



AGENDA

PLANNING AND ZONING COMMISSION

Regular Meeting: November 19, 2025 at 7:30 PM
Jeffrey S. Braiman Council Chambers
Fifty Raupp Blvd, Buffalo Grove, IL 60089

1. Call to Order

2. Public Hearings/Items for Consideration

Public Comment is limited to items that are on the agenda for discussion. In accordance with Section 2.02.070 of the Municipal Code, discussion on questions from the audience will be limited to 5 minutes and should be limited to concerns or comments regarding issues that are relevant to Planning and Zoning Commission business. All members of the public addressing the Planning and Zoning Commission shall maintain proper decorum and refrain from making disrespectful remarks or comments relating to individuals. Speakers shall use every attempt to not be repetitive of points that have been made by others. The Planning and Zoning Commission may refer any matter of public comment to the Village Manager, Village staff or an appropriate agency for review.

- A. Consideration of an amendment to the Special Use and Preliminary Plan under Ordinance No. 2018-002, as amended by Ord. 2024-058, to allow an 8-stall parking lot expansion at Buffalo Grove High School at 1100 W Dundee Road (Trustee Ottenheimer, Andrew Binder)
- B. Consideration of an Amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, and a Special Use for a drive-through facility, as well as parking and sign variations for Dutch Bros. Coffee at 80 McHenry Road (Trustee Ottenheimer, Andrew Binder)
- C. Consideration of approval of a Special Use for outdoor storage in the Industrial District at 1051 Commerce Ct. (Trustee Ottenheimer, Andrew Binder)

3. Regular Meeting

- A. Other Matters for Discussion
- B. Approval of Minutes
 - 1. October 22, 2025 - Draft Planning and Zoning Commission Meeting
- C. Chairperson's Report
- D. Committee and Liaison Reports
- E. Staff Report/Future Agenda Schedule
- F. **Public Comments and Questions**

All comments will be limited to 5 minutes and should be limited to concerns or comments regarding issues that are relevant to Planning and Zoning Commission business and not on the regular agenda for discussion.

4. Adjournment

The Planning and Zoning Commission will make every effort to accommodate all items on the agenda by 10:30 P.M. The Commission does, however, reserve the right to defer consideration of matters to another meeting should the discussion run past 10:30 P.M.

The Village of Buffalo Grove, in compliance with the Americans with Disabilities Act, requests that persons with disabilities who require certain accommodations to allow them to observe and/or participate in this meeting or have questions about the accessibility of the meeting or facilities, contact the ADA Coordinator at 847-459-2500 to allow the Village to make reasonable accommodations for those persons.





AGENDA ITEM SUMMARY

PLANNING AND ZONING COMMISSION

Regular Meeting: November 19, 2025

AGENDA ITEM 2.A.

Consideration of an amendment to the Special Use and Preliminary Plan under Ordinance No. 2018-002, as amended by Ord. 2024-058, to allow an 8-stall parking lot expansion at Buffalo Grove High School at 1100 W Dundee Road

Contacts

Liaison: Trustee Ottenheimer

Staff: Andrew Binder

Staff Recommendation

Staff recommends approval.

Recommended Motion

The PZC moves to make a positive recommendation to the Village Board to allow an amendment to the Special Use and Preliminary Plan under Ordinance No. 2018-002, as amended by Ord. 2024-058, to allow an 8-stall parking lot expansion at Buffalo Grove High School at 1100 W Dundee Road, subject to the following conditions:

1. The proposed development shall be constructed in substantial conformance with the plans attached and in accordance with Section 16.20.070 of the Development Ordinance.
2. Final Engineering plans shall be revised in a manner acceptable to the Village.
3. Any directional or incidental signage added to the sign package shall be reviewed administratively by staff.
4. The landscaping on the site shall be maintained in compliance with the approved landscape plan in perpetuity.

Summary

School District 214 has petitioned the Village for approval of an amendment to the Special Use and Preliminary Plan to permit an expansion of the parking lot at Buffalo Grove High School (BGHS) located at 1100 W Dundee Road. Twenty-two parking stalls will be removed, along with the large landscape island and grass area, and replaced with 30 new parking stalls and landscape islands.

File Attachments

1. 1100 W Dundee Rd - Staff Report

2. 1100 W Dundee Rd - Plan Set



Meeting Date:	November 19, 2025
Subject Property Location:	1100 W Dundee Road (Buffalo Grove High School)
Petitioner:	Andrew Phelps, STR Partners LLC, on behalf of School District 214
Prepared By:	Andrew Binder, Associate Planner
Request:	The petitioner seeks approval of an amendment to the Special Use and Preliminary Plan under Ordinance No. 2018-002, as amended by Ord. 2024-058, to allow an 8-stall parking lot expansion at Buffalo Grove High School at 1100 W Dundee Road.
Existing Lane Use and Zoning:	The property is currently improved with a public high school on multiple parcels and is zoned R-E and R-1, One- Family Dwelling Districts.
Comprehensive Plan:	The 2009 Village of Buffalo Grove Comprehensive Plan calls for property to be Public/Semi Public.

PROJECT BACKGROUND

School District 214 has petitioned the Village for approval of an amendment to the Special Use and Preliminary Plan to allow an 8-stall parking lot expansion at Buffalo Grove High School (BGHS) at 1100 W Dundee Road, as shown in Figure 1.

The amendment to the Special Use and Preliminary Plan is necessary because the proposed improvements exceed 500 square feet and represent a change from the previously approved Preliminary Plan. The proposed parking lot expansion complies with all of the Village’s Zoning Ordinance requirements for parking lots.

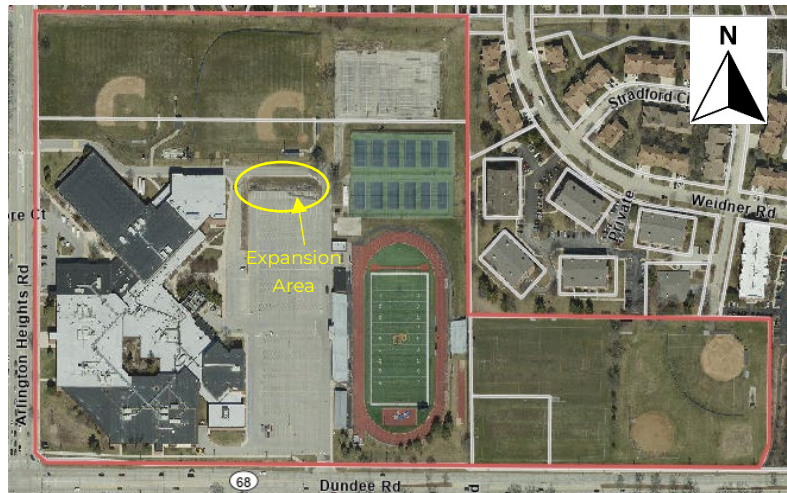


Figure 1: Site Aerial Buffalo Grove High School Campus

Site History

- In 2024, District 214 received approval for a Special Use and Preliminary Plan to enhance its campus with new facilities to be constructed in two phases, which included construction of a varsity softball and baseball field, tennis courts, an artificial turf multi-sport field, spectator

seating, a ticket booth, a concession building, restrooms, new fencing, and a 105-space parking lot.

PLANNING & ZONING ANALYSIS

Proposed Project

District 214 has completed Phases 1 and 2 of its 2024 athletic field campus project and is now requesting that the northern part of the main parking lot be reconfigured to add 8 additional parking stalls, as shown in Figure 2. Twenty-two stalls will be removed, along with the large landscape island/grass area and replaced with 30 parking stalls and new landscape islands.

During construction, the area was used for material storage, contractor parking, and a jobsite trailer. Instead of restoring the area to its previous condition, D214 would like to reconfigure the parking lot to maximize parking on the site.

Parking

Per the Village's Zoning Ordinance, BGHS is required to have 578 parking stalls on site, based on an enrollment of 1,957 students and a total of 251 faculty and teachers. With the recent completion of Phase 2 of the athletic fields and parking lot work, BGHS has a total of 585 parking stalls. Following the proposed expansion, the campus will have 593 parking stalls, which complies with the Village Code requirements. The increase in parking capacity does not require additional accessible spaces.

Vehicular Access and Circulation

The school has three full-access driveways: a full signalized access on W Dundee Road, and two unsignalized accesses along the east side of Arlington Heights Road. There will be no change to vehicular access or circulation proposed as part of this parking lot expansion. The new parking lot's drive access will align with the baseball field's parking lot to the east, facilitating better circulation.

Landscaping

The new landscape islands will be covered with grass, and the area to the north of the access road will have additional landscaping installed to create a buffer between the multi-purpose field and the drive aisle.

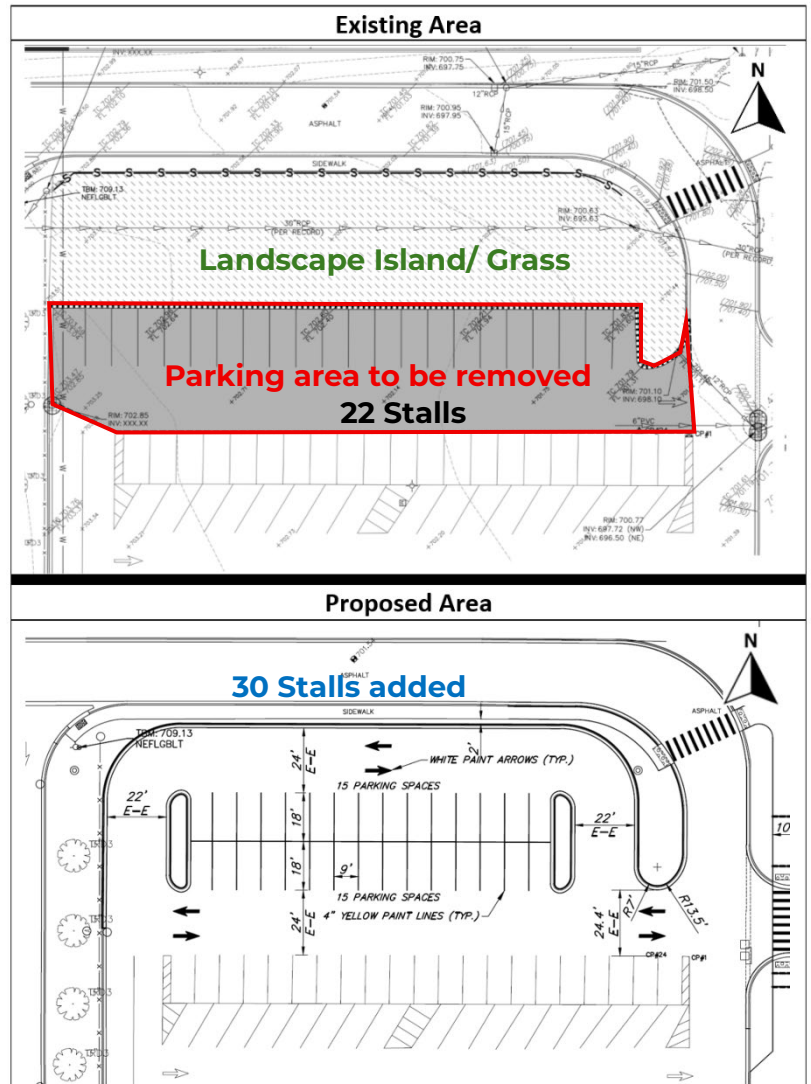


Figure 2: Existing & Proposed Expansion of Parking Lot Area

Lighting

No new lighting is proposed with this project.

Engineering

Our Engineering team has no concerns about the proposed parking lot expansion, as this is a minor change to the site. Furthermore, as part of the prior athletic field construction project there were extensive site modifications and enhanced stormwater management systems were installed.

Departmental Reviews

Village Department	Comments
Building	The Building Division has reviewed the plans and does not have any concerns.
Engineering	The Village Engineer has reviewed the engineering plans and has no concerns.
Fire	The Fire Department has reviewed the plans and does not have any concerns.

Surrounding Property Owners

Pursuant to Village Code, the surrounding property owners within 250 feet were notified and two public hearing signs were posted on the subject property. The posting of the public hearing signs and the mailed notifications were completed within the prescribed timeframe as required. As of the date of this Staff Report, there have been no questions or concerns received by staff.

Standards

Special Use Standards:

- A. All special uses shall meet the following criteria:
 1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;
 2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;
 3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations with the neighborhood;
 4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder, or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;
 5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;
 6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.

- B. The Planning & Zoning Commission or the Corporate Authorities may approve variations to the Fence Code where sufficient evidence has been provided that all of the following criteria have been met:
1. The plight of the owner is due to unique circumstances;
 2. The proposed variation will not alter the essential character of the neighborhood;
 3. There are practical difficulties or particular hardships in carrying out the strict letter of this Chapter which difficulties or hardships have not been created by any person presently having an interest in the property; and
 4. The proposed variation will not be detrimental to the public health, safety and welfare.

The petitioner provided written responses to the variation standards in the attached packet.

STAFF RECOMMENDATION

Staff recommends **approval** of the amendment to the Special Use and Preliminary Plan to allow an 8-stall parking lot expansion at Buffalo Grove High School at 1100 W Dundee Road, subject to the conditions listed in the PZC motion below.

ACTION REQUESTED

The Planning & Zoning Commission (PZC) shall open the public hearing and take public testimony concerning the request for an amendment to the Special Use and Preliminary Plan under Ordinance No. 2018-002, as amended by Ord. 2024-058, to allow an 8-stall parking lot expansion at Buffalo Grove High School at 1100 W Dundee Road. The PZC shall make a recommendation to the Village Board regarding the requested approvals.

Suggested PZC Motion

The PZC moves to make a positive recommendation to the Village Board to allow an amendment to the Special Use and Preliminary Plan under Ordinance No. 2018-002, as amended by Ord. 2024-058, to allow an 8-stall parking lot expansion at Buffalo Grove High School at 1100 W Dundee Road, subject to the following conditions:

1. *The proposed development shall be constructed in substantial conformance with the plans attached and in accordance with Section 16.20.070 of the Development Ordinance.*
2. *Final Engineering plans shall be revised in a manner acceptable to the Village.*
3. *Any directional or incidental signage added to the sign package shall be reviewed administratively by staff.*
4. *The landscaping on the site shall be maintained in compliance with the approved landscape plan in perpetuity.*

ATTACHMENTS

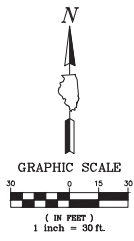
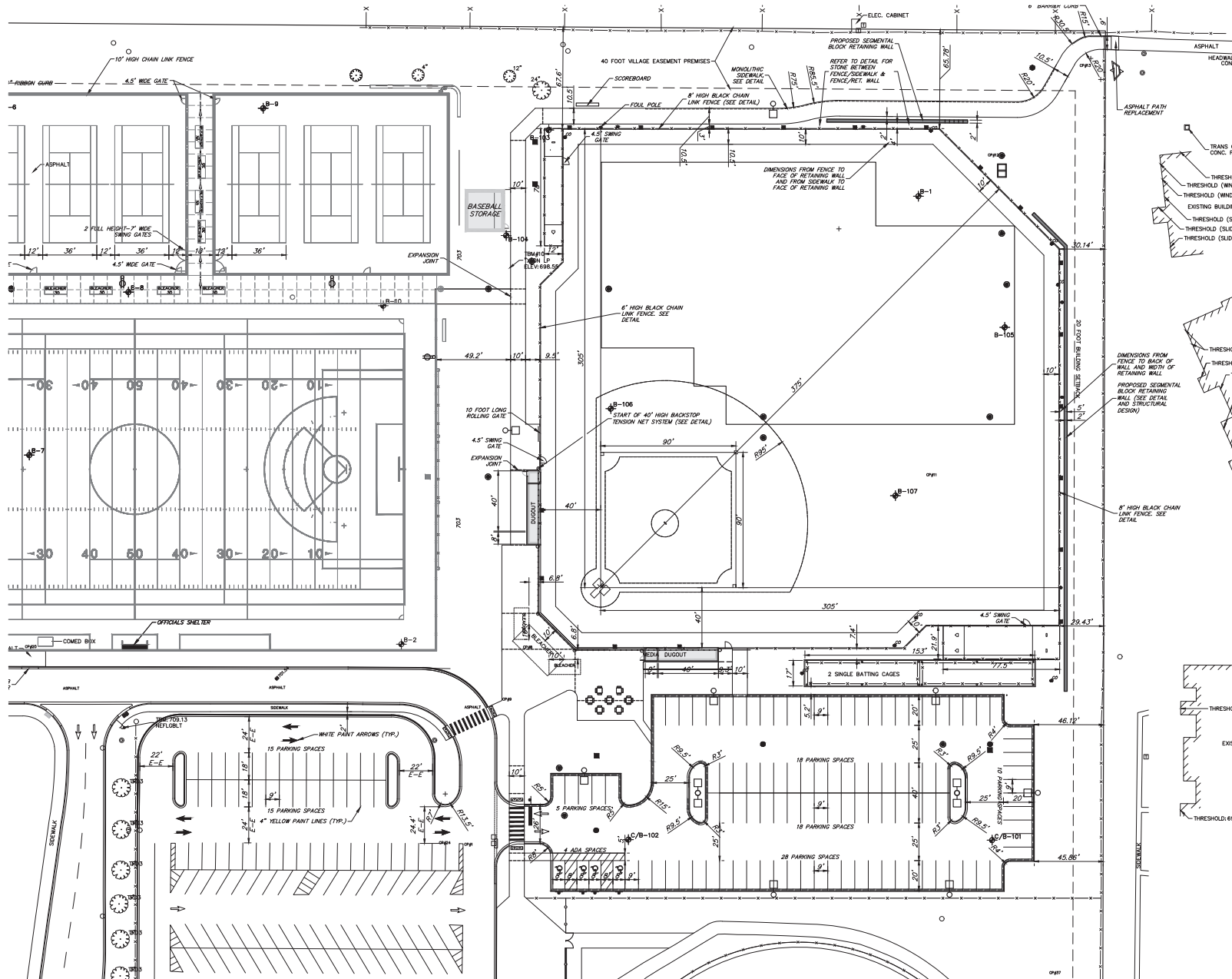
- Petitioner's Narrative
- Site Plans
- Preliminary Engineering Plans
- Landscape Plans
- Response to the Special Use Standards
- Ord. 2024-058



Project Description and Narrative Statement Buffalo Grove High School Athletic Field Renovations - Parking Lot Revisions

Township High School District 214 has made significant upgrades to the area of the existing baseball fields and stormwater retention basin on the north side of Buffalo Grove High School. As the projects are wrapping up, the School wishes to rework an existing island in their main parking lot to obtain 8 additional parking spaces.

During construction, the existing island was used for material storage, contractor parking, and the jobsite trailer. In lieu of returning the island to its original condition, the School will rework the island layout, as shown in the attached documents, to add 8 additional parking spaces to their main lot, increasing the total number of available parking spaces from 435 to 443. For parking with 401 to 500 spaces, the Illinois Accessibility Code requires 9 accessible parking spaces to be provided, of which the School provides 12.

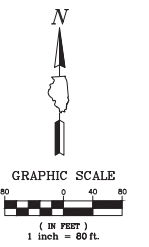
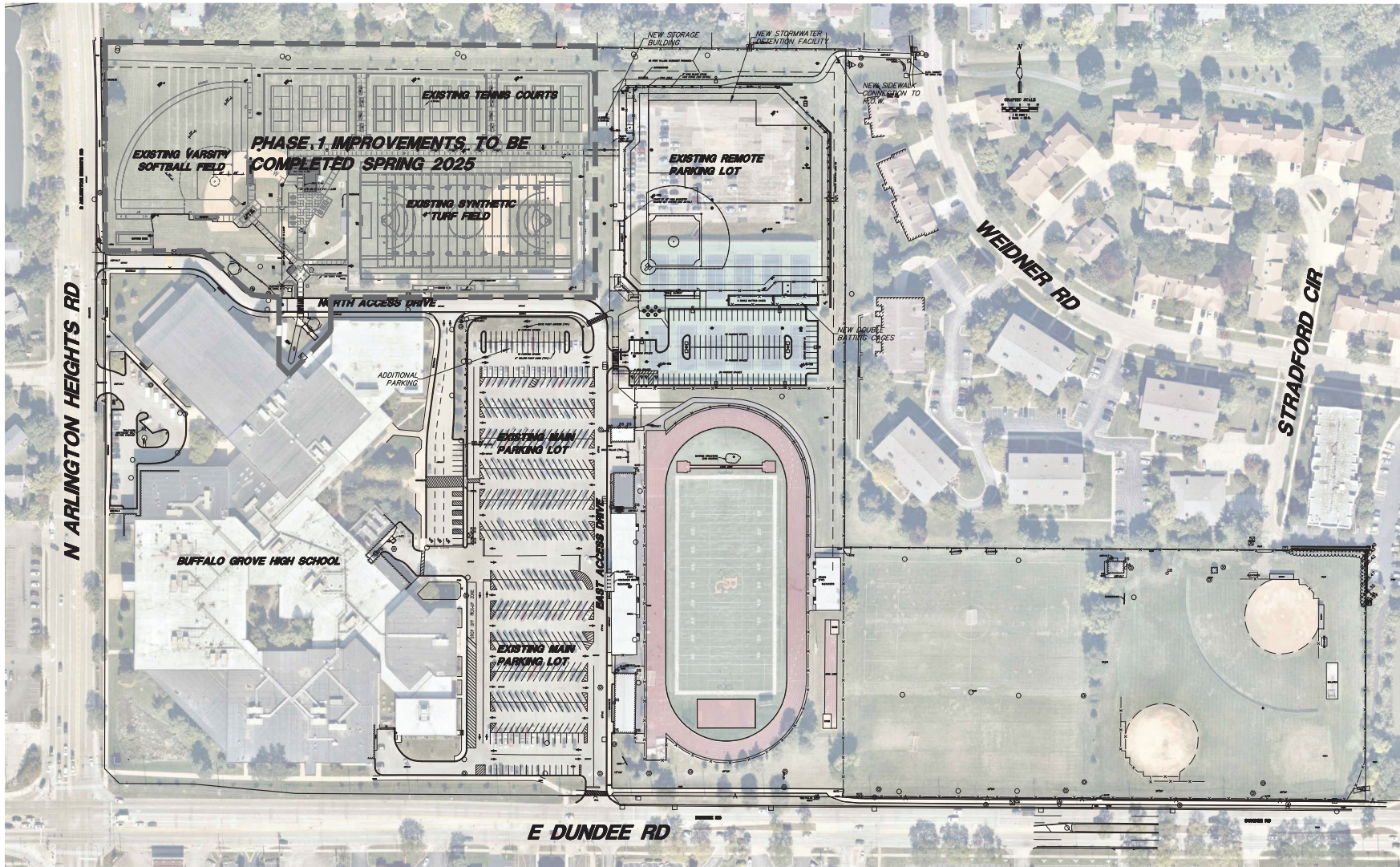


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 625 Forest Edge Drive ■ Vernon Hills, IL 60061
 Tel. 847.478.9700 ■ Fax 847.478.9701

PHASE 2 FIELD RENOVATIONS PRELIMINARY GEOMETRIC PLAN

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 2/13/2024



PROPOSED PARKING DATA:

CAMPUS LOCATION	SMALL	BUS	ELECTRIC	CAR	ADA
WEST LOT	7	0	0	20	0
DRIVE LANE	0	6	0	8	0
NORTH MAIN LOT	0	0	235	2	0
SOUTH MAIN LOT	0	0	206	0	0
STADIUM PARKING LOT	0	0	105	4	0
TOTAL SPACES	7	6	566	14	0

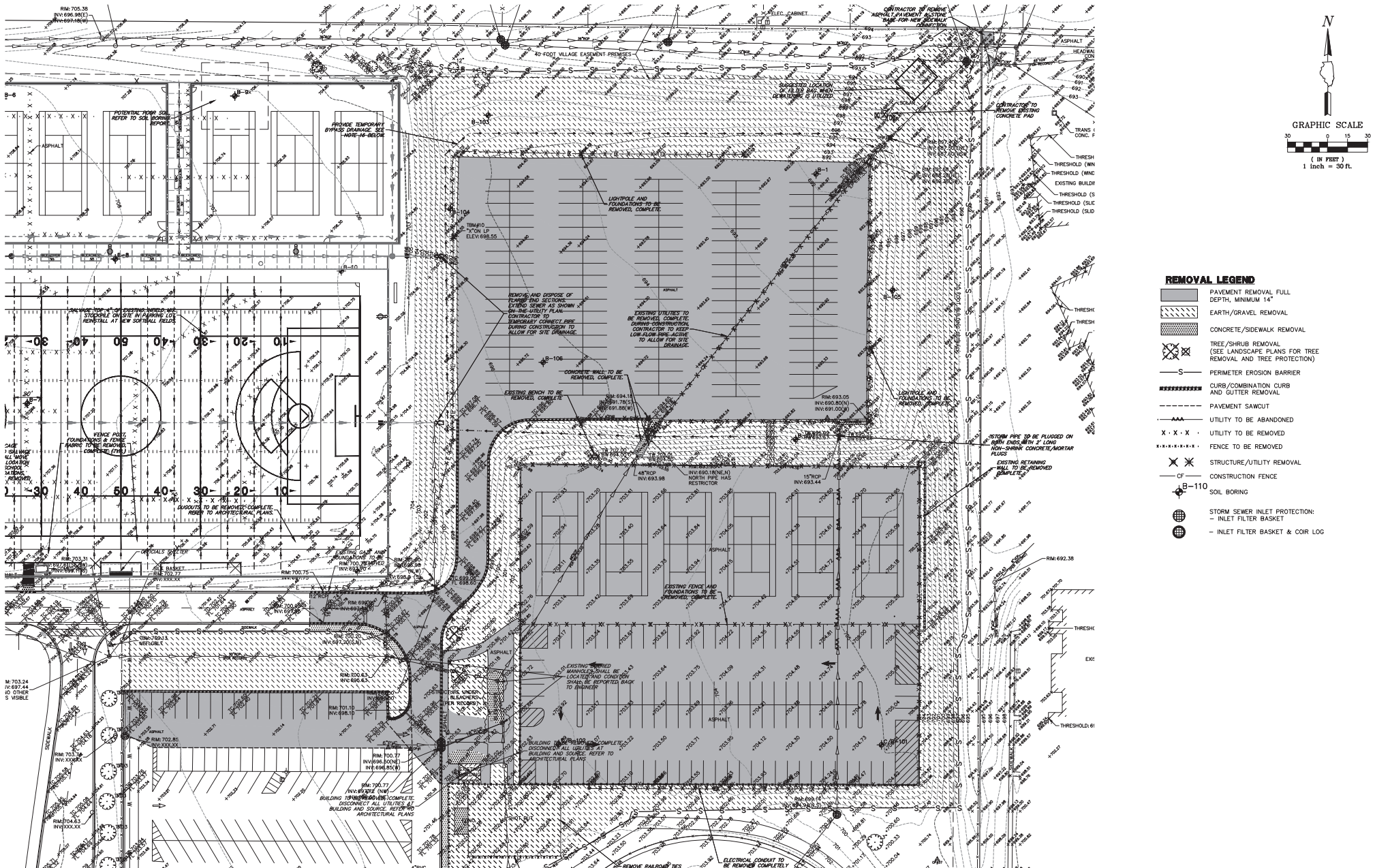
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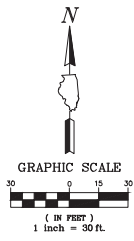
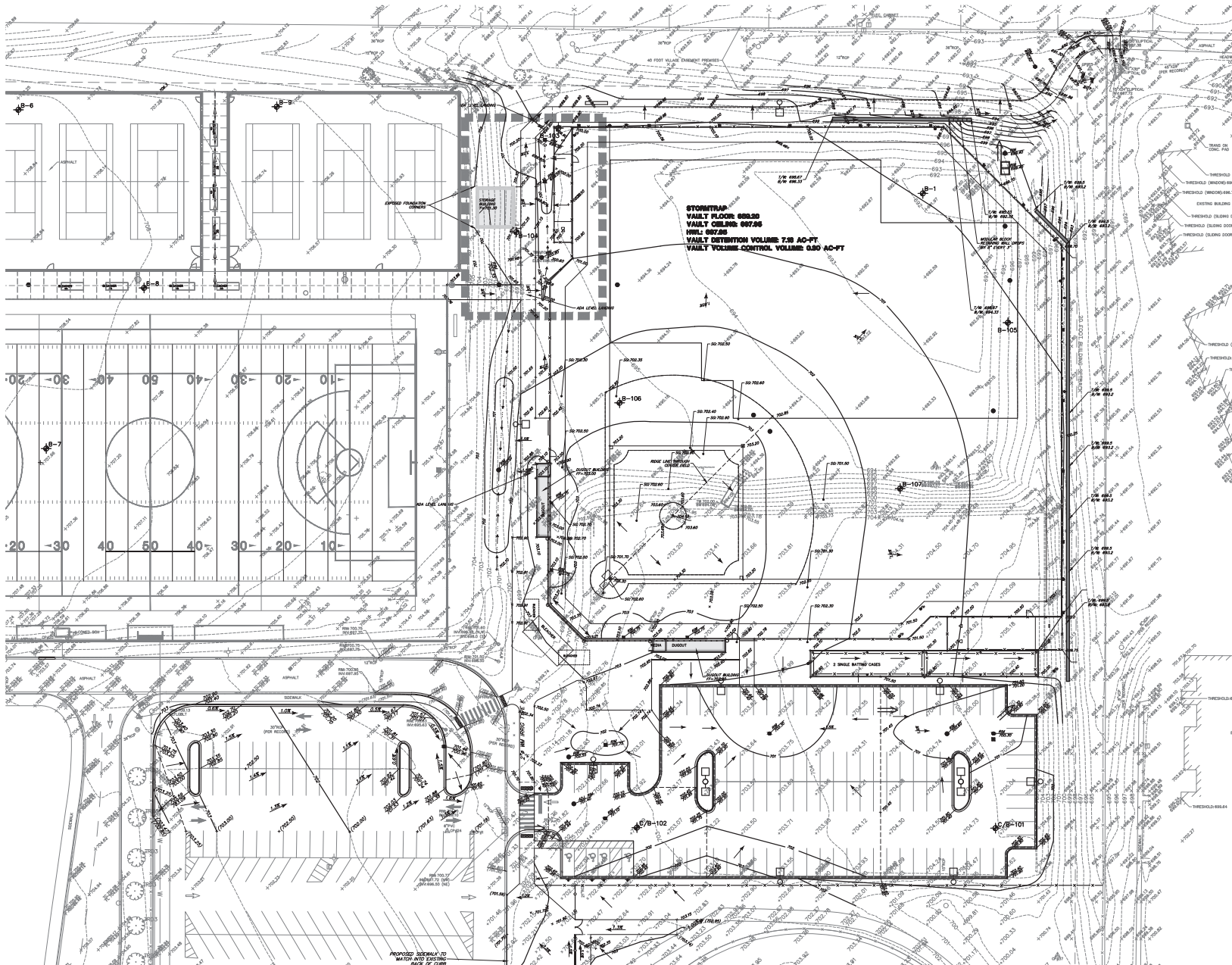
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625 Forest Edge Drive ■ Vernon Hills, IL 60061
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PHASE 2 FIELD RENOVATIONS OVERALL CAMPUS

