8	0	24	0	22	201	6	0	229	0	21	264	3	0	288	1	570
<b>Total</b>	27	14	134	0	175	0	67	7	38	0	112	1	70	721	42	0	833	0	71	963	19	0	1053	3	2173
<b>% Approach</b>	15.4%	8.0%	76.6%	0%	-	-	59.8%	6.3%	33.9%	0%	-	-	8.4%	86.6%	5.0%	0%	-	-	6.7%	91.5%	1.8%	0%	-	-	-
<b>% Total</b>	1.2%	0.6%	6.2%	0%	8.1%	-	3.1%	0.3%	1.7%	0%	5.2%	-	3.2%	33.2%	1.9%	0%	38.3%	-	3.3%	44.3%	0.9%	0%	48.5%	-	-
<b>PHF</b>	0.844	0.875	0.798	-	0.841	-	0.798	0.583	0.679	-	0.778	-	0.795	0.897	0.750	-	0.905	-	0.845	0.912	0.792	-	0.914	-	0.953
<b>Lights</b>	27	12	129	0	168	-	63	6	35	0	104	-	70	699	42	0	811	-	70	940	19	0	1029	-	2112
<b>% Lights</b>	100%	85.7%	96.3%	0%	96.0%	-	94.0%	85.7%	92.1%	0%	92.9%	-	100%	96.9%	100%	0%	97.4%	-	98.6%	97.6%	100%	0%	97.7%	-	97.2%
<b>Articulated Trucks</b>	0	0	1	0	1	-	0	0	0	0	0	-	0	6	0	0	6	-	0	6	0	0	6	-	13
<b>% Articulated Trucks</b>	0%	0%	0.7%	0%	0.6%	-	0%	0%	0%	0%	0%	-	0%	0.8%	0%	0%	0.7%	-	0%	0.6%	0%	0%	0.6%	-	0.6%
<b>Buses and Single-Unit Trucks</b>	0	2	4	0	6	-	4	1	3	0	8	-	0	16	0	0	16	-	1	17	0	0	18	-	48
<b>% Buses and Single-Unit Trucks</b>	0%	14.3%	3.0%	0%	3.4%	-	6.0%	14.3%	7.9%	0%	7.1%	-	0%	2.2%	0%	0%	1.9%	-	1.4%	1.8%	0%	0%	1.7%	-	2.2%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	3	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Milwaukee Avenue & Greentree Parkway - TMC**

Thu Nov 13, 2025

PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357295, Location: 42.263651, -87.949266



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound						Red Top Dr Westbound						Milwaukee Ave Northbound						Milwaukee Ave Southbound						Int
	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	
2025-11-13																									
4:15PM	9	5	36	0	50	1	14	7	13	0	34	0	42	356	11	0	409	0	23	273	1	0	297	0	790
4:30PM	4	4	23	0	31	0	20	5	16	0	41	0	40	327	16	0	383	0	26	285	8	0	319	0	774
4:45PM	3	5	32	1	41	0	24	6	23	0	53	0	38	328	15	0	381	0	26	269	10	0	305	0	780
5:00PM	6	5	32	1	44	0	24	7	19	0	50	0	45	361	17	0	423	0	29	298	11	0	338	0	855
<b>Total</b>	22	19	123	2	166	1	82	25	71	0	178	0	165	1372	59	0	1596	0	104	1125	30	0	1259	0	3199
<b>% Approach</b>	13.3%	11.4%	74.1%	1.2%	-	-	46.1%	14.0%	39.9%	0%	-	-	10.3%	86.0%	3.7%	0%	-	-	8.3%	89.4%	2.4%	0%	-	-	-
<b>% Total</b>	0.7%	0.6%	3.8%	0.1%	5.2%	-	2.6%	0.8%	2.2%	0%	5.6%	-	5.2%	42.9%	1.8%	0%	49.9%	-	3.3%	35.2%	0.9%	0%	39.4%	-	-
<b>PHF</b>	0.611	0.950	0.854	0.500	0.830	-	0.854	0.893	0.772	-	0.840	-	0.917	0.950	0.868	-	0.943	-	0.897	0.944	0.682	-	0.931	-	0.935
<b>Lights</b>	22	19	120	2	163	-	80	24	70	0	174	-	164	1362	59	0	1585	-	104	1117	30	0	1251	-	3173
<b>% Lights</b>	100%	100%	97.6%	100%	98.2%	-	97.6%	96.0%	98.6%	0%	97.8%	-	99.4%	99.3%	100%	0%	99.3%	-	100%	99.3%	100%	0%	99.4%	-	99.2%
<b>Articulated Trucks</b>	0	0	1	0	1	-	0	0	0	0	0	-	0	4	0	0	4	-	0	2	0	0	2	-	7
<b>% Articulated Trucks</b>	0%	0%	0.8%	0%	0.6%	-	0%	0%	0%	0%	0%	-	0%	0.3%	0%	0%	0.3%	-	0%	0.2%	0%	0%	0.2%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	0	2	0	2	-	2	1	1	0	4	-	1	6	0	0	7	-	0	6	0	0	6	-	19
<b>% Buses and Single-Unit Trucks</b>	0%	0%	1.6%	0%	1.2%	-	2.4%	4.0%	1.4%	0%	2.2%	-	0.6%	0.4%	0%	0%	0.4%	-	0%	0.5%	0%	0%	0.5%	-	0.6%
<b>Pedestrians</b>	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Milwaukee Avenue & Greentree Parkway - TMC

Sat Nov 15, 2025

Full Length (11 AM-1 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357298, Location: 42.263651, -87.949266



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound						Red Top Dr Westbound						Milwaukee Ave Northbound						Milwaukee Ave Southbound						Int
	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	
2025-11-15 11:00AM	17	4	36	0	57	0	24	7	12	0	43	0	28	293	8	0	329	0	25	293	14	0	332	0	761
11:15AM	4	6	39	0	49	0	24	5	14	0	43	0	28	283	12	0	323	0	27	296	11	1	335	0	750
11:30AM	8	6	35	0	49	0	32	5	14	0	51	0	35	332	21	0	388	2	19	303	9	0	331	0	819
11:45AM	5	6	39	0	50	0	22	3	15	0	40	0	34	259	22	0	315	0	22	313	16	0	351	0	756
Hourly Total	34	22	149	0	205	0	102	20	55	0	177	0	125	1167	63	0	1355	2	93	1205	50	1	1349	0	3086
12:00PM	5	6	46	0	57	0	33	6	16	0	55	0	40	315	12	0	367	0	14	290	10	0	314	0	793
12:15PM	13	9	41	0	63	0	24	4	11	0	39	1	49	327	11	0	387	0	27	318	8	0	353	0	842
12:30PM	10	5	33	0	48	0	28	11	11	0	50	0	38	305	16	0	359	0	21	350	14	0	385	0	842
12:45PM	5	7	49	0	61	0	14	6	19	0	39	1	32	327	16	0	375	1	27	298	19	0	344	0	819
Hourly Total	33	27	169	0	229	0	99	27	57	0	183	2	159	1274	55	0	1488	1	89	1256	51	0	1396	0	3296
<b>Total</b>	67	49	318	0	434	0	201	47	112	0	360	2	284	2441	118	0	2843	3	182	2461	101	1	2745	0	6382
<b>% Approach</b>	15.4%	11.3%	73.3%	0%	-	-	55.8%	13.1%	31.1%	0%	-	-	10.0%	85.9%	4.2%	0%	-	-	6.6%	89.7%	3.7%	0%	-	-	-
<b>% Total</b>	1.0%	0.8%	5.0%	0%	6.8%	-	3.1%	0.7%	1.8%	0%	5.6%	-	4.5%	38.2%	1.8%	0%	44.5%	-	2.9%	38.6%	1.6%	0%	43.0%	-	-
<b>Lights</b>	67	49	318	0	434	-	201	47	111	0	359	-	284	2426	118	0	2828	-	181	2449	101	1	2732	-	6353
<b>% Lights</b>	100%	100%	100%	0%	100%	-	100%	100%	99.1%	0%	99.7%	-	100%	99.4%	100%	0%	99.5%	-	99.5%	99.5%	100%	100%	99.5%	-	99.5%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	3	0	0	3	-	0	2	0	0	2	-	5
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.1%	0%	0%	0.1%	-	0%	0.1%	0%	0%	0.1%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	0	-	0	0	1	0	1	-	0	12	0	0	12	-	1	10	0	0	11	-	24
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0.9%	0%	0.3%	-	0%	0.5%	0%	0%	0.4%	-	0.5%	0.4%	0%	0%	0.4%	-	0.4%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Milwaukee Avenue & Greentree Parkway - TMC**

Sat Nov 15, 2025

Midday Peak (WKND) (12 PM - 1 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357298, Location: 42.263651, -87.949266



Provided by: Gewalt Hamilton Associates Inc.

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound						Red Top Dr Westbound						Milwaukee Ave Northbound						Milwaukee Ave Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2025-11-15 12:00PM	5	6	46	0	57	0	33	6	16	0	55	0	40	315	12	0	367	0	14	290	10	0	314	0	793
12:15PM	13	9	41	0	63	0	24	4	11	0	39	1	49	327	11	0	387	0	27	318	8	0	353	0	842
12:30PM	10	5	33	0	48	0	28	11	11	0	50	0	38	305	16	0	359	0	21	350	14	0	385	0	842
12:45PM	5	7	49	0	61	0	14	6	19	0	39	1	32	327	16	0	375	1	27	298	19	0	344	0	819
<b>Total</b>	33	27	169	0	229	0	99	27	57	0	183	2	159	1274	55	0	1488	1	89	1256	51	0	1396	0	3296
<b>% Approach</b>	14.4%	11.8%	73.8%	0%	-	-	54.1%	14.8%	31.1%	0%	-	-	10.7%	85.6%	3.7%	0%	-	-	6.4%	90.0%	3.7%	0%	-	-	-
<b>% Total</b>	1.0%	0.8%	5.1%	0%	6.9%	-	3.0%	0.8%	1.7%	0%	5.6%	-	4.8%	38.7%	1.7%	0%	45.1%	-	2.7%	38.1%	1.5%	0%	42.4%	-	-
<b>PHF</b>	0.635	0.750	0.862	-	0.909	-	0.750	0.614	0.750	-	0.832	-	0.811	0.974	0.859	-	0.961	-	0.824	0.897	0.671	-	0.906	-	0.979
<b>Lights</b>	33	27	169	0	229	-	99	27	57	0	183	-	159	1265	55	0	1479	-	88	1251	51	0	1390	-	3281
<b>% Lights</b>	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	99.3%	100%	0%	99.4%	-	98.9%	99.6%	100%	0%	99.6%	-	99.5%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	3	0	0	3	-	0	2	0	0	2	-	5
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0.2%	-	0%	0.2%	0%	0%	0.1%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	6	0	0	6	-	1	3	0	0	4	-	10
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.5%	0%	0%	0.4%	-	1.1%	0.2%	0%	0%	0.3%	-	0.3%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-100%	-	-	-	-	-	-100%	-	-	-	-	-	-	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Greentree Parkway & Greentree Plaza East Acc... - TMC

Thu Nov 13, 2025

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357296, Location: 42.26362, -87.950521



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound					Greentree Pkwy Westbound					Greentree Plaza East Access Southbound					Int
	L	T	U	App	Ped*	T	R	U	App	Ped*	L	R	U	App	Ped*	
Time																
2025-11-13 7:00AM	0	33	0	33	0	12	2	0	14	0	1	0	0	1	0	48
7:15AM	0	37	0	37	0	4	1	0	5	0	0	0	0	0	0	42
7:30AM	0	39	0	39	0	7	1	0	8	0	0	0	0	0	0	47
7:45AM	3	45	0	48	0	15	3	1	19	0	3	0	0	3	4	70
Hourly Total	3	154	0	157	0	38	7	1	46	0	4	0	0	4	4	207
8:00AM	1	49	0	50	0	10	4	0	14	0	1	0	0	1	0	65
8:15AM	0	50	0	50	0	27	2	0	29	0	1	0	0	1	1	80
8:30AM	0	45	0	45	0	26	3	0	29	0	1	0	0	1	0	75
8:45AM	0	29	0	29	0	24	5	0	29	0	1	1	0	2	1	60
Hourly Total	1	173	0	174	0	87	14	0	101	0	4	1	0	5	2	280
4:00PM	0	46	0	46	0	62	2	0	64	0	9	0	0	9	0	119
4:15PM	1	47	0	48	0	52	5	0	57	0	4	0	0	4	0	109
4:30PM	0	28	0	28	0	56	3	0	59	0	3	2	0	5	0	92
4:45PM	0	36	0	36	0	48	3	0	51	0	1	3	0	4	0	91
Hourly Total	1	157	0	158	0	218	13	0	231	0	17	5	0	22	0	411
5:00PM	2	41	0	43	0	62	2	0	64	0	2	3	0	5	0	112
5:15PM	0	49	0	49	0	58	6	0	64	0	2	1	0	3	0	116
5:30PM	0	37	0	37	0	40	7	0	47	0	7	1	0	8	0	92
5:45PM	1	27	0	28	0	44	4	0	48	0	4	2	0	6	0	82
Hourly Total	3	154	0	157	0	204	19	0	223	0	15	7	0	22	0	402
<b>Total</b>	8	638	0	646	0	547	53	1	601	0	40	13	0	53	6	1300
<b>% Approach</b>	1.2%	98.8%	0%	-	-	91.0%	8.8%	0.2%	-	-	75.5%	24.5%	0%	-	-	-
<b>% Total</b>	0.6%	49.1%	0%	49.7%	-	42.1%	4.1%	0.1%	46.2%	-	3.1%	1.0%	0%	4.1%	-	-
<b>Lights</b>	8	627	0	635	-	537	53	1	591	-	38	13	0	51	-	1277
<b>% Lights</b>	100%	98.3%	0%	98.3%	-	98.2%	100%	100%	98.3%	-	95.0%	100%	0%	96.2%	-	98.2%
<b>Articulated Trucks</b>	0	0	0	0	-	0	0	0	0	-	1	0	0	1	-	1
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0%	0%	0%	-	2.5%	0%	0%	1.9%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	0	11	0	11	-	10	0	0	10	-	1	0	0	1	-	22
<b>% Buses and Single-Unit Trucks</b>	0%	1.7%	0%	1.7%	-	1.8%	0%	0%	1.7%	-	2.5%	0%	0%	1.9%	-	1.7%
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	6	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Greentree Parkway & Greentree Plaza East Acc... - TMC

Thu Nov 13, 2025

AM Peak (7:45 AM - 8:45 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357296, Location: 42.26362, -87.950521



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound					Greentree Pkwy Westbound					Greentree Plaza East Access Southbound					Int
	L	T	U	App	Ped*	T	R	U	App	Ped*	L	R	U	App	Ped*	
2025-11-13 7:45AM	3	45	0	48	0	15	3	1	19	0	3	0	0	3	4	70
8:00AM	1	49	0	50	0	10	4	0	14	0	1	0	0	1	0	65
8:15AM	0	50	0	50	0	27	2	0	29	0	1	0	0	1	1	80
8:30AM	0	45	0	45	0	26	3	0	29	0	1	0	0	1	0	75
<b>Total</b>	4	189	0	193	0	78	12	1	91	0	6	0	0	6	5	290
<b>% Approach</b>	2.1%	97.9%	0%	-	-	85.7%	13.2%	1.1%	-	-	100%	0%	0%	-	-	-
<b>% Total</b>	1.4%	65.2%	0%	66.6%	-	26.9%	4.1%	0.3%	31.4%	-	2.1%	0%	0%	2.1%	-	-
<b>PHF</b>	0.333	0.945	-	0.965	-	0.722	0.750	0.250	0.784	-	0.500	-	-	0.500	-	0.906
<b>Lights</b>	4	183	0	187	-	75	12	1	88	-	5	0	0	5	-	280
<b>% Lights</b>	100%	96.8%	0%	96.9%	-	96.2%	100%	100%	96.7%	-	83.3%	0%	0%	83.3%	-	96.6%
<b>Articulated Trucks</b>	0	0	0	0	-	0	0	0	0	-	1	0	0	1	-	1
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0%	0%	0%	-	16.7%	0%	0%	16.7%	-	0.3%
<b>Buses and Single-Unit Trucks</b>	0	6	0	6	-	3	0	0	3	-	0	0	0	0	-	9
<b>% Buses and Single-Unit Trucks</b>	0%	3.2%	0%	3.1%	-	3.8%	0%	0%	3.3%	-	0%	0%	0%	0%	-	3.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	5	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Greentree Parkway & Greentree Plaza East Acc... - TMC

Thu Nov 13, 2025

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357296, Location: 42.26362, -87.950521



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound					Greentree Pkwy Westbound					Greentree Plaza East Access Southbound					Int
	L	T	U	App	Ped*	T	R	U	App	Ped*	L	R	U	App	Ped*	
2025-11-13 4:00PM	0	46	0	46	0	62	2	0	64	0	9	0	0	9	0	119
4:15PM	1	47	0	48	0	52	5	0	57	0	4	0	0	4	0	109
4:30PM	0	28	0	28	0	56	3	0	59	0	3	2	0	5	0	92
4:45PM	0	36	0	36	0	48	3	0	51	0	1	3	0	4	0	91
<b>Total</b>	1	157	0	158	0	218	13	0	231	0	17	5	0	22	0	411
<b>% Approach</b>	0.6%	99.4%	0%	-	-	94.4%	5.6%	0%	-	-	77.3%	22.7%	0%	-	-	-
<b>% Total</b>	0.2%	38.2%	0%	38.4%	-	53.0%	3.2%	0%	56.2%	-	4.1%	1.2%	0%	5.4%	-	-
<b>PHF</b>	0.250	0.835	-	0.823	-	0.879	0.650	-	0.902	-	0.472	0.417	-	0.611	-	0.863
<b>Lights</b>	1	155	0	156	-	216	13	0	229	-	17	5	0	22	-	407
<b>% Lights</b>	100%	98.7%	0%	98.7%	-	99.1%	100%	0%	99.1%	-	100%	100%	0%	100%	-	99.0%
<b>Articulated Trucks</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
<b>Buses and Single-Unit Trucks</b>	0	2	0	2	-	2	0	0	2	-	0	0	0	0	-	4
<b>% Buses and Single-Unit Trucks</b>	0%	1.3%	0%	1.3%	-	0.9%	0%	0%	0.9%	-	0%	0%	0%	0%	-	1.0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Greentree Parkway & Greentree Plaza East Acc... - TMC**

Sat Nov 15, 2025

Full Length (11 AM-1 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357299, Location: 42.26362, -87.950521



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound					Greentree Pkwy Westbound					Greentree Plaza East Access Southbound					Int
	L	T	U	App	Ped*	T	R	U	App	Ped*	L	R	U	App	Ped*	
Time																
2025-11-15 11:00AM	1	46	0	47	0	43	4	1	48	0	8	3	0	11	1	106
11:15AM	1	49	0	50	0	39	5	0	44	0	2	2	0	4	0	98
11:30AM	0	52	0	52	0	44	7	0	51	0	2	2	0	4	0	107
11:45AM	0	44	0	44	0	47	5	0	52	0	4	1	0	5	1	101
Hourly Total	2	191	0	193	0	173	21	1	195	0	16	8	0	24	2	412
12:00PM	0	53	0	53	0	51	6	0	57	0	2	0	0	2	0	112
12:15PM	2	56	0	58	0	54	13	0	67	0	6	1	0	7	0	132
12:30PM	0	47	0	47	0	58	6	0	64	0	5	0	0	5	0	116
12:45PM	0	51	0	51	0	52	6	0	58	0	4	2	0	6	0	115
Hourly Total	2	207	0	209	0	215	31	0	246	0	17	3	0	20	0	475
<b>Total</b>	4	398	0	402	0	388	52	1	441	0	33	11	0	44	2	887
<b>% Approach</b>	1.0%	99.0%	0%	-	-	88.0%	11.8%	0.2%	-	-	75.0%	25.0%	0%	-	-	-
<b>% Total</b>	0.5%	44.9%	0%	45.3%	-	43.7%	5.9%	0.1%	49.7%	-	3.7%	1.2%	0%	5.0%	-	-
<b>Lights</b>	4	397	0	401	-	388	52	1	441	-	33	11	0	44	-	886
<b>% Lights</b>	100%	99.7%	0%	99.8%	-	100%	100%	100%	100%	-	100%	100%	0%	100%	-	99.9%
<b>Articulated Trucks</b>	0	1	0	1	-	0	0	0	0	-	0	0	0	0	-	1
<b>% Articulated Trucks</b>	0%	0.3%	0%	0.2%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Greentree Parkway & Greentree Plaza East Acc... - TMC  
 Sat Nov 15, 2025  
 Midday Peak (WKND) (12 PM - 1 PM) - Overall Peak Hour  
 All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,  
 Pedestrians)  
 All Movements  
 ID: 1357299, Location: 42.26362, -87.950521