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING

1100 W Dundee Road, Buffalo Grove, IL 60089
Township High School District 214
2/13/2024





UTILITY PLAN LEGEND

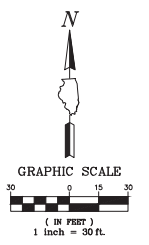
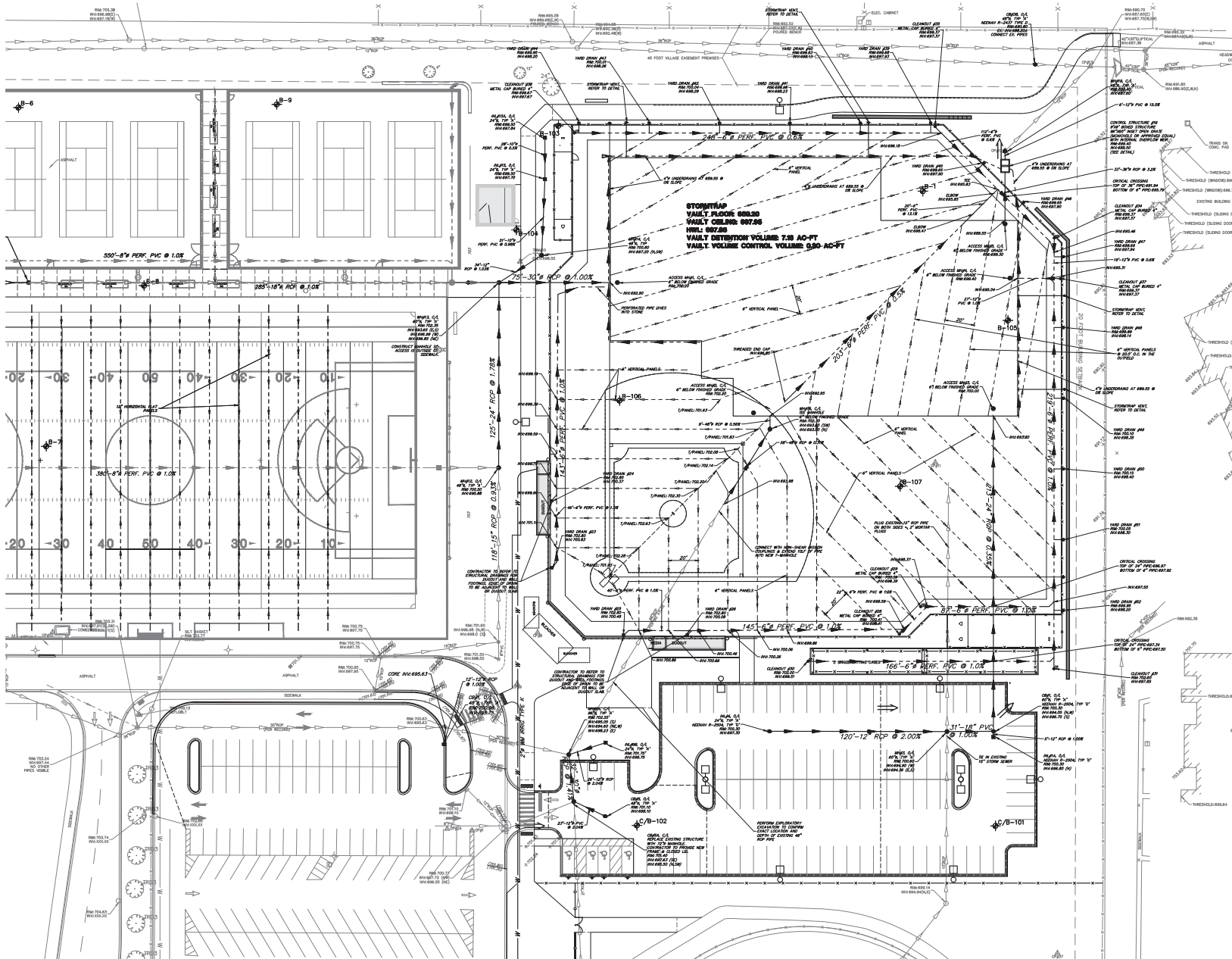
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 - ⊕ ⊕ FIRE HYDRANT
 - ⊕ ⊕ BUFFALO BOX
 - ⊕ ⊕ STREET LIGHT
 - ⊕ ⊕ POWER POLE
 - ⊕ ⊕ SIGN

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PHASE 2 FIELD RENOVATIONS PRELIMINARY GRADING PLAN

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 2/13/2024



UTILITY PLAN LEGEND

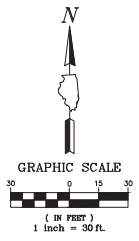
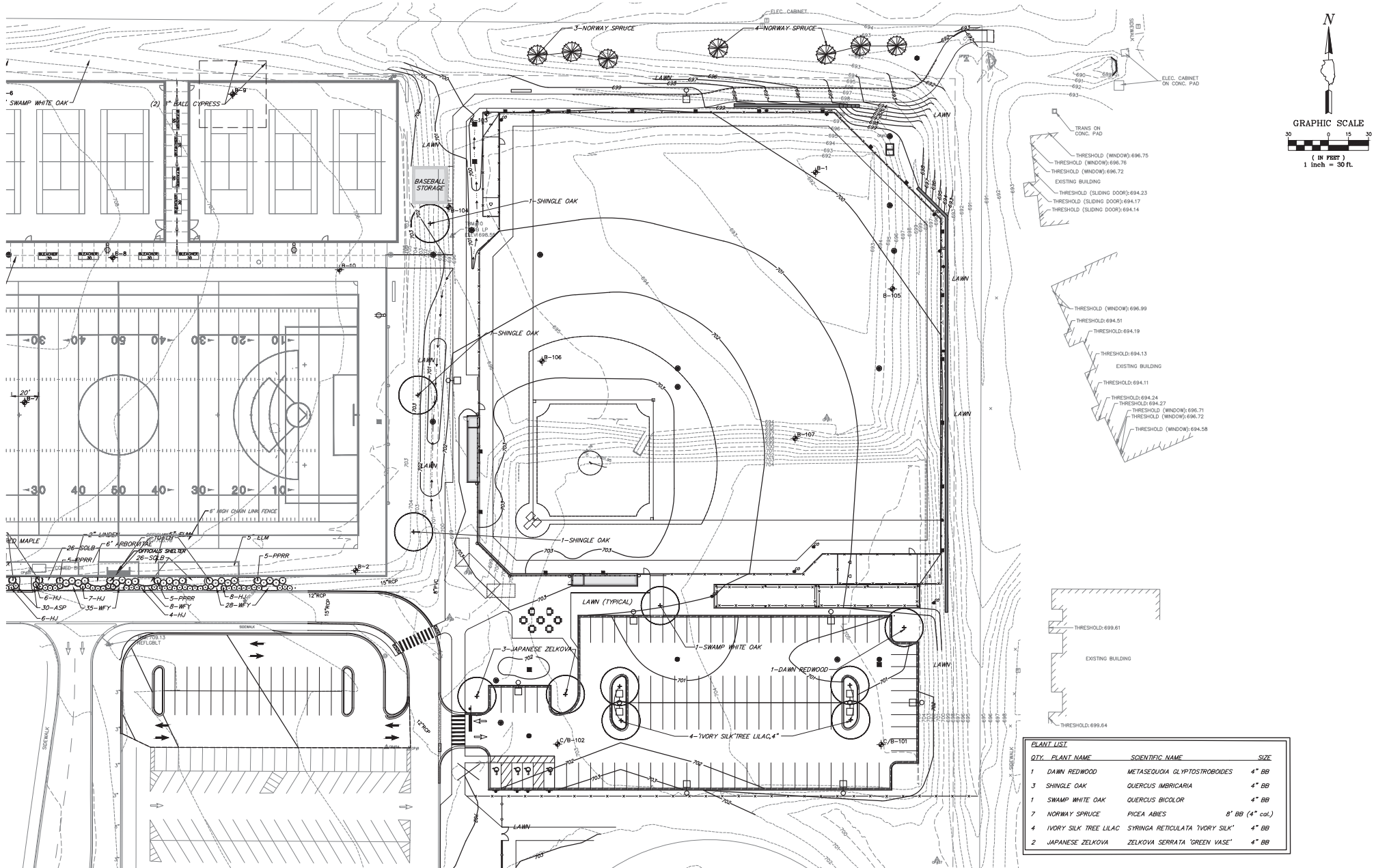
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PHASE 2 FIELD RENOVATIONS PRELIMINARY UTILITY PLAN

D214 BGHS ATHLETIC CENTER FIELD RENOVATIONS PHASING
 1100 W Dunfee Road, Buffalo Grove, IL 60089
 Township High School District 214
 2/13/2024



QTY.	PLANT NAME	SCIENTIFIC NAME	SIZE
1	DAWN REDWOOD	METASEQUOIA GLYPTOSTROBODES	4" BB
3	SHINGLE OAK	QUERCUS IMBRICARIA	4" BB
1	SWAMP WHITE OAK	QUERCUS BICOLOR	4" BB
7	NORWAY SPRUCE	PICEA ABIES	8" BB (4" cal.)
4	IVORY SILK TREE LILAC	SYRINGA RETICULATA 'IVORY SILK'	4" BB
2	JAPANESE ZELKOVA	ZELKOVA SERRATA 'GREEN VASE'	4" BB

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PHASE 2 FIELD RENOVATIONS PRELIMINARY LANDSCAPE PLAN

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING

1100 W Dunfee Road, Buffalo Grove, IL 60089
Township High School District 214
2/13/2024

Community Development Department

50 Raupp Boulevard, Buffalo Grove, IL 60089

Phone: 847-459-2530 | www.vbg.org

Special Use Standards

During the Public Hearing, you will need to present your case for the Special Use being requested. In doing so, please address the six (6) Special Use Standards listed below:

1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;

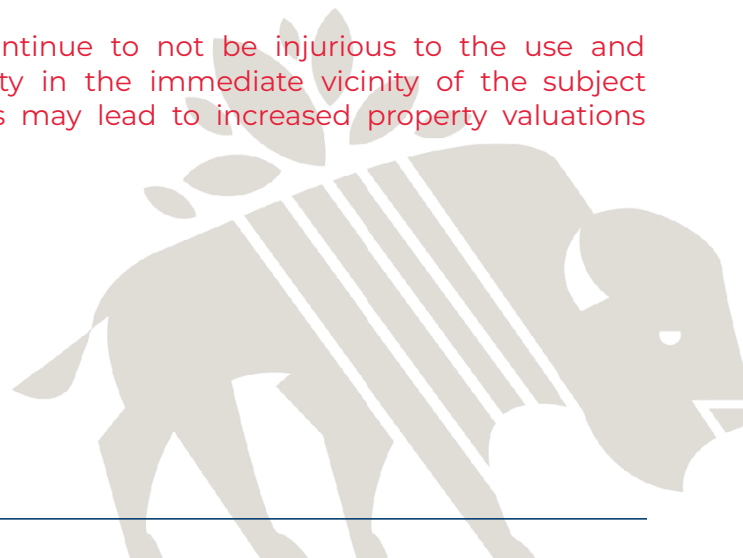
Response: The revised special use will continue to serve the public convenience as the community High School.

2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;

Response: The location and size of the revised special use remains the same and will not inflict greater burden on the streets giving access to the site and will remain in harmony with the development of the district in which it is located.

3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations with the neighborhood;

Response: The revised special use will continue to not be injurious to the use and enjoyment of the other property in the immediate vicinity of the subject property and the improvements may lead to increased property valuations within the neighborhood.



4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;

Response: The nature, location and size of the buildings and structures involved in the revised special use are set well away from the property boundaries and will not hinder or discourage the development and use of adjacent land.

5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;

Response: Adequate utilities, access roads, drainage and other facilities have been provided for the revised to the special use.

6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.

Response: Adequate parking is provided for the revised special use per the Village Zoning requirements. This revision increases the total number of parking spaces from 435 to 443.

We are requesting an update to the site plan that accompanies the existing Special Use Ordinance 2024-058

ORDINANCE NO. 2024-058

**AN ORDINANCE APPROVING A PRELIMINARY PLAN,
AN AMENDMENT TO ORDINANCE NO. 2018-002,
AND VARIATIONS FROM THE FENCE CODE
FOR 1100 W DUNDEE ROAD
VILLAGE OF BUFFALO GROVE,
COOK AND LAKE COUNTIES, ILLINOIS**

**Buffalo Grove High School
School District #214
1100 W Dundee Road**

WHEREAS, the Village of Buffalo Grove is a Home Rule Unit by virtue of the Illinois Constitution of 1970; and

WHEREAS, 1100 W Dundee Road, Buffalo Grove, IL is improved with a public high school, athletic fields, and surface parking lots located on approximately 45-acres in the R-1 and R-E One Family Dwelling Districts, and is hereinafter legally described in Exhibit A; and

WHEREAS, in 2018, the Village Board approved by Ordinance No. 2018-002 granting a Special Use and a Zoning Variation to allow the expansion of the school; and

WHEREAS, STR Partners, ("Petitioner") has filed a petition on behalf of the School District #214, to allow proposed site improvements and construction of accessory structures on the subject property, and is requesting the following approvals:

1. An amendment to the Special Use and Preliminary Plan approved by Ordinance No. 2018-002; and
2. Variations from Section 15.20.040 of the Fence Code to allow fences on and adjacent to the athletic fields to exceed the 6-foot height maximum for residential districts; and

WHEREAS, notice of public hearing was given and the Village Planning & Zoning Commission conducted a public hearing on April 17, 2024 concerning the petition for approval of the Amendment to Special Use and Preliminary Plan approved by Ordinance No. 2018-002, and Fence Code Variations; and

WHEREAS, the Planning & Zoning Commission made findings and determined that the petition meets the criteria for Special Uses and Fence Variations as set forth in the Buffalo Grove Zoning Ordinance and Building Code, as described in the minutes attached as Exhibit C; and

WHEREAS, the Planning & Zoning Commission voted 6 - 0 to unanimously recommend approval of the Amendment to Special Use and Preliminary Plan

approved by Ordinance No. 2018-002, and Fence Code Variations; and,

WHEREAS, the President and Village Board of Trustees after due and careful consideration have concluded that the proposed Amendment to Special Use and Preliminary Plan approved by Ordinance No. 2018-002, and Fence Code Variations requested are reasonable and will serve the best interests of the Village; and

WHEREAS, the proposed development shall be operated in accordance with and pursuant to the following exhibits:

EXHIBIT A Legal Description of the Property

EXHIBIT B Plan Set

EXHIBIT C Minutes from the April 17, 2024, Planning & Zoning Commission Meeting

NOW THEREFORE BE IT ORDAINED by the President and Board of Trustees of the Village of Buffalo Grove, Cook and Lake Counties, Illinois, as follows:

SECTION 1. This Ordinance is made pursuant to and in accordance with the Village's Zoning Ordinance and the Village's Home Rule powers. The preceding whereas clauses are hereby made a part of this Ordinance.

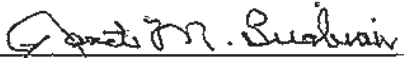
SECTION 2. The Corporate Authorities hereby adopt a proper, valid, and binding ordinance approving the Amendment to Special Use and Preliminary Plan approved by Ordinance No. 2018-002, and Fence Code Variations for the Property located at 1100 W Dundee Road, Buffalo Grove, IL, subject to the following conditions:

- A. The proposed improvements shall be constructed in substantial conformance with the plans attached as part of the petition.
- B. The Final Engineering plans shall be submitted in a manner acceptable to the Village.
- C. Any directional or incidental signage added to the site shall be reviewed administratively by staff.
- D. Landscaping on the property shall be maintained in accordance with the approved landscape plan in perpetuity.
- E. All light fixtures shall be appropriately screened to avoid glare into surrounding residential properties and field lighting shall be turned off when not in use.

SECTION 3. This Ordinance shall be in full force and effect upon passage. This Ordinance shall not be codified.

AYES: 5 - Johnson, Ottenheimer, Stein, Bocek, Weidenfeld
NAYES: 0 - None
ABSENT: 1 - Cesario
PASSED: May 20, 2024
APPROVED: May 20, 2024
PUBLISHED: May 21, 2024

ATTEST:



Janet M. Sirabian, Village Clerk

APPROVED:



Eric N. Smith, Village President



EXHIBIT A
Legal Description
Buffalo Grove High School
School District #214
1100 W Dundee Road

SUBJECT PROPERTY COMMON ADDRESS: 1100 W Dundee Road

LEGAL DESCRIPTION: PARCEL 1: THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 42 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

ALSO

PARCEL 2: THAT PART OF THE SOUTH HALF OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 42 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, BOUNDED BY A LINE DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTH HALF OF THE EAST HALF OF SAID SOUTHWEST QUARTER; THENCE NORTH ALONG THE WEST LINE THEREOF, 476.0 FEET; THENCE EAST PARALLEL WITH THE SOUTH LINE OF SAID SOUTHWEST QUARTER, 887.0 FEET; THENCE SOUTH PARALLEL WITH THE WEST LINE OF THE SOUTH HALF OF THE EAST HALF OF SAID SOUTHWEST QUARTER 475.0 FEET TO A POINT ON THE SOUTH LINE OF SAID SOUTHWEST QUARTER; THENCE WEST ALONG THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 5, 887.0 FEET TO THE POINT OF BEGINNING, EXCEPTING THEREFROM THE SOUTH 50.0 FEET THEREOF, IN COOK COUNTY, ILLINOIS.

EXCEPTING THEREFROM PARCEL 3: PORTION OF LAND QUIT CLAIM DEEDED TO THE STATE OF ILLINOIS IN DOCUMENT NUMBER 21356006 RECORDED DECEMBER 31, 1970, DESCRIBED AS FOLLOWS: THAT PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 42 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE EAST LINE OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 5, DISTANT 33 FEET NORTH OF THE SOUTH LINE OF SECTION 5; THENCE WESTERLY ALONG A STRAIGHT LINE PARALLEL AND DISTANT 33 FEET NORTH OF SAID SOUTH LINE OF SOLD SECTION 5 FOR A DISTANCE OF 1274 FEET, MORE OR LESS, TO A POINT, SAID POINT BEING 33 FEET EAST OF THE WEST LINE OF SAID SECTION 5; THENCE NORTH ALONG A STRAIGHT LINE PARALLEL AND DISTANT 33 FEET EAST OF THE WEST LINE OF SAID SECTION 5 FOR A DISTANCE OF 1285 FEET, MORE OR LESS, TO A POINT ON THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 5; THENCE EASTERLY ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 5 FOR A DISTANCE OF 17 FEET TO A POINT; THENCE SOUTH FOR A DISTANCE OF 1228 FEET, MORE OR LESS, TO A POINT, SAID POINT LYING 50 FEET EAST OF THE WEST LINE OF SAID SECTION 5 AND 90 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 5; THENCE SOUTHEASTERLY ALONG A STRAIGHT LINE, A DISTANCE OF 35.36 FEET TO A POINT, SAID POINT LYING 65 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 5 AND 75 FEET EAST OF THE WEST LINE OF SAID SECTION 5; THENCE EASTERLY ALONG A STRAIGHT LINE PARALLEL WITH AND 65 FEET DISTANT FROM THE SOUTH

LINE OF SAID SECTION 5, A DISTANCE OF 125 FEET; THENCE SOUTHEASTERLY, A DISTANCE OF 175.64 FEET TO A POINT, SAID POINT LYING 50 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 5 AND 375 FEET EAST OF THE WEST LINE OF SAID SECTION 5; THENCE EAST ALONG A STRAIGHT LINE, PARALLEL AND DISTANT 50 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 5 FOR A DISTANCE OF 932 FEET, MORE OR LESS, TO A POINT, SAID POINT LYING ON THE EAST LINE OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 5, DISTANT 50 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 5; THENCE SOUTH ALONG THE SAID EAST LINE FOR A DISTANCE OF 17 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

AND ALSO EXCEPTING THEREFROM PARCEL 4: PORTION OF LAND QUIT CLAIM DEEDED TO BUFFALO GROVE PARK DISTRICT WITH DOCUMENT NUMBER 94966261 RECORDED NOVEMBER 14, 1994: PART OF THE SOUTHWEST QUARTER OF SECTION 5 TOWNSHIP 42 NORTH RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, BOUNDED AND DESCRIBED AS FOLLOWS, TO-WIT: COMMENCING AT THE SOUTHWEST CORNER OF SAID QUARTER SECTION; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST ALONG THE WEST LINE OF SAID QUARTER SECTIONS, 765.82 FEET; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS EAST 428.30 FEET TO THE POINT OF BEGINNING; THENCE NORTH 45 DEGREES 00 MINUTES 00 SECONDS WEST 13.58 FEET; THENCE SOUTH 45 DEGREES 00 MINUTES 00 SECONDS WEST 38.17 FEET; THENCE NORTH 45 DEGREES 00 MINUTES 00 SECONDS WEST 30.00 FEET; THENCE NORTH 45 DEGREES 00 MINUTES 00 SECONDS EAST 111.17 FEET; THENCE SOUTH 45 DEGREES 00 MINUTES 00 SECONDS EAST 43.58 FEET; THENCE SOUTH 45 DEGREES 00 MINUTES 00 SECONDS WEST 75.00 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

PARCEL INDEX NUMBER: 03-05-302-002; 03-05-302-003; 03-05-303-029; 03-05-303-003

EXHIBIT B

Plan Set

**Buffalo Grove High School
School District #214
1100 W Dundee Road**



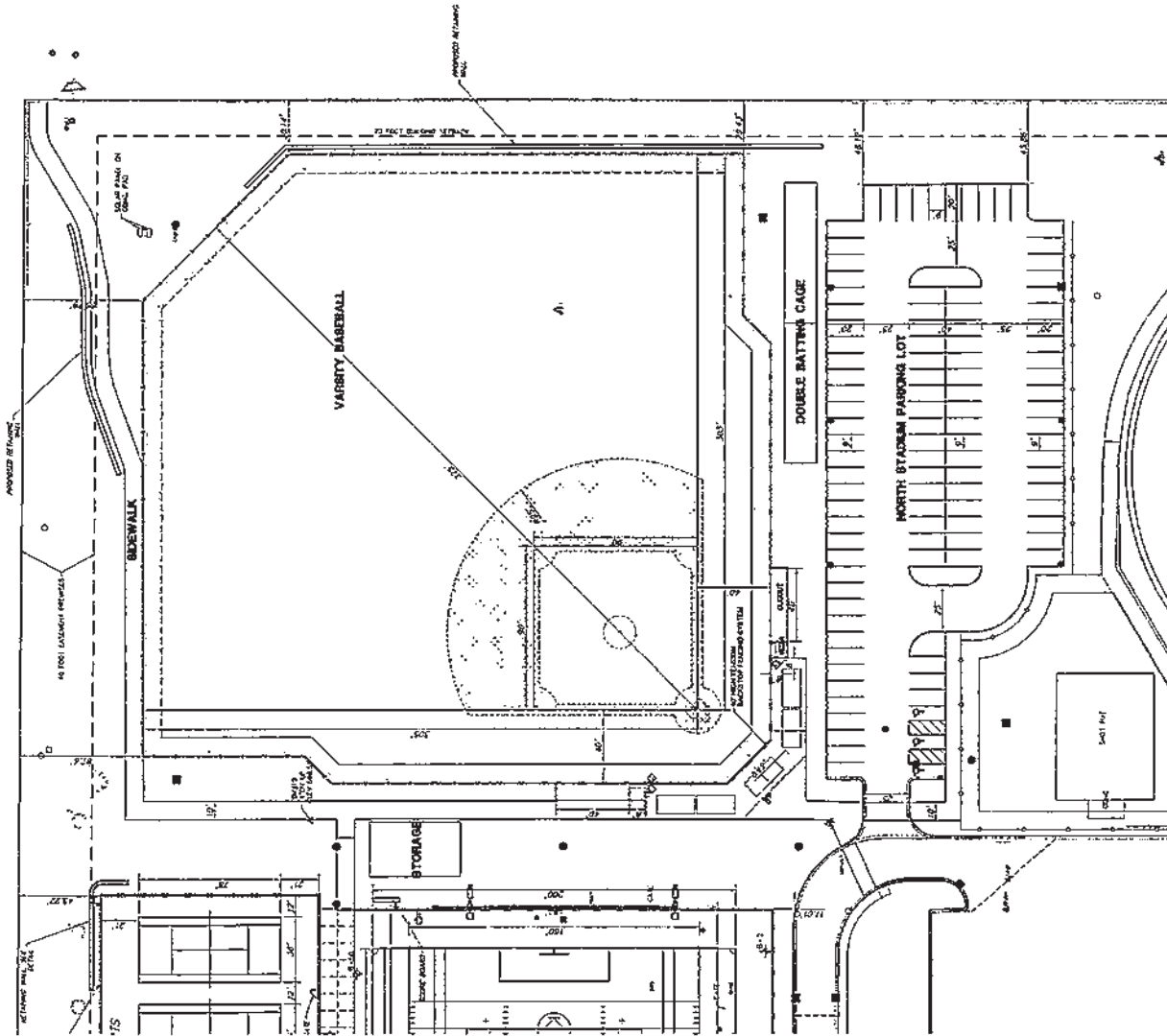
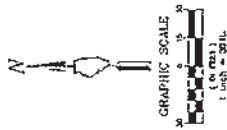
STR PARTNERS LLC
350 West Ontario Street
Suite 200
Chicago IL 60654
312.464.1444
www.strpartners.com

Project Description and Narrative Statement

Buffalo Grove High School Athletic Field Renovations Phase 1 & 2

Township High School District 214 is embarking on a significant upgrade to the area of the existing baseball fields and stormwater retention basin on the north side of Buffalo Grove High School. This area, known as the "north shelf", was initially shaped by the disposal of excavation spoils from the school's original construction in 1972, and has seen little change since. Currently, after rainfall, the poor drainage system results in the fields remaining waterlogged for up to two weeks, leading to disruptions in the schedules of athletic teams and the mandatory physical education classes for the school's 2,000 students. Moreover, the site's compliance with the Americans with Disabilities Act (ADA) is compromised due to inadequate grading around the fields, which poses accessibility challenges for spectators. Addressing these issues through the proposed renovations will not only resolve the longstanding problems associated with drainage and accessibility but will also significantly enhance the functionality and inclusivity of the school's outdoor facilities.