Provided by: Gewalt Hamilton Associates Inc.  
 625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Pkwy Eastbound					Greentree Pkwy Westbound					Greentree Plaza East Access Southbound					Int
	L	T	U	App	Ped*	T	R	U	App	Ped*	L	R	U	App	Ped*	
2025-11-15 12:00PM	0	53	0	53	0	51	6	0	57	0	2	0	0	2	0	112
12:15PM	2	56	0	58	0	54	13	0	67	0	6	1	0	7	0	132
12:30PM	0	47	0	47	0	58	6	0	64	0	5	0	0	5	0	116
12:45PM	0	51	0	51	0	52	6	0	58	0	4	2	0	6	0	115
<b>Total</b>	2	207	0	209	0	215	31	0	246	0	17	3	0	20	0	475
<b>% Approach</b>	1.0%	99.0%	0%	-	-	87.4%	12.6%	0%	-	-	85.0%	15.0%	0%	-	-	-
<b>% Total</b>	0.4%	43.6%	0%	44.0%	-	45.3%	6.5%	0%	51.8%	-	3.6%	0.6%	0%	4.2%	-	-
<b>PHF</b>	0.250	0.924	-	0.901	-	0.927	0.596	-	0.918	-	0.708	0.375	-	0.714	-	0.900
<b>Lights</b>	2	207	0	209	-	215	31	0	246	-	17	3	0	20	-	475
<b>% Lights</b>	100%	100%	0%	100%	-	100%	100%	0%	100%	-	100%	100%	0%	100%	-	100%
<b>Articulated Trucks</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Milwaukee Ave & Greentree Plaza South Access - TMC**

Thu Nov 13, 2025

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357297, Location: 42.265025, -87.949587



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Plaza South Access Eastbound					Milwaukee Ave Northbound					Milwaukee Ave Southbound					Int
	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	
2025-11-13 7:00AM	0	0	0	0	0	1	143	1	145	0	204	0	0	204	0	349
7:15AM	0	0	0	0	0	0	135	0	135	0	201	0	0	201	0	336
7:30AM	0	1	0	1	0	0	142	0	142	0	250	0	0	250	0	393
7:45AM	1	1	0	2	0	0	176	0	176	0	234	0	0	234	0	412
Hourly Total	1	2	0	3	0	1	596	1	598	0	889	0	0	889	0	1490
8:00AM	0	0	0	0	0	0	172	0	172	0	259	0	0	259	0	431
8:15AM	0	0	0	0	0	0	185	0	185	0	275	1	0	276	0	461
8:30AM	0	1	0	1	0	1	218	0	219	0	246	0	0	246	0	466
8:45AM	0	1	0	1	0	3	217	0	220	0	278	2	0	280	0	501
Hourly Total	0	2	0	2	0	4	792	0	796	0	1058	3	0	1061	0	1859
4:00PM	2	1	0	3	0	0	392	0	392	0	320	2	0	322	0	717
4:15PM	0	2	0	2	0	0	379	0	379	0	288	1	0	289	0	670
4:30PM	1	3	0	4	0	1	344	0	345	0	308	2	0	310	0	659
4:45PM	0	1	0	1	0	1	355	0	356	0	312	3	0	315	0	672
Hourly Total	3	7	0	10	0	2	1470	0	1472	0	1228	8	0	1236	0	2718
5:00PM	2	2	0	4	1	2	384	0	386	0	342	2	0	344	0	734
5:15PM	2	0	0	2	0	1	324	0	325	0	305	2	0	307	0	634
5:30PM	3	1	0	4	0	2	332	0	334	0	317	3	1	321	0	659
5:45PM	1	3	0	4	0	1	307	0	308	0	288	4	0	292	0	604
Hourly Total	8	6	0	14	1	6	1347	0	1353	0	1252	11	1	1264	0	2631
<b>Total</b>	12	17	0	29	1	13	4205	1	4219	0	4427	22	1	4450	0	8698
<b>% Approach</b>	41.4%	58.6%	0%	-	-	0.3%	99.7%	0%	-	-	99.5%	0.5%	0%	-	-	-
<b>% Total</b>	0.1%	0.2%	0%	0.3%	-	0.1%	48.3%	0%	48.5%	-	50.9%	0.3%	0%	51.2%	-	-
<b>Lights</b>	12	17	0	29	-	13	4138	1	4152	-	4363	22	1	4386	-	8567
<b>% Lights</b>	100%	100%	0%	100%	-	100%	98.4%	100%	98.4%	-	98.6%	100%	100%	98.6%	-	98.5%
<b>Articulated Trucks</b>	0	0	0	0	-	0	17	0	17	-	12	0	0	12	-	29
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0.4%	0%	0.4%	-	0.3%	0%	0%	0.3%	-	0.3%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	-	0	50	0	50	-	52	0	0	52	-	102
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	-	0%	1.2%	0%	1.2%	-	1.2%	0%	0%	1.2%	-	1.2%
<b>Pedestrians</b>	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Milwaukee Ave & Greentree Plaza South Access - TMC**

Thu Nov 13, 2025

AM Peak (8 AM - 9 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357297, Location: 42.265025, -87.949587



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Plaza South Access Eastbound					Milwaukee Ave Northbound					Milwaukee Ave Southbound					Int
	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	
2025-11-13 8:00AM	0	0	0	0	0	0	172	0	172	0	259	0	0	259	0	431
8:15AM	0	0	0	0	0	0	185	0	185	0	275	1	0	276	0	461
8:30AM	0	1	0	1	0	1	218	0	219	0	246	0	0	246	0	466
8:45AM	0	1	0	1	0	3	217	0	220	0	278	2	0	280	0	501
<b>Total</b>	0	2	0	2	0	4	792	0	796	0	1058	3	0	1061	0	1859
<b>% Approach</b>	0%	100%	0%	-	-	0.5%	99.5%	0%	-	-	99.7%	0.3%	0%	-	-	-
<b>% Total</b>	0%	0.1%	0%	0.1%	-	0.2%	42.6%	0%	42.8%	-	56.9%	0.2%	0%	57.1%	-	-
<b>PHF</b>	-	0.500	-	0.500	-	0.333	0.908	-	0.905	-	0.951	0.375	-	0.947	-	0.928
<b>Lights</b>	0	2	0	2	-	4	772	0	776	-	1033	3	0	1036	-	1814
<b>% Lights</b>	0%	100%	0%	100%	-	100%	97.5%	0%	97.5%	-	97.6%	100%	0%	97.6%	-	97.6%
<b>Articulated Trucks</b>	0	0	0	0	-	0	6	0	6	-	5	0	0	5	-	11
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0.8%	0%	0.8%	-	0.5%	0%	0%	0.5%	-	0.6%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	-	0	14	0	14	-	20	0	0	20	-	34
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	-	0%	1.8%	0%	1.8%	-	1.9%	0%	0%	1.9%	-	1.8%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Milwaukee Ave & Greentree Plaza South Access - TMC**

Thu Nov 13, 2025

PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357297, Location: 42.265025, -87.949587



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Plaza South Access Eastbound					Milwaukee Ave Northbound					Milwaukee Ave Southbound					Int
	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	
2025-11-13 4:15PM	0	2	0	2	0	0	379	0	379	0	288	1	0	289	0	670
4:30PM	1	3	0	4	0	1	344	0	345	0	308	2	0	310	0	659
4:45PM	0	1	0	1	0	1	355	0	356	0	312	3	0	315	0	672
5:00PM	2	2	0	4	1	2	384	0	386	0	342	2	0	344	0	734
<b>Total</b>	3	8	0	11	1	4	1462	0	1466	0	1250	8	0	1258	0	2735
<b>% Approach</b>	27.3%	72.7%	0%	-	-	0.3%	99.7%	0%	-	-	99.4%	0.6%	0%	-	-	-
<b>% Total</b>	0.1%	0.3%	0%	0.4%	-	0.1%	53.5%	0%	53.6%	-	45.7%	0.3%	0%	46.0%	-	-
<b>PHF</b>	0.375	0.667	-	0.688	-	0.500	0.952	-	0.949	-	0.914	0.667	-	0.914	-	0.932
<b>Lights</b>	3	8	0	11	-	4	1450	0	1454	-	1244	8	0	1252	-	2717
<b>% Lights</b>	100%	100%	0%	100%	-	100%	99.2%	0%	99.2%	-	99.5%	100%	0%	99.5%	-	99.3%
<b>Articulated Trucks</b>	0	0	0	0	-	0	3	0	3	-	2	0	0	2	-	5
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0.2%	0%	0.2%	-	0.2%	0%	0%	0.2%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	-	0	9	0	9	-	4	0	0	4	-	13
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	-	0%	0.6%	0%	0.6%	-	0.3%	0%	0%	0.3%	-	0.5%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	-	0
<b>% Pedestrians</b>	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Milwaukee Ave & Greentree Plaza South Access - TMC**

Sat Nov 15, 2025

Full Length (11 AM-1 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357300, Location: 42.265025, -87.949587



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Plaza South Access Eastbound					Milwaukee Ave Northbound					Milwaukee Ave Southbound					Int
	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	
2025-11-15 11:00AM	1	1	0	2	2	0	320	0	320	0	333	1	0	334	0	656
11:15AM	1	0	0	1	0	2	298	0	300	0	346	2	0	348	0	649
11:30AM	1	2	0	3	0	3	347	0	350	0	335	3	0	338	0	691
11:45AM	0	0	0	0	1	1	284	0	285	0	348	1	0	349	0	634
Hourly Total	3	3	0	6	3	6	1249	0	1255	0	1362	7	0	1369	0	2630
12:00PM	1	1	0	2	0	0	324	0	324	0	339	2	0	341	0	667
12:15PM	0	3	0	3	0	2	354	0	356	0	345	4	0	349	0	708
12:30PM	1	1	0	2	0	3	316	0	319	0	374	1	0	375	0	696
12:45PM	0	2	0	2	0	1	345	0	346	0	346	1	0	347	0	695
Hourly Total	2	7	0	9	0	6	1339	0	1345	0	1404	8	0	1412	0	2766
<b>Total</b>	5	10	0	15	3	12	2588	0	2600	0	2766	15	0	2781	0	5396
<b>% Approach</b>	33.3%	66.7%	0%	-	-	0.5%	99.5%	0%	-	-	99.5%	0.5%	0%	-	-	-
<b>% Total</b>	0.1%	0.2%	0%	0.3%	-	0.2%	48.0%	0%	48.2%	-	51.3%	0.3%	0%	51.5%	-	-
<b>Lights</b>	5	10	0	15	-	12	2572	0	2584	-	2751	15	0	2766	-	5365
<b>% Lights</b>	100%	100%	0%	100%	-	100%	99.4%	0%	99.4%	-	99.5%	100%	0%	99.5%	-	99.4%
<b>Articulated Trucks</b>	0	0	0	0	-	0	4	0	4	-	2	0	0	2	-	6
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0.2%	0%	0.2%	-	0.1%	0%	0%	0.1%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	-	0	12	0	12	-	13	0	0	13	-	25
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	-	0%	0.5%	0%	0.5%	-	0.5%	0%	0%	0.5%	-	0.5%
<b>Pedestrians</b>	-	-	-	-	3	-	-	-	-	0	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

**Milwaukee Ave & Greentree Plaza South Access - TMC**

Sat Nov 15, 2025

Midday Peak (WKND) (12 PM - 1 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians)

All Movements

ID: 1357300, Location: 42.265025, -87.949587



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Greentree Plaza South Access Eastbound					Milwaukee Ave Northbound					Milwaukee Ave Southbound					Int
	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	
2025-11-15 12:00PM	1	1	0	2	0	0	324	0	324	0	339	2	0	341	0	667
12:15PM	0	3	0	3	0	2	354	0	356	0	345	4	0	349	0	708
12:30PM	1	1	0	2	0	3	316	0	319	0	374	1	0	375	0	696
12:45PM	0	2	0	2	0	1	345	0	346	0	346	1	0	347	0	695
<b>Total</b>	2	7	0	9	0	6	1339	0	1345	0	1404	8	0	1412	0	2766
<b>% Approach</b>	22.2%	77.8%	0%	-	-	0.4%	99.6%	0%	-	-	99.4%	0.6%	0%	-	-	-
<b>% Total</b>	0.1%	0.3%	0%	0.3%	-	0.2%	48.4%	0%	48.6%	-	50.8%	0.3%	0%	51.0%	-	-
<b>PHF</b>	0.500	0.583	-	0.750	-	0.500	0.946	-	0.945	-	0.939	0.500	-	0.941	-	0.977
<b>Lights</b>	2	7	0	9	-	6	1330	0	1336	-	1398	8	0	1406	-	2751
<b>% Lights</b>	100%	100%	0%	100%	-	100%	99.3%	0%	99.3%	-	99.6%	100%	0%	99.6%	-	99.5%
<b>Articulated Trucks</b>	0	0	0	0	-	0	4	0	4	-	2	0	0	2	-	6
<b>% Articulated Trucks</b>	0%	0%	0%	0%	-	0%	0.3%	0%	0.3%	-	0.1%	0%	0%	0.1%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	-	0	5	0	5	-	4	0	0	4	-	9
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	-	0%	0.4%	0%	0.4%	-	0.3%	0%	0%	0.3%	-	0.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

## **Appendix B**

### **CMAP Traffic Volume Projections**

November 12, 2025

Lynn M. Means, P.E., PTOE, RSP1  
Senior Transportation Engineer  
BLA, Inc.  
333 Pierce Road  
Suite 200  
Itasca, IL 60143

**Subject: 1195 S. Milwaukee Ave**  
IDOT

Dear Ms. Means:

In response to a request made on your behalf and dated November 11, 2025, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2050 ADT
Milwaukee Avenue (IL 21) between Golf Road and Red Top Drive	25,500	<b>29,800</b>
Milwaukee Avenue (IL 21) between Red Top Drive and Townline Road (IL 60)	28,200	<b>33,000</b>
Red Top Drive between Milwaukee Avenue and 4th Avenue	1,950	<b>2,280</b>

Traffic projections are developed using existing ADT data provided in the request letter and the results from the June 2025 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806 or email me at [jrodriguez@cmap.illinois.gov](mailto:jrodriguez@cmap.illinois.gov)



Jose Rodriguez, PTP, AICP  
Senior Planner, Research & Analysis

cc: Rios (IDOT)  
S:\AdminGroups\ResearchAnalysis\2025\_trafficForecasts\Libertyville\la-43-25\la-43-25.docx

## **Appendix C**

### **ITE Trip Generation Excerpts**

# Cannabis Dispensary (882)

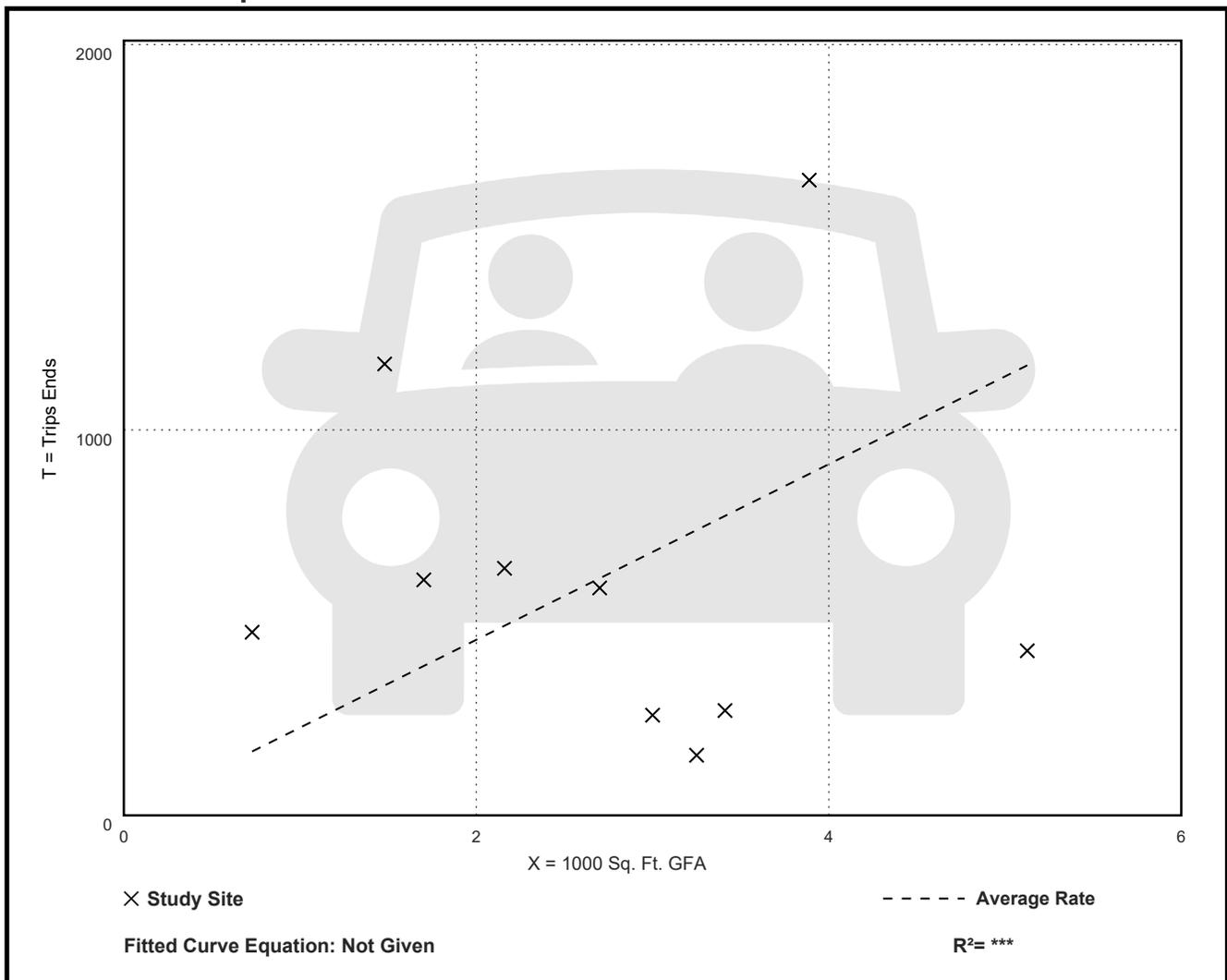
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
On a: **Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 10  
Avg. 1000 Sq. Ft. GFA: 3  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
227.76	48.00 - 791.22	214.53