The renovation project is designed to tackle the existing issues through comprehensive site regrading and the installation of advanced stormwater management systems. Beyond addressing these foundational concerns, the project ambitiously seeks to transform the area into an attractive hub for both athletes, students, and spectators. Key enhancements include the creation of premier varsity softball and baseball fields, equipped with brick backstops and modern safety netting, enclosed dugouts, and dedicated spectator seating. Enhancing visitor convenience and the overall experience, the plan incorporates a new ticket booth and strategic fencing for improved access control, alongside a concessions building with a welcoming plaza and restroom facilities—thereby introducing essential amenities to this segment of the campus. Additionally, the introduction of new tennis courts with areas specifically allocated for spectators and an artificial turf multi-sport field caters to the needs of the burgeoning athletics program and physical education classes, marking a significant step forward in fostering an inclusive and vibrant sports culture.

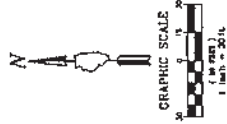


PHASE 2 FIELD RENOVATIONS PRELIMINARY GEOMETRIC PLAN

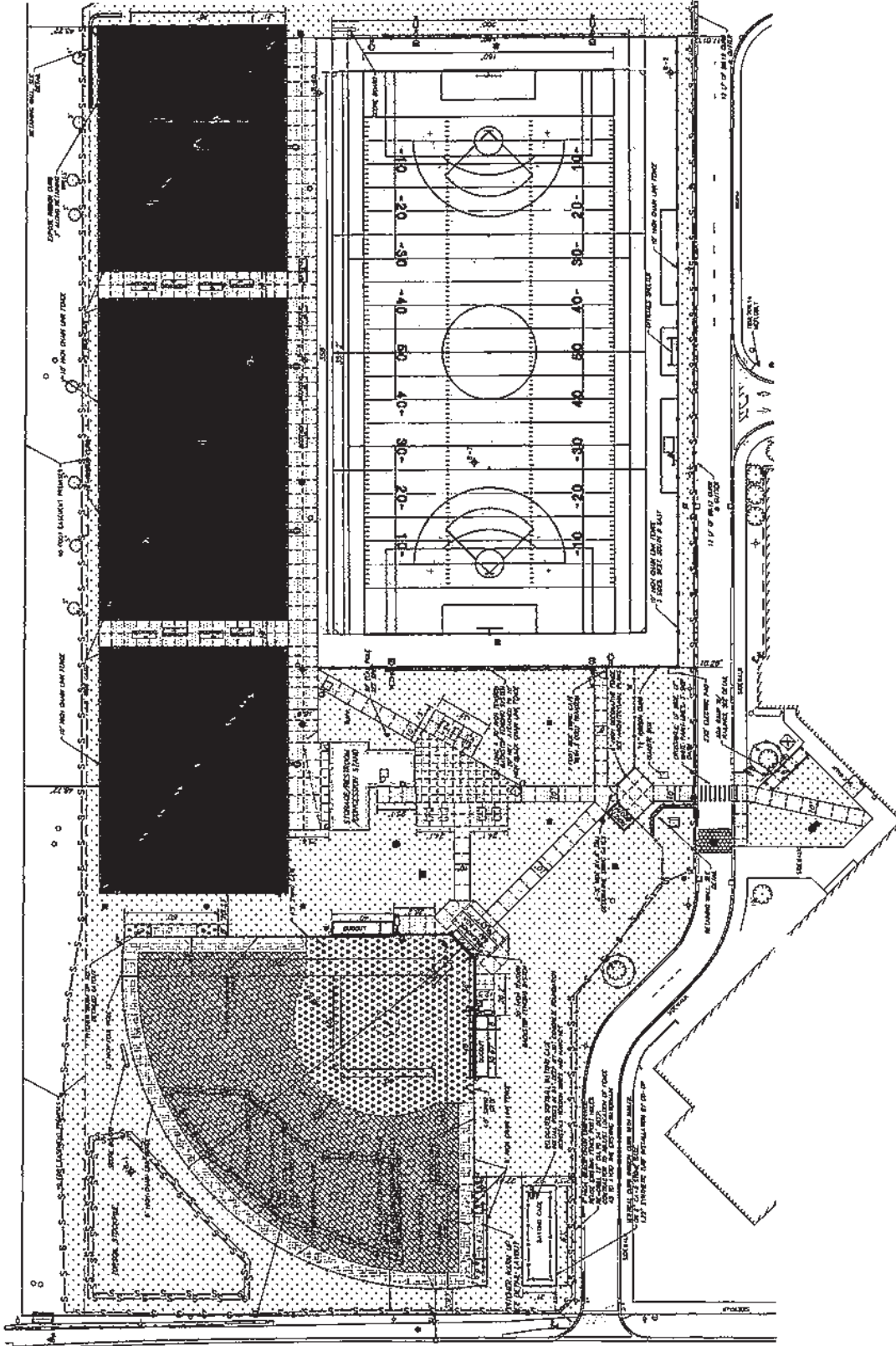
D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1405 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 2/15/2024

GHA GEWALT HAMILTON
 ASSOCIATES, INC.
 625 Forest Glen Drive • New York, NY 10061
 TEL: 877-418-0300 • FAX: 877-418-0301

STEF
 THE PLANNERS, LLC
 330 West Oakdale Street | Suite 200
 Chicago, IL 60624
 www.stefplanners.com



- PROPOSED LEGEND**
- CLASS "D" PAVEMENT PATCH 5' SEE DETAIL
 - TENNIS COURT PAVEMENT SEE DETAIL
 - PCC PAVEMENT 5'
 - PCC PAVEMENT 6'
 - SYNTHETIC TURF FIELD
 - SOFTBALL FIELD 500'
 - WASHING TRACK SEE DETAIL
 - PALM, SEED & BASKET
 - SOFTBALL FIELD FINAL 500'
 - STONE RIP RAP
 - DETACHABLE MARKINGS ON 12' x 20' & 20' x 10' BENCHES & OUTLETS (IMPROVED)
 - INTEGRATED SIDEWALK/CONCRETE CURB
 - RETAINING WALL SEE DETAIL
- PROPOSED LEGEND**
- PAVED AREA
 - LAWN AREA
 - LANDSCAPE AREA



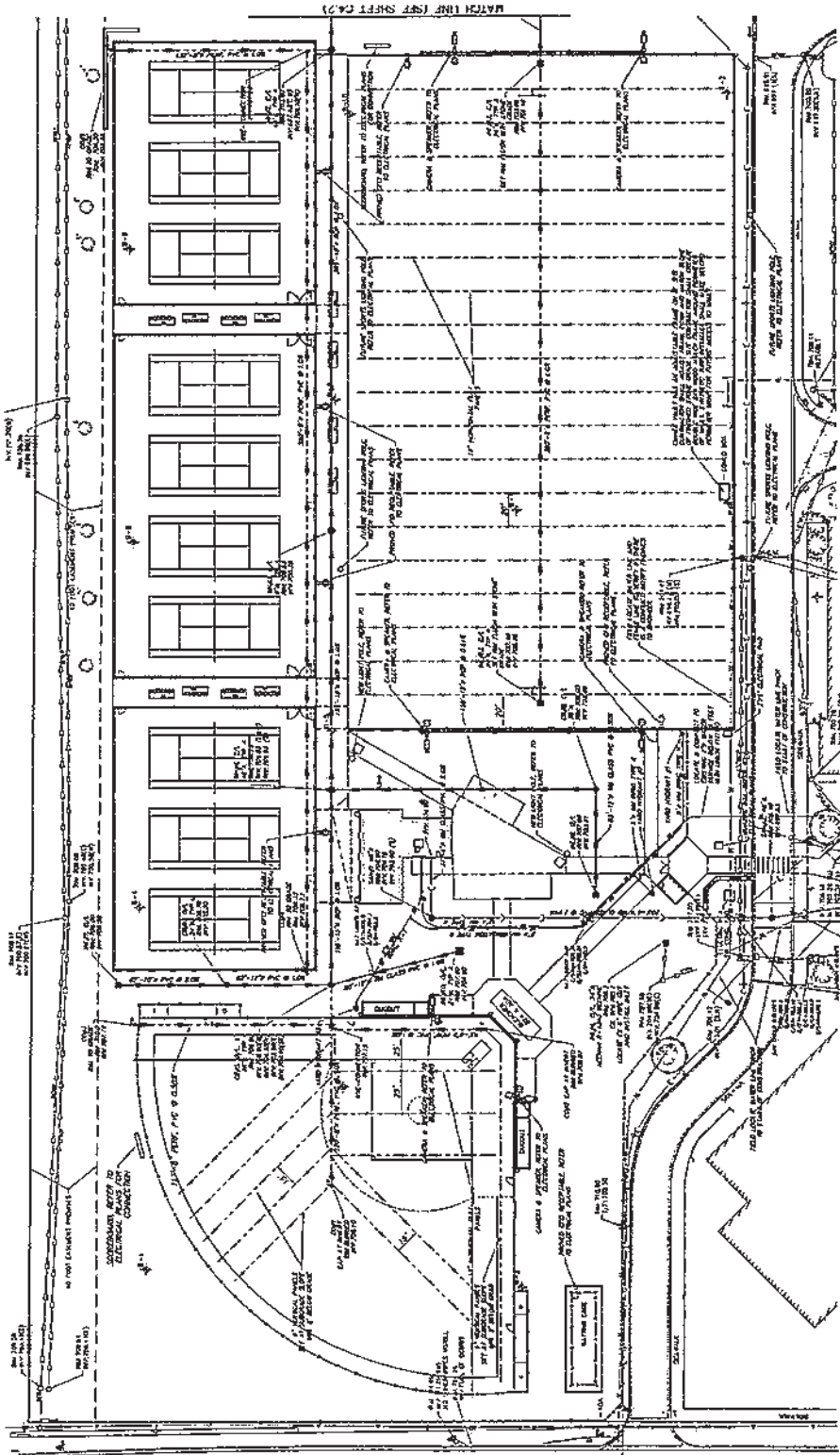
D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundas Road, Buffalo Grove, IL 60089
 Township High School District 214
 21532024

PHASE 1 FIELD RENOVATIONS

STH
 STH Architects, LLC
 350 West Oakley Street | Suite 200
 Chicago, IL 60654
 www.sth.com

GHA GEHWALT HAMILTON
 ASSOCIATES, INC.
 615 Forest Edge Drive • Vernon, IL 60081
 TEL: 618-418-5100 • FAX: 618-418-5101

D 3 ARLINGTON HEIGHTS CD



UTILITY PLAN LEGEND

EXISTING SYMBOL	PROPOSED SYMBOL
EXISTING STORM SEWER	PROPOSED STORM SEWER
EXISTING SANITARY SEWER	PROPOSED SANITARY SEWER
EXISTING WATER	PROPOSED WATER
EXISTING GAS	PROPOSED GAS
EXISTING ELECTRICAL	PROPOSED ELECTRICAL
EXISTING MANHOLE	PROPOSED MANHOLE
EXISTING VALVE	PROPOSED VALVE
EXISTING FIRE HYDRANT	PROPOSED FIRE HYDRANT
EXISTING STREET LIGHT	PROPOSED STREET LIGHT
EXISTING POLE	PROPOSED POLE

UTILITY PLAN NOTES

- The contractor shall verify the exact location and elevation of existing utilities prior to construction. Any discrepancies shall be reported immediately to the engineer and the contractor shall be responsible for making any necessary adjustments to the plan.
- Excavation for utilities shall be done in accordance with the Illinois Excavation Safety Act (23 ILCS 150/1-150/10).
- Utility lines shall be installed in accordance with the applicable codes and standards.
- Manholes shall be constructed in accordance with the applicable codes and standards.
- Valves shall be installed in accordance with the applicable codes and standards.
- Fire hydrants shall be installed in accordance with the applicable codes and standards.
- Street lights shall be installed in accordance with the applicable codes and standards.
- Poles shall be installed in accordance with the applicable codes and standards.

AS-CONSTRUCTED INFORMATION (DRAWING AND FIELD CONSTRUCTION)

- The contractor shall provide the following information to the engineer upon completion of the project:
 - As-built drawings showing the location and elevation of all utilities.
 - Manhole locations and elevations.
 - Valve locations and elevations.
 - Fire hydrant locations and elevations.
 - Street light locations and elevations.
 - Pole locations and elevations.

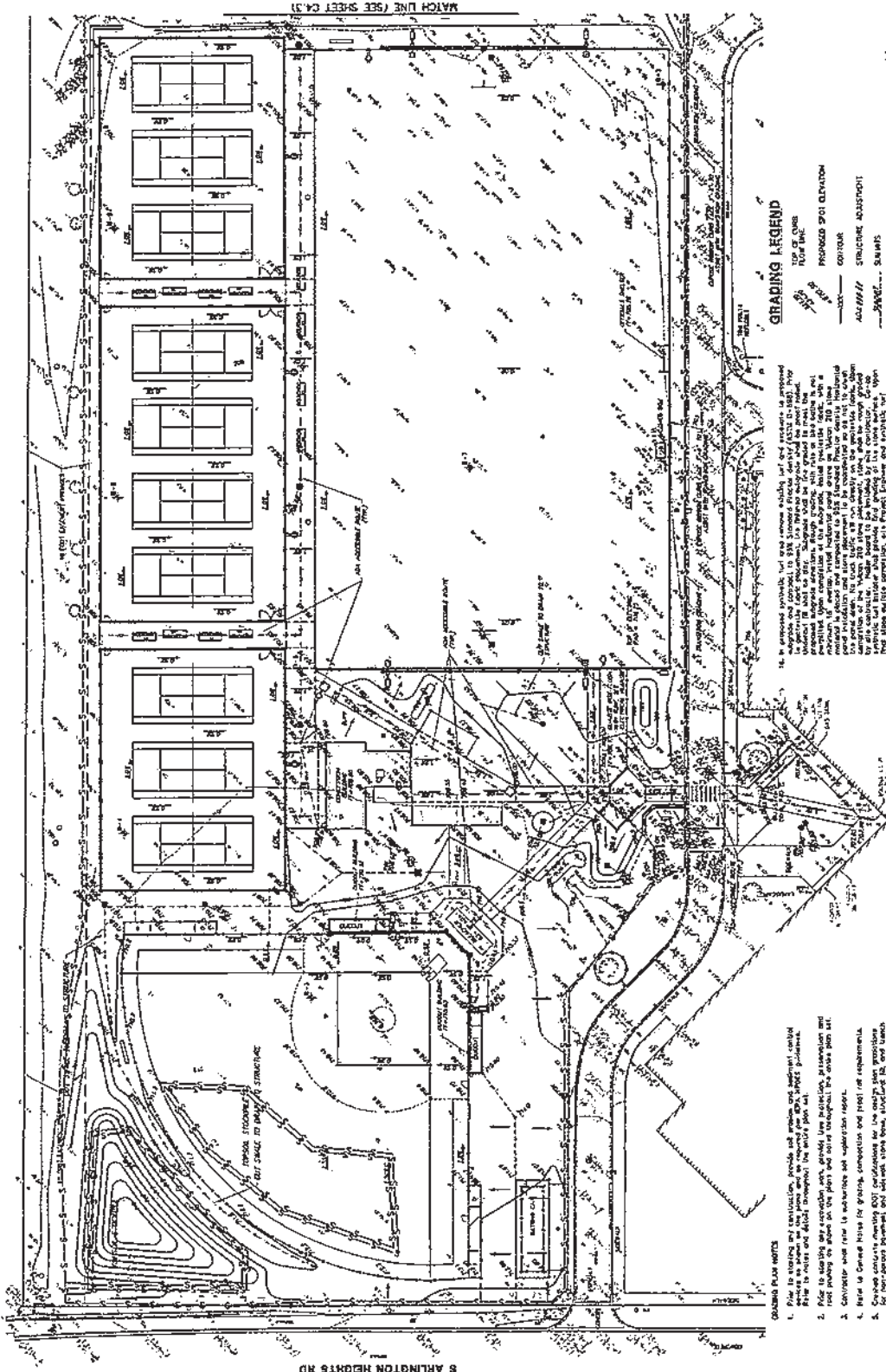
UTILITY PLAN NOTES (Continued)

- Utility lines shall be installed in accordance with the applicable codes and standards.
- Manholes shall be constructed in accordance with the applicable codes and standards.
- Valves shall be installed in accordance with the applicable codes and standards.
- Fire hydrants shall be installed in accordance with the applicable codes and standards.
- Street lights shall be installed in accordance with the applicable codes and standards.
- Poles shall be installed in accordance with the applicable codes and standards.

UTILITY PLAN - PHASE 1

STF
 110 Fenwick LLC, Suite 1100
 Chicago, IL 60654
 www.stf.com

CH2M HILL
 GEORGE HAMILTON
 ASSOCIATES, INC.
 CONSULTING ENGINEERS



MATCH LINE (SEE SHEET CA-3)

S ARLINGTON HEIGHTS RD

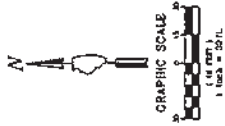
GRADING LEGEND

- TOP OF CURB
- PROPOSED SPOT ELEVATION
- CONTOUR
- STRUCTURE FOOTPRINT
- SWALES
- SHALES
- OVERLAND FLOW RAIN
- RETICULABLE WASHING
- SAFETY CURB & DUTCH (REGULAR)
- SAFETY CURB & DUTCH (DEPRESSURED)
- SAFETY CURB
- PROPOSED CURB (DEPRESSURED)
- ASR ACCESSIBLE ROUTE


















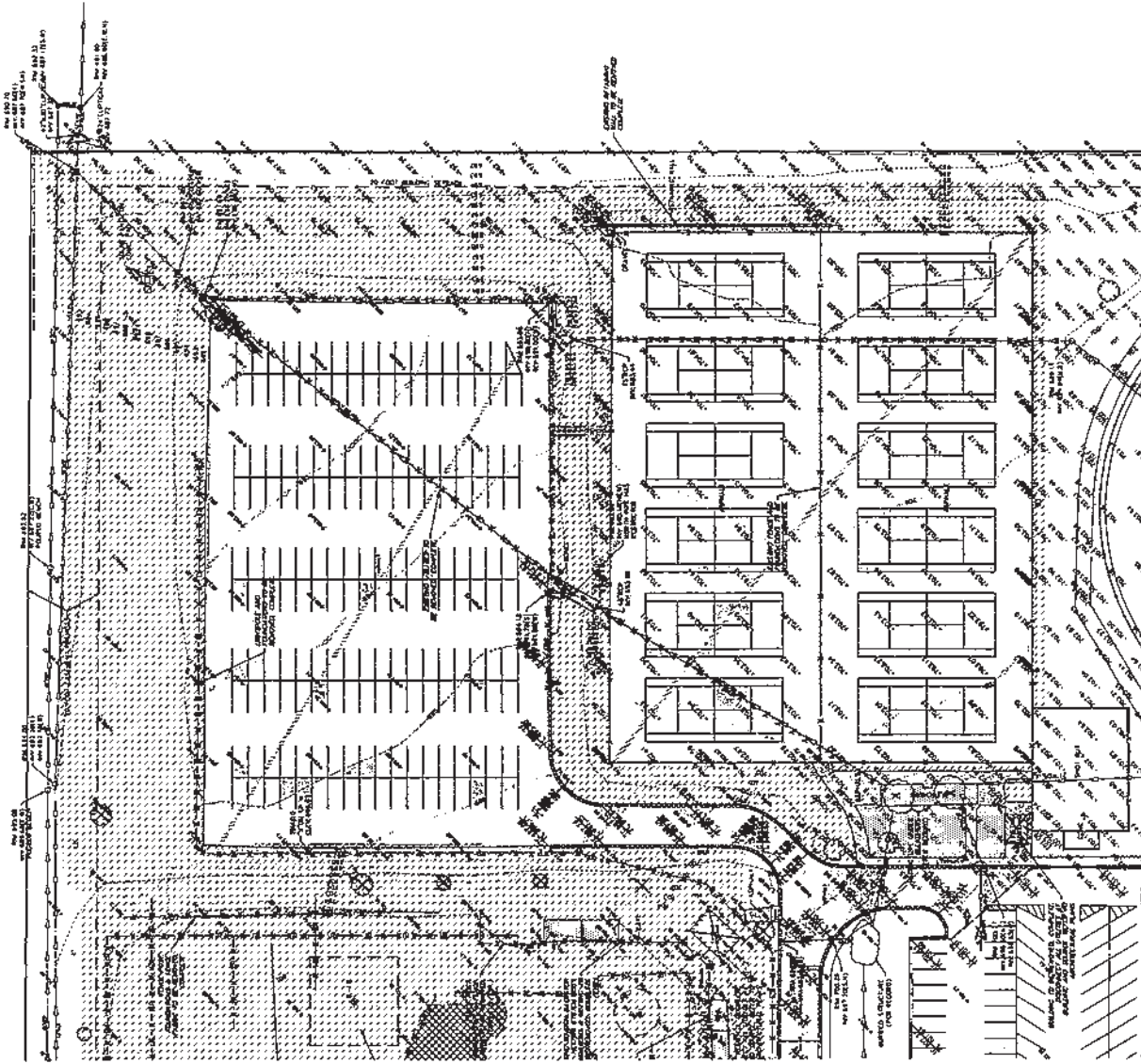
It is proposed that the site be graded to provide a level and uniform surface for the athletic field and surrounding areas. The proposed grading plan is based on the existing ground conditions, topography, and proposed structures. The proposed grading plan is subject to the approval of the local health department and the local fire department. The proposed grading plan is subject to the approval of the local health department and the local fire department.

1. Prior to starting any excavation, provide safe access and egress for all workers and equipment. Provide for the safe removal of spoil and debris from the work area.
2. Prior to starting any excavation, provide safe access and egress for all workers and equipment. Provide for the safe removal of spoil and debris from the work area.
3. Contractor shall provide for the safe access and egress for all workers and equipment.
4. Prior to starting any excavation, provide safe access and egress for all workers and equipment. Provide for the safe removal of spoil and debris from the work area.
5. Prior to starting any excavation, provide safe access and egress for all workers and equipment. Provide for the safe removal of spoil and debris from the work area.
6. Graded concrete may not be used for underdrain trench or drains.
7. The contractor shall provide for the safe access and egress for all workers and equipment. Provide for the safe removal of spoil and debris from the work area.
8. The contractor shall provide for the safe access and egress for all workers and equipment. Provide for the safe removal of spoil and debris from the work area.
9. All structures shall be adjacent to the existing field and surrounding areas.
10. Prior to starting any excavation, provide safe access and egress for all workers and equipment. Provide for the safe removal of spoil and debris from the work area.
11. Prior to starting any excavation, provide safe access and egress for all workers and equipment. Provide for the safe removal of spoil and debris from the work area.



REMOVAL LEGEND

-  WOOD MS. SALVAGE
-  PARTIAL REMOVAL TILL
-  ASPHALT REMOVAL 1" DUTY PAVEMENT
-  CLASS 2 PAVEMENT PATCH HEAVY DUTY PAVEMENT
-  EARTH/GRAVEL REMOVAL
-  CONCRETE/FORMALY REMOVAL
-  PATHWAY REMOVAL
-  TREE/SHRUB REMOVAL
-  SEE LANDSCAPE PLAN FOR TREE REMOVAL AND TREE PARTICIPATION
-  PERFORATOR CHISSEL MARKER AND CUTTER REMOVAL
-  PAVEMENT SANDS
-  UTILITY TO BE REMOVED
-  STRUCTURE/UTILITY REMOVAL
-  CONSTRUCTION FENCE
-  B-110 SUN. BARBER

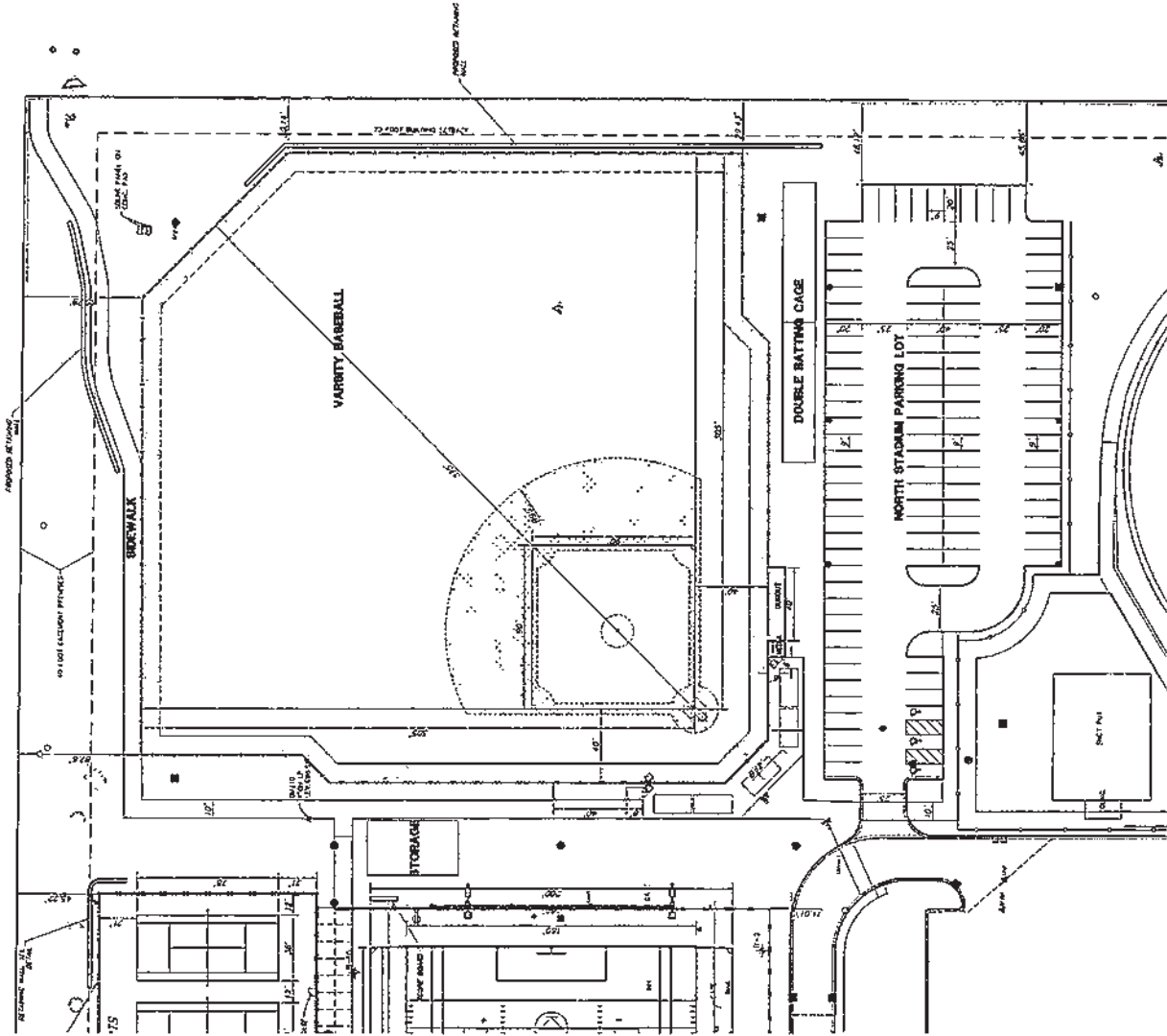
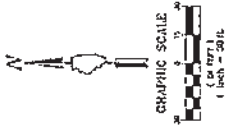