## Data Plot and Equation





# Cannabis Dispensary (882)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**

**On a: Weekday,**

**Peak Hour of Adjacent Street Traffic,**

**One Hour Between 4 and 6 p.m.**

**Setting/Location: General Urban/Suburban**

Number of Studies: 21

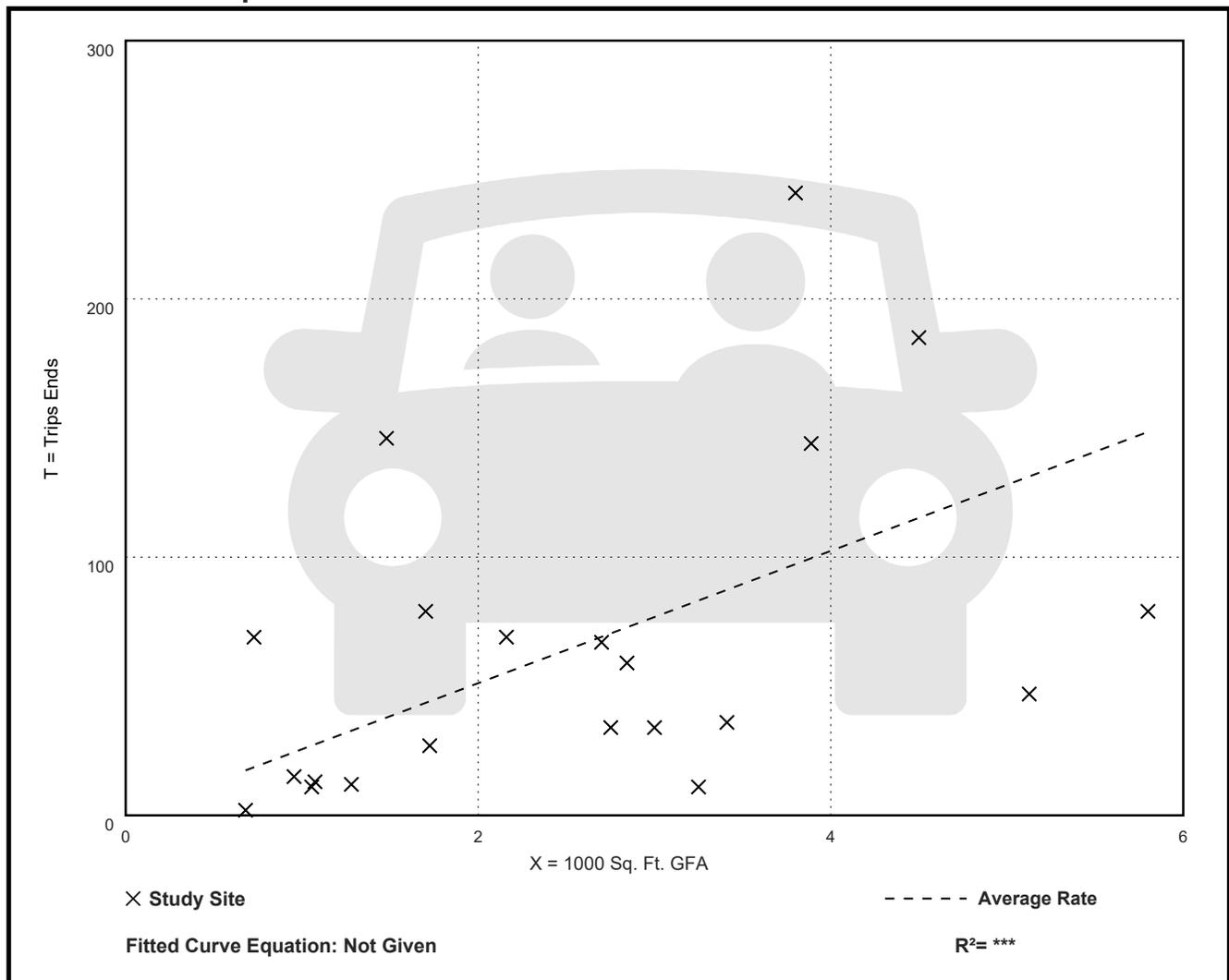
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 51% entering, 49% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
25.60	2.94 - 98.65	22.66

## Data Plot and Equation





# Fast Casual Restaurant (930)

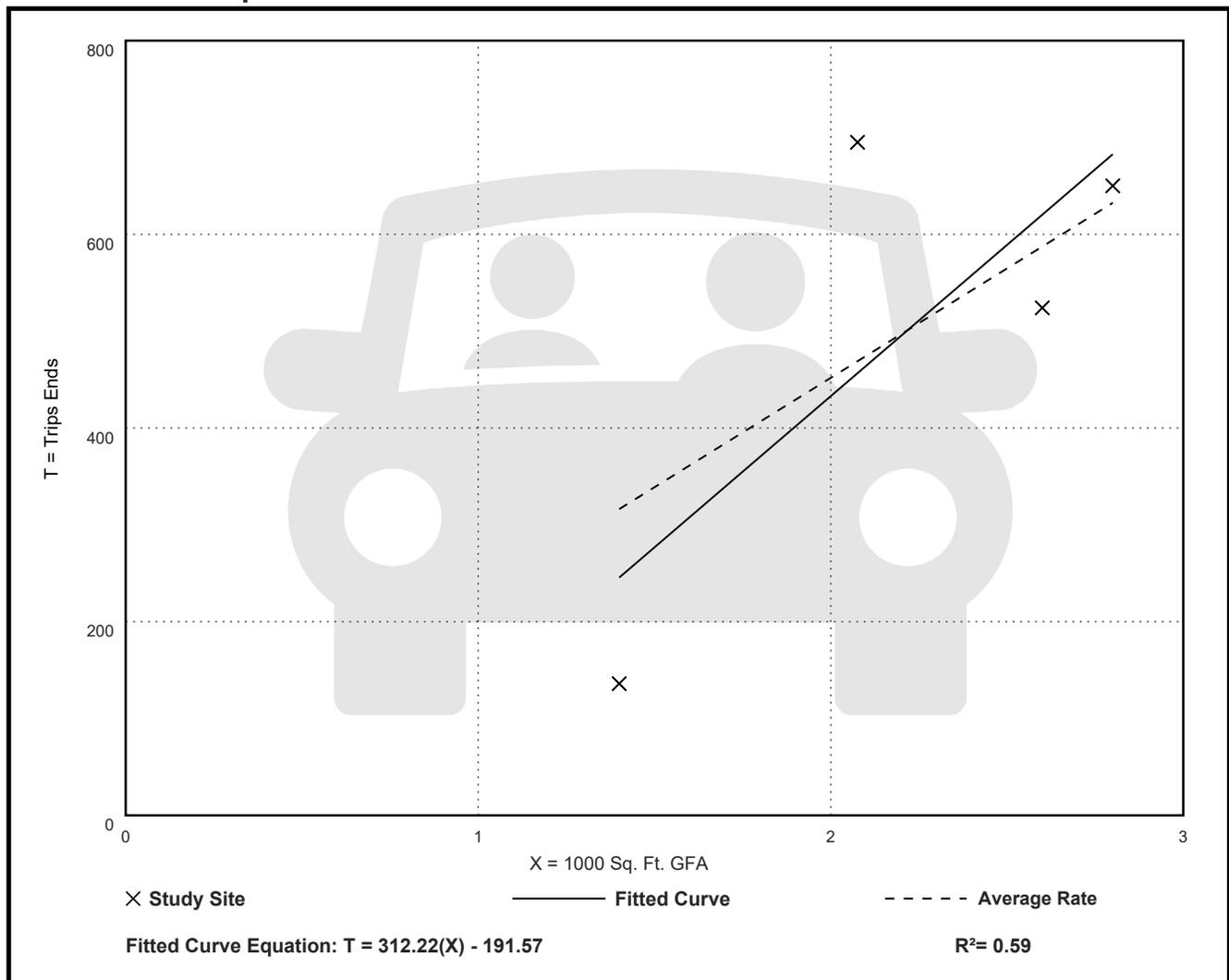
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
On a: **Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 4  
Avg. 1000 Sq. Ft. GFA: 2  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
225.89	97.14 - 334.78	86.21

## Data Plot and Equation



# Fast Casual Restaurant (930)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**

**On a: Weekday,**

**Peak Hour of Adjacent Street Traffic,**

**One Hour Between 7 and 9 a.m.**

**Setting/Location: General Urban/Suburban**

Number of Studies: 4

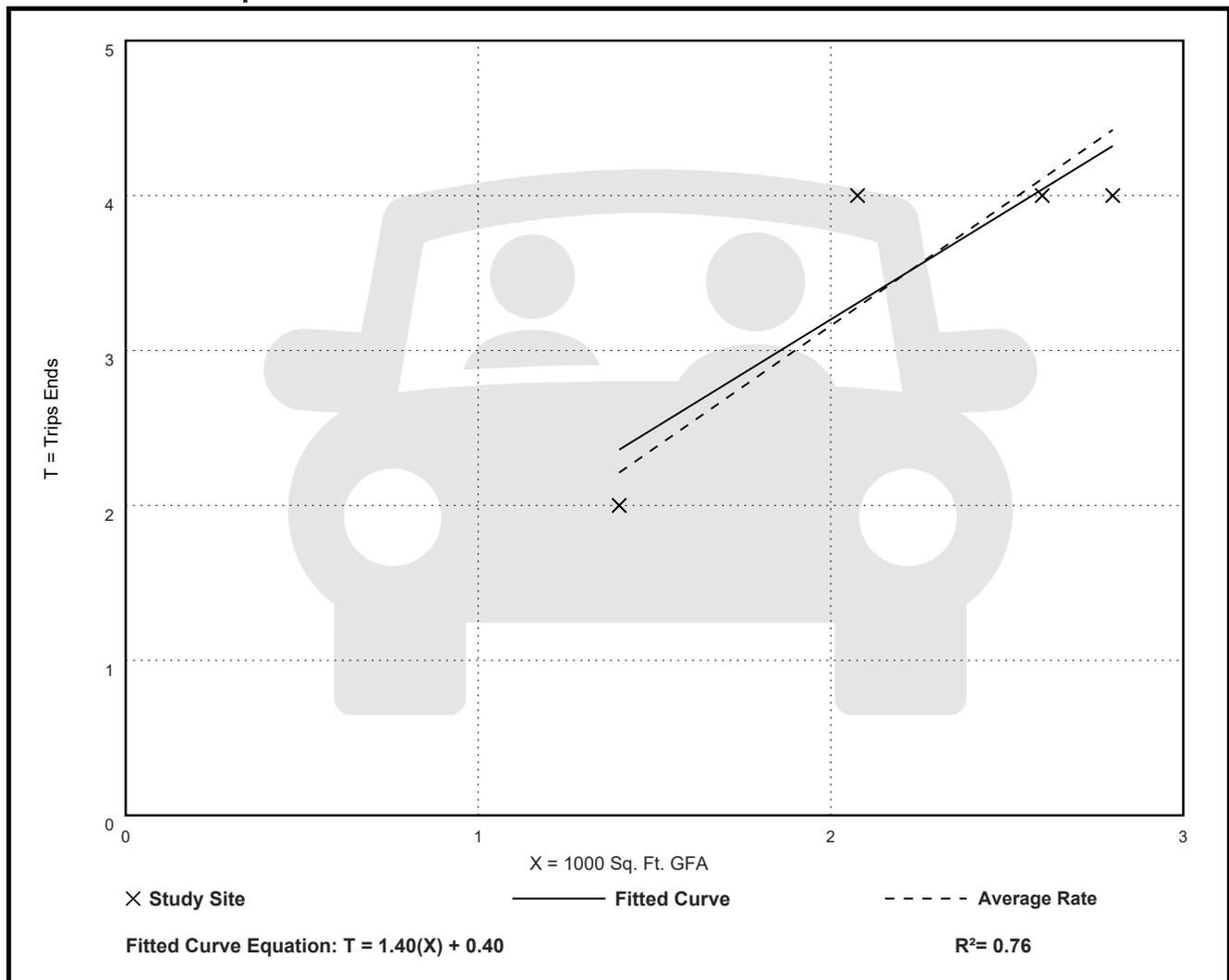
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 64% entering, 36% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.58	1.43 - 1.93	0.23

## Data Plot and Equation



# Fast Casual Restaurant (930)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 18

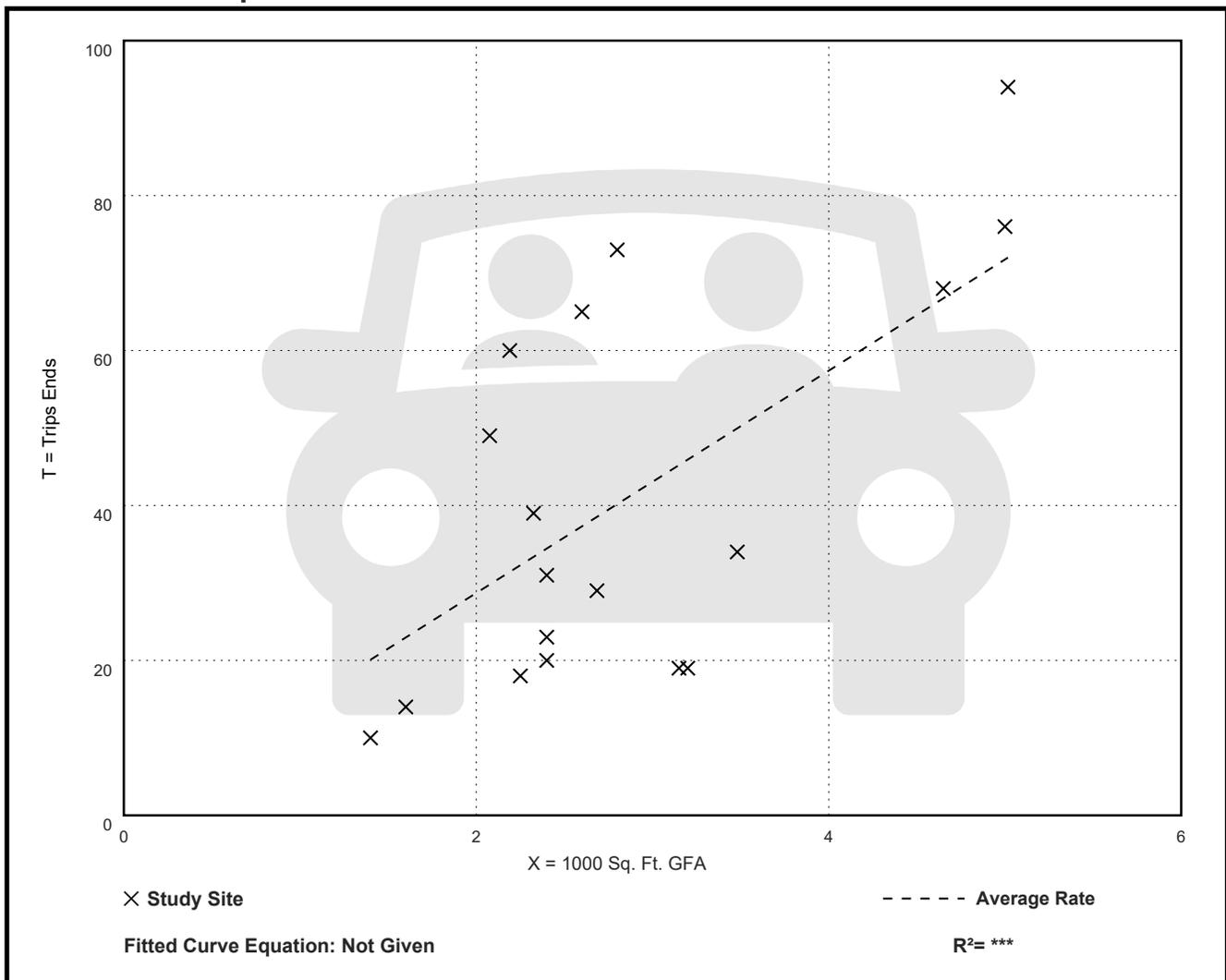
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 53% entering, 47% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.35	5.94 - 27.40	6.80

## Data Plot and Equation



# Fast Casual Restaurant (930)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. 1000 Sq. Ft. GFA: 5

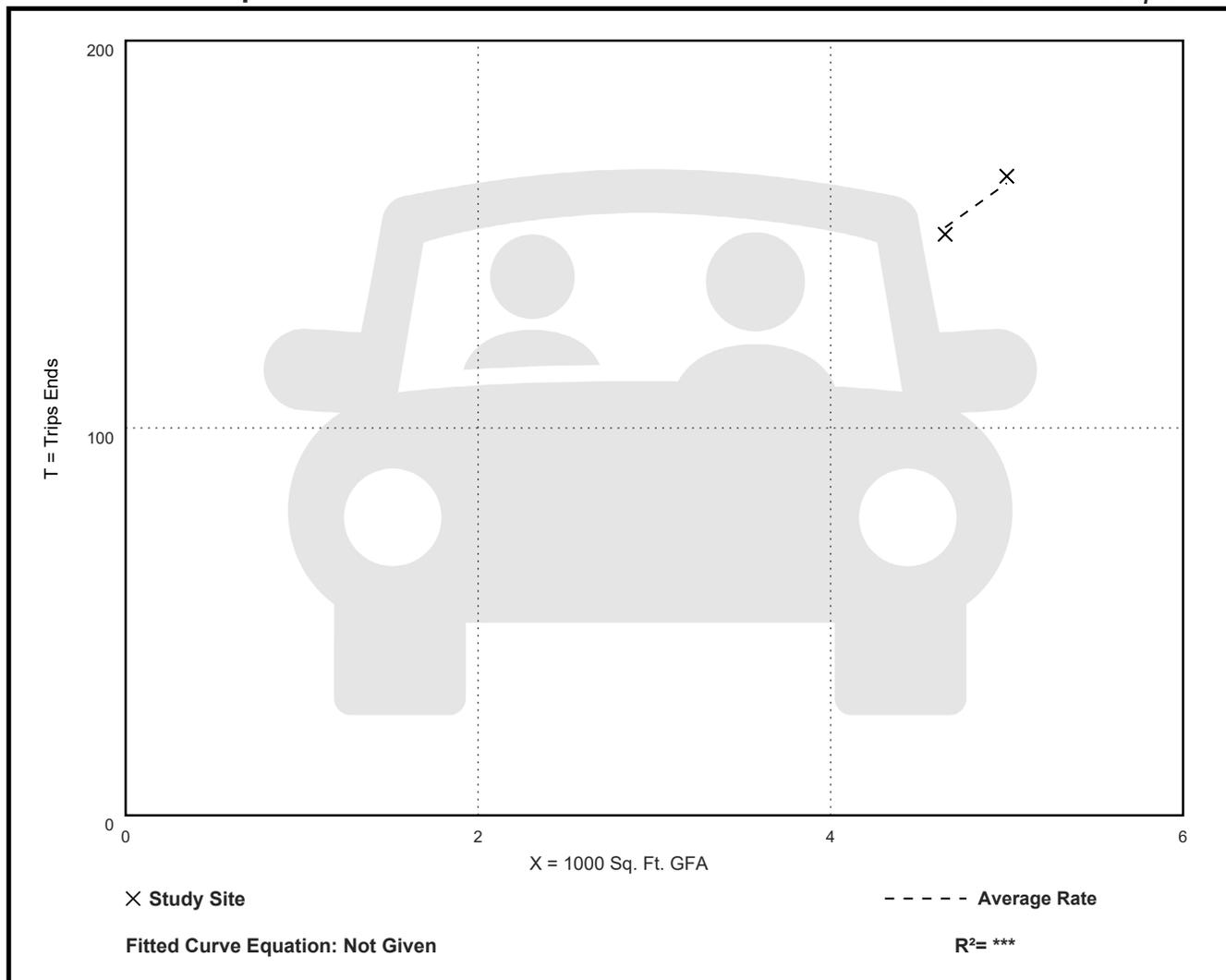
Directional Distribution: 55% entering, 45% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
32.64	32.26 - 33.00	***

## Data Plot and Equation

*Caution – Small Sample Size*



# Strip Retail Plaza (<40k) (822)

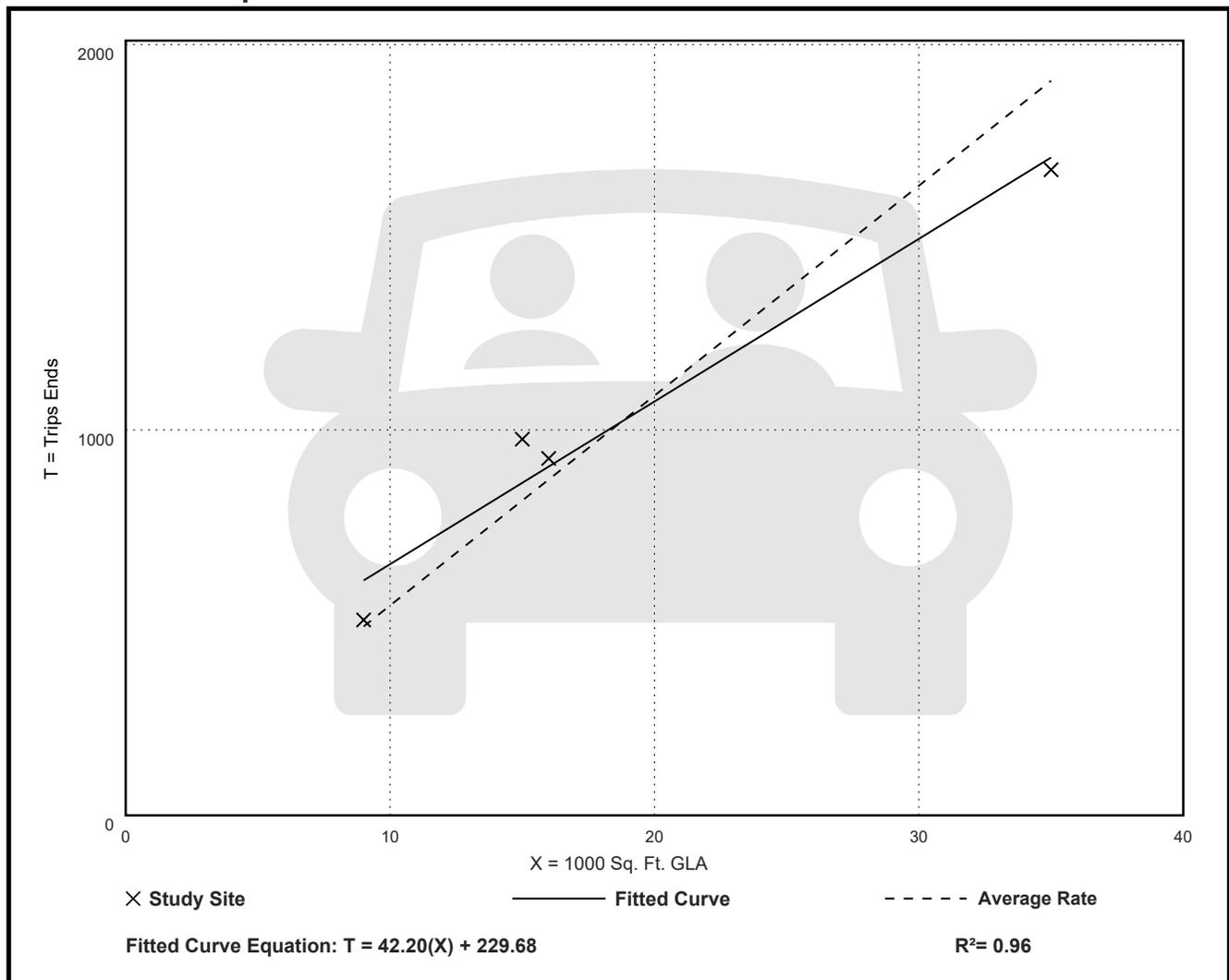
**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**  
On a: **Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 4  
Avg. 1000 Sq. Ft. GLA: 19  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

## Data Plot and Equation



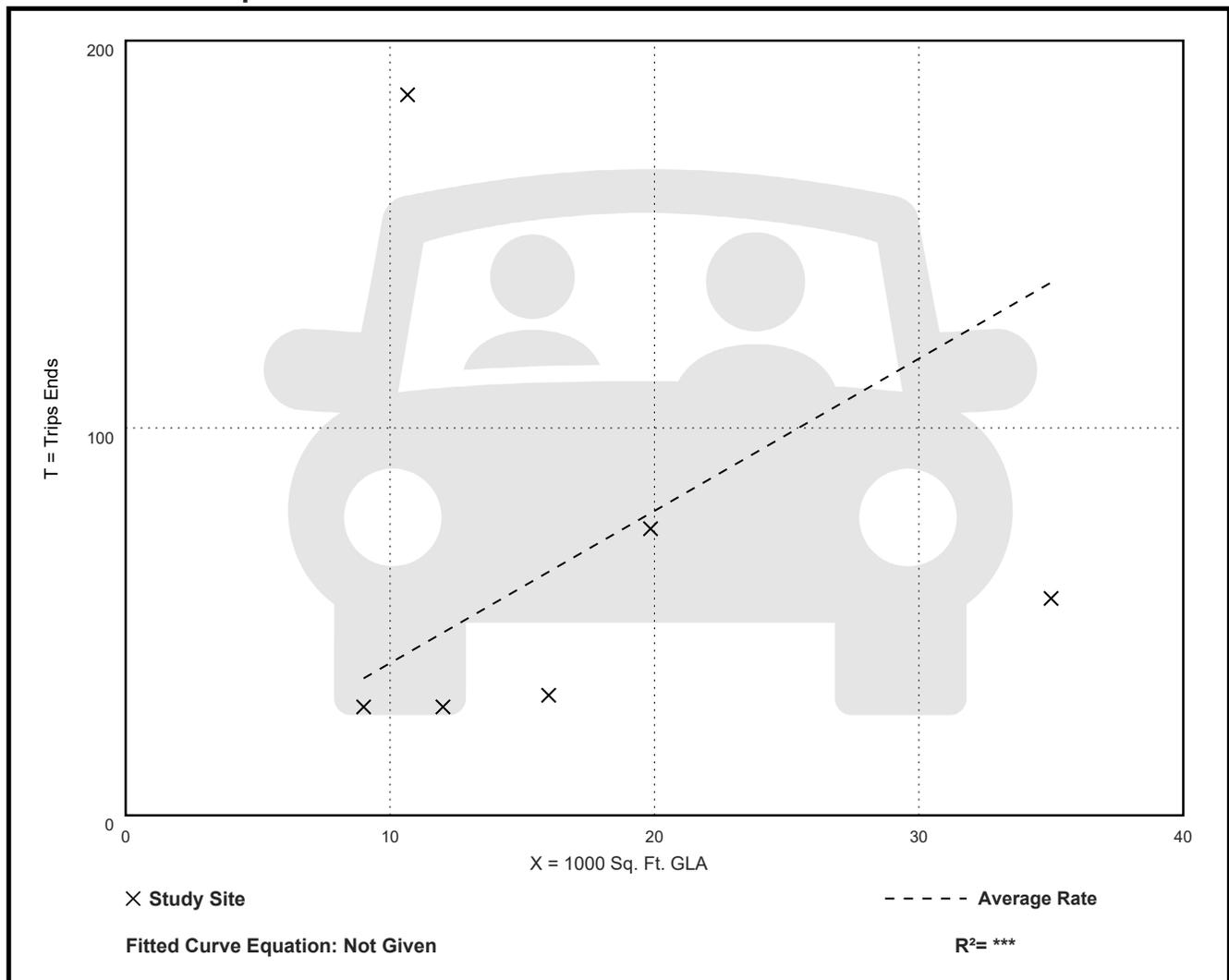
# Strip Retail Plaza (<40k) (822)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 6  
 Avg. 1000 Sq. Ft. GLA: 17  
 Directional Distribution: 55% entering, 45% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.93	1.60 - 17.44	5.12

## Data Plot and Equation



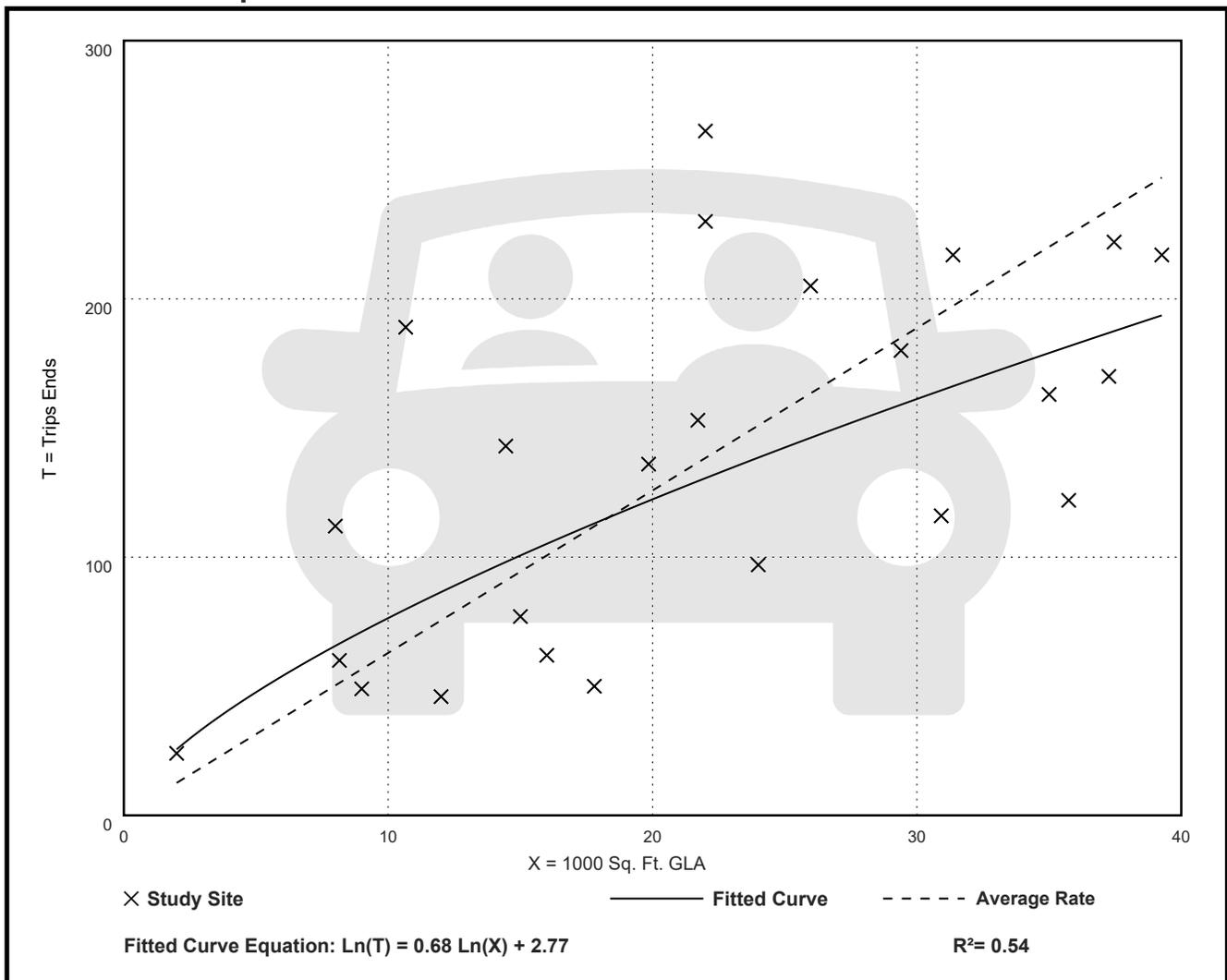
# Strip Retail Plaza (<40k) (822)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 24  
 Avg. 1000 Sq. Ft. GLA: 22  
 Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.29	2.81 - 17.72	3.02

## Data Plot and Equation



# Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Saturday, Peak Hour of Generator

**Setting/Location:** General Urban/Suburban

Number of Studies: 14

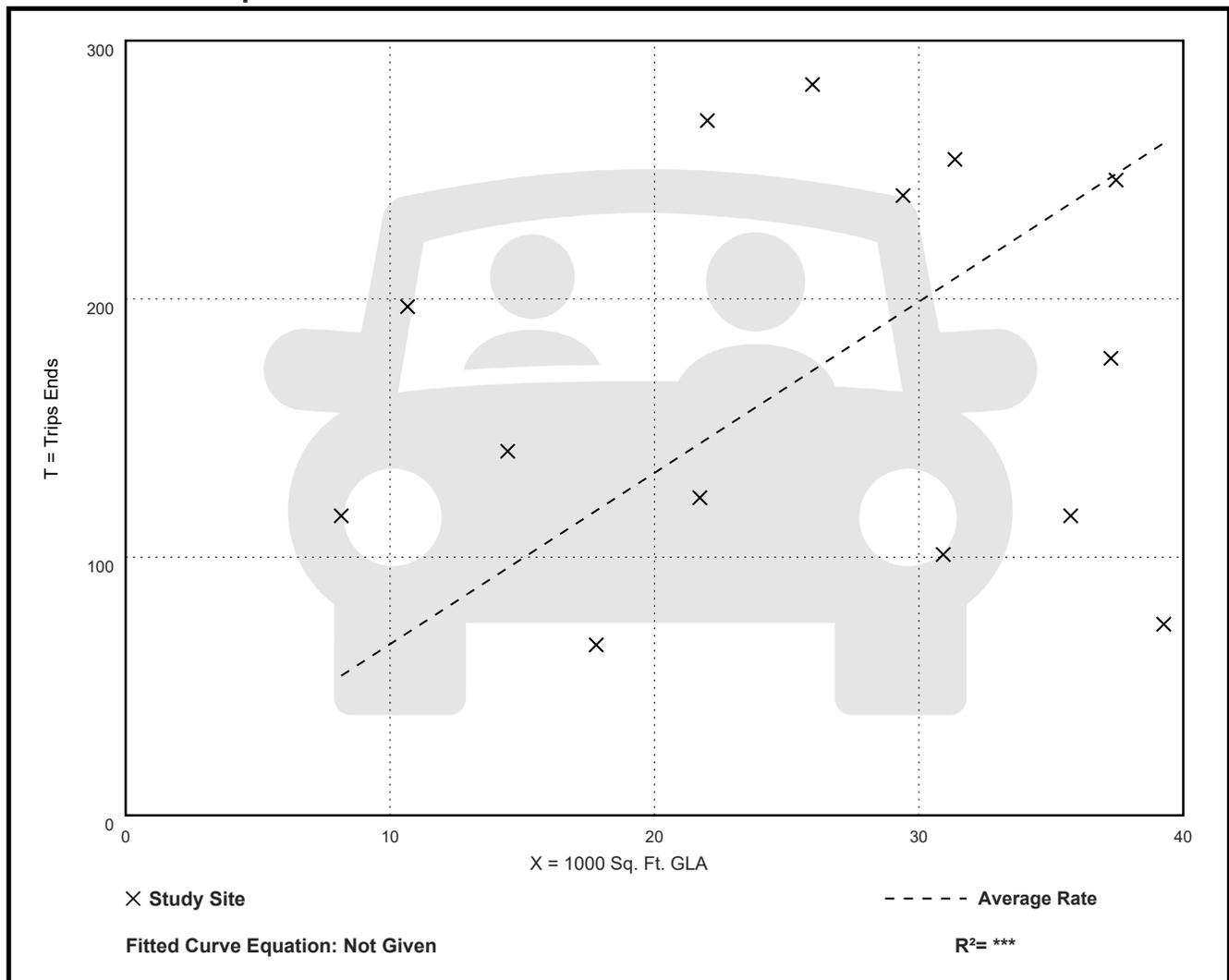
Avg. 1000 Sq. Ft. GLA: 26

Directional Distribution: 51% entering, 49% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.63	1.88 - 18.48	3.99

## Data Plot and Equation



# Small Office Building (712)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 21

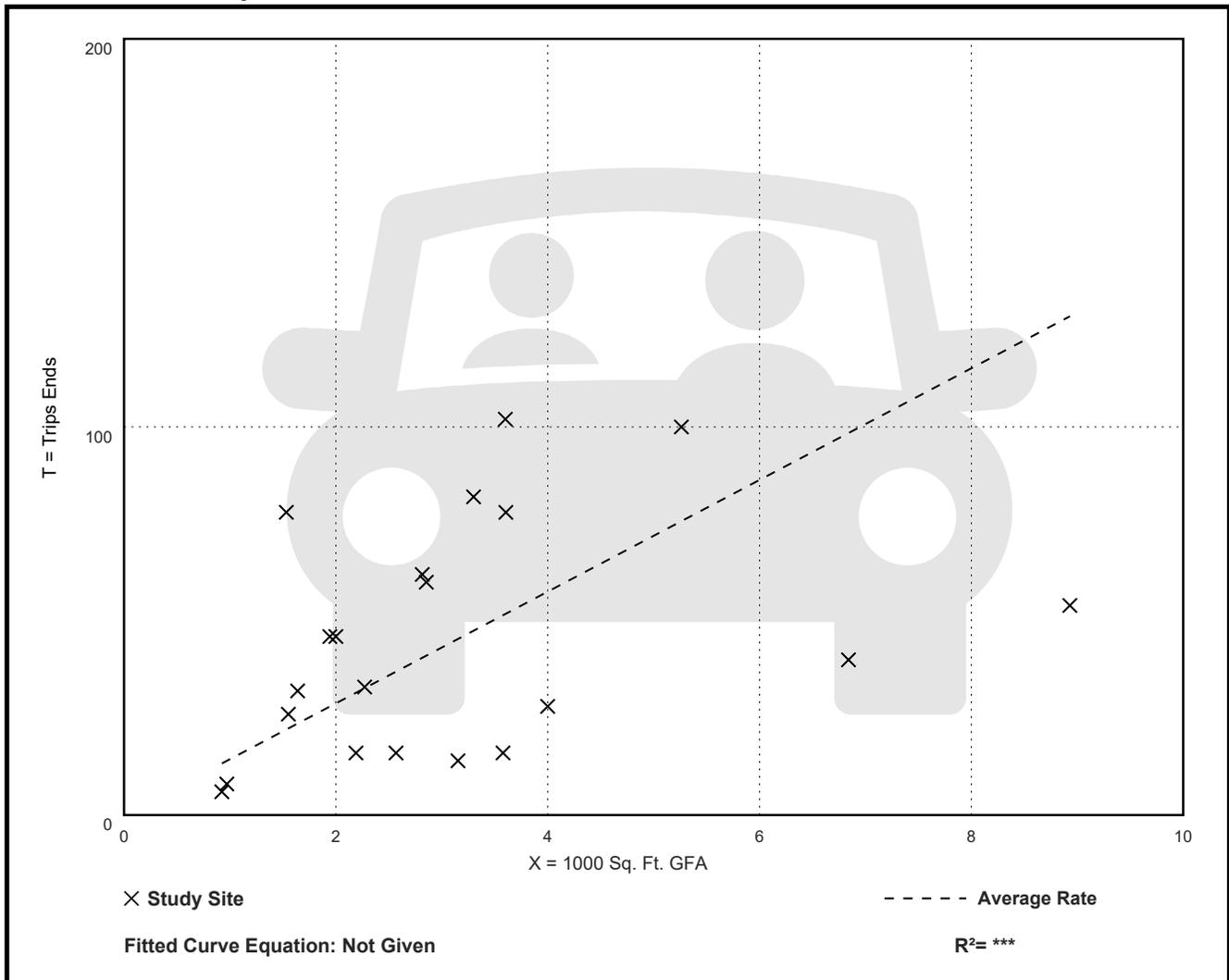
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.39	4.44 - 50.91	10.16

## Data Plot and Equation



# Small Office Building (712)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 20

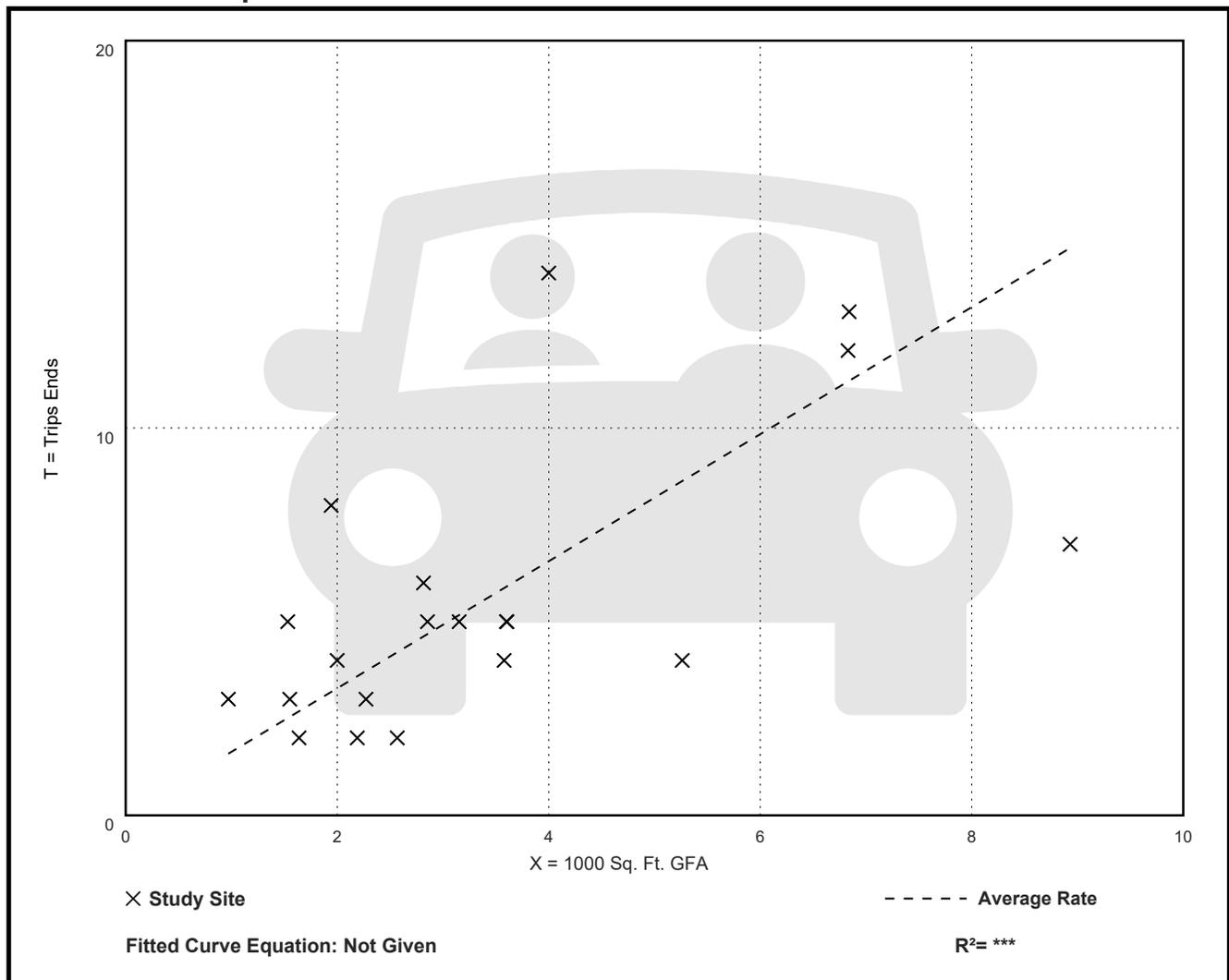
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 83% entering, 17% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.64	0.76 - 4.12	0.87