PHASE 2 FIELD RENOVATIONS PRELIMINARY DEMOLITION PLAN

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1700 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 2/13/2024

GHA GEHWALT HAMILTON ASSOCIATES, INC.
 625 River Street, Suite 1100, Chicago, IL 60606
 Tel: 847-483-7100 • Fax: 847-478-9701

STF
 STF Partners, LLC
 350 West Chicago Street | Suite 200
 Chicago, IL 60654
 www.stfpartners.com

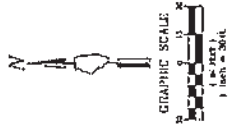


PHASE 2 FIELD RENOVATIONS PRELIMINARY GEOMETRIC PLAN

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1400 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 815378024

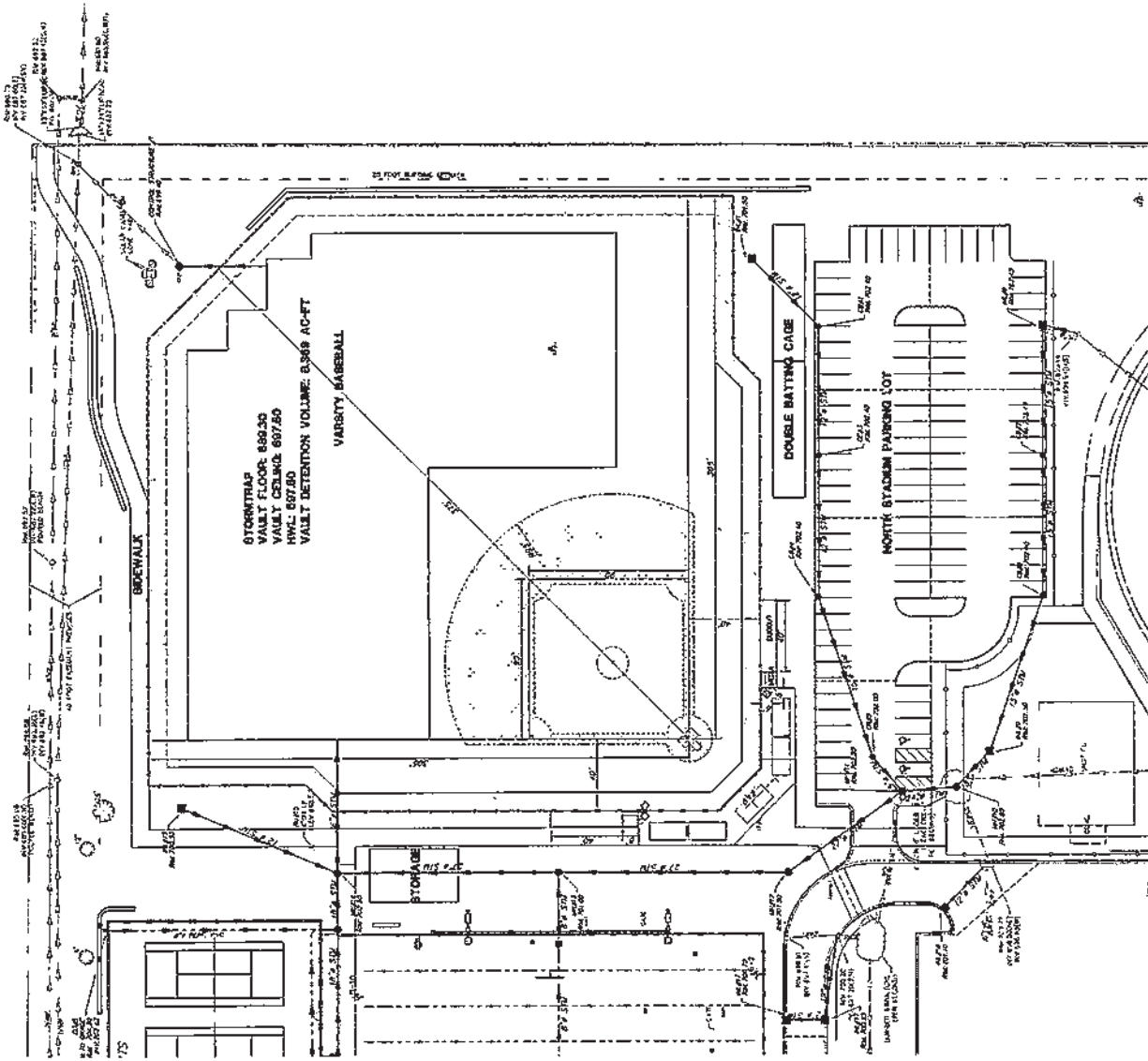
GHA GENAAT HAMILTON
 ASSOCIATES, INC.
 605 Forest Edge Drive • Vernon Hills, IL 60061
 Tel: 847.478.9100 • Fax: 847.478.9701

STR
 The Partners, LLC
 3000 West 10th Street, Suite 206
 Chicago, IL 60604
 www.strpartners.com



UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- EXISTING MANHOLE
- STORM MANHOLE
- STORM CATCH-BASIN
- STORM PILE
- FLOODED SWP REGION
- SEWERAGE INFRASTRUCTURE
- VALVE VAULT
- VALVE BOX
- FIRE HYDRANT
- BUFFALO BOX
- STREET LIGHT
- POWDER POLE
- SOI

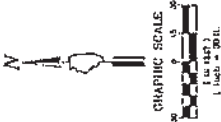


D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 2/13/2024

PHASE 2 FIELD RENOVATIONS PRELIMINARY UTILITY PLAN

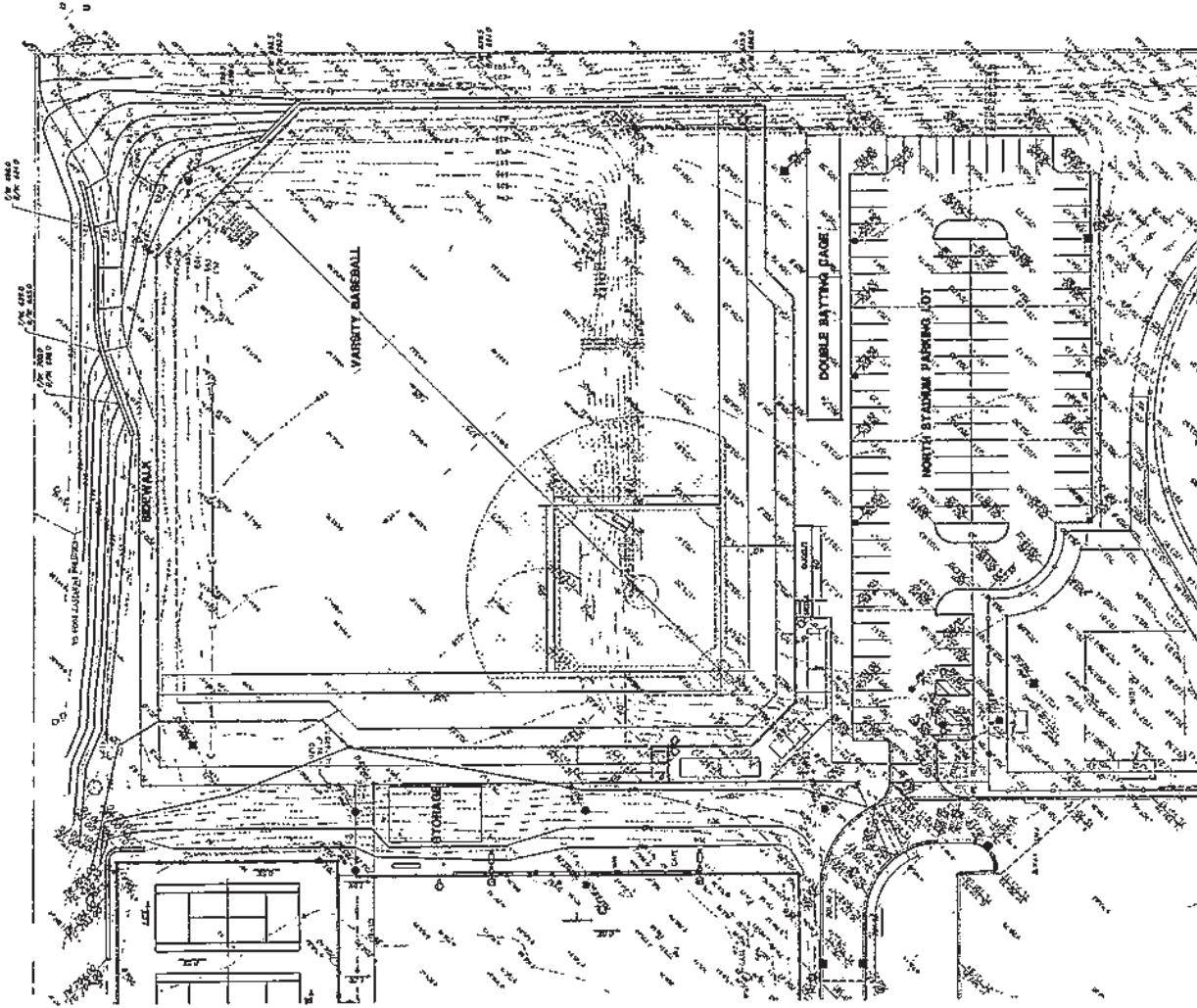
GHA GEHART HAMILTON
 ASSOCIATES, INC.
 625 Forest Edge Drive • Vermont Hills, IL 60061
 Tel: 847-476-0700 • Fax: 847-478-9701

STFR
 STFR Partners, LLC
 3700 North Lincoln Street | Suite 200
 Chicago, IL 60654
 www.stfrpartners.com



GRADING LEGEND

- EXISTING ELEVATION
- PROPOSED SPOT ELEVATION
- CONTOUR
- STRUCTURE OUTLINE
- STAIRS
- OUTLEADING FLOW ROUTE
- DETECTABLE MARKINGS
- 66.12 CURB & GUTTER (RECYCLED)
- 66.13 CURB & GUTTER (IMPROVED)
- GRASSY AREA
- PAVED AREA (IMPROVED)

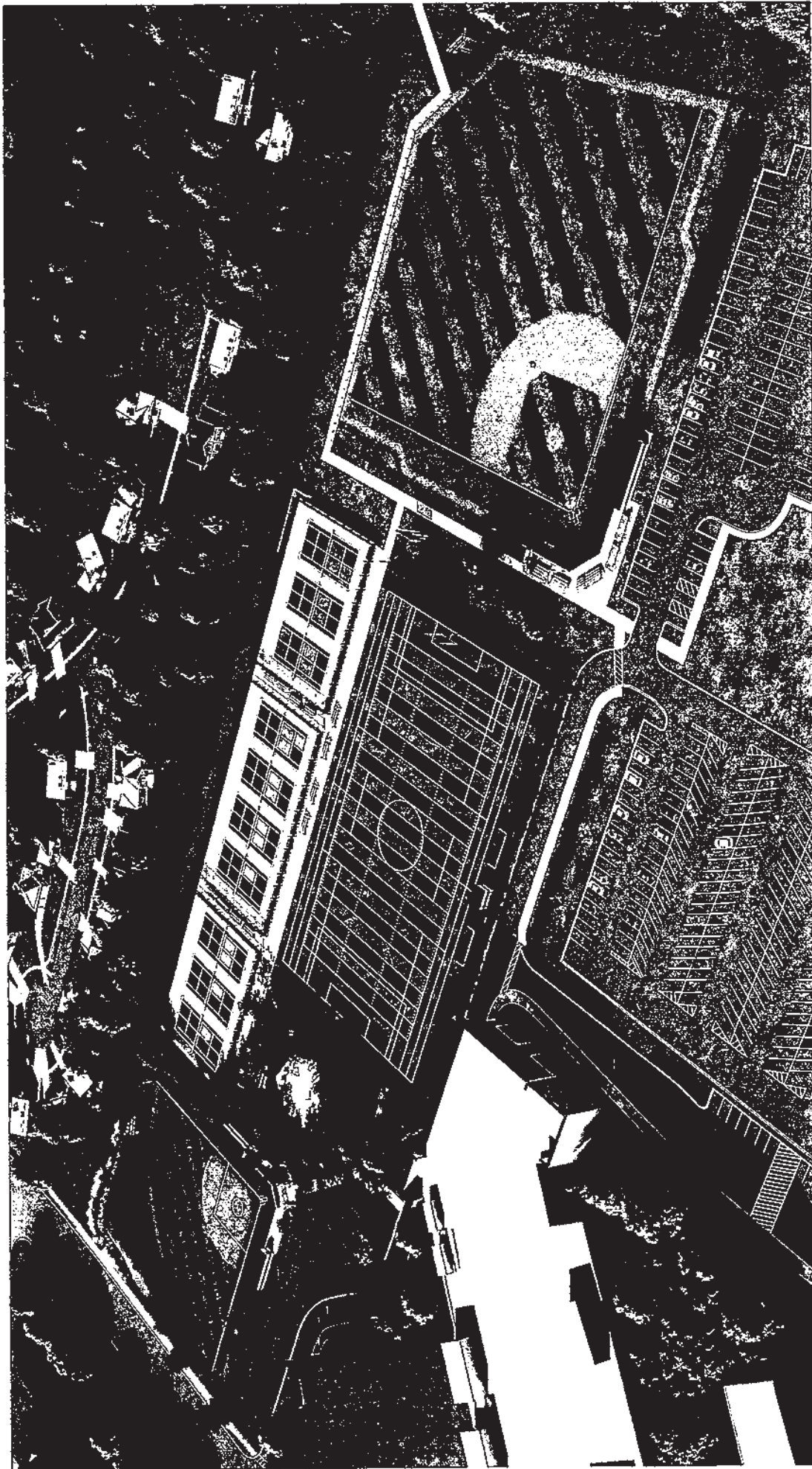


PHASE 2 FIELD RENOVATIONS PRELIMINARY GRADING PLAN

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 21432024

GHA GEWALT HAMILTON ASSOCIATES, INC.
 625 Konyak Edge Drive • Vernon Hills, IL 60061
 Tel: 817-478-9700 • Fax: 817-478-9701

STR
 STR Partners, LLC
 600 North Dearborn Street, Suite 1000
 Chicago, IL 60610
 www.strpartners.com



AERIAL VIEW OF PHASE 1 & 2

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
1100 W Dundee Road, Buffalo Grove, IL 60086
Township High School District 214
21122024

GHA GRANT HAMILTON
ASSOCIATES, INC.
CONSULTING ENGINEERS

STP
SUE PETERSON, LLC
20100 Chicago Ave
Morton, IL 61550
www.stpinc.com



TICKET BOOTH, CONCESSION STAND AND PLAZA

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
11600 W Dundee Road, Buffalo Grove, IL 60089
Township High School District 214
2132024

STP
INC.
310 West Chicago Street, Suite 200
Chicago, IL 60604
www.stpinc.com

CH2M HILL
ASSOCIATES, INC.
CONSULTING ENGINEERS

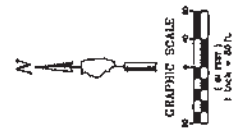
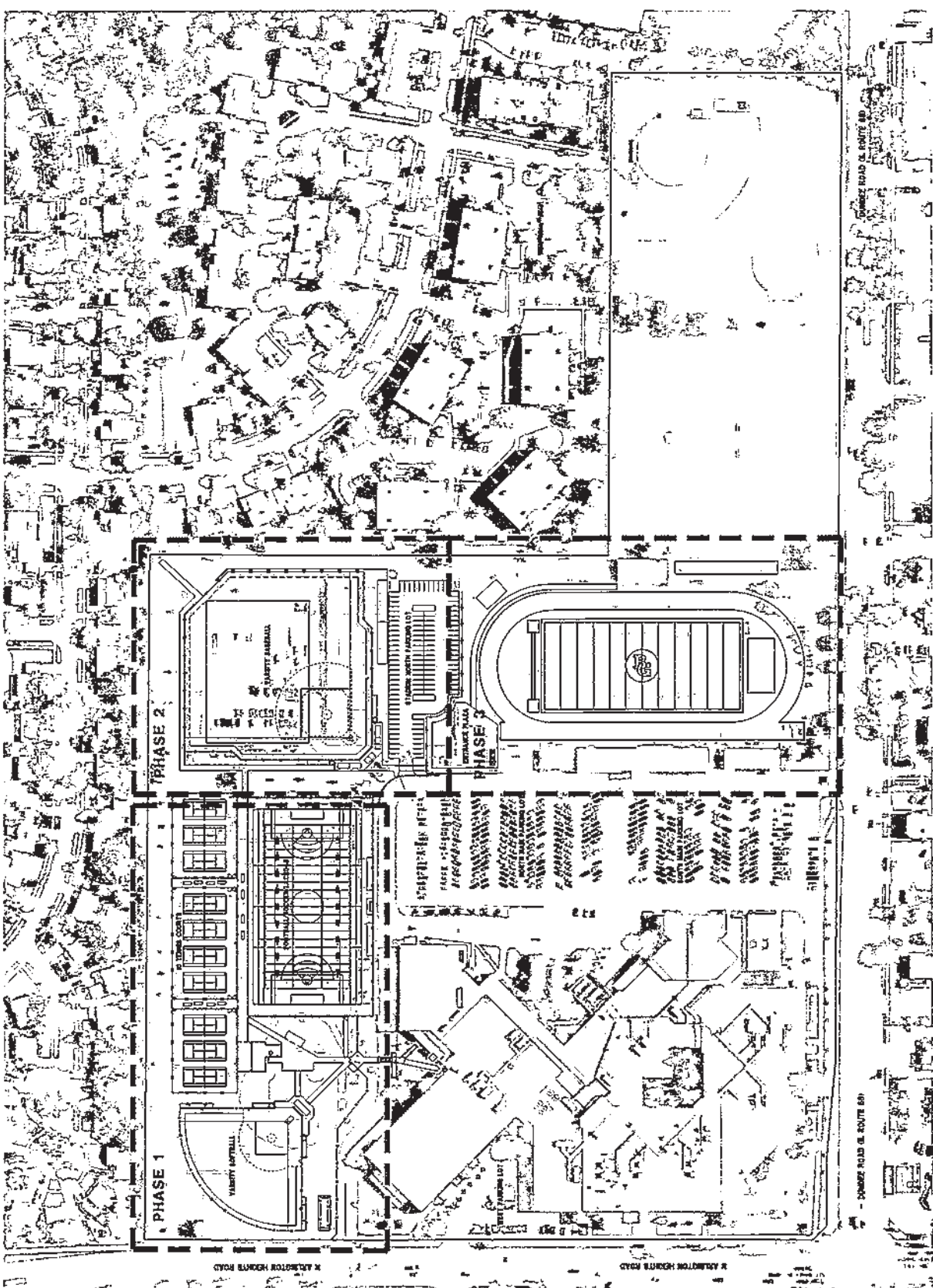


SOFTBALL FIELD, TENNIS COURTS AND MULTI-SPORT TURF FIELD

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
1100 W Dundee Road, Buffalo Grove, IL 60089
Township High School District 214
2/13/2024

CHAI GERHAU HAMILTON
ASSOCIATES, INC.
CONSULTING ENGINEERS

STEF
188 Federal LLC
310 West Ontario Street | Suite 200
Chicago, IL 60654
www.stefinc.com

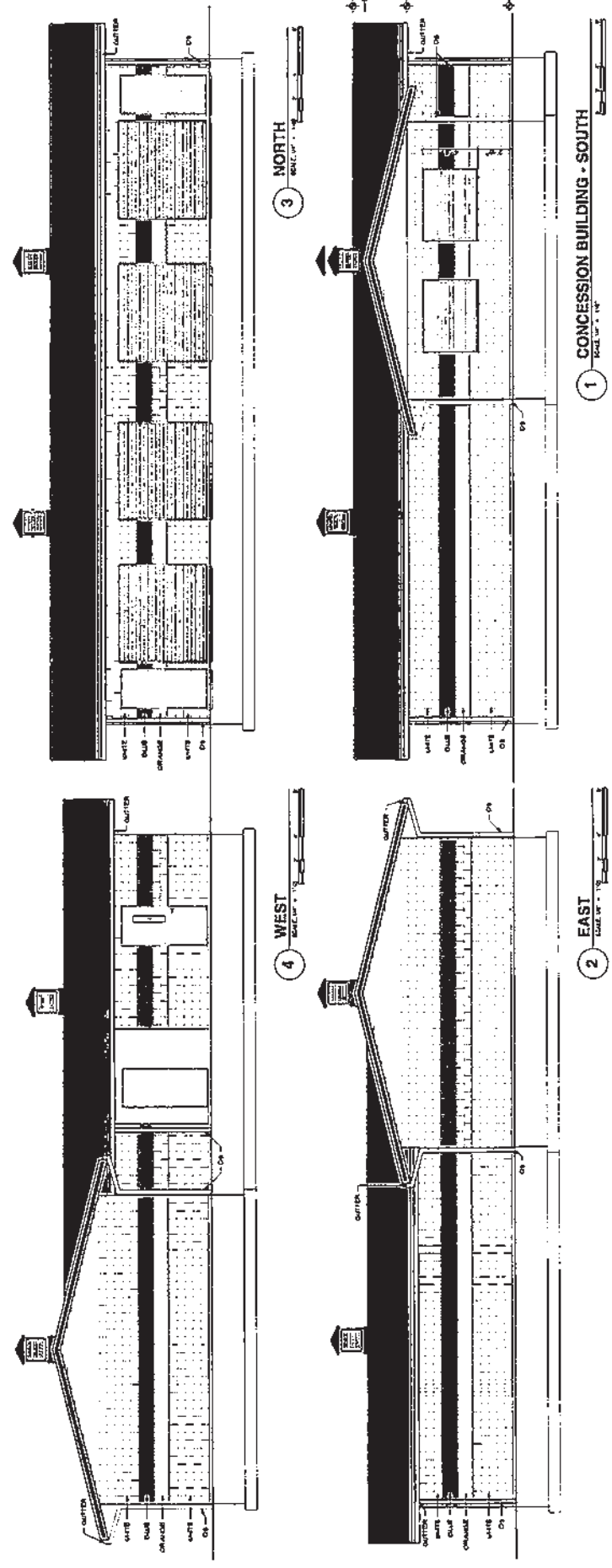
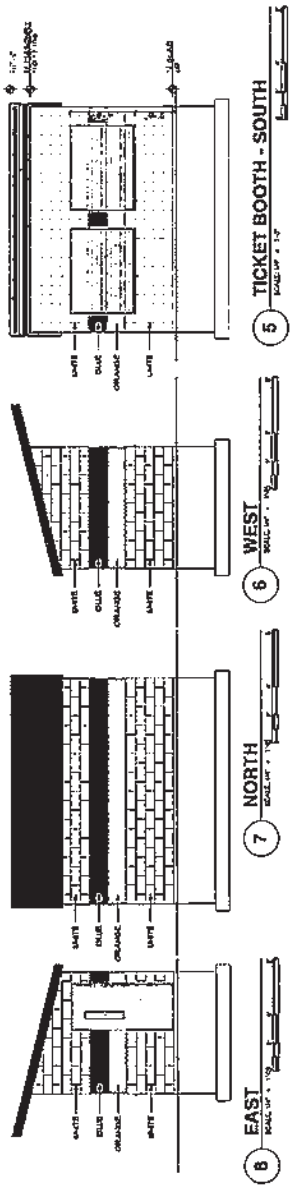


D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 100 W Dundeen Road, Buffalo Grove, IL 60089
 Township High School District 214
 21532824

ORIGINAL CAMPUS CONCEPT PLAN

GHA GEHART HAMILTON ASSOCIATES, INC.
 615 Forest Edge Drive, Vernon Hills, IL 60061
 TEL: 815-718-7108 • FAX: 815-718-7101

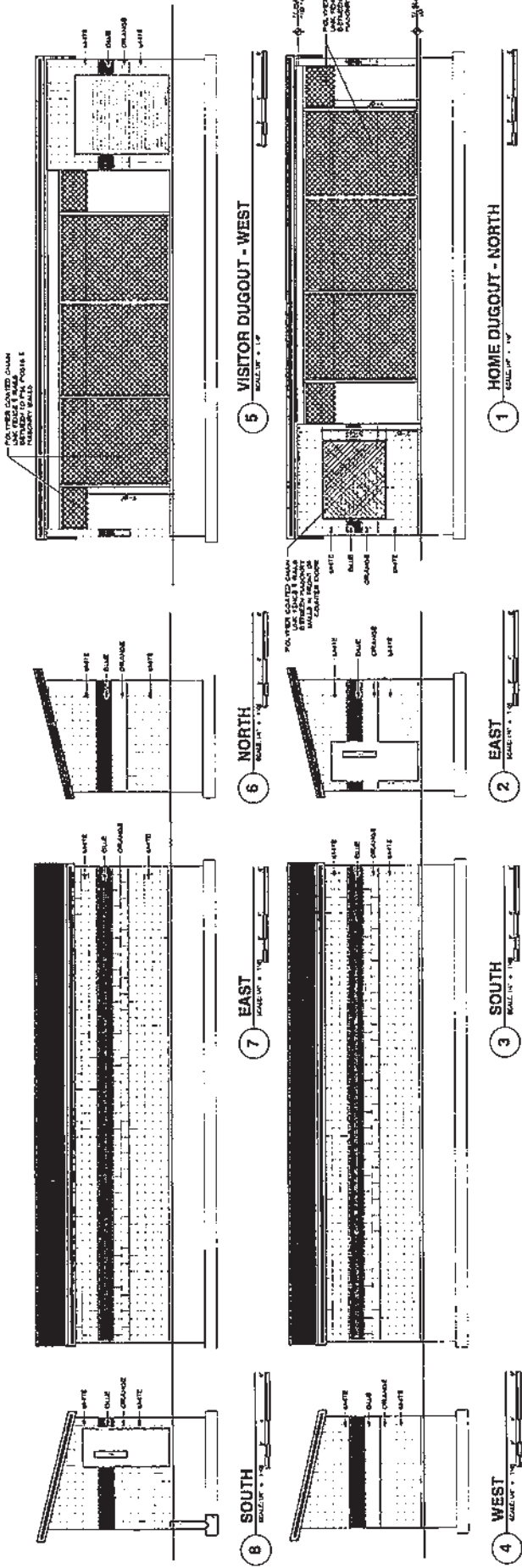
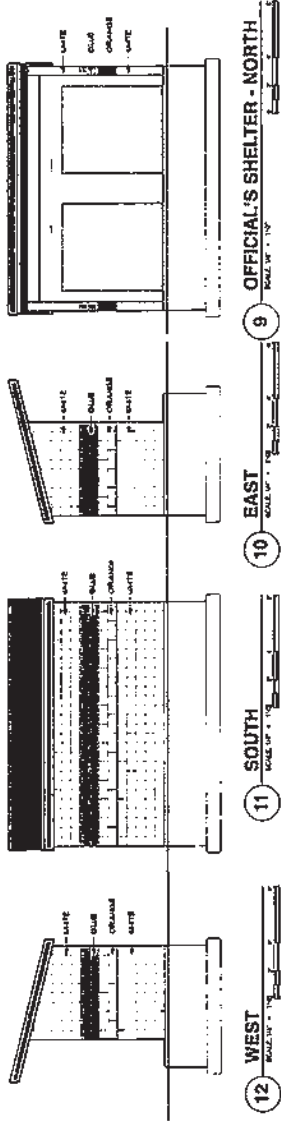
STP
 STP PARTNERS, LLC
 350 West Oakleaf Street | Suite 300
 Chicago, IL 60664
 www.stppartners.com



D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
1100 W Dundee Road, Naperville, IL 60563
Township High School District 214
217.320.024

CONCESSION BUILDING & TICKET BOOTH ELEVATIONS

STR
SPE CONSULTANTS, LLC
350 West Chicago Street | Suite 200
Chicago, IL 60654
www.strfirm.com



STR 318 Parkview, LLC
 336 West Chicago Street, Suite 200
 Chicago, IL 60654
 www.strfirm.com

GHA GERRIT HAMILTON
 ASSOCIATES, INC.
 CONSULTING ENGINEERS

DUGOUTS & OFFICIAL'S SHELTER ELEVATIONS

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundee Road, Buffalo Grove, IL 60089
 Townships High School District 214
 215320226