## Data Plot and Equation



# Small Office Building (712)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 21

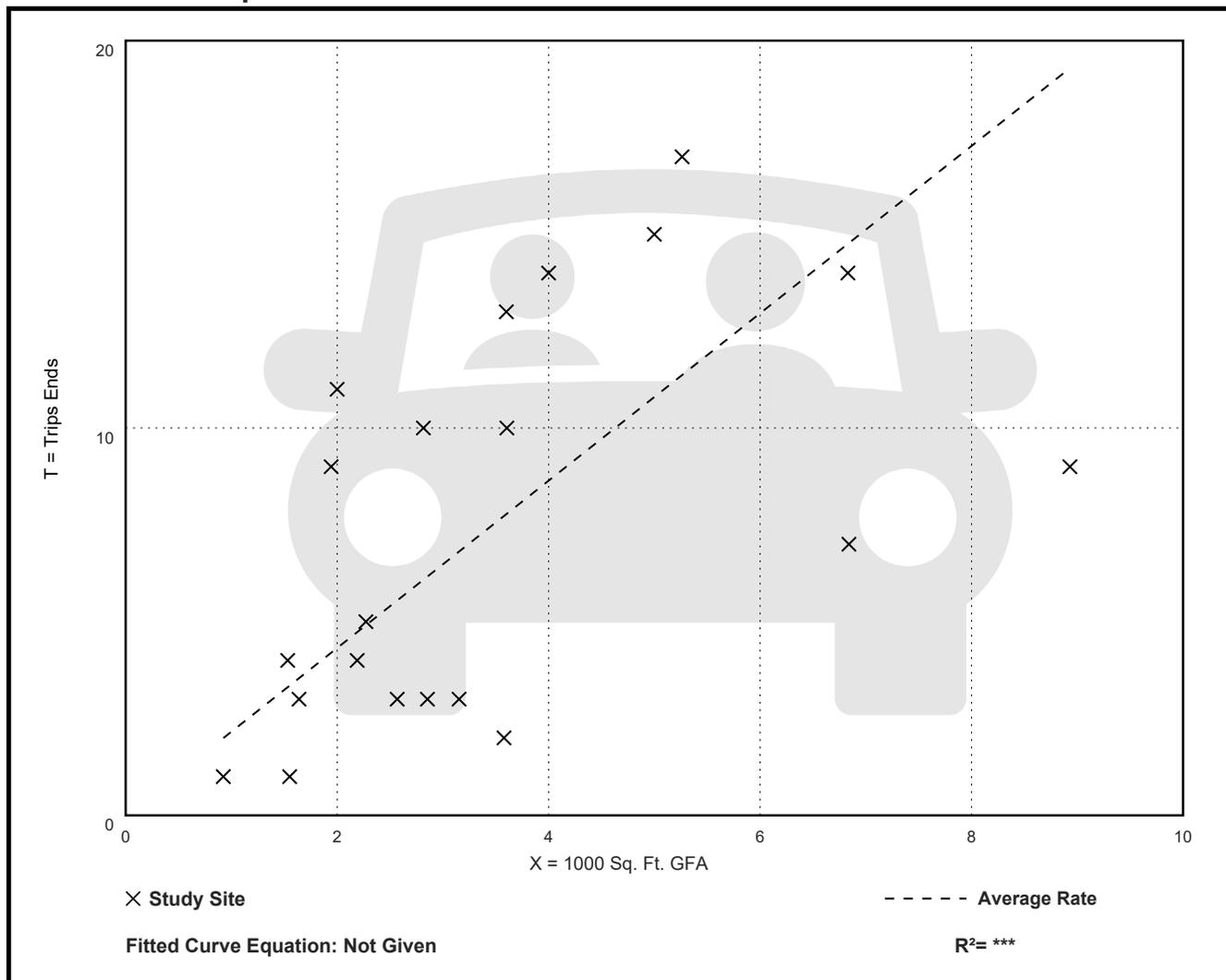
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 34% entering, 66% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.16	0.56 - 5.50	1.26

## Data Plot and Equation



# Small Office Building (712)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 1

Avg. 1000 Sq. Ft. GFA: 6

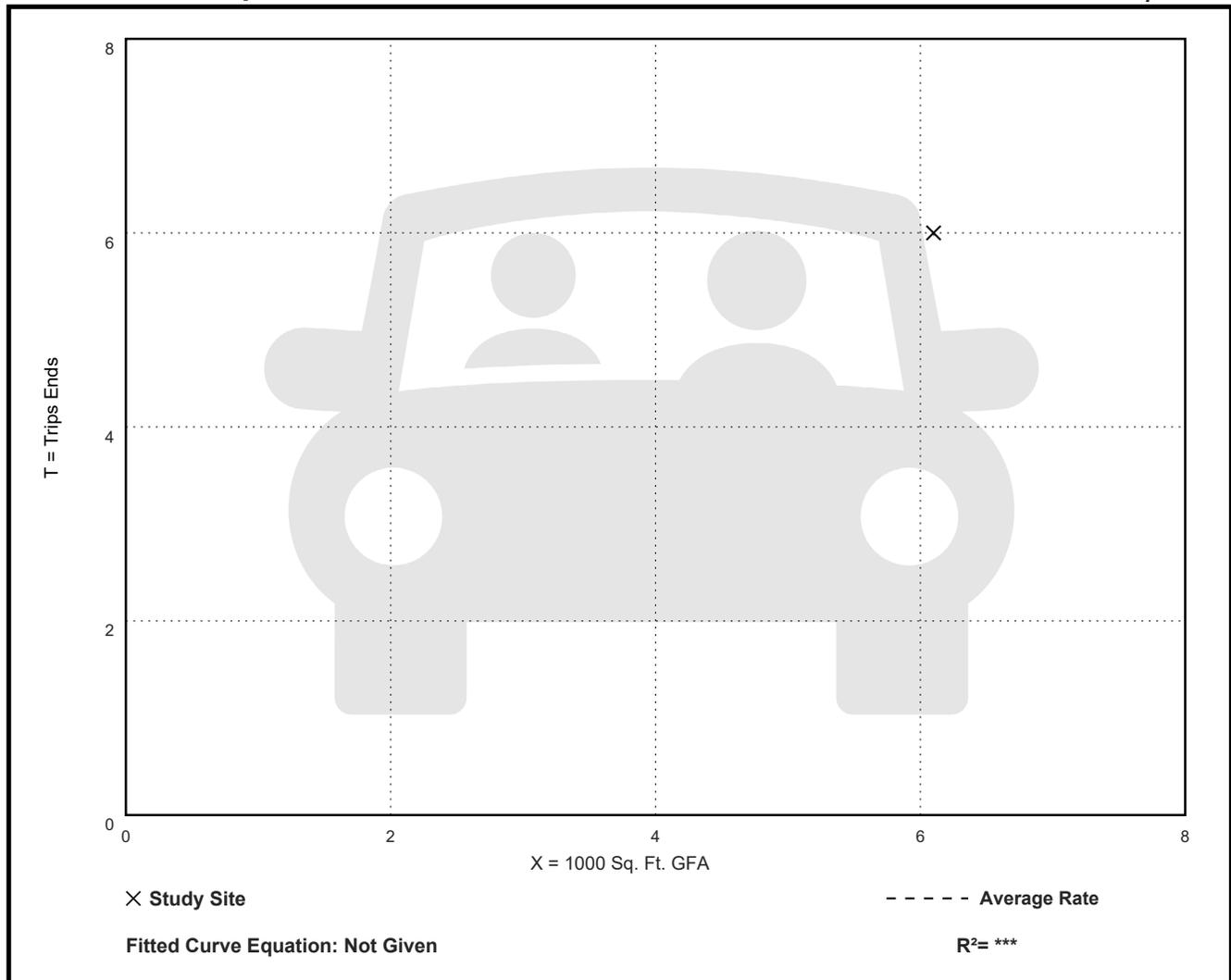
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.98	0.98 - 0.98	***

## Data Plot and Equation

*Caution – Small Sample Size*



### Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 12th Edition

Land Use Code	821
Land Use	Shopping Plaza (40 - 150k)
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	15
Average Pass-By Rate	40%

#### Pass-By Characteristics for Individual Sites

GLA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
45	Florida	1992	844	56	24	20	44	30	
50	Florida	1992	555	41	41	18	59	30	
52	Florida	1995	665	42	33	25	58	30	
53	Florida	1993	162	59	—	—	41	30	
57.23	Kentucky	1993	247	31	53	16	69	34	
60	Florida	1995	1583	40	38	22	60	30	
69.4	Kentucky	1993	109	25	42	33	75	34	
77	Florida	1992	365	46	—	—	54	30	
78	Florida	1991	702	55	23	22	45	30	
82	Florida	1992	336	34	—	—	66	30	
92.857	Kentucky	1993	133	22	50	28	78	34	
100.888	Kentucky	1993	281	28	50	22	72	34	
121.54	Kentucky	1993	210	53	30	17	47	34	
144	New Jersey	1990	176	32	44	24	68	24	
146.8	Kentucky	1993	—	36	39	25	64	34	

### Vehicle Pass-By Rates by Land Use

Source: ITE Trip Generation Manual , 12th Edition

Land Use Code	821								
Land Use	Shopping Plaza (40 - 150k)								
Setting	General Urban/Suburban								
Time Period	Saturday Midday								
# Data Sites	1								
Average Pass-By Rate	31%								
Pass-By Characteristics for Individual Sites									
GLA (000)	144	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips		Adjacent Street	Source
						Primary (%)	Diverted (%)		
		New Jersey	1990	264	31	47	22	63362	24
							69		

### Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 12th Edition

Land Use Code	932
Land Use	High-Turnover (Sit-Down) Restaurant
Setting	General Urban/Suburban
Time Period	Weekday PM Peak Period
# Data Sites	12
Average Pass-By Rate	43%

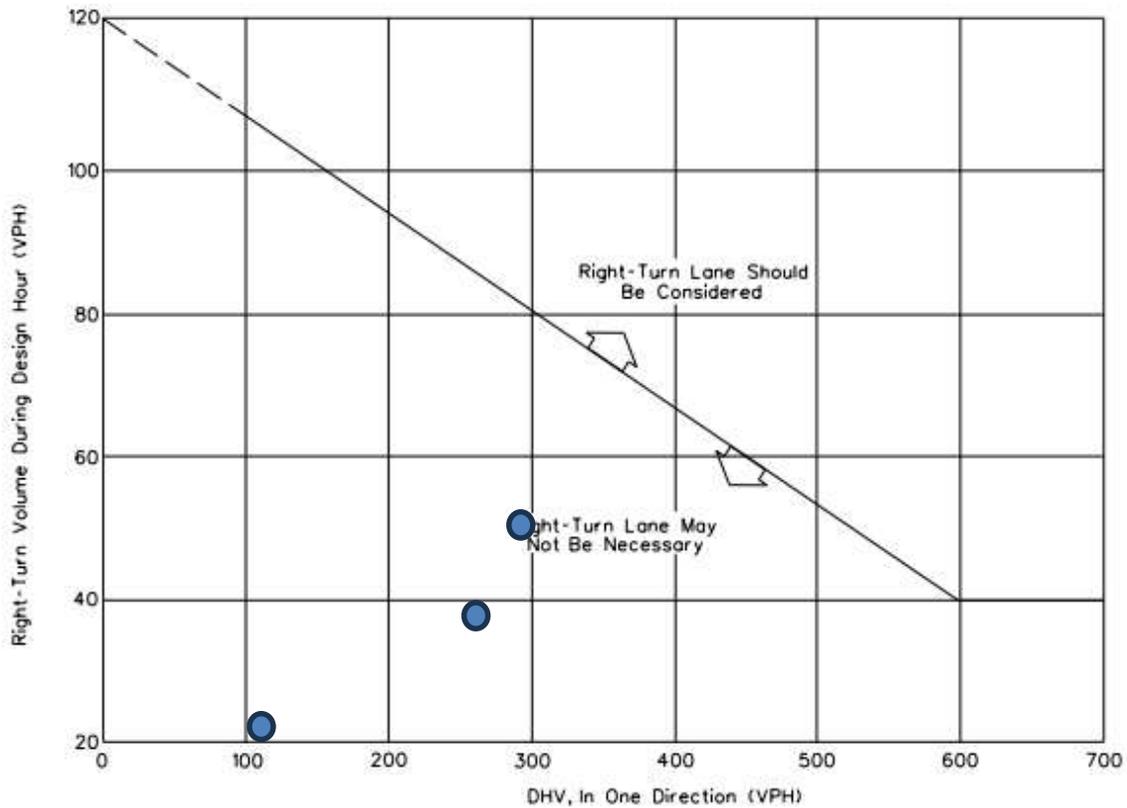
#### Pass-By Characteristics for Individual Sites

GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
2.9	Kentucky	1993	41	37	27	36	63	3935	2
3.1	Kentucky	1993	21	38	29	33	62	2580	2
4.6	Florida	1992	276	63	—	—	37	—	30
5	Florida	1992	65	58	—	—	42	—	30
5.3	Kentucky	1993	24	50	37	13	50	1615	2
5.7	Florida	1994	308	57	—	—	43	—	30
5.8	Florida	1992	150	32	—	—	68	—	30
6.2	Florida	1995	521	46	43	11	54	—	30
7.1	Indiana	1993	—	23	23	54	77	1565	2
8	Florida	1995	664	40	39	21	60	—	30
11	Florida	1996	267	38	43	19	62	—	30
12	Florida	1996	317	29	51	20	71	—	30

## **Appendix D**

### **Auxiliary Turn Lane Analysis**

## Greentree Parkway and Greentree Plaza East Site Access



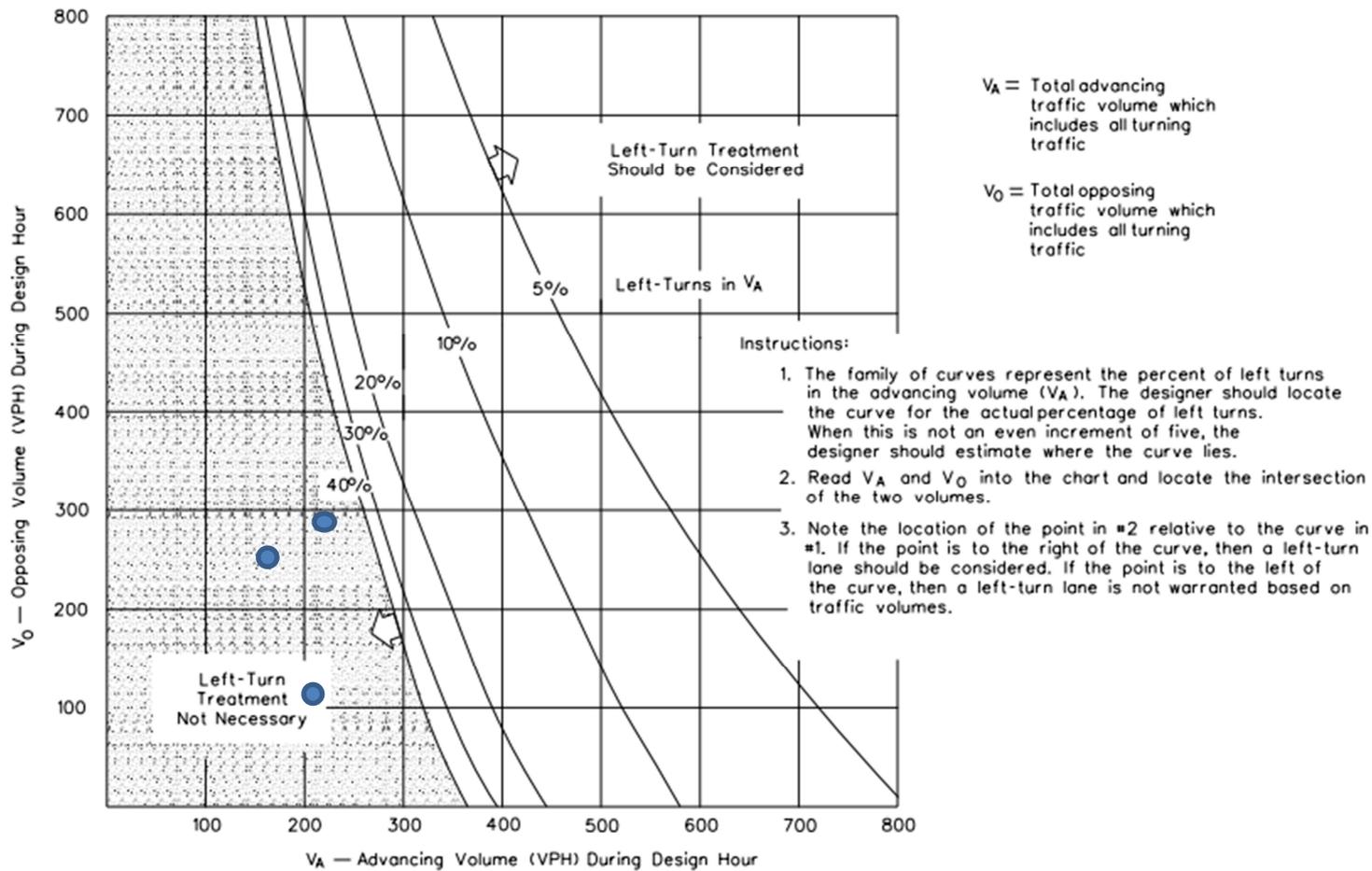
*Note: For highways with a design speed below 50 mph (80 km/hr), with a DHV in one direction of less than 300, and where right turns are greater than 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.*

### GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 36-3.A

Alternative / Timeframe	Speed Limit	Advancing Volume	No. Right-Turns	Satisfied?
<b>Total</b>				
AM Peak	25	109	23	No
PM Peak		264	39	No
SAT Midday Peak		292	70	No

## Greentree Parkway and Greentree Plaza East Site Access



### VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph Design Speed)

Figure 36-3.G

Alternative / Timeframe	Advancing Volume	Opposing Volume	No. Left-Turns	Satisfied?
<b>Total Traffic</b>				
AM Peak	201	109	5 (2.49%)	No
PM Peak	169	264	6 (3.55%)	No
SAT Middy Peak	225	292	6 (2.67%)	No

## **Appendix E**

### **Capacity Analysis Worksheets**

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Lanes, Volumes, Timings  
1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

Existing  
Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	16	149	67	7	38	70	728	42	71	970	19
Future Volume (vph)	30	16	149	67	7	38	70	728	42	71	970	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1566	0	1703	1501	0	1805	3478	0	1787	3725	1615
Flt Permitted	0.726			0.308			0.249			0.315		
Satd. Flow (perm)	1374	1566	0	552	1501	0	473	3478	0	592	3725	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		157			40			7				78
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)	3					3			1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	14%	4%	6%	14%	8%	0%	3%	0%	1%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	174	0	71	47	0	74	810	0	75	1021	20
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	12.0	31.0		12.0	31.0		13.0	84.0		13.0	84.0	84.0
Total Split (%)	8.6%	22.1%		8.6%	22.1%		9.3%	60.0%		9.3%	60.0%	60.0%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	19.2	10.4		20.6	13.0		106.9	97.6		107.7	99.4	99.4
Actuated g/C Ratio	0.14	0.07		0.15	0.09		0.76	0.70		0.77	0.71	0.71
v/c Ratio	0.15	0.67		0.48	0.27		0.17	0.33		0.15	0.39	0.02
Control Delay (s/veh)	48.4	24.5		60.0	24.4		5.1	9.6		4.8	9.9	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	48.4	24.5		60.0	24.4		5.1	9.6		4.8	9.9	0.1
LOS	D	C		E	C		A	A		A	A	A
Approach Delay (s/veh)		28.2			45.8			9.2				9.4
Approach LOS		C			D			A				A
Queue Length 50th (ft)	25	17		60	7		13	142		13	190	0
Queue Length 95th (ft)	53	99		103	51		31	223		32	290	0
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

EX.syn  
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Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

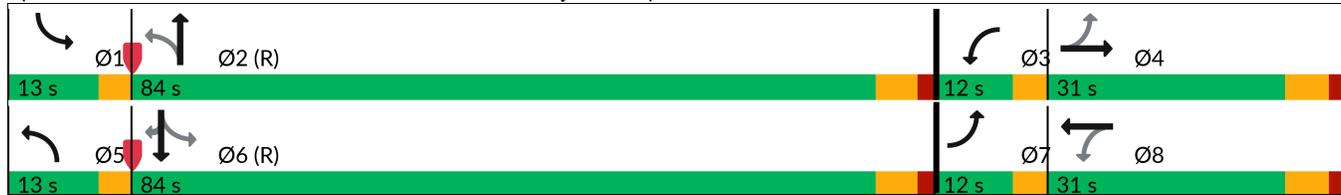
Existing  
 Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	219	408		151	300		460	2426		544	2645	1169
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.15	0.43		0.47	0.16		0.16	0.33		0.14	0.39	0.02

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	85 (61%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay (s/veh):	12.8
Intersection LOS:	B
Intersection Capacity Utilization	59.8%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr



Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	4	189	82	14	6	1
Future Vol, veh/h	4	189	82	14	6	1
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	3	4	0	17	0
Mvmt Flow	4	208	90	15	7	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	110	0	-	0	319
Stage 1	-	-	-	-	103
Stage 2	-	-	-	-	216
Critical Hdwy	4.1	-	-	-	6.57
Critical Hdwy Stg 1	-	-	-	-	5.57
Critical Hdwy Stg 2	-	-	-	-	5.57
Follow-up Hdwy	2.2	-	-	-	3.653
Pot Cap-1 Maneuver	1492	-	-	-	644
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	785
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1485	-	-	-	639
Mov Cap-2 Maneuver	-	-	-	-	639
Stage 1	-	-	-	-	878
Stage 2	-	-	-	-	785

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.15	0	10.43
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	37	-	-	-	671
HCM Lane V/C Ratio	0.003	-	-	-	0.011
HCM Ctrl Dly (s/v)	7.4	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 7th TWSC  
 3: Milwaukee Ave & Greentree Plaza S Access

Existing  
 Weekday AM

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	0	2	4	792	1058	3
Future Vol, veh/h	0	2	4	792	1058	3
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	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	2	4	852	1138	3

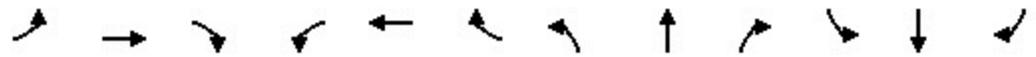
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1572	569	1141	0	-	0
Stage 1	1138	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	103	471	620	-	-	-
Stage 1	272	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	102	471	620	-	-	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	270	-	-	-	-	-
Stage 2	626	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.69	0.05	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	620	-	471	-	-
HCM Lane V/C Ratio	0.007	-	0.005	-	-
HCM Ctrl Dly (s/v)	10.8	-	12.7	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings  
1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

Existing  
Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	20	129	82	26	71	173	1372	59	104	1125	32
Future Volume (vph)	25	20	129	82	26	71	173	1372	59	104	1125	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1625	0	1770	1661	0	1787	3554	0	1805	3762	1615
Flt Permitted	0.690			0.260			0.185			0.117		
Satd. Flow (perm)	1311	1625	0	484	1661	0	348	3554	0	222	3762	1577
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		137			75			5				73
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	2%	2%	4%	1%	1%	1%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	158	0	87	104	0	184	1523	0	111	1197	34
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	13.0	26.0		13.0	26.0		18.0	96.0		15.0	93.0	93.0
Total Split (%)	8.7%	17.3%		8.7%	17.3%		12.0%	64.0%		10.0%	62.0%	62.0%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	20.4	10.5		24.2	16.0		115.3	103.4		112.5	102.0	102.0
Actuated g/C Ratio	0.14	0.07		0.16	0.11		0.77	0.69		0.75	0.68	0.68
v/c Ratio	0.13	0.66		0.56	0.43		0.52	0.62		0.44	0.47	0.03
Control Delay (s/veh)	52.1	27.5		67.4	27.6		9.7	14.7		10.1	12.6	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	52.1	27.5		67.4	27.6		9.7	14.7		10.1	12.6	0.1
LOS	D	C		E	C		A	B		B	B	A
Approach Delay (s/veh)		31.1			45.7			14.2			12.1	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	23	20		78	28		36	376		21	258	0
Queue Length 95th (ft)	50	93		126	90		71	567		44	386	0
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

EX.syn  
BLA / LMM

Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

Existing  
 Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	228	335		159	288		411	2451		292	2558	1095
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.12	0.47		0.55	0.36		0.45	0.62		0.38	0.47	0.03

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	20 (13%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay (s/veh):	16.0
Intersection LOS:	B
Intersection Capacity Utilization	75.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

Ø1 15 s	Ø2 (R) 96 s	Ø3 13 s	Ø4 26 s
Ø5 18 s	Ø6 (R) 93 s	Ø7 13 s	Ø8 26 s

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	3	157	218	13	17	8
Future Vol, veh/h	3	157	218	13	17	8
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	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	3	183	253	15	20	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	269	0	-	0	451 261
Stage 1	-	-	-	-	261 -
Stage 2	-	-	-	-	190 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1307	-	-	-	570 782
Stage 1	-	-	-	-	787 -
Stage 2	-	-	-	-	848 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1307	-	-	-	568 782
Mov Cap-2 Maneuver	-	-	-	-	568 -
Stage 1	-	-	-	-	785 -
Stage 2	-	-	-	-	848 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.15	0	11.06
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	34	-	-	-	623
HCM Lane V/C Ratio	0.003	-	-	-	0.047
HCM Ctrl Dly (s/v)	7.8	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 7th TWSC  
 3: Milwaukee Ave & Greentree Plaza S Access

Existing  
 Weekday PM

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	3	8	4	1464	1253	8
Future Vol, veh/h	3	8	4	1464	1253	8
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	3	9	4	1574	1347	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2144	675	1357	0	-	0
Stage 1	1348	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	43	401	513	-	-	-
Stage 1	210	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	42	401	513	-	-	-
Mov Cap-2 Maneuver	143	-	-	-	-	-
Stage 1	208	-	-	-	-	-
Stage 2	410	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.01	0.03	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	513	-	269	-	-
HCM Lane V/C Ratio	0.008	-	0.044	-	-
HCM Ctrl Dly (s/v)	12.1	-	19	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

Existing  
 Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	27	169	99	28	57	165	1274	55	90	1268	53
Future Volume (vph)	33	27	169	99	28	57	165	1274	55	90	1268	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1636	0	1805	1710	0	1805	3551	0	1787	3762	1615
Flt Permitted	0.701			0.256			0.144			0.141		
Satd. Flow (perm)	1332	1636	0	486	1710	0	274	3551	0	265	3762	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		172			58			5				87
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)			1	1					2	2		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	200	0	101	87	0	168	1356	0	92	1294	54
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	12.0	24.0		12.0	24.0		16.0	75.0		14.0	73.0	73.0
Total Split (%)	9.6%	19.2%		9.6%	19.2%		12.8%	60.0%		11.2%	58.4%	58.4%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	20.5	10.7		23.2	15.6		91.3	79.7		87.5	77.7	77.7
Actuated g/C Ratio	0.16	0.09		0.19	0.12		0.73	0.64		0.70	0.62	0.62
v/c Ratio	0.14	0.67		0.57	0.33		0.54	0.60		0.34	0.55	0.05
Control Delay (s/veh)	40.5	23.1		54.6	24.5		11.5	15.3		8.5	15.7	1.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	40.5	23.1		54.6	24.5		11.5	15.3		8.5	15.7	1.0
LOS	D	C		D	C		B	B		A	B	A
Approach Delay (s/veh)		25.6			40.7			14.9			14.7	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	23	22		71	22		31	301		17	283	0
Queue Length 95th (ft)	49	96		115	71		66	460		39	453	7
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

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Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

Existing  
 Saturday MID

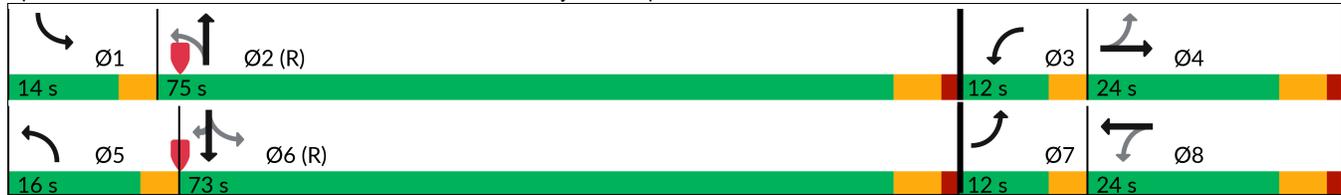


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	263	382		179	303		359	2265		319	2337	1036
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.13	0.52		0.56	0.29		0.47	0.60		0.29	0.55	0.05

Intersection Summary

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	125
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay (s/veh):	17.0
Intersection LOS:	B
Intersection Capacity Utilization	77.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr



Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	2	212	215	31	17	3
Future Vol, veh/h	2	212	215	31	17	3
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	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	236	239	34	19	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	273	0	-	0	496 256
Stage 1	-	-	-	-	256 -
Stage 2	-	-	-	-	240 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1302	-	-	-	537 787
Stage 1	-	-	-	-	791 -
Stage 2	-	-	-	-	805 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1302	-	-	-	536 787
Mov Cap-2 Maneuver	-	-	-	-	536 -
Stage 1	-	-	-	-	790 -
Stage 2	-	-	-	-	805 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.07	0	11.66
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	17	-	-	-	563
HCM Lane V/C Ratio	0.002	-	-	-	0.039
HCM Ctrl Dly (s/v)	7.8	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 7th TWSC  
 3: Milwaukee Ave & Greentree Plaza S Access

Existing  
 Saturday MID

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	2	7	6	1358	1404	8
Future Vol, veh/h	2	7	6	1358	1404	8
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	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	2	7	6	1429	1478	8

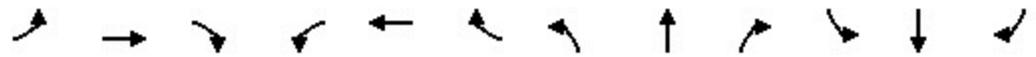
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2205	739	1486	0	-	0
Stage 1	1478	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	39	364	458	-	-	-
Stage 1	179	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	38	364	458	-	-	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	177	-	-	-	-	-
Stage 2	444	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.4	0.06	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	458	-	259	-	-
HCM Lane V/C Ratio	0.014	-	0.037	-	-
HCM Ctrl Dly (s/v)	13	-	19.4	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 NoBuild  
 Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	17	154	69	7	39	73	755	44	74	1005	20
Future Volume (vph)	31	17	154	69	7	39	73	755	44	74	1005	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1565	0	1703	1501	0	1805	3478	0	1787	3725	1615
Flt Permitted	0.726			0.305			0.232			0.306		
Satd. Flow (perm)	1374	1565	0	547	1501	0	441	3478	0	575	3725	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		162			41			7				78
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)	3						3		1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	14%	4%	6%	14%	8%	0%	3%	0%	1%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	180	0	73	48	0	77	841	0	78	1058	21
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	12.0	31.0		12.0	31.0		13.0	84.0		13.0	84.0	84.0
Total Split (%)	8.6%	22.1%		8.6%	22.1%		9.3%	60.0%		9.3%	60.0%	60.0%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	19.3	10.5		20.7	13.1		106.8	97.4		106.9	97.4	97.4
Actuated g/C Ratio	0.14	0.08		0.15	0.09		0.76	0.70		0.76	0.70	0.70
v/c Ratio	0.16	0.67		0.49	0.27		0.19	0.35		0.16	0.41	0.02
Control Delay (s/veh)	48.4	24.6		60.5	23.9		5.3	9.8		4.9	10.5	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	48.4	24.6		60.5	23.9		5.3	9.8		4.9	10.5	0.1
LOS	D	C		E	C		A	A		A	B	A
Approach Delay (s/veh)		28.3			46.0			9.4			9.9	
Approach LOS		C			D			A			A	
Queue Length 50th (ft)	26	18		62	7		13	150		14	200	0
Queue Length 95th (ft)	54	101		105	51		33	235		33	305	0
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

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Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

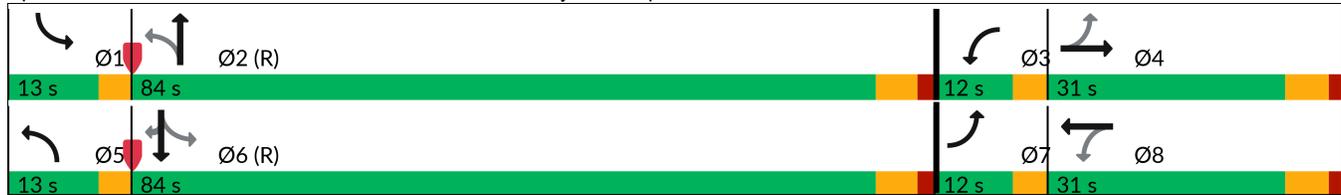
2031 NoBuild  
 Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	220	412		151	301		437	2421		531	2592	1147
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.15	0.44		0.48	0.16		0.18	0.35		0.15	0.41	0.02

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	85 (61%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay (s/veh):	13.2
Intersection LOS:	B
Intersection Capacity Utilization	61.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr



Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	4	196	86	14	6	1
Future Vol, veh/h	4	196	86	14	6	1
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	3	4	0	17	0
Mvmt Flow	4	215	95	15	7	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	115	0	-	0	331 107
Stage 1	-	-	-	-	107 -
Stage 2	-	-	-	-	224 -
Critical Hdwy	4.1	-	-	-	6.57 6.2
Critical Hdwy Stg 1	-	-	-	-	5.57 -
Critical Hdwy Stg 2	-	-	-	-	5.57 -
Follow-up Hdwy	2.2	-	-	-	3.653 3.3
Pot Cap-1 Maneuver	1487	-	-	-	634 952
Stage 1	-	-	-	-	881 -
Stage 2	-	-	-	-	779 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1480	-	-	-	629 948
Mov Cap-2 Maneuver	-	-	-	-	629 -
Stage 1	-	-	-	-	874 -
Stage 2	-	-	-	-	779 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.15	0	10.51
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	36	-	-	-	660
HCM Lane V/C Ratio	0.003	-	-	-	0.012
HCM Ctrl Dly (s/v)	7.4	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	0	2	4	821	1097	3
Future Vol, veh/h	0	2	4	821	1097	3
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	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	2	4	883	1180	3

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1630	590	1183	0	-	0
Stage 1	1180	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	94	456	598	-	-	-
Stage 1	258	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	94	456	598	-	-	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	257	-	-	-	-	-
Stage 2	615	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.93	0.05	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	598	-	456	-	-
HCM Lane V/C Ratio	0.007	-	0.005	-	-
HCM Ctrl Dly (s/v)	11.1	-	12.9	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings  
1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 NoBuild  
Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	21	134	85	27	74	179	1422	61	108	1166	33
Future Volume (vph)	26	21	134	85	27	74	179	1422	61	108	1166	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1625	0	1770	1661	0	1787	3554	0	1805	3762	1615
Flt Permitted	0.687			0.256			0.173			0.105		
Satd. Flow (perm)	1305	1625	0	477	1661	0	325	3554	0	200	3762	1577
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		143			75			5				73
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	2%	2%	4%	1%	1%	1%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	165	0	90	108	0	190	1578	0	115	1240	35
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	13.0	26.0		13.0	26.0		18.0	96.0		15.0	93.0	93.0
Total Split (%)	8.7%	17.3%		8.7%	17.3%		12.0%	64.0%		10.0%	62.0%	62.0%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	20.6	10.6		24.3	16.1		115.0	102.7		112.5	101.4	101.4
Actuated g/C Ratio	0.14	0.07		0.16	0.11		0.77	0.68		0.75	0.68	0.68
v/c Ratio	0.14	0.67		0.58	0.44		0.55	0.65		0.48	0.49	0.03
Control Delay (s/veh)	52.0	27.5		68.4	29.0		10.7	15.8		11.3	13.2	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	52.0	27.5		68.4	29.0		10.7	15.8		11.3	13.2	0.1
LOS	D	C		E	C		B	B		B	B	A
Approach Delay (s/veh)		31.1			46.9			15.3				12.7
Approach LOS		C			D			B				B
Queue Length 50th (ft)	24	21		80	32		37	403		21	274	0
Queue Length 95th (ft)	52	96		129	96		74	623		46	422	1
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

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Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 NoBuild  
 Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	228	340		159	288		394	2434		278	2544	1089
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.12	0.49		0.57	0.38		0.48	0.65		0.41	0.49	0.03

Intersection Summary	
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	20 (13%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay (s/veh):	16.9
Intersection LOS:	B
Intersection Capacity Utilization	78.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

Ø1 15 s	Ø2 (R) 96 s	Ø3 13 s	Ø4 26 s
Ø5 18 s	Ø6 (R) 93 s	Ø7 13 s	Ø8 26 s

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	3	164	226	13	17	8
Future Vol, veh/h	3	164	226	13	17	8
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	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	3	191	263	15	20	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	278	0	-	0	468 270
Stage 1	-	-	-	-	270 -
Stage 2	-	-	-	-	198 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1297	-	-	-	557 773
Stage 1	-	-	-	-	780 -
Stage 2	-	-	-	-	840 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1297	-	-	-	555 773
Mov Cap-2 Maneuver	-	-	-	-	555 -
Stage 1	-	-	-	-	777 -
Stage 2	-	-	-	-	840 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.14	0	11.19
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	32	-	-	-	610
HCM Lane V/C Ratio	0.003	-	-	-	0.048
HCM Ctrl Dly (s/v)	7.8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	3	8	4	1518	1299	8
Future Vol, veh/h	3	8	4	1518	1299	8
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	3	9	4	1632	1397	9

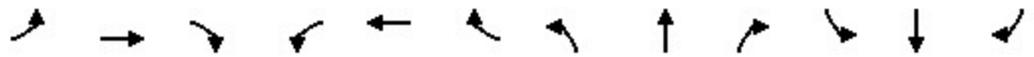
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2223	699	1406	0	-	0
Stage 1	1398	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	38	387	492	-	-	-
Stage 1	198	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	37	386	491	-	-	-
Mov Cap-2 Maneuver	134	-	-	-	-	-
Stage 1	196	-	-	-	-	-
Stage 2	396	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.76	0.03	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	491	-	256	-	-
HCM Lane V/C Ratio	0.009	-	0.046	-	-
HCM Ctrl Dly (s/v)	12.4	-	19.8	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings  
1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 NoBuild  
Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	28	175	103	29	59	171	1321	57	93	1314	55
Future Volume (vph)	34	28	175	103	29	59	171	1321	57	93	1314	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1636	0	1805	1710	0	1805	3551	0	1787	3762	1615
Flt Permitted	0.699			0.255			0.131			0.129		
Satd. Flow (perm)	1328	1636	0	484	1710	0	249	3551	0	243	3762	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		179			60			5				87
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)			1	1					2	2		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	208	0	105	90	0	174	1406	0	95	1341	56
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	12.0	24.0		12.0	24.0		16.0	75.0		14.0	73.0	73.0
Total Split (%)	9.6%	19.2%		9.6%	19.2%		12.8%	60.0%		11.2%	58.4%	58.4%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	20.6	10.9		23.3	15.7		91.4	79.5		87.2	77.3	77.3
Actuated g/C Ratio	0.16	0.09		0.19	0.13		0.73	0.64		0.70	0.62	0.62
v/c Ratio	0.14	0.68		0.59	0.34		0.58	0.62		0.37	0.58	0.05
Control Delay (s/veh)	40.4	23.1		55.7	24.4		14.0	16.0		9.3	16.3	1.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	40.4	23.1		55.7	24.4		14.0	16.0		9.3	16.3	1.1
LOS	D	C		E	C		B	B		A	B	A
Approach Delay (s/veh)		25.6			41.2			15.8			15.3	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	24	23		74	23		33	321		17	300	0
Queue Length 95th (ft)	50	98		118	73		76	491		41	477	8
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