ARCHITECT:
STR PARTNERS, LLC
 350 West Ontario Street | Suite 200
 Chicago, IL 60654
 E: 312.464.1444
 www.strpartners.com

GENERAL CONTRACTOR:
FRANK TRAVIS DEVELOPMENT, INC.
 1000 N. LaSalle Street, Suite 2000
 Chicago, IL 60610
 P: 312.464.1444

OWNER:
 D214 BGHS ATHLETIC FIELD
 2114 South Cass Street
 Chicago, IL 60605
 P: 773.555.1100

SET PLAN

DATE: 08/14/14
PROJECT: D214 BGHS ATHLETIC FIELD RENOVATIONS PHASE 1
LOCATION: 2114 South Cass Street, Chicago, IL 60605

PROJECT NUMBER: 23040
DATE: 08/14/14
SCALE: 1/8" = 1'-0"

PROJECT NAME: MULTISPORT FIELD OFFICIAL'S SHELTER

- 1. 08/14/14 APPROVAL 1
- 2. 08/14/14 APPROVAL 2
- 3. 08/14/14 APPROVAL 3
- 4. 08/14/14 APPROVAL 4
- 5. 08/14/14 APPROVAL 5

PROJECT NUMBER: 23040
DATE: 08/14/14
SCALE: 1/8" = 1'-0"

SHEET QUANTITY
A5.0

CONSTRUCTION FLOOR PLAN LEGEND

ZZZZ	OUTWALL
----	INTERIOR
----	CURTAIN WALL
----	GLASS CURTAIN WALL
----	GLASS CURTAIN WALL WITH INSULATION
----	GLASS CURTAIN WALL WITH INSULATION AND EXTERIOR FINISH
----	GLASS CURTAIN WALL WITH INSULATION AND EXTERIOR FINISH AND OPERABLE WINDOW
----	GLASS CURTAIN WALL WITH INSULATION AND EXTERIOR FINISH AND OPERABLE WINDOW AND SCHEDULING

CONSTRUCTION FLOOR PLAN GENERAL NOTES

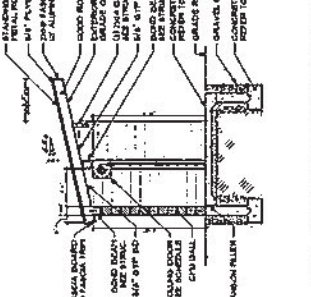
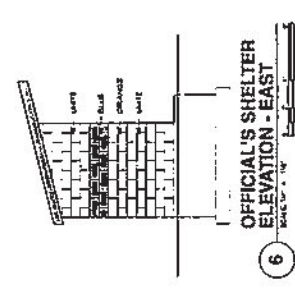
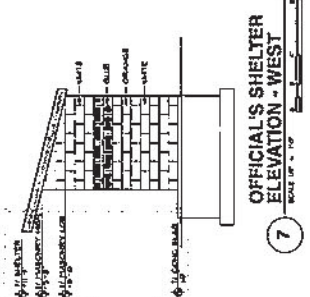
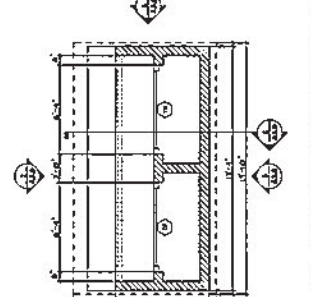
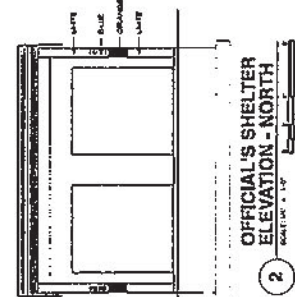
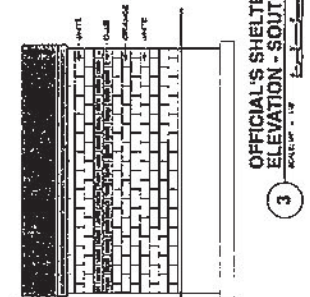
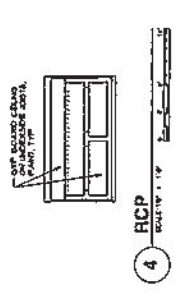
- SEE STRUCTURAL DRAWINGS AND SCHEDULES FOR MATERIALS, FINISHES, AND SCHEDULES.
- SEE ARCHITECTURAL SCHEDULES FOR MATERIALS, FINISHES, AND SCHEDULES.
- SEE ARCHITECTURAL SCHEDULES FOR MATERIALS, FINISHES, AND SCHEDULES.
- SEE ARCHITECTURAL SCHEDULES FOR MATERIALS, FINISHES, AND SCHEDULES.

EXTERIOR ELEVATIONS LEGEND

1	FACE BRICK 1
2	FACE BRICK 2
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98	FACE BRICK 98
99	FACE BRICK 99
100	FACE BRICK 100

EXTERIOR ELEVATIONS GENERAL NOTES

- PAINT EXPANDED B.C. UNLESS OTHERWISE NOTED.
- SELECTED BY ARCHITECT.



OFFICIAL'S SHELTER FLOOR PLAN
 SCALE: 1/8" = 1'-0"

OFFICIAL'S SHELTER SECTION
 SCALE: 1/8" = 1'-0"

ARCHITECT:
BE Forrester, LLC
 350 West Ontario Street | Suite 300
 Chicago, IL 60654

T: 312.464.1464
 www.strarchitect.com

OWNER:
CONSTRUCTION COMPANY
 11111 North Dearborn Street
 Suite 1000
 Chicago, IL 60631

DESIGNED BY:
CONSTRUCTION COMPANY
 11111 North Dearborn Street
 Suite 1000
 Chicago, IL 60631

CONSTRUCTION BY:
CONSTRUCTION COMPANY
 11111 North Dearborn Street
 Suite 1000
 Chicago, IL 60631

DATE: 10/20/11

LET PLAN

ACCTG INFORMATION
 The drawings are to be used for the construction of the building and are not to be used for any other purpose. The drawings are the property of the architect and shall remain the property of the architect. No part of these drawings shall be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the architect.

PROJECT INFORMATION
 D214 BGHS ATHLETIC PHASE I
 11111 North Dearborn Street
 Bridgeport, IL 62905

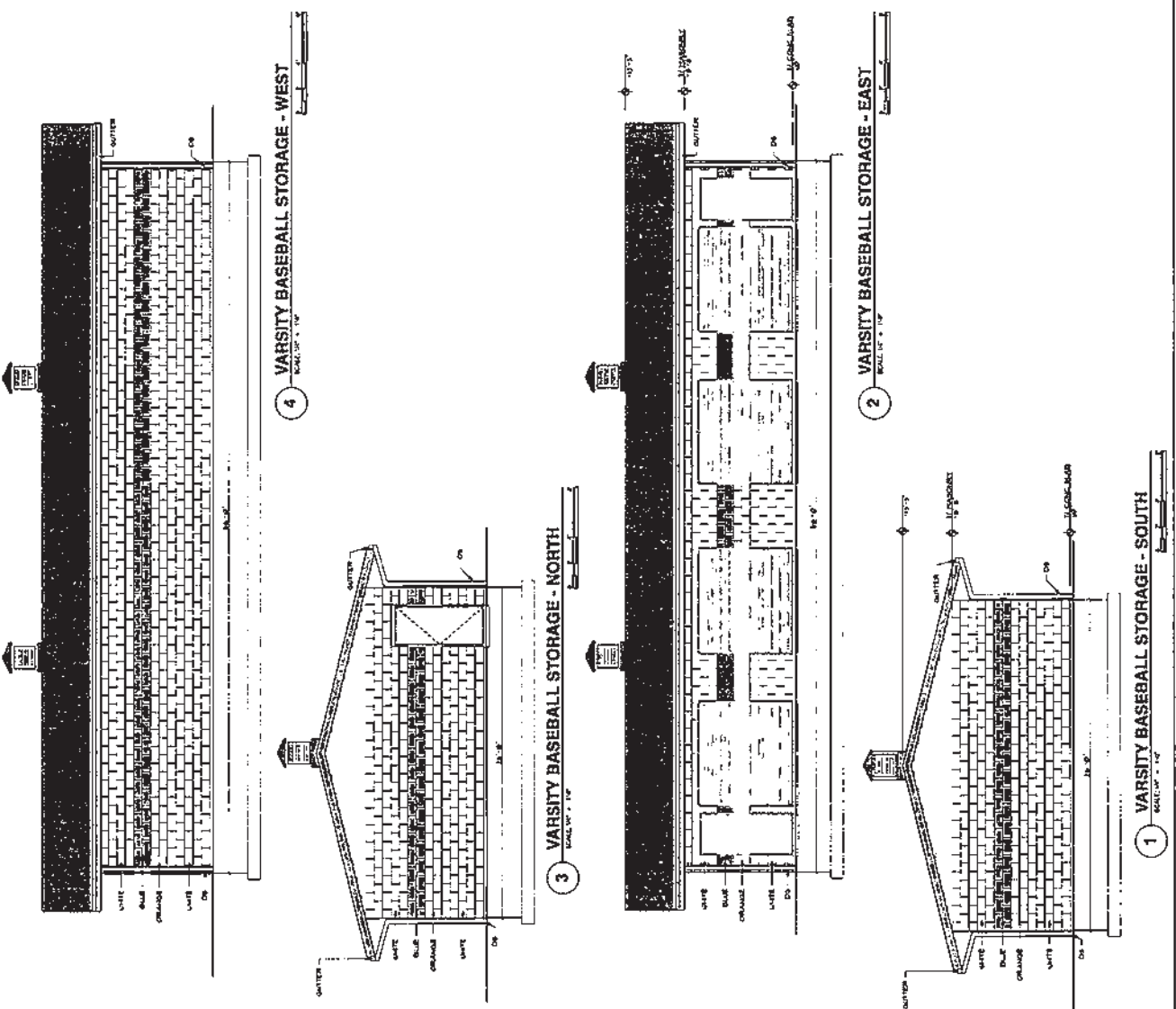
Township High School District 214
 2123 South Gooden Road
 Adamson Heights, IL 62905
 CLIENT PROJECT NUMBER

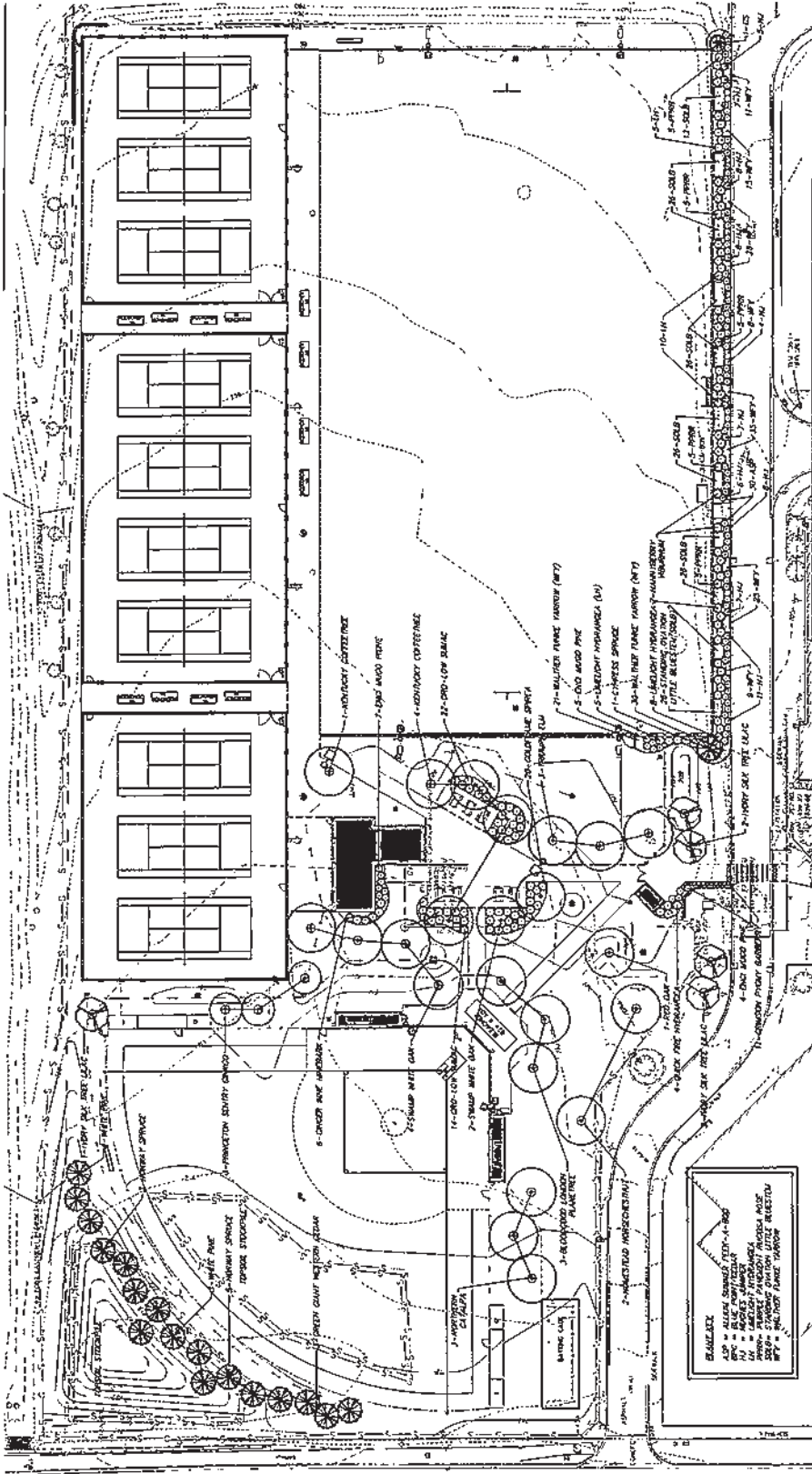
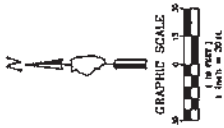
DATE: 10/20/11
 DRAWING TITLE: CONCESSIONS BUILDING ELEVATIONS
 SCALE: 1/8" = 1'-0"

DATE: 10/20/11
 DRAWING TITLE: CONCESSIONS BUILDING ELEVATIONS
 SCALE: 1/8" = 1'-0"

CONCESSIONS BUILDING ELEVATIONS

A6.1





S ARLINGTON HEIGHTS RD

Tree	Common Name	Scientific Name	Qty.	Size
1	Common Name	Scientific Name	11	5 gal.
2	Common Name	Scientific Name	15	5 gal.
3	Common Name	Scientific Name	20	5 gal.
4	Common Name	Scientific Name	25	5 gal.
5	Common Name	Scientific Name	28	24-30" HL
6	Common Name	Scientific Name	2	1 1/2" DBH
7	Common Name	Scientific Name	5	5 gal.
8	Common Name	Scientific Name	22	3 gal.
9	Common Name	Scientific Name	1	1 gal.
TOTAL TREES			237	
10	Common Name	Scientific Name	173	3 gal.
11	Common Name	Scientific Name	143	14 gal.
12	Common Name	Scientific Name	30	14 gal.

Tree	Common Name	Scientific Name	Qty.	Size
1	Common Name	Scientific Name	4	4" DBH
2	Common Name	Scientific Name	4	4" DBH
3	Common Name	Scientific Name	3	4" DBH
4	Common Name	Scientific Name	2	4" DBH
5	Common Name	Scientific Name	2	4" DBH
6	Common Name	Scientific Name	5	4" DBH
7	Common Name	Scientific Name	4	4" DBH
8	Common Name	Scientific Name	1	0" DBH
9	Common Name	Scientific Name	3	4" DBH
10	Common Name	Scientific Name	3	4" DBH
11	Common Name	Scientific Name	1	36" DBH
TOTAL TREES			50	

PLANT SCHEDULE

PHASE 1 FIELD RENOVATIONS LANDSCAPE PLAN

DZ14 BGHS ATHLETIC FIELD RENOVATIONS PHASING

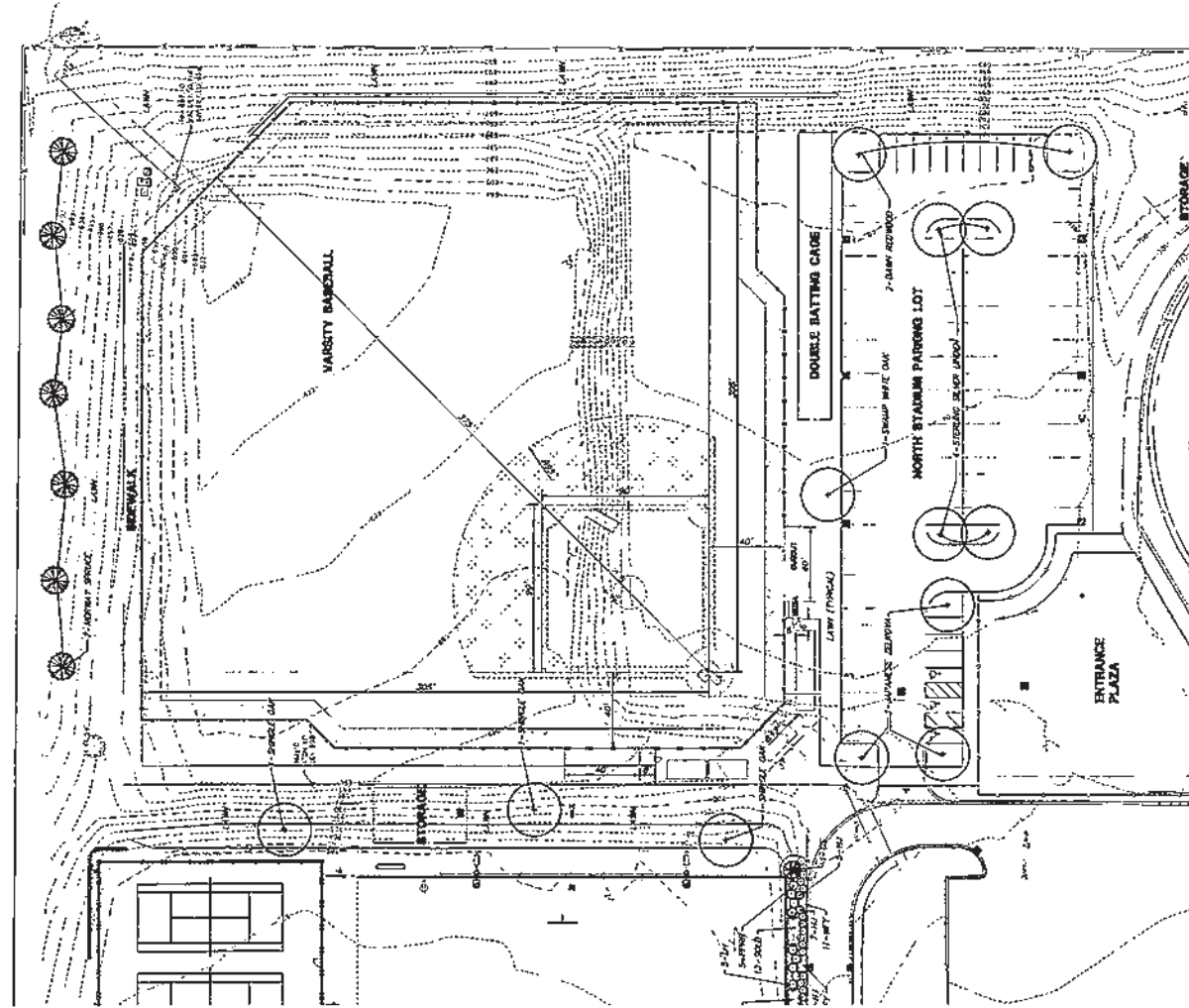
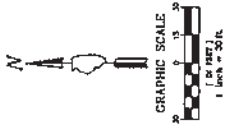
3700 W Dunce Road, Burbank Grove, IL 60089
Township High School District 214
217-232024

STF

STF Partners, LLC
350 West County Street | Suite 200
Burr Ridge, IL 60089
www.stf.com

GHA

GEHWALT HAMILTON
ASSOCIATES, INC.
645 E. 83rd St., Suite 100, Burr Ridge, IL 60089
Tel: 815-778-9700 • Fax: 815-778-9701



LEGEND

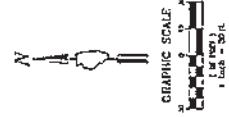
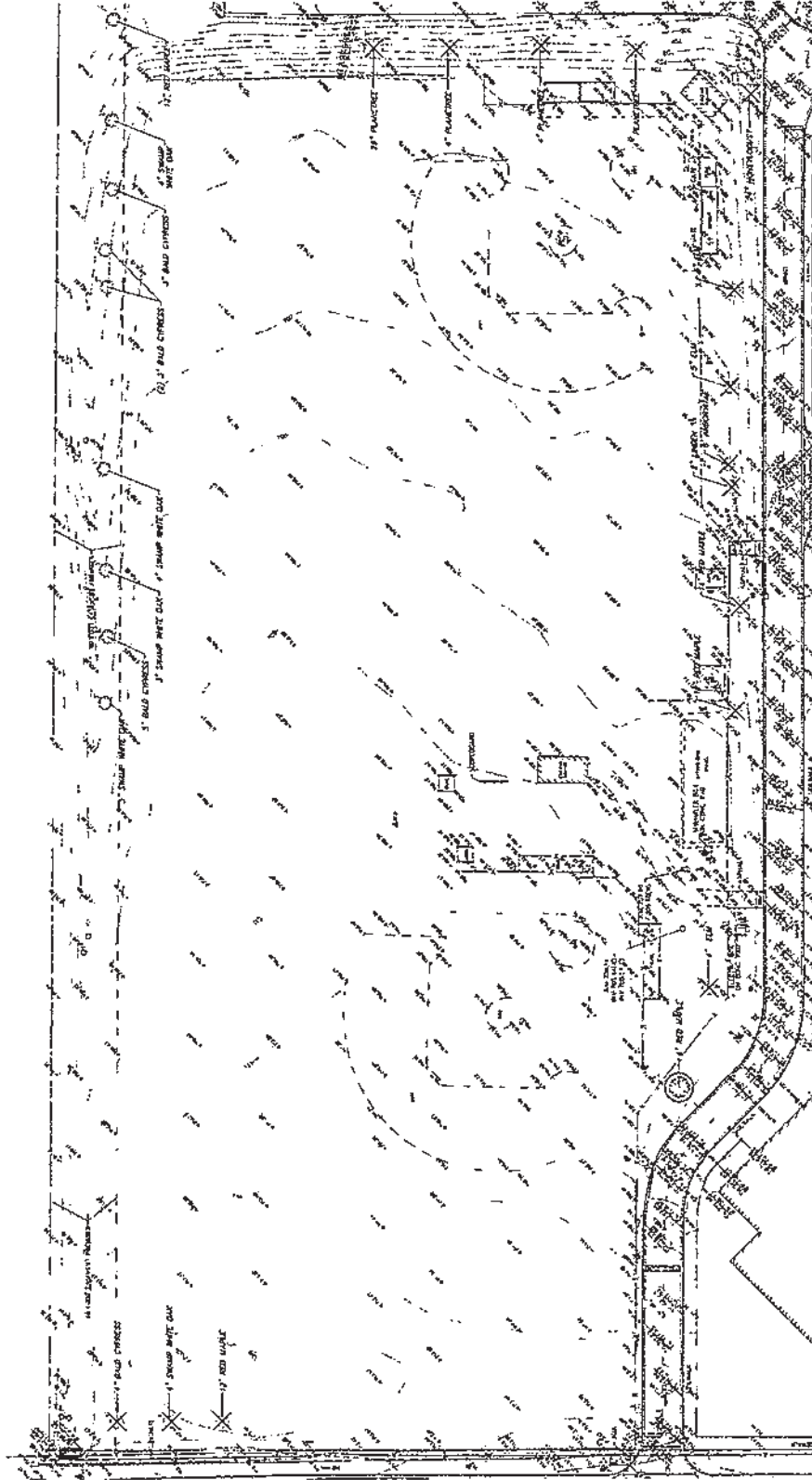
1	GRAVEL
2	ASPHALT
3	CONCRETE
4	PAVING
5	LANDSCAPE
6	STADIUM
7	ARTIST'S SKETCH

PHASE 2 FIELD RENOVATIONS LANDSCAPE PLAN

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 21423224

GHA GEWALT HAMILTON ASSOCIATES, INC.
 625 Forest Edge Drive • Vernon Hills, IL 60061
 TEL: 847.478.9100 • FAX: 847.478.9701

STP
 STP Partners, LLC
 200 West Lincoln Street, Suite 200
 Chicago, IL 60606
 www.stppartners.com



TREE REMOVAL SCHEDULE

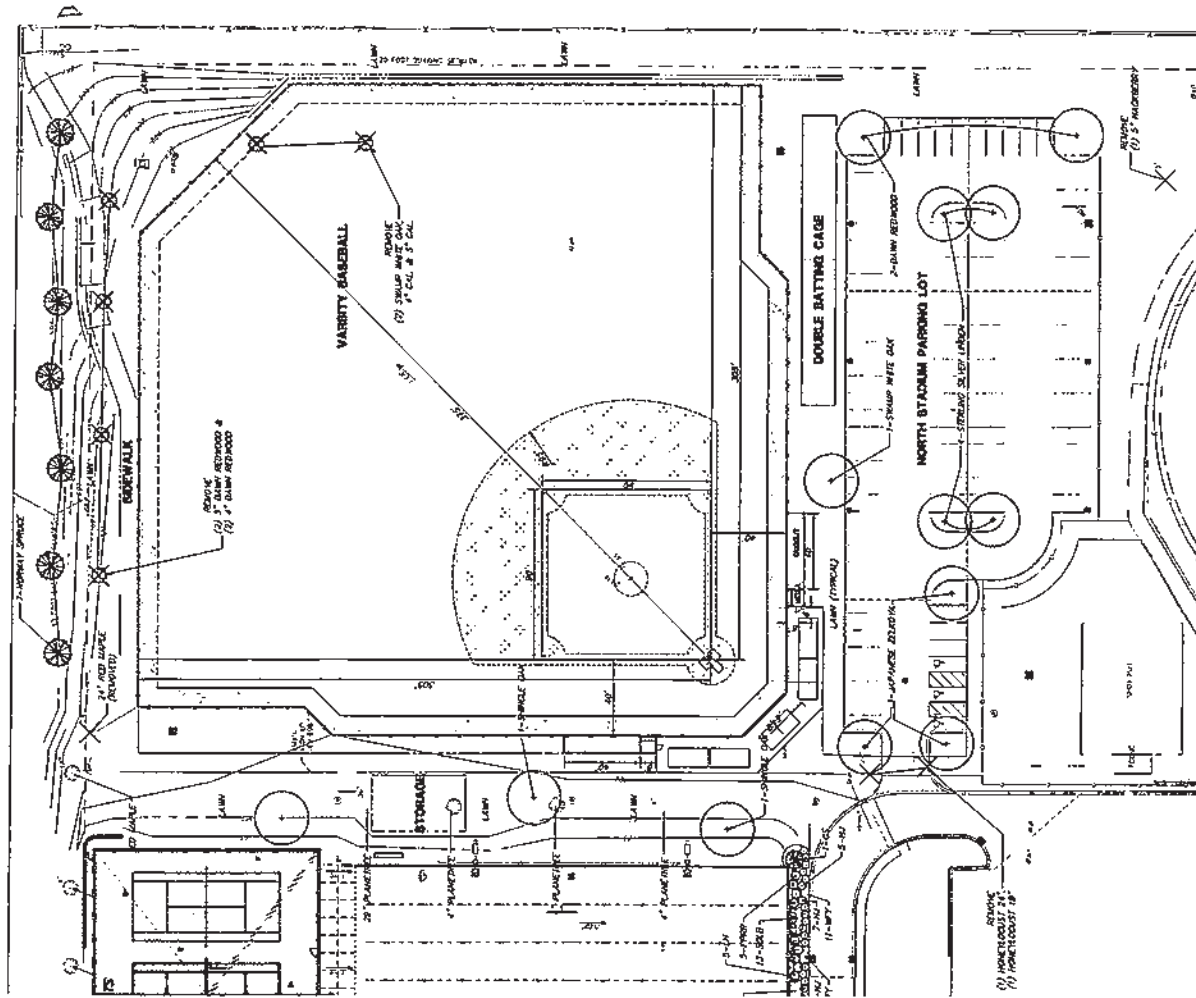
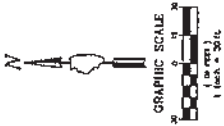
Disturbance	Common Name	Scientific Name	Qty.	Site	Notes
Key Tree	Planetree	<i>Platanoides x acerifolia</i> 'Bloodgood'	1	23'	Good
Key Tree	Honeylocust	<i>Gleditsia triacanthos</i>	1	24'	Good
Sign. Tree	Red Maple	<i>Acer rubrum</i>	1	28'	Poor
Sign. Tree	Red Maple	<i>Acer rubrum</i>	2	12'	Fair
Sign. Tree	Red Maple	<i>Acer rubrum</i>	1	4'	Good
Sign. Tree	Bald Cypress	<i>Taxodium distichum</i>	1	4'	Good
Sign. Tree	Triumph Elm	<i>Ulmus 'Marston Glossy'</i>	2	5'	Good
Sign. Tree	Triumph Elm	<i>Ulmus 'Marston Glossy'</i>	1	4'	Good
Sign. Tree	Swamp White Oak	<i>Quercus bicolor</i>	1	4'	Good
Sign. Tree	Planetree	<i>Platanoides x acerifolia</i> 'Bloodgood'	3	4'	Good
Sign. Tree	London	This species	1	2'	Fair
Sign. Tree	Arborvitae	<i>Arborvitae</i>	1	6'	Fair

CHAI GEWALD HAMILTON
ASSOCIATES, INC.
CONSULTING ENGINEERS

STF
318 Redman, LLC
250 West Chicago Street | Suite 200
Chicago, IL 60604
www.stf.com

TREE PRESERVATION PLAN - PHASE 1

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
1100 W Dundee Road, Buffalo Grove, IL 60089
Township High School District 214
2/13/2024



DATE LIST

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D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundee Road, Buffalo Grove, IL 60089
 Township High School District 214
 2/13/2024

PHASE 2 FIELD RENOVATIONS TREE PRESERVATION PLAN

CHA GEWALT HAMILTON ASSOCIATES, INC.
 625 Forest Edge Drive • Vernon Hills, IL 60061
 Tel: 811-478-9700 • Fax 811-478-9701

STP
 STP Engineers, LLC
 330 West Orchard Street | Suite 200
 Chicago, IL 60654
 www.stpengineers.com

Buffalo Grove Multipurpose Field

Buffalo Grove, IL

Lighting System

Pole/Fixture Summary			
Pole ID	Fixture Manufacturer	Part Number	Quantity
EL1A	TR	70	2
		16	2
		36	2
		116-87-575	2
		84-08-W	2

Circuit Summary

Circuit	Description	Load	Phase Qty
A	Footcandle	44.08 kW	36

Fixture Type Summary

Type	Source	Wattage	Lumens	EPD	LMF	LF	Quantity
TR	LED-3500-2-35-01	375W	32,000	>120,000	>120,000	>120,000	2
TR	LED-3500-2-35-01	375W	32,000	>120,000	>120,000	>120,000	2

Single Luminaire Ampere Draw Chart

Driver Specifications (.60 max power factor)	150	200	250	300	350	400
Single Phase Voltage	120V	150V	200V	250V	300V	400V
TR	3.9	5.2	6.5	7.8	9.1	11.8
TR	4.4	5.8	7.3	8.8	10.3	13.6

Light Level Summary

Calculation Grid Summary	Grid Name	Calculation Metric	Illumination			Credits	Fixtures Qty
			15 Min	30 Min	1 Hr		
TR	TR	Horizontal Illuminance	0.02	0.07	0.27	A	36
		Max Candela (By Fixture)	160	187	515	A	36
		Horizontal Illuminance	53	44	69	A	36
		Horizontal Illuminance	53	44	69	A	36
		Max Candela (By Fixture)	84.5	0	859	A	36
		Horizontal Illuminance	51.5	45	59	A	36

From Hometown to Professional



We Make It Happen.

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PROJECT SUMMARY

Buffalo Grove Multipurpose Field

Buffalo Grove, IL

Grid Summary

Name: Road/House Spill
Spacing: 30.0' x 10.0'
Height: 3.0' above grade

ILLUMINATION SUMMARY

Entire Grid

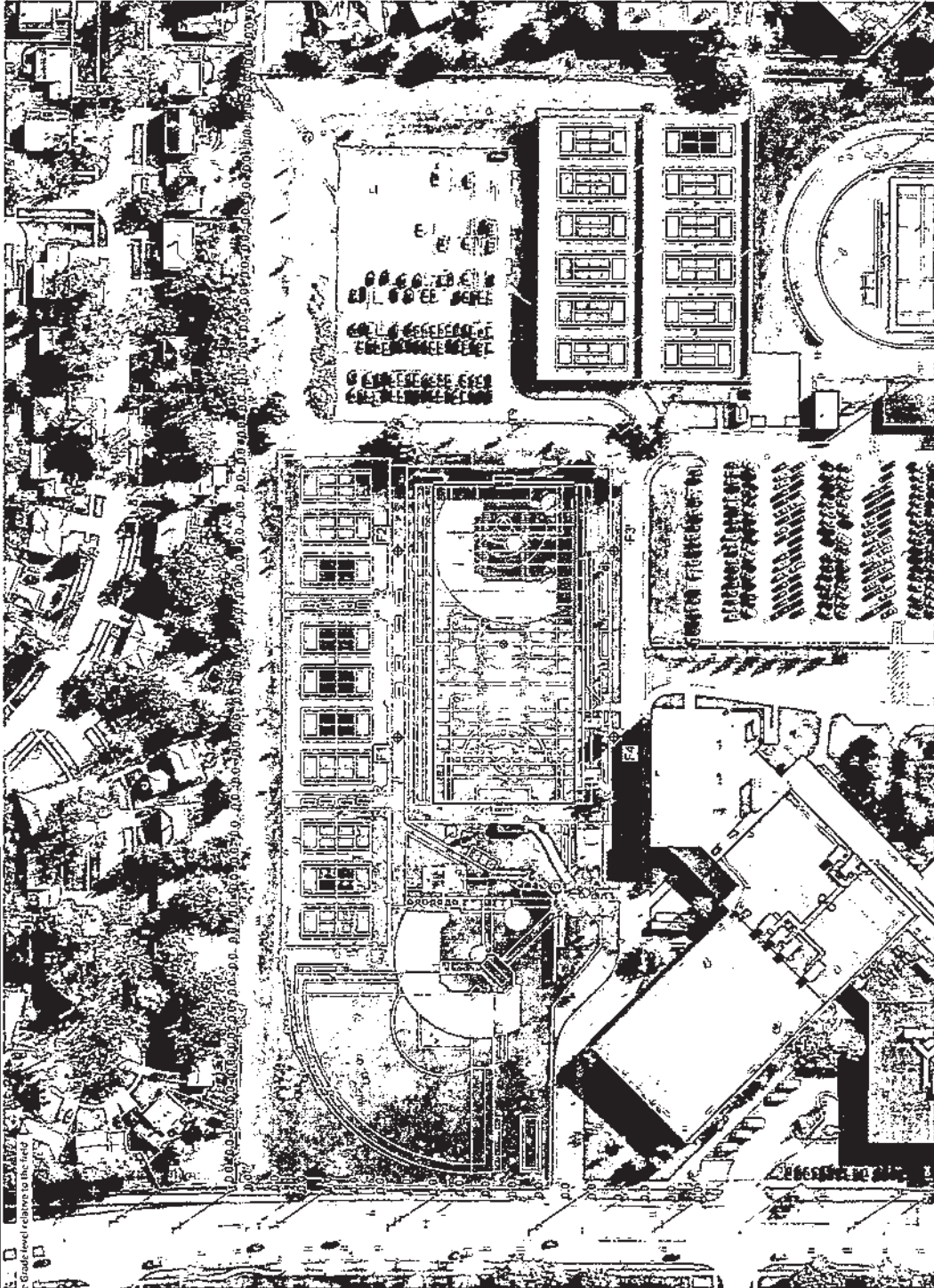
Scale Average: 0.00
Maximum: 0
Minimum: 0
Avg/Min: 0
Max/Min: 0
US (adjunct pos): 0.00
CU: 0.00
LUMINAIRE TYPE: A
No. of Points: 3
No. of Circles: 3
No. of Luminares: 3
Total Load: 44.08 LW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 tilt depreciation factor.
Field Measurements: Topographical field measurements may vary from actual measurements. The designer and installer shall be in accordance with IESNA RP-6-15.
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.
Notes: See drawing for luminaire locations and mounting heights. Refer to drawing for luminaire locations and mounting heights. Refer to drawing for luminaire locations and mounting heights.

Equipment List For Areas Shown

QTY	LOCATION	SIZE	MANUFACTURER	ILLUMINAIRE TYPE	QTY/POLE	No. Grids	Notes
4	45-14	70"	TLC-ED-5500	TLC-ED-515	7	2	0
4			TLC-ED-515		7	2	0
			TOTAL		36	4	0

*Above Grids level relative to this field



SCALE IN FEET 1:120

0 30' 60' 750'

ENGINEERED DESIGN By: Mitchell Truys • File #202074C_1 • 07-Feb-24

Field locations (O) dimensions are relative to 0.00 reference point(s) (X)



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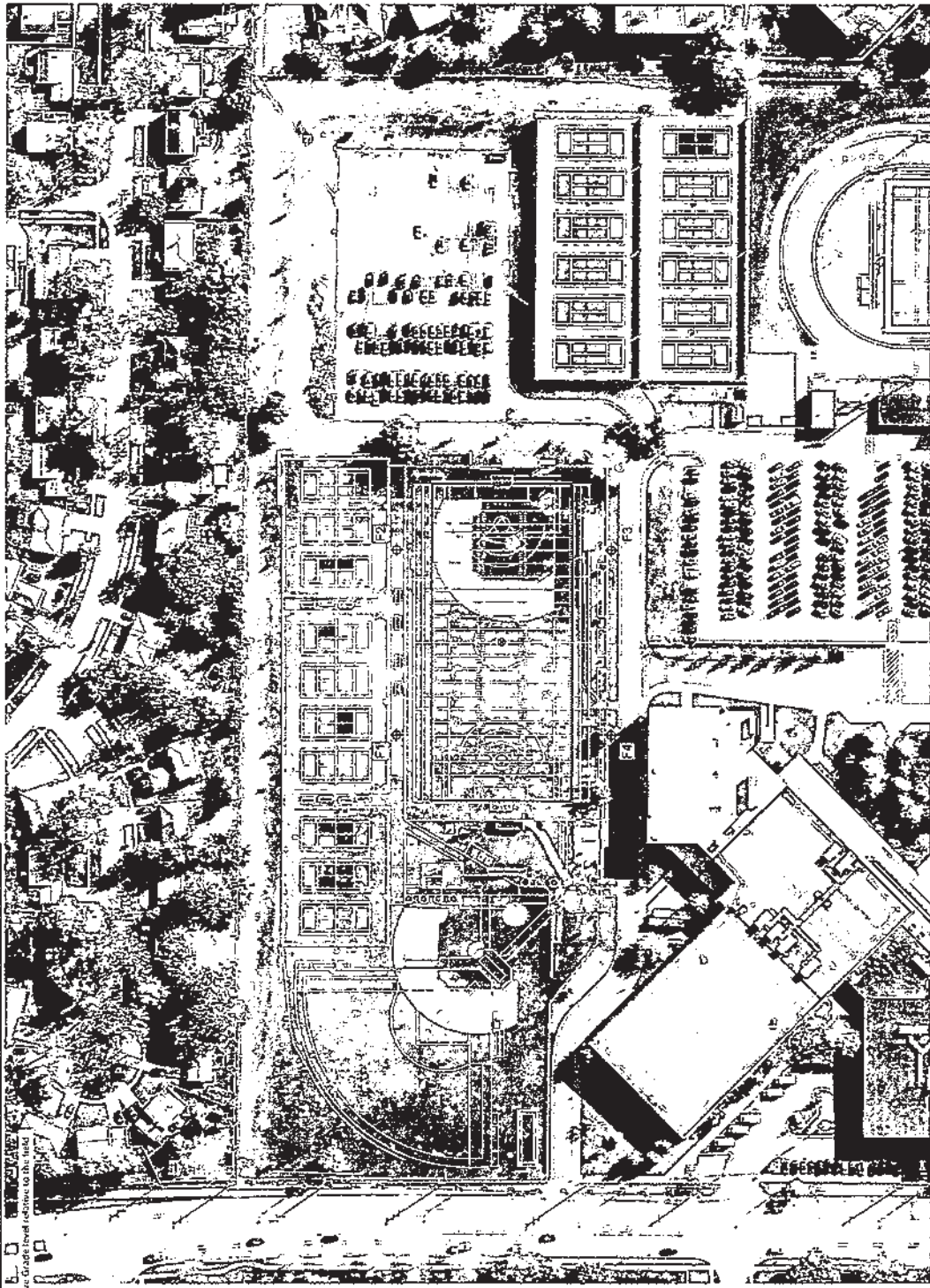
ILLUMINATION SUMMARY

Buffalo Grove Multipurpose Field
Buffalo Grove, IL

Grid Summary
Name: Buffalo Grove Multipurpose Field
Spacing: 10.0' x 10.0'
Type: 2.0' x 2.0' x 2.0' x 2.0'

Illumination Summary
Entire Grid
Scan Average: 84.09
Maximum: 86.89
Minimum: 0
Avg/Mix: -
Height: -
UG Irradiance (ps): 0.00
UG: 0.00
No. of Fixtures: 35
Applied Circuit: A
No. of Luminaires: 35
Total Load: 44.08 kW

LUMINAIRE INFORMATION
Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and is subject to the IESNA Illuminance Handbook. Measurements from computer-calculated predictions and should be taken in accordance with IESNA RP-6-75.
Electrical System Requirements: Refer to Appendix Draw Chart and/or the "Musco Central System Summary" Installation Requirements. Requires a minimum 3.0kV nominal voltage at the site of the driver and structures located within 3 feet (1m) of design locations.



Equipment List For Areas Shown

QTY	LOCATION	SIZE	WARRANTY	WARRANTY TYPE	QTY/FOOT	FIXTURES	WATTAGE
4	11-14	70'	20.3'	TEC-1500	7	7	0
4	11-14	70'	25.2'	TEC-1525	2	2	0
4			20.3'	TEC-1525	35	35	0

*Above Grid Level relative to the field.

SCALE IN FEET 1:120
0 20' 40'
ENGINEERED DESIGN By: MitchellThys • File #202074C_1 • 07-Feb-24
Field location(s) shown are relative to 6.0' reference points. 38



We Make It Happen.

Musco Lighting, LLC, 1931 Musco Sports Lighting, LLC

ILLUMINATION SUMMARY

Buffalo Grove Multipurpose Field

Buffalo Grove, IL
 Grid Summary

Energy Footcandle
 Spacing 300' x 300'
 IESNA 2.0, 2000, Grade

ILLUMINATION SUMMARY

Estimated Average 50
 Spot Average \$1.00
 Maximum 56
 Minimum 44
 Avg./Min 1.17
 Guaranteed Min/Min 2
 Maximums 1.38
 UG (Uniformity) 0.59
 CU 0.59

Number of Points 72
 Applied Circuit A
 No. of Luminaire 36
 Total Load 44,061W

Quantity of Average 50
 Spot Average \$1.00
 Maximum 56
 Minimum 44
 Avg./Min 1.17
 Guaranteed Min/Min 2
 Maximums 1.38
 UG (Uniformity) 0.59
 CU 0.59

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 UG (Uniformity) 0.59
 CU 0.59

Number of Points 72
 Applied Circuit A
 No. of Luminaire 36
 Total Load 44,061W

Quantity of Average 50
 Spot Average \$1.00
 Maximum 56
 Minimum 44
 Avg./Min 1.17
 Guaranteed Min/Min 2
 Maximums 1.38
 UG (Uniformity) 0.59
 CU 0.59

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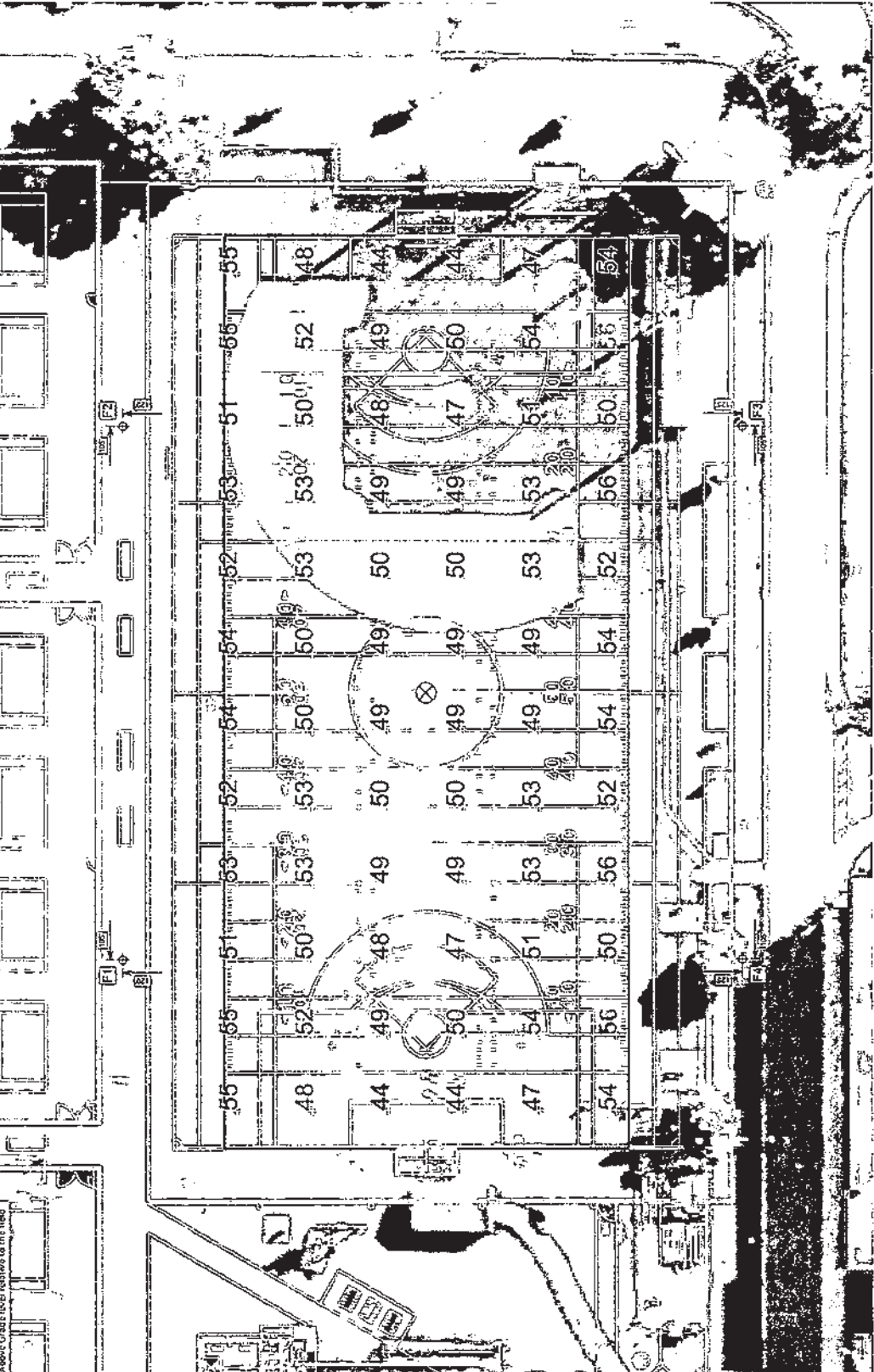
Number of Points 72
 Applied Circuit A
 No. of Luminaire 36
 Total Load 44,061W

Quantity of Average 50
 Spot Average \$1.00
 Maximum 56
 Minimum 44
 Avg./Min 1.17
 Guaranteed Min/Min 2
 Maximums 1.38
 UG (Uniformity) 0.59
 CU 0.59

Equipment List For Areas Shown

QTY	LOCATION	SIZE	AMPERAGE	LUMINAIRE TYPE	QTY/POLE	NO. OF POLES	WATTS
4	E144	70'	30.3V 35.5V	TC-85N-1500 TC-85S-215	2	2	0
4					2	2	0

NOTES:
 1. ALL DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE.
 2. ALL DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE.



POLE LOCATION (P) DIMENSIONS ARE RELATIVE TO 0.0 REFERENCE POINT(S) (R)

SCALE IN FEET: 1" = 40'
 ENGINEERED DESIGN By: Mitchell Thys • File #202074C_1 • 07-Feb-24



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ILLUMINATION SUMMARY

Buffalo Grove Multipurpose Field

Buffalo Grove, IL

Grid Summary

Name: Soccer
 Size: 360' x 700'
 Spacing: 30'0" x 30'0"
 Height: 3.5' above Grade

ILLUMINATION SUMMARY

Source: Grid

Guaranteed Average: 50

Scan Average: 51.46

Maximum: 59

Minimum: 43

Angle/Min: 3.39

Componented: 1.36

UG (dependent): 0.15

UG (independent): 0.15

No. of Fixtures: 84

Applied Groups: A

No. of Luminaires: 35

Total Load: 44,065 W

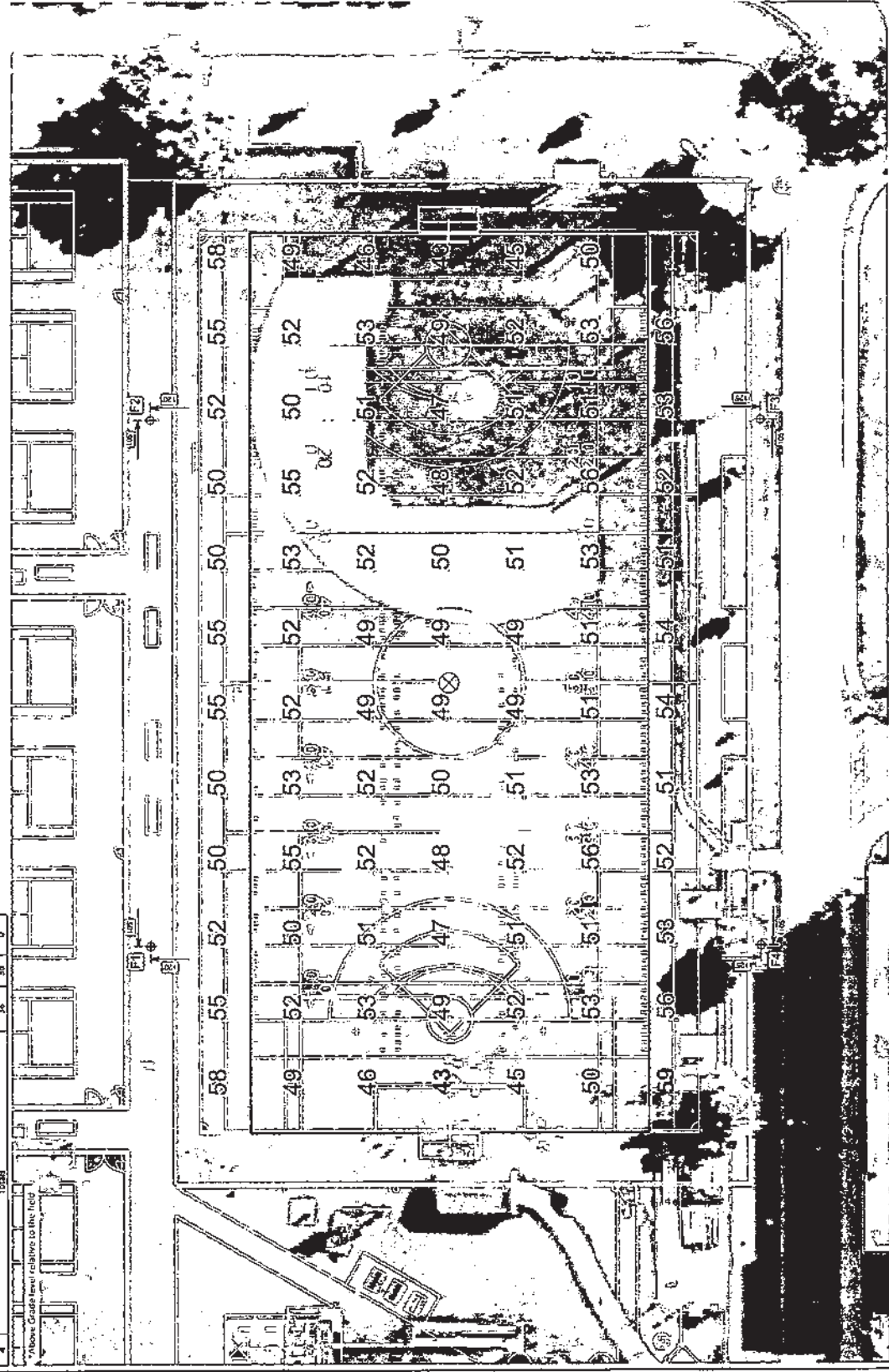
ILLUMINATION INFORMATION

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and is based on the following assumptions:
 Field Measurements: Individual FIES measurements only (not from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.
 Electrical System Requirements: Refer to Amperage Requirements section of the "Musco Control System Summary" for electrical data.
 Installation Requirements: Results assume a 3% nominal voltage at line size of the driver and structures located within 3 feet (m) of design locations.

Equipment List For Areas Shown

QTY	LOCATION	SIZE	TYPE	WARRANTY	WARRANTY PERIOD	OTHER COMMENTS
4	1114E	70"	TLC-LED-1500	7	7	0
4	1114E	45.5"	TLC-LED-1515	14	14	0

Notes:
 * Above Grade level (reference to FINL TYP)



SCALE IN FEET: 1" = 40'
 0' 40' 80'

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Notes:
 (1) Dimensions are relative to 0.0 reference points



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ILLUMINATION SUMMARY

Buffalo Grove Multipurpose Field

Buffalo Grove, IL

Grid Summary

Name: Unprosa
 Site: 150 x 180
 Spacing: 30' x 30'
 Height: 3.0' above grade

ILLUMINATION SUMMARY

Estimated Average: 51
 Foot Candles: 51.00
 Minimum: 44
 Maximum: 56
 Avg./Min.: 1.17
 Max./Min.: 1.28
 UG (adjacent): 1.15
 UG: 0.59
 No. of Fixtures: 71
 Applied Circuits: A
 No. of Luminaire: 36
 Total Load: 44.08 kw

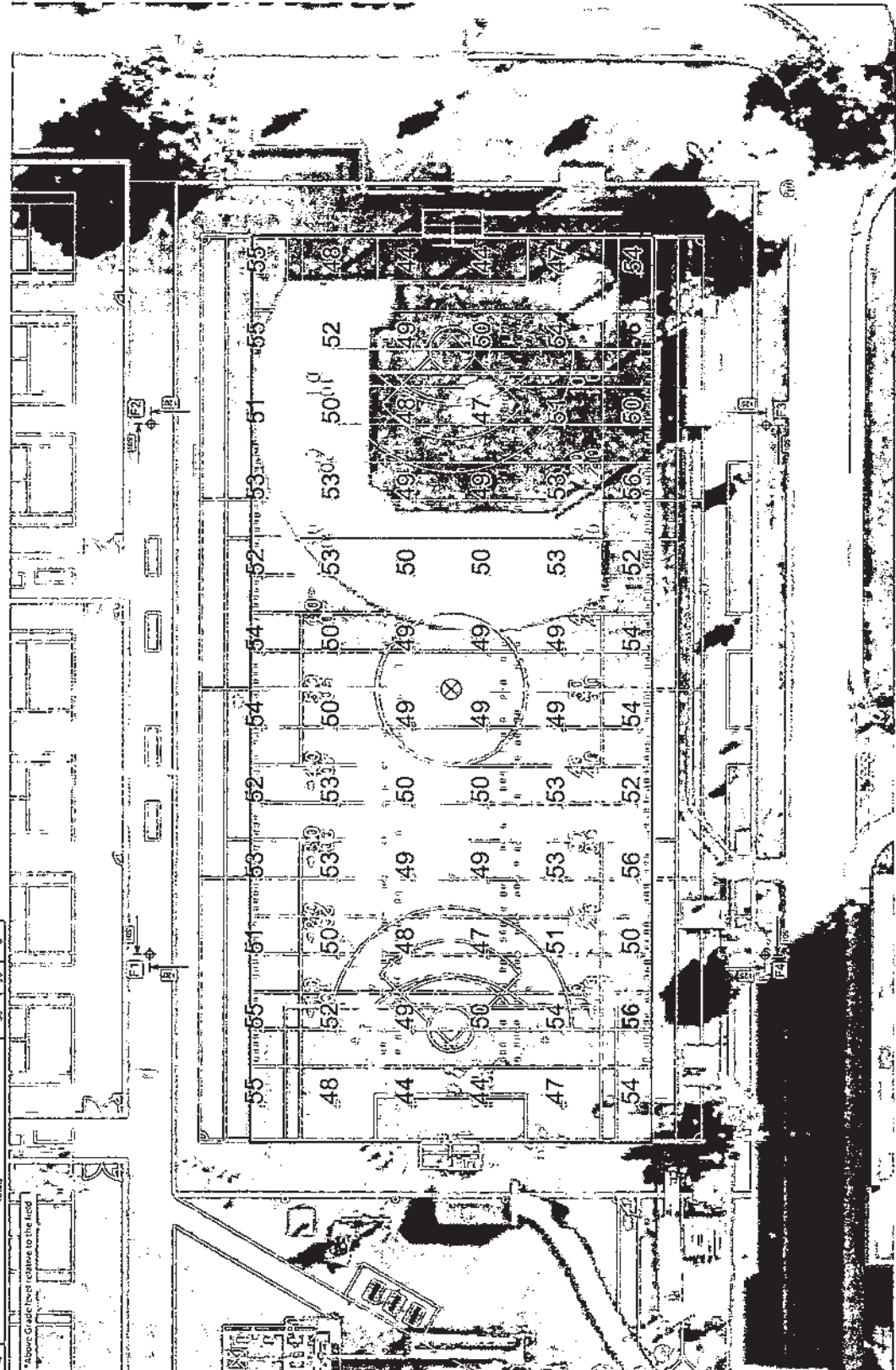
Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and is based on a 0.5% dirt depreciation factor. All calculations are based on a computer-calculated prediction and should be taken in accordance with IESNA RP-8-15.