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Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

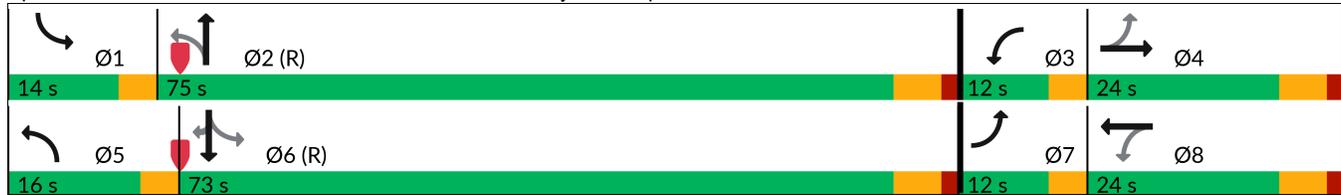
2031 NoBuild  
 Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	264	388		179	305		342	2258		305	2327	1032
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.13	0.54		0.59	0.30		0.51	0.62		0.31	0.58	0.05

Intersection Summary	
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	125
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay (s/veh):	17.7
Intersection LOS:	B
Intersection Capacity Utilization	79.2%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr



Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	2	220	224	31	17	3
Future Vol, veh/h	2	220	224	31	17	3
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	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	244	249	34	19	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	283	0	-	0	515
Stage 1	-	-	-	-	266
Stage 2	-	-	-	-	249
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1291	-	-	-	523
Stage 1	-	-	-	-	783
Stage 2	-	-	-	-	797
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1291	-	-	-	522
Mov Cap-2 Maneuver	-	-	-	-	522
Stage 1	-	-	-	-	782
Stage 2	-	-	-	-	797

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.07	0	11.83
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	16	-	-	-	549
HCM Lane V/C Ratio	0.002	-	-	-	0.04
HCM Ctrl Dly (s/v)	7.8	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	2	7	6	1408	1455	8
Future Vol, veh/h	2	7	6	1408	1455	8
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	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	2	7	6	1482	1532	8

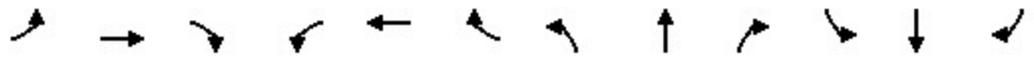
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2285	766	1540	0	-	0
Stage 1	1532	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	34	350	437	-	-	-
Stage 1	168	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	34	350	437	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	165	-	-	-	-	-
Stage 2	431	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	20.2	0.06	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	437	-	246	-	-
HCM Lane V/C Ratio	0.014	-	0.038	-	-
HCM Ctrl Dly (s/v)	13.4	-	20.2	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings  
1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 Total  
Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	18	159	69	8	39	79	755	44	74	1005	22
Future Volume (vph)	34	18	159	69	8	39	79	755	44	74	1005	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1565	0	1703	1504	0	1805	3478	0	1787	3725	1615
Flt Permitted	0.725			0.360			0.233			0.307		
Satd. Flow (perm)	1373	1565	0	645	1504	0	443	3478	0	577	3725	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		167			41			7				78
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)	3					3			1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	14%	4%	6%	14%	8%	0%	3%	0%	1%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	186	0	73	49	0	83	841	0	78	1058	23
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	12.0	31.0		12.0	31.0		13.0	84.0		13.0	84.0	84.0
Total Split (%)	8.6%	22.1%		8.6%	22.1%		9.3%	60.0%		9.3%	60.0%	60.0%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	19.4	10.6		20.4	11.1		106.8	97.3		106.7	97.2	97.2
Actuated g/C Ratio	0.14	0.08		0.15	0.08		0.76	0.70		0.76	0.69	0.69
v/c Ratio	0.17	0.68		0.47	0.31		0.20	0.35		0.16	0.41	0.02
Control Delay (s/veh)	48.5	24.8		58.9	26.1		5.4	9.9		5.0	10.6	0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	48.5	24.8		58.9	26.1		5.4	9.9		5.0	10.6	0.0
LOS	D	C		E	C		A	A		A	B	A
Approach Delay (s/veh)		28.6			45.8			9.5			10.0	
Approach LOS		C			D			A			B	
Queue Length 50th (ft)	28	19		62	8		14	150		14	201	0
Queue Length 95th (ft)	57	103		105	52		35	236		34	308	0
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

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Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

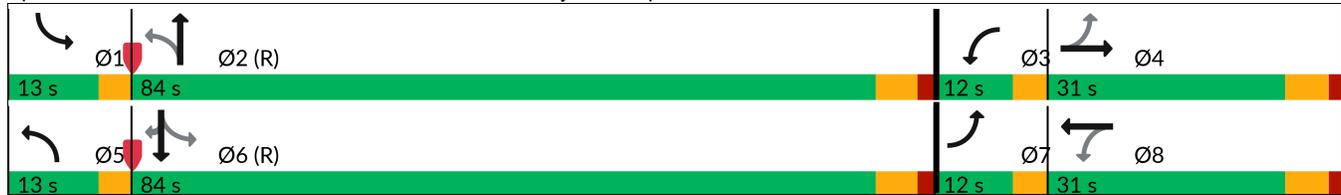
2031 Total  
 Weekday AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	221	416		158	302		438	2418		531	2587	1145
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.16	0.45		0.46	0.16		0.19	0.35		0.15	0.41	0.02

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	85 (61%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay (s/veh):	13.3
Intersection LOS:	B
Intersection Capacity Utilization:	62.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr



Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	5	196	86	23	15	2
Future Vol, veh/h	5	196	86	23	15	2
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	3	4	0	17	0
Mvmt Flow	5	215	95	25	16	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	125	0	-	0	339
Stage 1	-	-	-	-	112
Stage 2	-	-	-	-	226
Critical Hdwy	4.1	-	-	-	6.57
Critical Hdwy Stg 1	-	-	-	-	5.57
Critical Hdwy Stg 2	-	-	-	-	5.57
Follow-up Hdwy	2.2	-	-	-	3.653
Pot Cap-1 Maneuver	1474	-	-	-	628
Stage 1	-	-	-	-	877
Stage 2	-	-	-	-	777
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1467	-	-	-	622
Mov Cap-2 Maneuver	-	-	-	-	622
Stage 1	-	-	-	-	869
Stage 2	-	-	-	-	777

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.19	0	10.72
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	45	-	-	-	648
HCM Lane V/C Ratio	0.004	-	-	-	0.029
HCM Ctrl Dly (s/v)	7.5	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	3	5	6	822	1096	9
Future Vol, veh/h	3	5	6	822	1096	9
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	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	3	5	6	884	1178	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1633	589	1188	0	-	0
Stage 1	1178	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	94	456	595	-	-	-
Stage 1	259	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	93	456	595	-	-	-
Mov Cap-2 Maneuver	198	-	-	-	-	-
Stage 1	256	-	-	-	-	-
Stage 2	612	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	17.09	0.08	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	595	-	306	-	-
HCM Lane V/C Ratio	0.011	-	0.028	-	-
HCM Ctrl Dly (s/v)	11.1	-	17.1	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lanes, Volumes, Timings  
1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 Total  
Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	23	148	85	29	74	197	1421	61	108	1168	38
Future Volume (vph)	35	23	148	85	29	74	197	1421	61	108	1168	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1625	0	1770	1664	0	1787	3554	0	1805	3762	1615
Flt Permitted	0.659			0.286			0.170			0.107		
Satd. Flow (perm)	1252	1625	0	533	1664	0	320	3554	0	203	3762	1577
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		157			71			5				73
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	2%	2%	4%	1%	1%	1%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	181	0	90	110	0	210	1577	0	115	1243	40
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	13.0	26.0		13.0	26.0		18.0	96.0		15.0	93.0	93.0
Total Split (%)	8.7%	17.3%		8.7%	17.3%		12.0%	64.0%		10.0%	62.0%	62.0%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	21.2	10.9		24.1	14.0		115.5	102.5		111.5	100.4	100.4
Actuated g/C Ratio	0.14	0.07		0.16	0.09		0.77	0.68		0.74	0.67	0.67
v/c Ratio	0.18	0.69		0.56	0.50		0.60	0.65		0.48	0.49	0.04
Control Delay (s/veh)	52.7	27.4		66.8	34.1		12.0	16.0		11.6	13.9	0.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	52.7	27.4		66.8	34.1		12.0	16.0		11.6	13.9	0.5
LOS	D	C		E	C		B	B		B	B	A
Approach Delay (s/veh)		31.7			48.8			15.5			13.3	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	31	23		80	38		42	405		22	280	0
Queue Length 95th (ft)	62	100		128	103		83	630		47	444	4
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

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Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 Total  
 Weekday PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	225	352		164	283		394	2429		279	2518	1079
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.16	0.51		0.55	0.39		0.53	0.65		0.41	0.49	0.04

Intersection Summary	
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	20 (13%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay (s/veh):	17.5
Intersection LOS:	B
Intersection Capacity Utilization	78.9%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

Ø1 15 s	Ø2 (R) 96 s	Ø3 13 s	Ø4 26 s
Ø5 18 s	Ø6 (R) 93 s	Ø7 13 s	Ø8 26 s

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	6	163	225	39	43	11
Future Vol, veh/h	6	163	225	39	43	11
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	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	7	190	262	45	50	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	307	0	-	0	488 284
Stage 1	-	-	-	-	284 -
Stage 2	-	-	-	-	203 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1265	-	-	-	543 759
Stage 1	-	-	-	-	769 -
Stage 2	-	-	-	-	835 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1265	-	-	-	539 759
Mov Cap-2 Maneuver	-	-	-	-	539 -
Stage 1	-	-	-	-	764 -
Stage 2	-	-	-	-	835 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.28	0	12.05
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	64	-	-	-	573
HCM Lane V/C Ratio	0.006	-	-	-	0.11
HCM Ctrl Dly (s/v)	7.9	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

HCM 7th TWSC  
 3: Milwaukee Ave & Greentree Plaza S Access

2031 Total  
 Weekday PM

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	Y
Traffic Vol, veh/h	12	16	9	1521	1298	23
Future Vol, veh/h	12	16	9	1521	1298	23
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	13	17	10	1635	1396	25

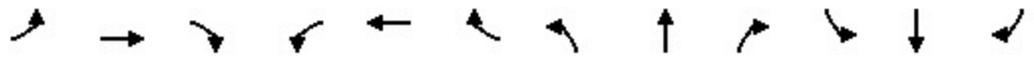
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2234	699	1421	0	-	0
Stage 1	1397	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	37	387	485	-	-	-
Stage 1	198	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	36	387	485	-	-	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	194	-	-	-	-	-
Stage 2	390	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	24.72	0.07	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	485	-	212	-	-
HCM Lane V/C Ratio	0.02	-	0.142	-	-
HCM Ctrl Dly (s/v)	12.6	-	24.7	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 Total  
 Saturday MID



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	30	198	103	32	59	198	1320	57	93	1315	62
Future Volume (vph)	49	30	198	103	32	59	198	1320	57	93	1315	62
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Storage Length (ft)	100		0	95		0	200		0	175		175
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	95			95			155			115		
Satd. Flow (prot)	1805	1634	0	1805	1716	0	1805	3551	0	1787	3762	1615
Flt Permitted	0.697			0.288			0.128			0.131		
Satd. Flow (perm)	1324	1634	0	547	1716	0	243	3551	0	246	3762	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		196			60			5				87
Link Speed (mph)		25			25			40				40
Link Distance (ft)		331			293			976				506
Travel Time (s)		9.0			8.0			16.6				8.6
Confl. Peds. (#/hr)			1	1					2	2		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	233	0	105	93	0	202	1405	0	95	1342	63
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0		3.0	15.0	15.0
Minimum Split (s)	6.5	37.0		6.5	39.0		6.5	30.0		6.5	28.0	28.0
Total Split (s)	12.0	24.0		12.0	24.0		16.0	75.0		14.0	73.0	73.0
Total Split (%)	9.6%	19.2%		9.6%	19.2%		12.8%	60.0%		11.2%	58.4%	58.4%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	4.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	21.5	11.4		23.2	13.9		91.3	78.9		86.0	76.0	76.0
Actuated g/C Ratio	0.17	0.09		0.19	0.11		0.73	0.63		0.69	0.61	0.61
v/c Ratio	0.19	0.71		0.57	0.38		0.66	0.63		0.37	0.59	0.06
Control Delay (s/veh)	40.7	24.0		53.4	26.1		19.1	16.4		9.5	17.2	1.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	40.7	24.0		53.4	26.1		19.1	16.4		9.5	17.2	1.5
LOS	D	C		D	C		B	B		A	B	A
Approach Delay (s/veh)		27.0			40.5			16.8			16.1	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	34	29		73	25		40	327		18	316	0
Queue Length 95th (ft)	64	109		117	75		113	500		42	477	12
Internal Link Dist (ft)		251			213			896			426	
Turn Bay Length (ft)	100			95			200			175		175

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Synchro 12 Report

Lanes, Volumes, Timings  
 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr

2031 Total  
 Saturday MID

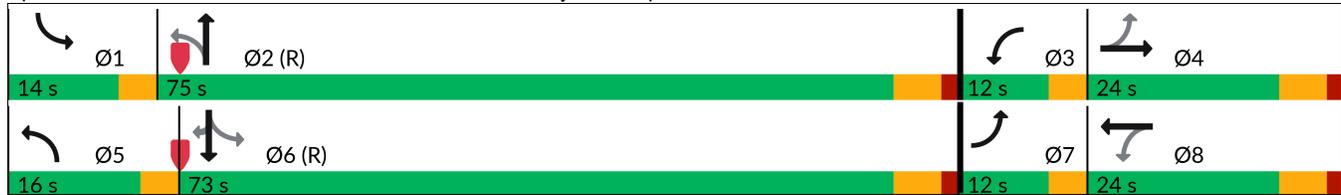


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	269	403		187	301		336	2242		304	2288	1016
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.19	0.58		0.56	0.31		0.60	0.63		0.31	0.59	0.06

Intersection Summary

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	125
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay (s/veh):	18.6
Intersection LOS:	B
Intersection Capacity Utilization	82.2%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1: Milwaukee Ave & Greentree Pkwy/Red Top Dr



Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	6	219	222	70	58	7
Future Vol, veh/h	6	219	222	70	58	7
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	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	243	247	78	64	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	324	0	-	0	542 286
Stage 1	-	-	-	-	286 -
Stage 2	-	-	-	-	257 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1247	-	-	-	505 758
Stage 1	-	-	-	-	768 -
Stage 2	-	-	-	-	791 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1247	-	-	-	502 758
Mov Cap-2 Maneuver	-	-	-	-	502 -
Stage 1	-	-	-	-	763 -
Stage 2	-	-	-	-	791 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.21	0	13.03
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	48	-	-	-	521
HCM Lane V/C Ratio	0.005	-	-	-	0.139
HCM Ctrl Dly (s/v)	7.9	0	-	-	13
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	↘
Traffic Vol, veh/h	16	18	14	1414	1452	32
Future Vol, veh/h	16	18	14	1414	1452	32
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	-	115	-	-	135
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	17	19	15	1488	1528	34

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2302	764	1562	0	-	0
Stage 1	1528	-	-	-	-	-
Stage 2	774	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	33	351	429	-	-	-
Stage 1	168	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	32	351	429	-	-	-
Mov Cap-2 Maneuver	118	-	-	-	-	-
Stage 1	163	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	29.49	0.13	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	429	-	182	-	-
HCM Lane V/C Ratio	0.034	-	0.196	-	-
HCM Ctrl Dly (s/v)	13.7	-	29.5	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

## **Appendix F**

### **ITE Parking Generation Excerpts**

# Marijuana Dispensary (882)

**Peak Period Parking Demand vs: 1000 Sq. Ft. GFA**

**On a: Weekday (Monday - Friday)**

**Setting/Location: General Urban/Suburban**

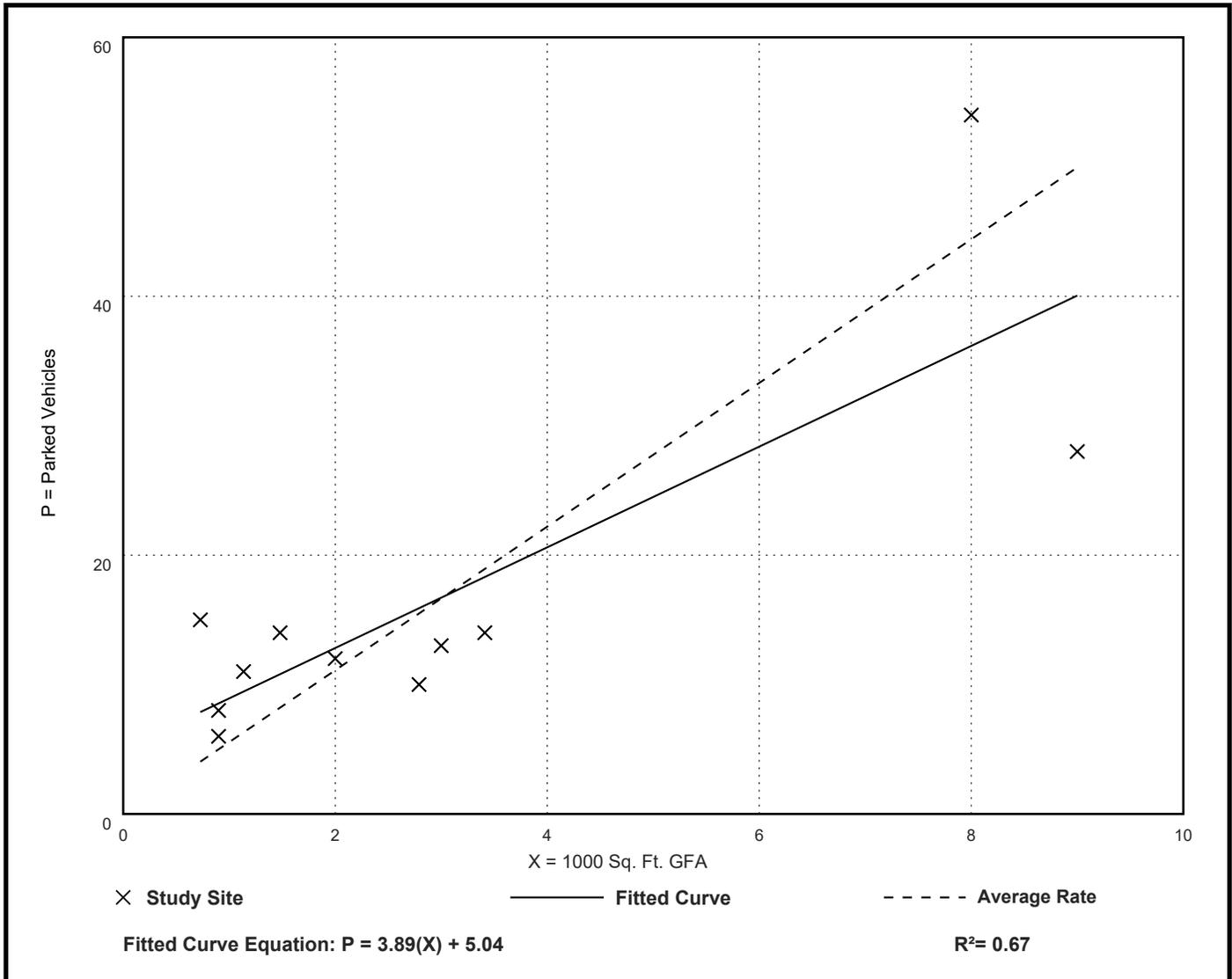
Number of Studies: 11

Avg. 1000 Sq. Ft. GFA: 3.0

## Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
5.55	3.11 - 20.60	4.32 / 11.87	***	3.18 ( 57% )