Electrical System Requirements: Refer to Ampage Draw Chart for fixture. *Musco Control System Summary*

Installation Requirements: Results assume a 3% nominal voltage at the site of the driver and structures located within 3 feet (1m) of design location.

Equipment List For Areas Shown

QTY	LOCATION	SIZE	HEIGHT	SPACING	LUMINAIRE TYPE	QTY/FIXTURE	FIXTURE DIM	FIXTURE DIM	FIXTURE DIM
4	111-4	70"	25.5'	30'	RLC-LED-1500	2	7"	7"	D
4	102-3	70"	25.5'	30'	RLC-B1-525	2	7"	7"	D
36						36	15"	15"	O



SCALE IN FEET: 1" = 40'
 0' 40' 80'

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Fixture location (O) dimensions are relative to 0.0 reference points (X)



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ILLUMINATION SUMMARY

Buffalo Grove Multipurpose Field

Buffalo Grove, IL

Grid Summary

Name: 0111111111
 Size: 707' x 607'
 Spacing: 10.0' x 10.0'
 Ht: 3.0' Above Grade

Illumination Summary

Entire Grid
 Minimum: 0
 Maximum: 0
 Avg/Avg: 0
 Avg/Min: 0
 Avg/Max: 0
 UG (Measured pts): 20.90
 CU: 0.92
 No. of Points: 400
 Approx. circuit: A
 No. in: 16
 Total Load: 44.08 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.35 dirt depreciation factor.
Field Measurements: Individual field measurements may vary in accuracy with LEMMA IP 67-35.
Electrical System Requirements: Refer to Ampicage Draw Chart and/or Doc. "Musco Control System Summary" for electrical wiring.
Installation Requirements: Fixture spacing is 3.3% installation requirements. All lighting structures located within a 5 feet (1.5m) of design locations.

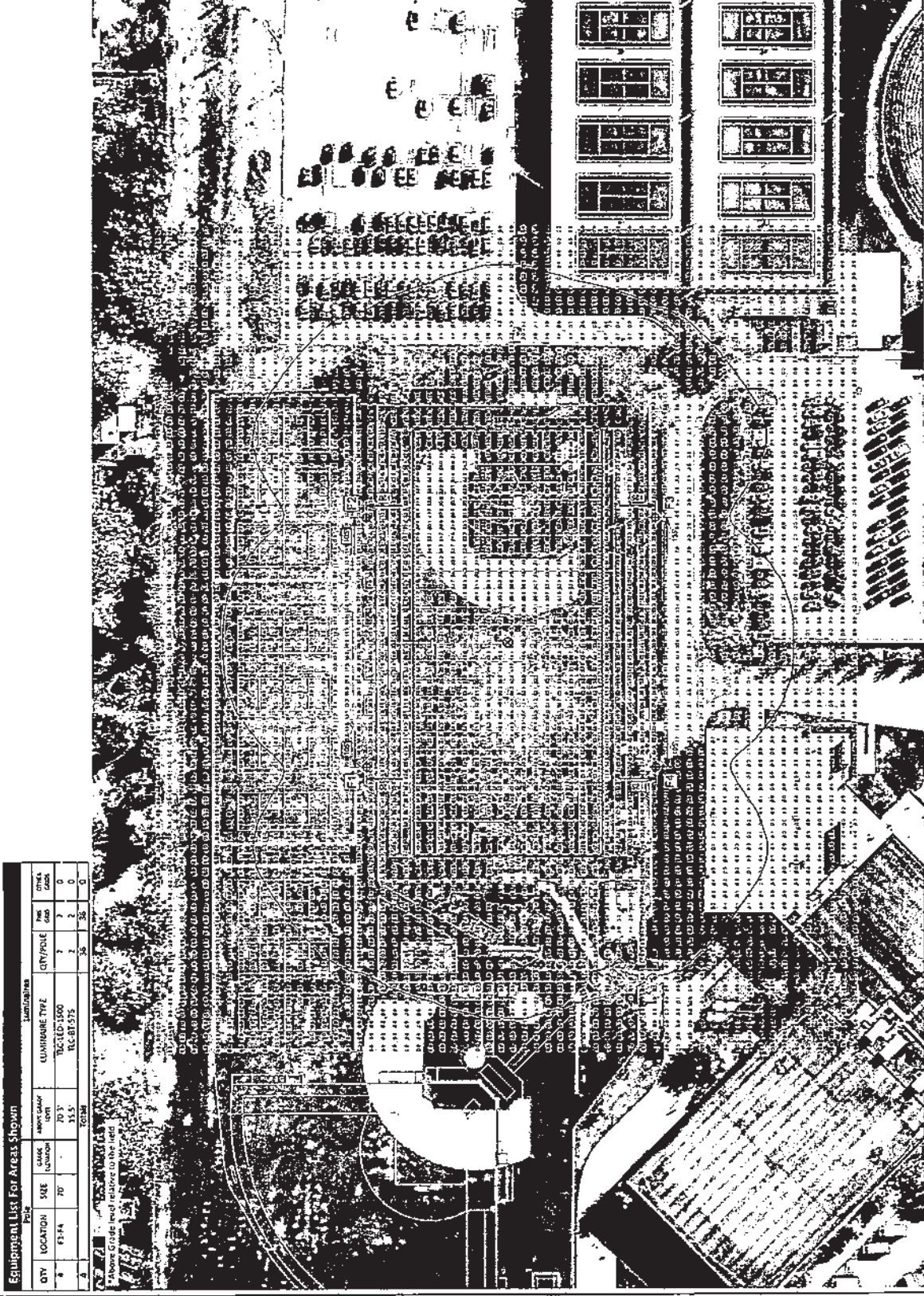
NOTES: Contour line shows light out to 0.1 FC



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ILLUMINATION SUMMARY



Equipment List For Areas Shown

QTY	LOCATION	SIZE	CLASS	HEIGHT	TYPE	QTY/FIELD	FIELD	OTHER	
1	13-14	70' x 70'	1	35.5'	TEC-1500	1	1	0	
2	13-14	70' x 70'	2	35.5'	TEC-1575	2	2	0	
TOTAL							3	3	0

Reference Grid level relative to the field

Pole locations (C) dimensions are relative to O.D. reference points (S)

SCALE: 1" = 80'
 0' 80' 160'
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Buffalo Grove Multipurpose Field

Buffalo Grove, IL

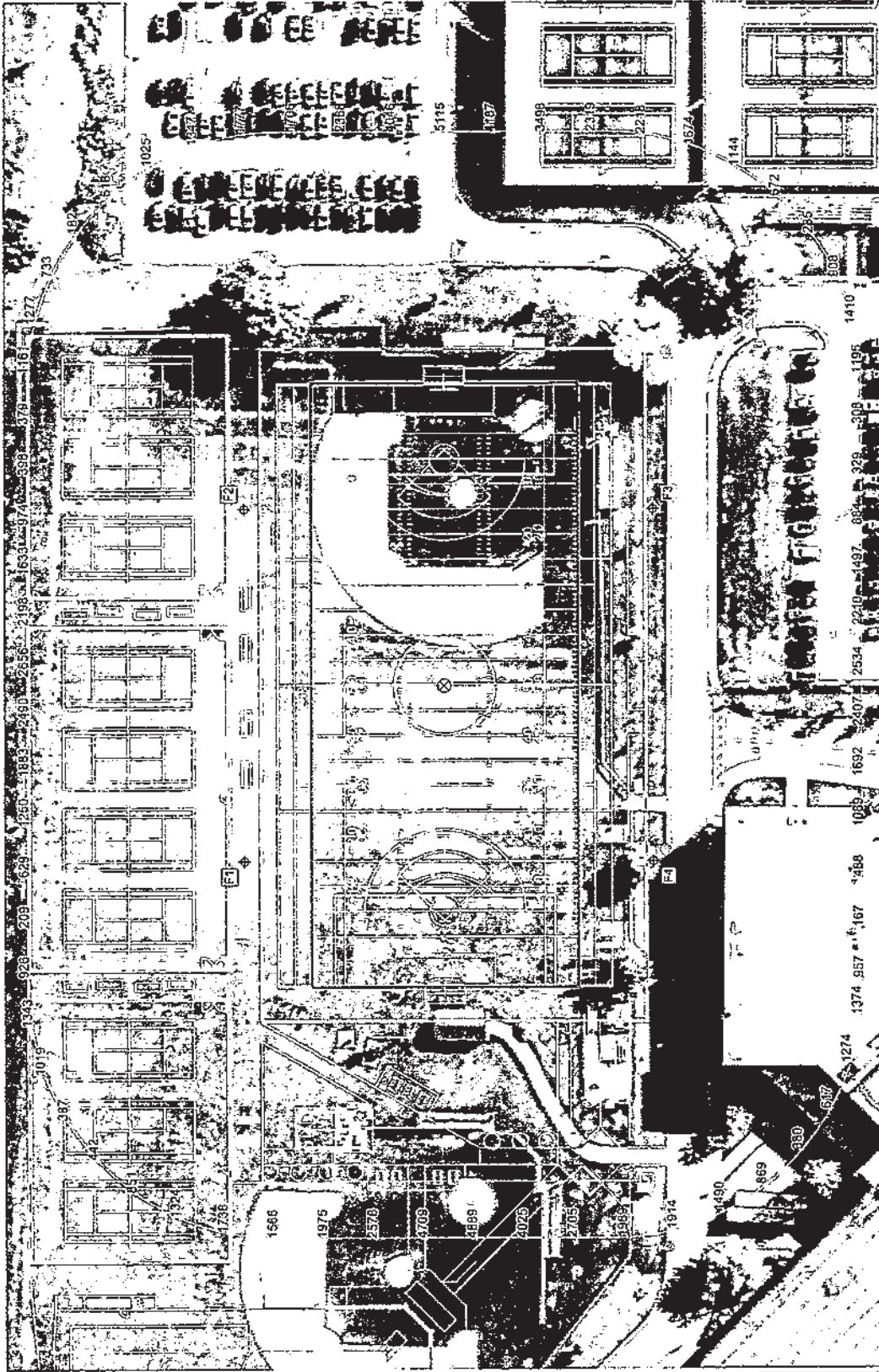
Grid Summary

Name: SSP FIBER OPTIC CABLES
 Spacing: 30.0' x 30.0'
 Height: 5.0' above F.F.S.

ILLUMINATION SUMMARY

Electric Grid
 Spot Average: 5115.35
 Maximum: 5115.35
 Minimum: 166.79
 CU: 0.00
 No. of Points: 69
ILLUMINATION INFORMATION
 Applied Circuits: A
 No. of Luminaires: 36
 Total Load: 44.08 kW

Guaranteed Performance: The ILLUMINATION described above includes a 0.95 dirt depreciation factor. Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with Table 49-5.3. Refer to Appendix 4.9.5 for electrical wiring. "Music Cooled System Summary" Installation Requirements: Recess assume ± 3% nominal voltage at the side of the driver and structures located within 3 feet (1m) of design location.



SCALE IN FEET: 1" = 50'

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pole location (⊙) dimensions are relative to 0.0 reference points (⊙)



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ILLUMINATION SUMMARY

Buffalo Grove Multipurpose Field

Buffalo Grove, IL

Grid Summary

Name: 1202 Main
 Location: 8027 N. 1637
 Height: 11.0' Above grade

Windmillon Summary

Area: 5.04
 Area Average: 8.00
 Maximum: 8.00
 Minimum: 8.00
 No. of Points: 10
 No. of Locations: 10

Number of Circuits: 5
 No. of Luminaire: 10
 Total Load: 44.00 W

Discontinued Performance: The ILLUMINATION described herein is guaranteed for your Museum's warranty duration and only if the Museum's individual floor requirements are very high. Museum's individual floor requirements may vary in accordance with IESNA 90-8-15.

Discontinued System Requirements: Refer to Appendix C.

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Discontinued System Requirements: Refer to Appendix C.

Discontinued System Requirements: Refer to Appendix C.



SCALE IN FEET: 1" = 60'

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Field Footcandle (fc) Measurements are taken in 10' increments parallel to 1"



ILLUMINATION SUMMARY

Buffalo Grove Multipurpose Field

Buffalo Grove, IL
Equipment Layout

REQUIREMENTS:
 - Standard Grid
 - Facebook
 - Lockers
 - Storage
 - Male Hygiene Requirements - 100% In-Technology
 - Show Direction for "Main Camera System Placement" for individual rooms
INSTALLATION REQUIREMENTS: Results assume 3 1/2" nominal ceiling of floor slab of the structure and structure located within 1 Year 1 Day of design completion

Equipment List for Areas Shown

QTY	DESCRIPTION	UNIT	AREA	PER UNIT	TOTAL	REMARKS
1	Locker	Locker	100	100	100	100
1	Storage	Storage	100	100	100	100
1	Male Hygiene	Male Hygiene	100	100	100	100
1	Main Camera System	Main Camera System	100	100	100	100

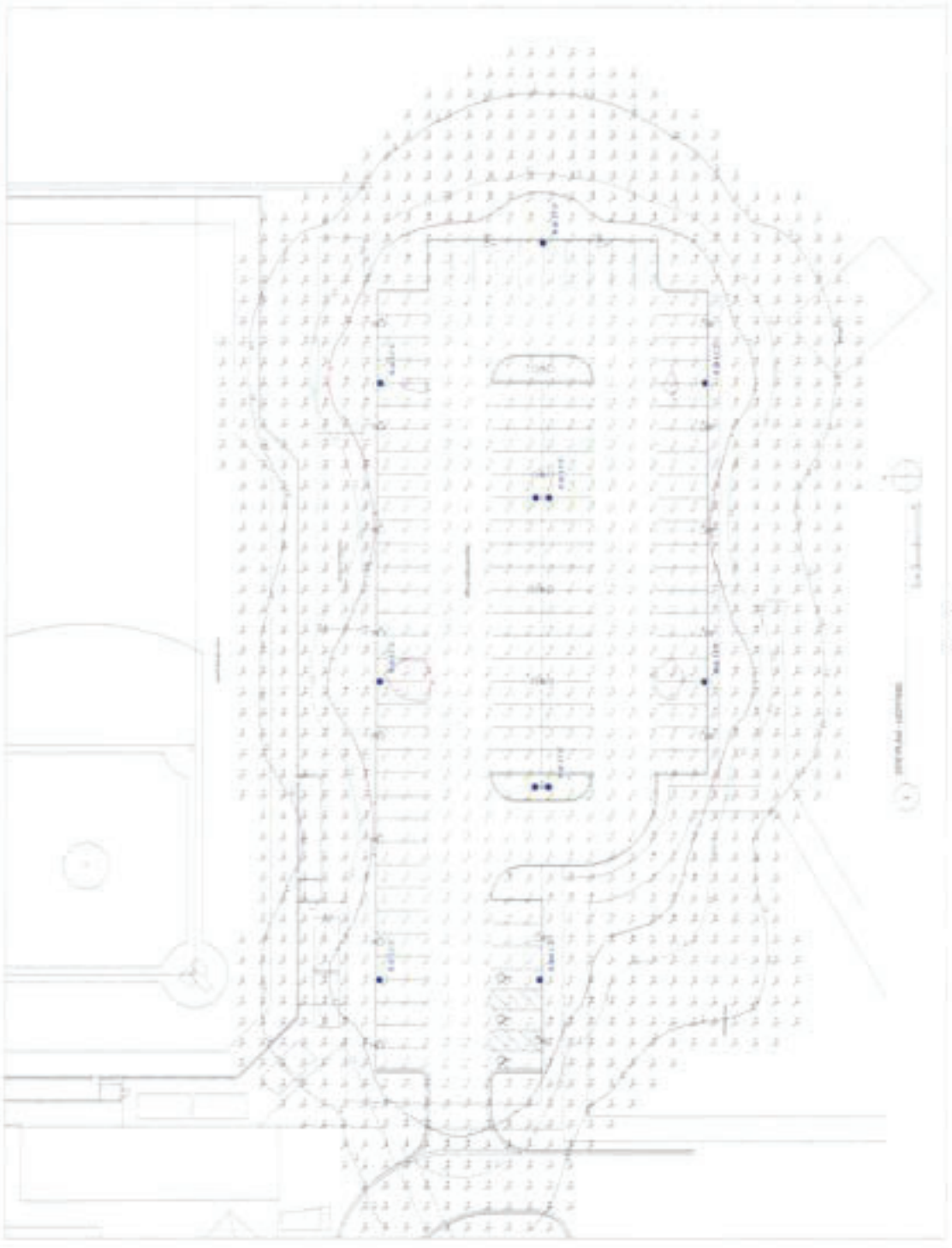
Single Dimensioned Equipment Draw Chart

Equipment Name	Quantity	Unit	Area	Per Unit	Total	Remarks
Locker	100	Locker	100	100	100	100
Storage	100	Storage	100	100	100	100
Male Hygiene	100	Male Hygiene	100	100	100	100
Main Camera System	100	Main Camera System	100	100	100	100



SCALE IN FEET 1" = 120'
 ENGINEERED BY: Mitchell Thys • File #202074C_1 • 07-Feb-24
 FROM ARCHITECT: [Redacted] ARCHITECTURE AND INTERIOR
 1000 E. UNIVERSITY AVENUE, SUITE 100, BUFFALO GROVE, IL 60089





Statistics

Description	Symbol	Avg	Min	Max	Max/min Avg/Min
MARKING LOT	E	3.2 FC	0.1 FC	5.4 FC	0.83
					2.3:1

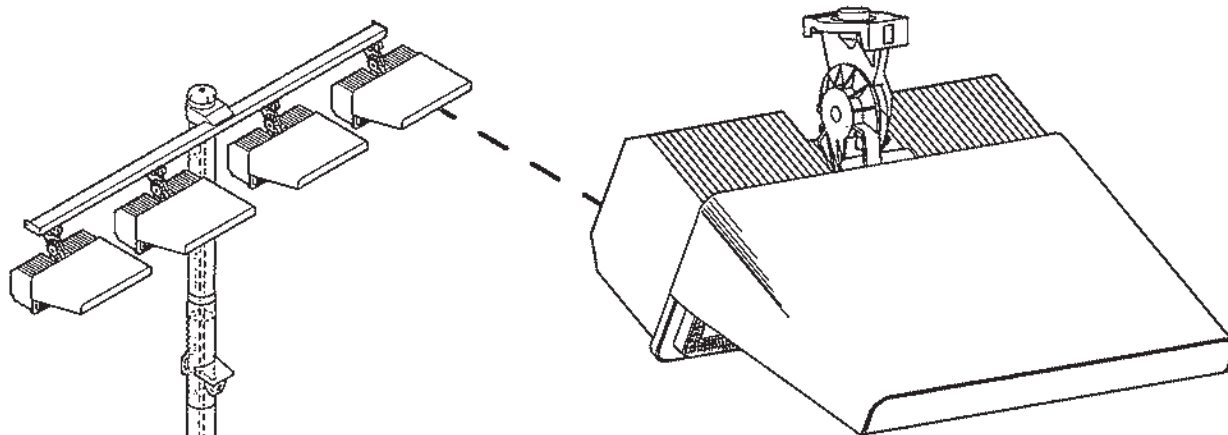
NOTES:
 1. CALCULATION POINT FROM FRAME - GRADE LEVEL.
 2. FUTURE MOUNTING HEIGHT - MEANS TO FUTURE LABELS NOTED ON PLAN.
 3. CALCULATIONS PROVIDED BY KSA ARE NOT A GUARANTEE OF PERFORMANCE. ACTUAL LIGHT LEVELS MAY VARY. **

Plan View
 Scale - 1/16" = 1'

Schedule Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number of Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
A	Lumens Lighting	7	Lumens Lighting	5043 LED P3 50K 700K T3M	D-Series Size 1 Area Luminaire P3 Performance Package 5000K CCT 70 080 Type 3 4-rod	1	14889	0.93	204.34
B	Lumens Lighting	7	Lumens Lighting	5043 LED P3 50K 700K T3M	D-Series Size 1 Area Luminaire P3 Performance Package 5000K CCT 70 080 Type 3 4-rod	1	14831	0.93	182.17

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Luminaire and Driver – TLC-LED-1500



Luminaire Data

Weight (luminaire)	67 lb (30 kg)
UL listing number	E338094 (pending)
UL listed for USA / Canada	UL1598 CSA-C22.2 No.250.0 (pending)
CE Declaration	LVD, EMC, RoHS
Ingress protection, luminaire	IP65
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating, luminaire	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11	
L90 (13.5k)	>81,000 h
L80 (13.5k)	>81,000 h
L70 (13.5k)	>81,000 h
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
Lumens ¹	156,100

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

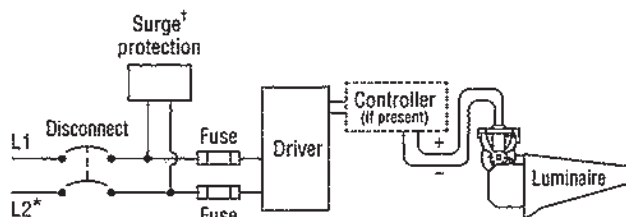
Luminaire and Driver – TLC-LED-1500

Driver Data

Electrical Data

Rated wattage ¹	
Per driver	1500 W
Per luminaire	1500 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 μ s
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	45°C (113°F) - pending
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	11 – 100%
Range, light output	16 – 100%

Typical Wiring



* If L2 (com) is neutral then not switched or fused.
 † Not present if indoor installation.

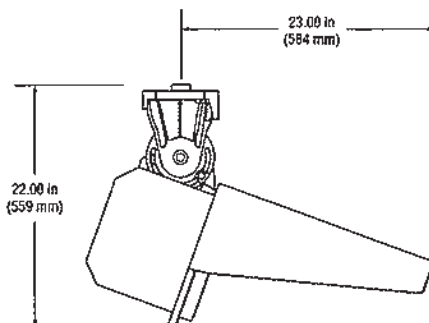
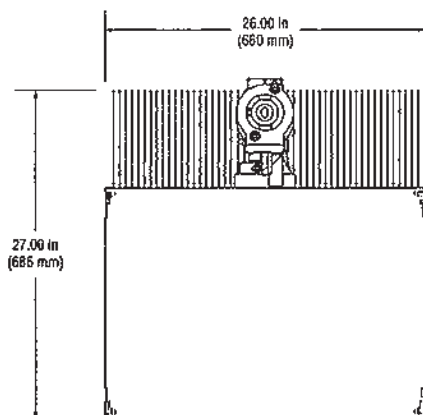
	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire ²	9.30 A	8.95 A	8.46 A	8.09 A	7.75 A	6.72 A	5.36 A	4.90 A	4.65 A	4.49 A	3.88 A

Footnotes:

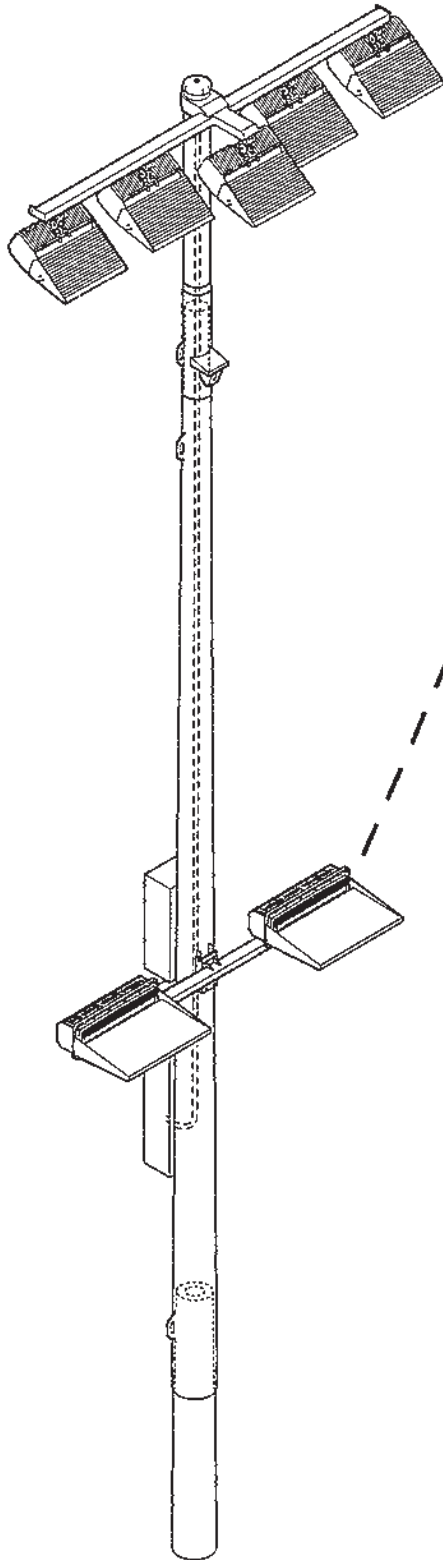
- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.



Luminaire and Driver Components – TLC-BT-575 (업라이트용)



Luminaire Data

Weight (luminaire)	34 lb (15 kg)
UL listing number	E338094
UL Listed for USA / Canada	UL1598 CSA-C22.2 No.250.0
Ingress protection, luminaire (보호등급)	IP65
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only) (풍하중지치력)	150 mi/h (67 m/s)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11 (광속유지수명)	
L90 (13.5k)	>81,000 h
L80 (13.5k)	>81,000 h
L70 (13.5k)	>81,000 h
CIE correlated color temperature (색온도)	5700 K
Color rendering index (CRI) (연색성)	75 typ, 70 min
Lumens ¹ (광속)	52,000
광효율	90lm/W

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

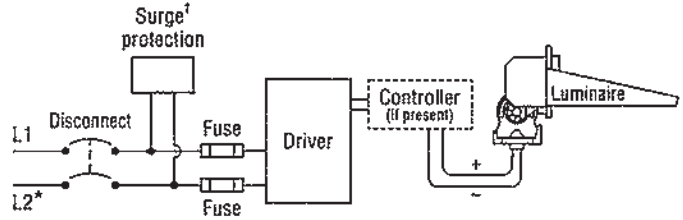
Luminaire and Driver Components – TLC-BT-575

Driver Data

Electrical Data

Rated wattage ¹	
Per driver	575 W
Per luminaire	575 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 μs
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, ECE box (보호등급)	IP45
Converter mode (컨버터 방식)	Constant current(CC)
Efficiency (컨버터 효율)	95%이상

Typical Wiring



* If L2 (com) is neutral then not switched or fused.
 † Not present if indoor installation.