## Data Plot and Equation





# Fast Casual Restaurant (930)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

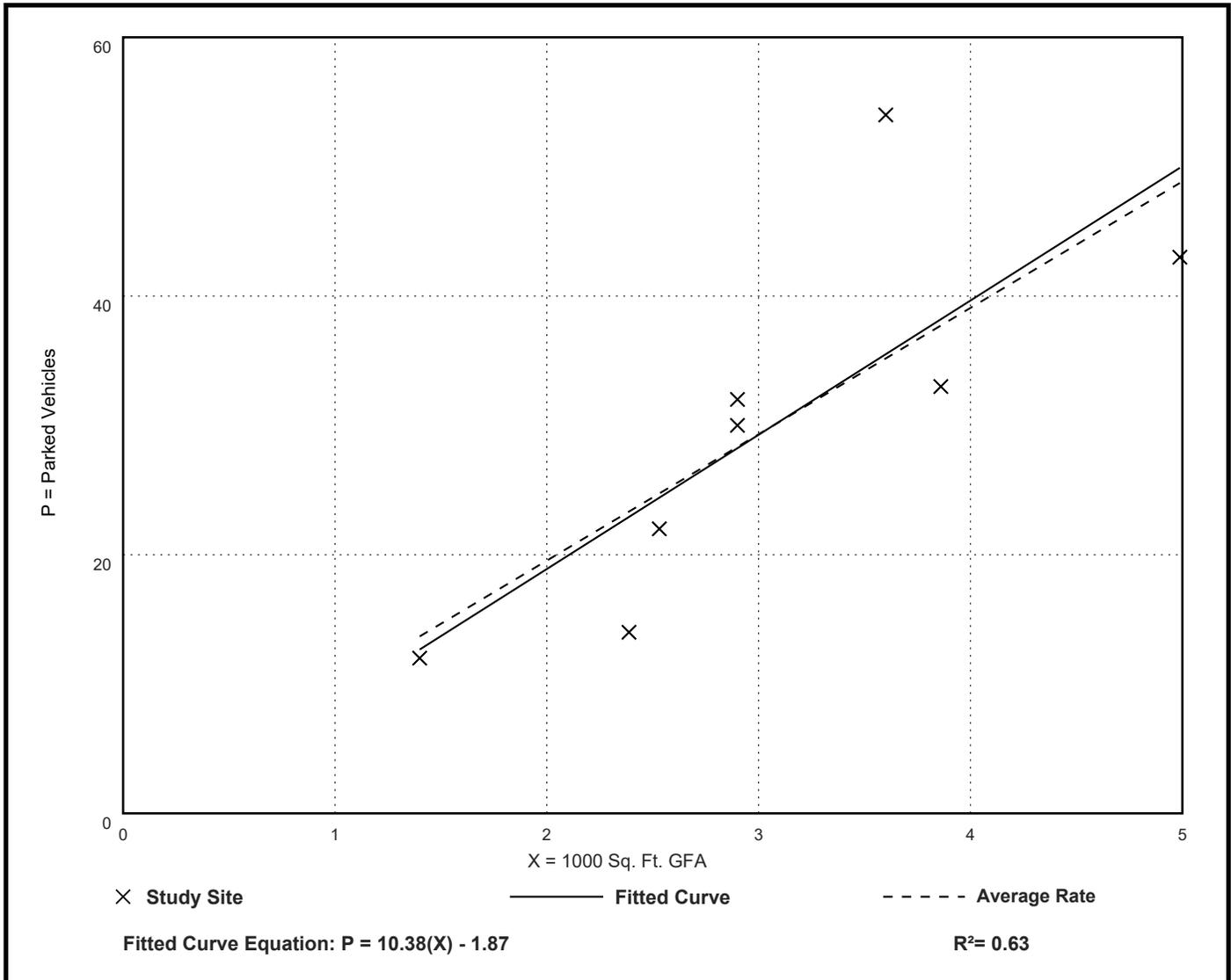
Number of Studies: 8

Avg. 1000 Sq. Ft. GFA: 3.1

## Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
9.77	5.86 - 15.00	8.57 / 13.61	***	2.71 ( 28% )

## Data Plot and Equation



# Fast Casual Restaurant (930)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA

On a: Saturday

Setting/Location: General Urban/Suburban

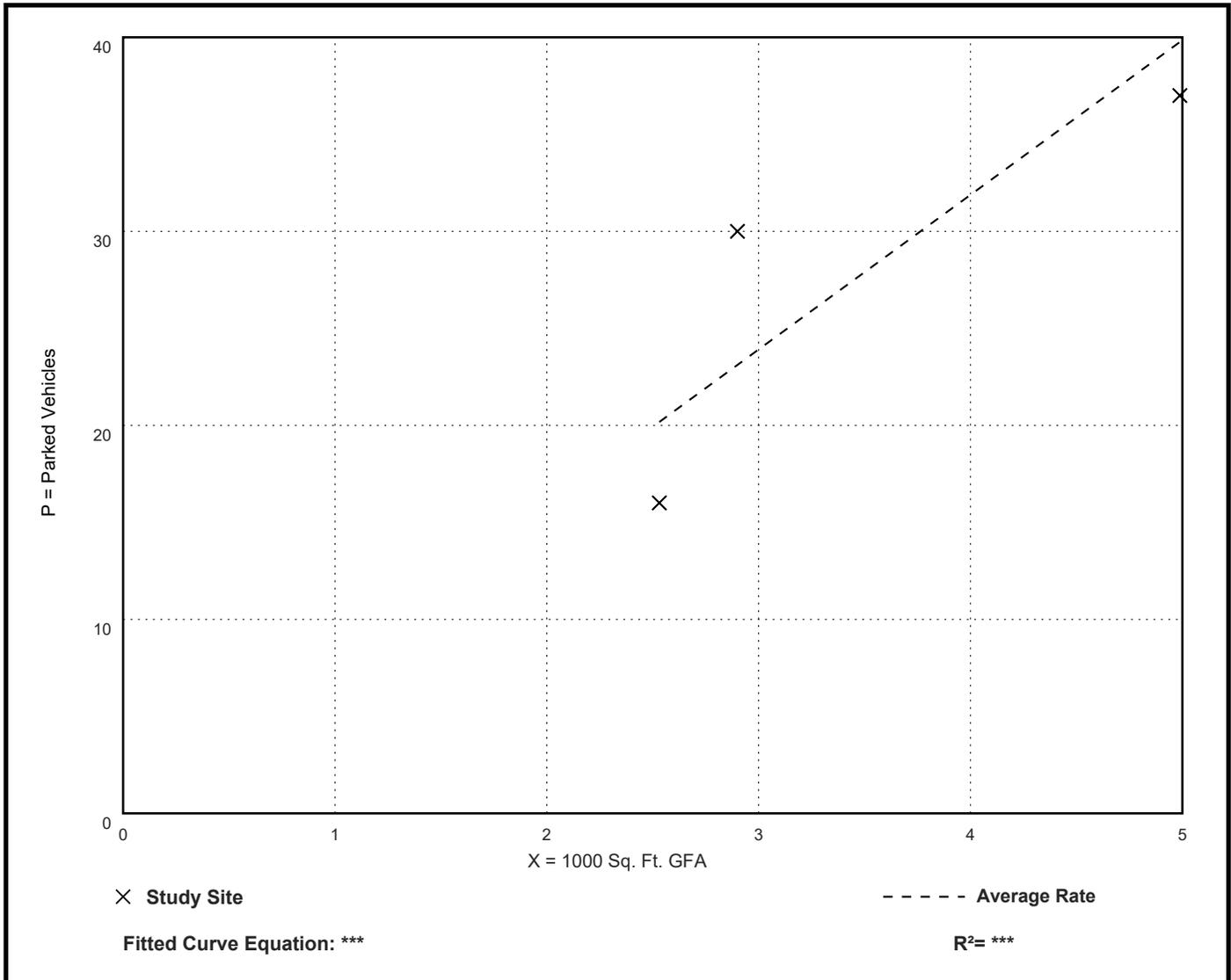
Number of Studies: 3

Avg. 1000 Sq. Ft. GFA: 3.5

## Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
7.97	6.32 - 10.34	6.67 / 10.34	***	1.89 ( 24% )

## Data Plot and Equation



# Strip Retail Plaza (< 40k) (822)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA

On a: Weekday (Monday - Thursday)

Setting/Location: General Urban/Suburban

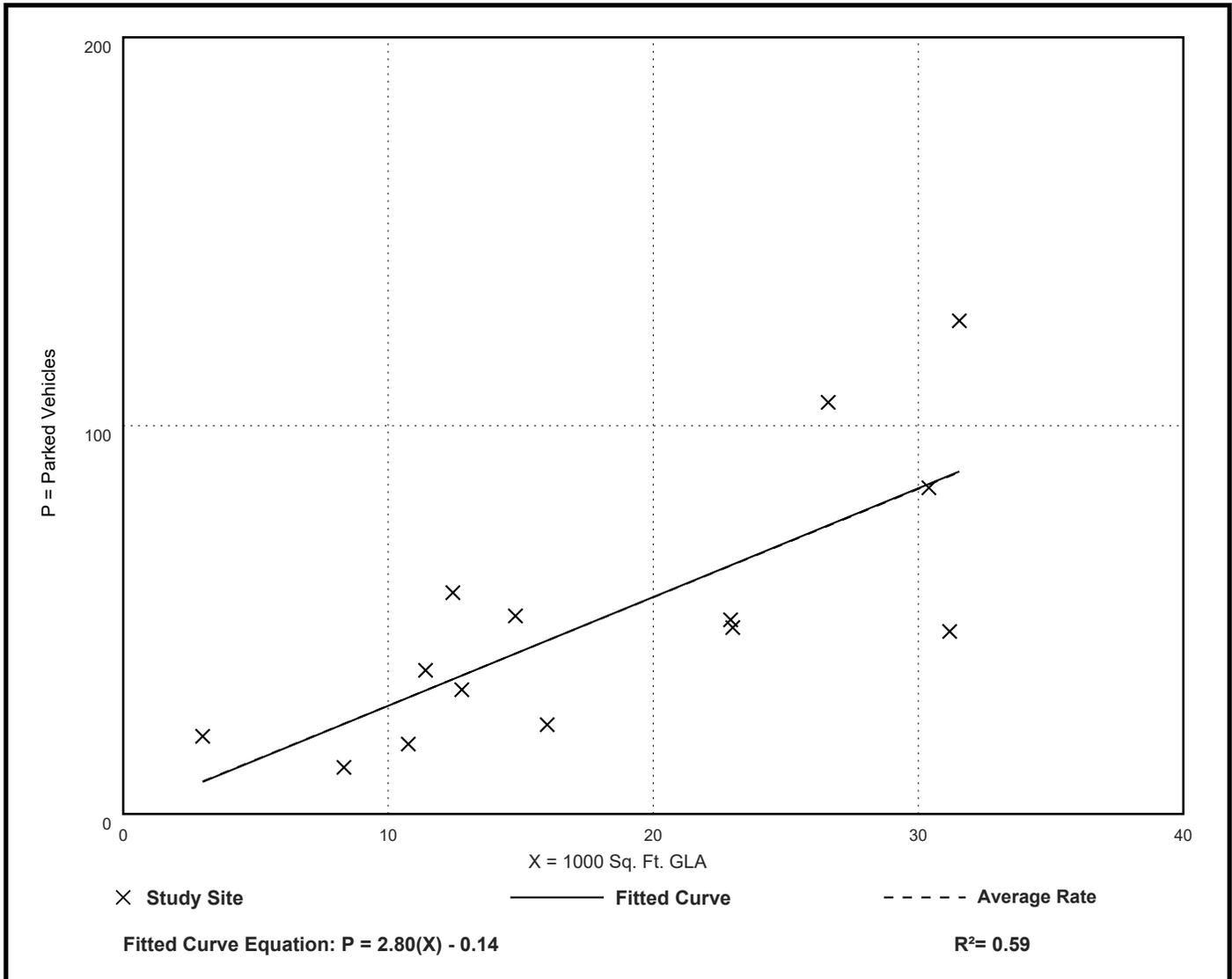
Number of Studies: 14

Avg. 1000 Sq. Ft. GLA: 18

## Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
2.79	1.44 - 6.67	2.07 / 4.44	***	1.14 ( 41% )

## Data Plot and Equation



# Strip Retail Plaza (< 40k) (822)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA

On a: Saturday

Setting/Location: General Urban/Suburban

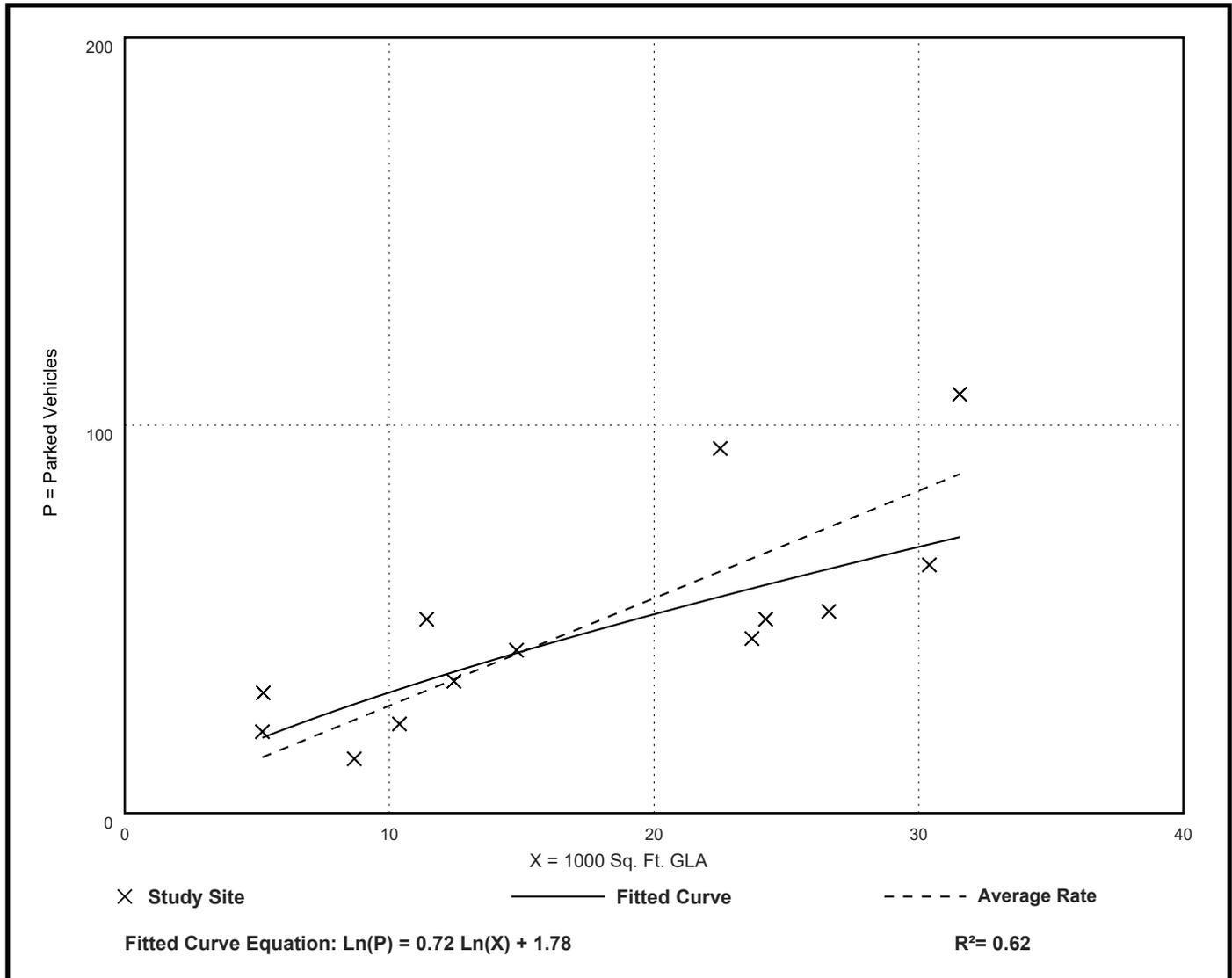
Number of Studies: 13

Avg. 1000 Sq. Ft. GLA: 17

## Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
2.77	1.61 - 5.93	2.09 / 4.36	***	1.03 ( 37% )

## Data Plot and Equation



# Small Office Building (712)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

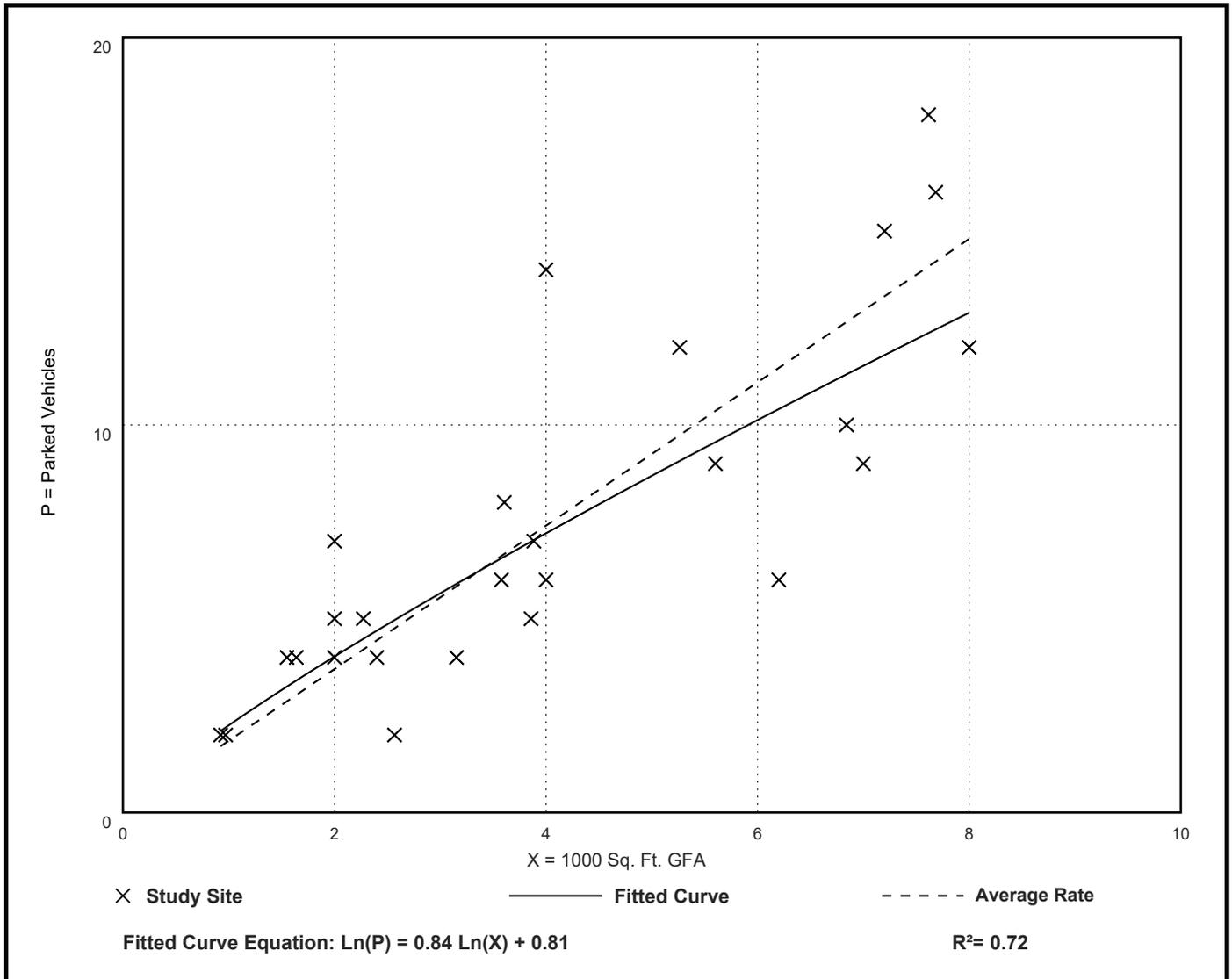
Number of Studies: 26

Avg. 1000 Sq. Ft. GFA: 4.1

## Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.85	0.78 - 3.50	1.60 / 2.50	1.61 - 2.09	0.62 ( 34% )

## Data Plot and Equation



CONSULTING  
ENGINEERS



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