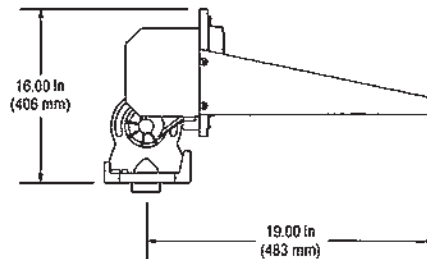
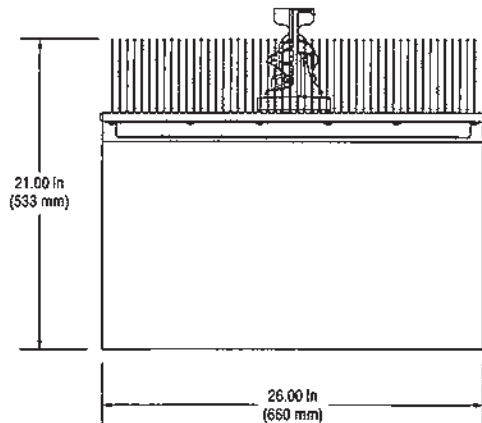
	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current ² per luminaire	3.48 A	3.35 A	3.16 A	3.03 A	2.90 A	2.51 A	2.01 A	1.83 A	1.74 A	1.68 A	1.45 A

Footnotes:

- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.





D-Series Size 1 LED Area Luminaire



Listing Number	
Notes	
Spec	

d²series

Specifications

EPA:	0.69 ft ² (0.06 m ²)
Length:	32.71" (83.1 cm)
Width:	14.26" (36.2 cm)
Height H1:	7.88" (200 mm)
Height H2:	2.73" (6.9 cm)
Weight:	34 lbs (15.4 kg)



Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DBXD

DSX1 LED

Series	LEDs	Color temperature ¹	Color Rendering Index ¹	Distribution	Voltage	Mounting	
DSX1 LED	Forward optics	(this section 70CRI only)		AFR Automotive front row	TSM Type V medium	MVOLT (120V-277V) ²	Shipped included SPA Square pole mounting (R5 ceiling) RPA Round pole mounting (R5 ceiling) SPAS Square pole mounting (R5 ceiling) ³ RPAS Round pole mounting (R5 ceiling) ³ SPARN Square narrow pole mounting (R5 ceiling) WSA Wall bracket ⁴ MA Mast arm adapter (mount on 2.5" ID horizontal mast)
	P1 P6	30K 3000K	70CRI	T15 Type I short	TSLG Type V low glare	MVOLT (147V-480V) ^{1,2}	
	P2 P7	40K 4000K	70CRI	T2M Type II medium	T5W Type V wide	XVOLT (277V-480V) ²	
	P3 P8	50K 5000K	70CRI	T3M Type II medium	BLC3 Type III backlight control ⁵	120 ^{1,2}	
	P4 P9	(this section 80CRI only, extended lead times apply)		T3LG Type II low glare ³	BLC4 Type IV backlight control ⁵	208 ^{1,2}	
	P5			T4M Type IV medium		240 ^{1,2}	
	Retard optics			T4LG Type IV low glare ¹	LECO Left corner cutoff ⁶	277 ^{1,2}	
	P10 ⁷ P12 ⁷	27K 2700K	80CRI	TPTM Forward down medium	RECO Right corner cutoff ⁶	347 ^{1,2}	
	P11 ⁷ P13 ⁷	30K 3000K	80CRI			480 ^{1,2}	
		35K 3500K	80CRI				
		40K 4000K	80CRI				
		50K 5000K	80CRI				

Control options	Other options	Finish options
Shipped installed NLTAIR2 PIRHN Night A/B gen 2 enabled with bi-level moon/ambient sensor, 5-40' mounting height, ambient sensor enabled at 25' ^{1,2,3,7} PIR High/low, moon/ambient sensor, 5-40' mounting height, ambient sensor enabled at 25' ^{1,2,3,7} PIR NEMA twist-lock receptacle only (controls ordered separately) ⁸ PERS Free-pn receptacle only (controls ordered separately) ^{8,9}	Shipped installed SPD20KV 20kV surge protection HS Haze or shield (black finish standard) ¹⁰ L90 Left retard optics ¹ R90 Right retard optics ¹ CCE Coasts Construction ¹¹ HA 50°C ambient operation ² BAA Buy American Act Compliant SF Single face (130, 277, 347V) ² DF Double face (208, 240, 480V) ² Shipped separately EGR External Glare Shield (optional, field install required, matches housing finish) BSDB Bird Spikes (field install required)	DBKD Dark Bronze DBXD Black DNAXD Natural Aluminum DWHID White DBBFXD Textured dark bronze DBLBD Textured black DNATXD Textured natural aluminum DWHGSD Textured white



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Ordering Information

Accessories

Ordered and shipped separately

BL1211-1.8	Photoacoustic sensor (40-170) *
BL1417-1.5 (DL 30)	Photoacoustic sensor (40-1470) *
DL4407-1.5 (DL 30)	Photoacoustic sensor (40-1480) *
DS387-184	Starting cap **
DS191-74	House side shield (see package carton for 1-11 or 200 of 6)
DS394-194 (S4)	Round pole adapter (21 drilling, specify finish)
DS391-194 (S4)	Square pole adapter (1 drilling, specify finish)
DS391-194 (S4)	Round pole adapter (5 drilling, specify finish)
DS1504-194 (S4)	Internal glare shield (specify finish)
DS1504-194 (S4)	End glare bracket (specify finish)

NOTES

- Rotated option available with packages P10, P11, P12 and P13. Must be combined with option L90 or R90.
- 30K, 40K, and 50K available in 700R and 800R. 27K and 25K only available with 800R. Contact Technical Support for other possible combinations.
- TSLG, T4LG, BL3C, BL4C, LCCO, RCCO not available with option HS.
- IVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- IVOLT driver operates on any line voltage from 247-480V (50/60 Hz).
- IVOLT not available in packages P1 and P10 when combined with option NL2AR2 PRR4 or option PRR.
- IVOLT operates with any voltage between 277V and 480V (50/60 Hz).
- IVOLT not available in packages P1 or P10. IVOLT not available with fusing (SF or DF).
- SP45 and RP45 for use with #5 drilling only (Not for use with #8 drilling).
- WBA cannot be combined with Type 1 distributors plus photocell (PDR).
- NL2AR2 and PRR4 must be ordered together. For more information on night AR2 visit this link.
- NL2AR2 PRR4 not available with other controls including PIR, PER, PER5, PER7, FAO, BL30, BL50, DMG and DS. NL2AR2 PRR4 not available with P1 and P10 using IVOLT.
- PIR not available with NL2AR2 PRR4, PER, PER5, PER7, FAO, BL30, BL50, DMG and DS. PIR not available with P1 and P10 using IVOLT. PIR not available with P1 and P10 using IVOLT.
- PER, PER5, PER7 not available with NL2AR2 PRR4, PIR, BL30, BL50, FAO, DMG and DS. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Starting Cap included.
- FAO not available with other dimming control options NL2AR2 PRR4, PIR, PER, PER5, PER7, BL30, BL50, DMG and DS.
- BL30 and BL50 are not available with NL2AR2 PRR4, PIR, PER, PER5, PER7, FAO, DMG and DS. BL30 or BL50 must specify 120, 277 or 347V. Consult tech support for 208, 240 or 480V.
- DMG not available with NL2AR2 PRR4, PIR, PER, PER5, PER7, BL30, BL50, FAO and DS.
- DS not available with NL2AR2 PRR4, PIR, PER, PER5, PER7, BL30, BL50, FAO and DMG.
- DS requires (2) separately switched circuits. DS provides 50-70 fixture operation via (2) different sets of leads using (2) drivers. DS only available with packages P4, P5, P10, P11, P12 and P13.
- Reference Motion Sensor Default Settings table on page 4 to see functionality.
- Reference Controls Options table on page 4.
- HS not available with TSLG, T4LG, BL3C, BL4C, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- CCE option not available with option BG and EDSR. Contact Technical Support for availability.
- Option HA not available with performance packages P4, P5, P7, P8, P9 and P13.
- Requires luminaire to be specified with PER, PER5 or PER7 option. See Controls Table on page 4.
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V. IVOLT not available with fusing (SF or DF).

Shield Accessories



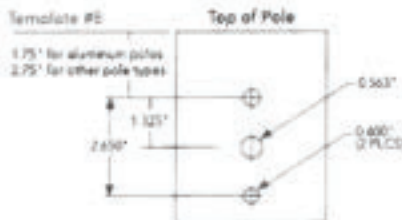
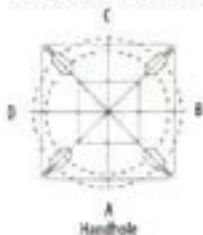
External Glare Shield (EGSR)



House Side Shield (HS)

Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Bolt	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
2-3/8"	BP4	AST5-190	AST5-290	AST5-290	AST5-190	AST5-120	AST5-490
2-7/8"	BP4	AST5-190	AST5-290	AST5-290	AST5-190	AST5-120	AST5-490
4"	BP4	AST5-190	AST5-290	AST5-290	AST5-190	AST5-120	AST5-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#1	DM194S	DM294S	DM294S	DM394S	DM114S	DM494S
		Minimum Acceptable Outside Pole Diameter					
SP4	#1	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"
RP4	#1	1"	1"	1"	1"	1"	1"
SP45	#5	1"	1"	1"	1"	1"	1"
RP45	#5	1"	1"	1"	1"	1"	1"
SP4M	#1	1"	1"	1"	1"	1"	1"

DSX1 Area Luminaire - EPA

Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

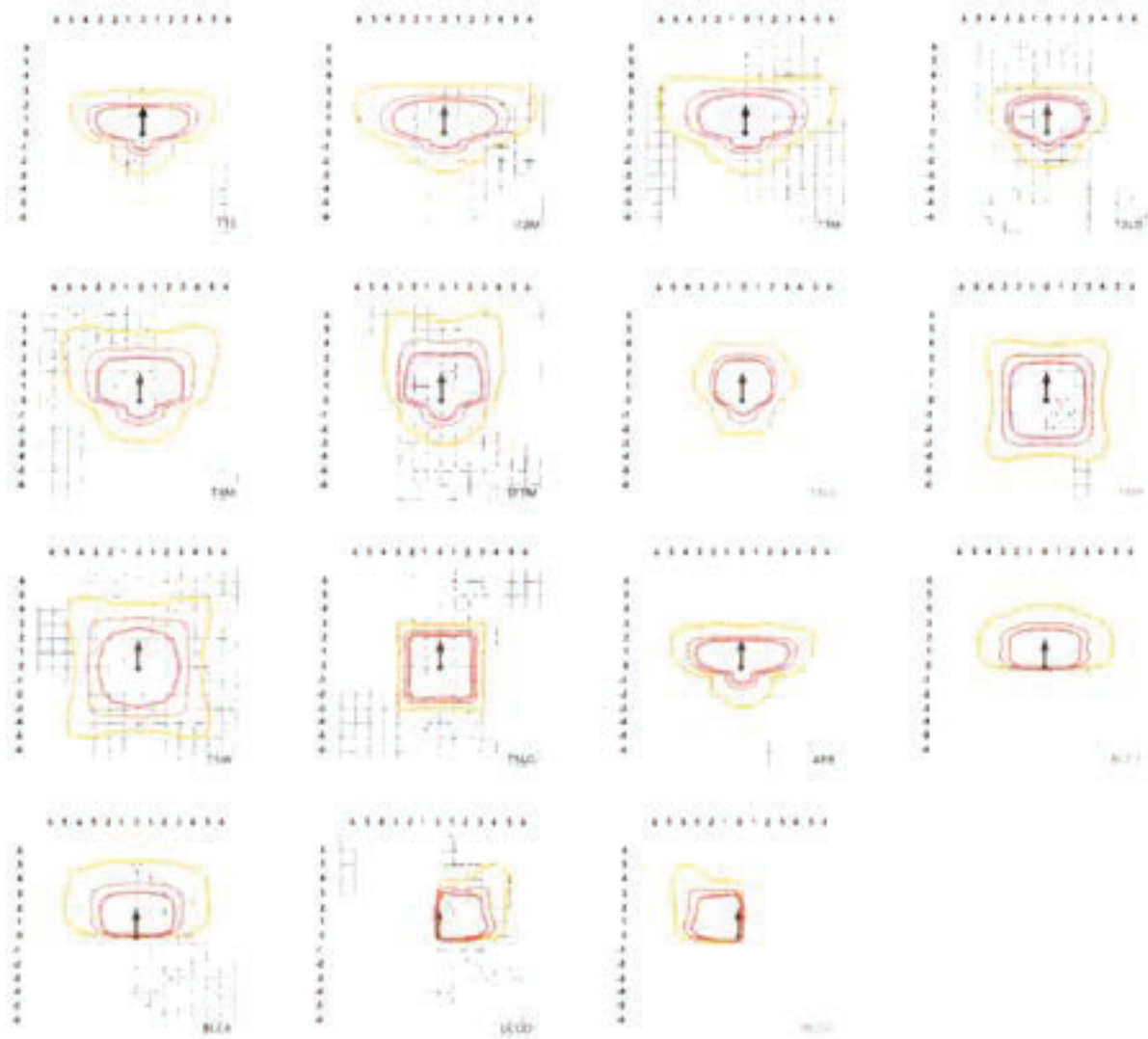
Fixture Quantity & Mounting Configuration	Single DSX1	2 @ 180 DSX1	2 @ 90 DSX1	3 @ 90 DSX1	3 @ 120 DSX1	4 @ 90 DSX1
Mounting Type						
DSX1 with SP4	0.69	1.38	1.23	1.54	—	1.18
DSX1 with SP45, SP4M	0.70	1.40	1.30	1.66	—	1.68
DSX1 with RP4, RP45	0.70	1.40	1.30	1.66	1.60	1.68
DSX1 with HA	0.81	1.60	1.50	2.05	2.05	2.05

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's www.lithonia.com

Photocandle plots for the DSX1 LED RP 40K 700K. Distances are in units of mounting height (DS).

- LEGEND**
- 0.1 fc
 - 0.5 fc
 - 1.0 fc



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Temp	Lumen Multiplier
37°C	127°F	1.84
35°C	105°F	1.84
18°C	64°F	1.81
15°C	59°F	1.81
20°C	68°F	1.81
25°C	77°C	1.80
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LMF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.85
50,000	0.90
100,000	0.81

FAO Dimming Settings

FAO Position	% Wattage	% Lumen Output
8	100%	100%
7	93%	95%
6	80%	87%
5	66%	71%
4	54%	67%
3	41%	49%
2	29%	30%
1	19%	20%

Note: Calculated values are based on original performance package data. When calculating new values for given FAO position, use maximum published values by package listed on specification sheet (input watts and lumens by optic type).

Electrical Load

Package	LED Count	Drive Current (mA)	Wattage	Current (A)						
				120V	208V	240V	277V	347V	480V	
Forward Optic (Non-Rotated)	F1	30	130	31	0.42	0.24	0.21	0.38	0.15	0.11
	F2	30	200	48	0.56	0.33	0.28	0.24	0.20	0.14
	F3	30	1010	104	0.81	0.49	0.43	0.37	0.29	0.21
	F4	30	1250	125	1.01	0.60	0.52	0.45	0.36	0.26
	F5	30	1400	142	1.15	0.66	0.58	0.50	0.40	0.29
	F6	40	1250	167	1.38	0.79	0.69	0.60	0.48	0.34
	F7	40	1400	188	1.54	0.89	0.77	0.67	0.53	0.38
	F8	60	1100	216	1.88	1.04	0.90	0.73	0.62	0.45
	F9	60	1400	279	2.31	1.33	1.15	1.00	0.80	0.58
Rotated Optic (Replaces L9 or R9)	F10	60	530	301	0.84	0.49	0.42	0.37	0.29	0.21
	F11	60	700	135	1.12	0.65	0.56	0.49	0.39	0.28
	F12	80	1050	206	1.72	0.99	0.86	0.74	0.59	0.43
	F13	60	1400	279	2.30	1.31	1.15	1.00	0.79	0.57

LED Color Temperature / Color Rendering Multipliers

Temp	75 CRI		90 CRI		95 CRI	
	Lumen Multiplier	Availability	Lumen Multiplier	Availability	Lumen Multiplier	Availability
1000K	102%	Standard	92%	Extended lead-time	71%	(see note)
4000K	100%	Standard	92%	Extended lead-time	67%	(see note)
1500K	100%	(see note)	90%	Extended lead-time	63%	(see note)
3000K	96%	Standard	87%	Extended lead-time	61%	(see note)
2700K	94%	(see note)	85%	Extended lead-time	57%	(see note)

Note: Some LED types are available as per special request. Contact Technical Support for more information.

Motion Sensor Default Settings

Option	Dimming (Dimmed Level)	High Level (when occupied)	PhotoCell Operation	Event Time	Warm-up Time	Dimming Fade Rate
PIR	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min
NCDAR2 PIRRV	30%	100%	Enabled @ 2FC	7.5 min	3 sec	3 min

Controls Options

Recommendation	Description	Feasibility	Primary control device	Notes
TAD	Field adjustable output device installed inside the luminaire, wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively stopping the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads.
DS (not available in DS40)	Drivers wired independently for 50/70 lumenaire operation.	The luminaire is wired to two separate circuits, allowing for 50/70 operation.	Independently wired drivers	Requires two separately switched circuits. Consider Night AIR as a more cost effective alternative.
PER1 or PER7	Twist-lock photocell receptacle	Compatible with standard twist-lock photocells for dusk-to-dawn operation, or advanced control nodes that provide 0-10V dimming signals.	twist-lock photocells such as DLI Elite or advanced control nodes such as RCAM	Pins 4 & 5 to dimming leads on driver. Pins 6 & 7 are caged inside luminaire. Cannot be used with other controls options that need the 0-10V leads.
PIR	Motion sensor with integ'l photocell. Sensor suitable for 8 to 40' mounting height.	Luminaires dim when no occupancy is detected.	Anuity Controls rSBC	Cannot be used with other controls options that need the 0-10V leads.
NCDAR2 PIRRV	Night AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor override when wirelessly connected to the Night iDisplay.	Night AIR rSBC	Night AIR sensors can be programmed and commissioned from the ground using the Clarity Pro app. Cannot be used with other controls options that need the 0-10V leads.
BL30 or BL50	Integrated 30-level device that allows a manual control circuit to switch all light engines to either 30% or 50% light output.	BL3 device provides input to 0-10V dimming leads on all drivers providing either 100% or dimmed (30% or 50%) control by a secondary circuit.	BL3 (WOL7)	BL3 device is powered off the 0-10V dimming leads, thus can be used with any input voltage from 120 to 480V.



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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Forward Optic

Performance Package	System Watts	LED Count	Drive Current (mA)	Mounting Type	230V					480V					1200V, 70 (70)					
					11400K, 70 (70)					4000K, 70 (70)					11400K, 70 (70)					
					Lumens	U	V	G	LPW	Lumens	U	V	G	LPW	Lumens	U	V	G	LPW	
P1	57W	80	130		T11	7,776	1	0	2	152	8,104	1	0	2	159	8,262	1	0	2	162
					T1M	7,281	1	0	3	142	7,507	1	0	3	147	7,653	2	0	3	150
					T1M	7,287	1	0	3	143	7,584	1	0	3	149	7,742	1	0	3	152
					T1G	6,529	1	0	1	128	6,783	1	0	1	133	6,976	1	0	1	136
					T4M	7,395	1	0	3	145	7,787	1	0	3	151	7,897	1	0	3	154
					T6L	6,726	1	0	1	132	7,070	1	0	1	138	7,146	1	0	1	140
					T7M	7,446	1	0	3	146	7,730	1	0	3	152	7,912	1	0	3	155
					T9M	7,609	1	0	2	149	7,990	1	0	2	156	8,084	1	0	2	159
					T9M	7,712	1	0	2	152	8,058	4	0	2	158	8,275	4	0	2	161
					T9G	7,611	1	0	1	150	7,951	1	0	1	156	8,108	1	0	1	159
					BL1	5,300	0	0	2	104	5,524	0	0	2	109	5,611	0	0	2	111
					BL4	5,474	0	0	1	108	5,705	0	0	1	112	5,876	0	0	1	114
					BL3	5,348	0	0	2	105	5,571	0	0	2	109	5,662	0	0	2	112
					LO3	5,348	0	0	2	105	5,571	0	0	2	109	5,662	0	0	2	112
					AF8	7,714	1	0	2	151	8,024	1	0	2	157	8,262	1	0	2	162
T15	9,997	1	0	2	197	10,418	1	0	2	154	10,621	1	0	2	157					
P2	60W	80	100		T2M	9,260	2	0	3	187	9,651	2	0	3	142	9,839	2	0	3	145
					T1M	9,368	2	0	3	188	9,763	2	0	3	144	9,951	2	0	3	147
					T5G	8,368	1	0	2	123	8,731	1	0	2	129	8,891	1	0	2	131
					T4M	9,307	2	0	3	140	9,809	2	0	3	146	10,102	2	0	3	149
					T4G	8,667	1	0	2	128	9,012	1	0	2	133	9,187	1	0	2	136
					T7M	9,573	2	0	3	141	9,977	2	0	3	147	10,172	2	0	3	150
					T9M	9,792	4	0	2	144	10,195	4	0	2	150	10,393	4	0	2	153
					T9M	9,940	4	0	2	147	10,340	4	0	2	153	10,562	4	0	2	156
					T9G	9,830	3	0	1	145	10,224	3	0	1	151	10,423	3	0	1	154
					BL3	6,874	0	0	2	101	7,181	0	0	2	106	7,240	0	0	2	107
					BL4	7,038	0	0	1	104	7,334	0	0	1	108	7,477	0	0	1	110
					BL0	6,875	1	0	2	101	7,181	1	0	2	106	7,365	1	0	2	108
					LO3	6,875	1	0	2	101	7,181	1	0	2	106	7,365	1	0	2	108
					AF8	9,997	1	0	2	147	10,418	1	0	2	154	10,621	1	0	2	157
					T15	14,093	2	0	2	138	14,687	2	0	2	144	14,971	2	0	2	147
T2M	13,055	2	0	3	128	13,605	2	0	3	133	13,871	2	0	3	136					
T3M	13,206	2	0	4	129	13,763	2	0	4	135	14,011	2	0	4	137					
T1G	11,797	2	0	2	115	12,294	2	0	2	120	12,734	2	0	2	123					
T4M	11,463	2	0	4	131	11,968	2	0	4	137	12,241	2	0	4	139					
T4G	12,798	2	0	2	139	13,298	2	0	2	144	13,752	2	0	2	147					
T7M	11,694	2	0	4	132	12,065	2	0	4	138	12,319	2	0	4	140					
T9M	11,799	4	0	2	135	12,171	4	0	2	141	12,452	4	0	2	143					
T9M	12,013	4	0	3	137	12,605	4	0	3	143	12,889	4	0	3	146					
T9G	12,639	3	0	2	135	13,113	3	0	2	141	13,494	3	0	2	144					
BL3	9,606	0	0	3	94	10,011	0	0	3	98	10,206	0	0	3	100					
BL4	9,921	0	0	3	97	10,340	0	0	3	101	10,541	0	0	3	103					
BL0	9,602	1	0	2	95	10,101	1	0	2	99	10,298	1	0	2	101					
LO3	9,602	1	0	2	95	10,101	1	0	2	99	10,298	1	0	2	101					
AF8	14,093	2	0	2	138	14,587	2	0	2	144	14,971	2	0	2	147					

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within its tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Drive Current (mA)	Distribution Type	100°				40°				10°						
					(3000K, 70 CRI)				(4000K, 70 CRI)				(5000K, 70 CRI)						
					Lumens	U	V	LPW	Lumens	U	V	LPW	Lumens	U	V	LPW			
P4	120W	80	1250	T15	16,416	2	0	3	112	17,109	2	0	2	118	17,442	2	0	3	141
				T20	15,207	3	0	4	113	15,461	3	0	4	118	16,758	3	0	4	130
				T30	15,281	2	0	4	124	16,022	2	0	4	129	16,345	2	0	4	132
				T35	13,742	2	0	2	111	14,321	2	0	2	116	14,600	2	0	2	114
				T40	15,513	2	0	4	126	16,272	2	0	4	131	16,589	2	0	4	134
				T45	14,200	2	2	2	115	14,739	2	0	2	119	15,087	2	0	2	122
				T50M	15,721	2	0	4	127	16,384	2	0	4	132	16,703	2	0	4	135
				T5M	16,063	4	0	2	130	16,741	4	0	2	135	17,067	4	0	2	138
				T5W	16,324	5	0	1	132	17,015	5	0	1	137	17,344	5	0	1	140
				T5L	16,110	5	0	2	130	16,790	4	0	2	133	17,117	4	0	2	136
				B1C	11,190	0	0	3	90	11,662	0	0	3	94	11,889	0	0	3	96
				B14	11,557	0	0	3	93	12,044	0	0	3	97	12,279	0	0	3	99
				B10	11,291	1	0	3	91	11,767	1	0	3	95	11,996	1	0	3	97
				U10	11,291	1	0	3	91	11,767	1	0	3	95	11,996	1	0	3	97
				AFR	16,416	2	0	3	112	17,109	2	0	3	118	17,442	2	0	3	141
				T15	16,052	2	0	3	131	16,814	2	0	3	136	16,580	2	0	3	139
T20	16,723	3	0	4	131	17,428	3	0	4	136	17,248	3	0	4	139				
T30	16,917	3	0	4	132	17,630	3	0	4	138	17,474	3	0	4	140				
T35	15,111	2	0	2	109	15,749	2	0	2	114	16,085	2	0	2	116				
T40	17,149	3	0	5	124	17,803	3	0	5	130	18,242	3	0	5	132				
T45	15,615	2	0	2	113	16,274	2	0	2	118	16,591	2	0	2	120				
T50M	17,288	2	0	4	125	18,017	2	0	5	130	18,364	2	0	5	133				
T5M	17,644	5	0	3	128	18,410	5	0	3	133	18,758	5	0	3	136				
T5W	17,951	5	0	3	130	18,708	5	0	3	135	19,073	5	0	3	138				
T5L	17,716	4	0	2	128	18,463	4	0	2	134	18,823	4	0	2	136				
B1C	12,005	0	0	3	89	12,624	0	0	3	93	13,074	0	0	3	95				
B14	12,709	0	0	4	91	13,245	0	0	4	96	13,501	0	0	4	98				
B10	12,416	1	0	3	90	12,940	1	0	3	94	13,190	1	0	3	96				
U10	12,416	1	0	3	90	12,940	1	0	3	94	13,190	1	0	3	96				
AFR	16,052	2	0	3	131	16,814	2	0	3	136	16,580	2	0	3	139				
T15	21,031	2	0	3	127	21,918	2	0	3	133	22,345	2	0	3	151				
T20	19,482	3	0	4	118	20,301	3	0	4	123	20,699	3	0	4	125				
T30	19,708	3	0	3	129	20,530	3	0	5	124	20,939	3	0	5	127				
T35	17,604	2	0	2	107	18,347	2	0	2	111	18,784	2	0	2	112				
T40	20,021	3	0	5	121	20,845	3	0	5	126	21,251	3	0	5	129				
T45	18,191	2	0	2	110	18,939	2	0	2	115	19,328	2	0	2	117				
T50M	20,140	3	0	5	122	20,989	3	0	5	127	21,394	3	0	5	129				
T5M	20,379	5	0	3	125	21,447	5	0	3	130	21,865	5	0	3	132				
T5W	20,912	5	0	3	127	21,795	5	0	3	132	22,215	5	0	3	134				
T5L	20,639	4	0	2	125	21,509	4	0	2	130	21,924	4	0	2	133				
B1C	14,315	0	0	3	87	14,940	0	0	3	90	15,231	0	0	3	92				
B14	14,805	0	0	4	90	15,430	0	0	4	93	15,731	0	0	4	95				
B10	14,464	1	0	3	88	15,074	1	0	3	91	15,368	1	0	3	93				
U10	14,464	1	0	3	88	15,074	1	0	3	91	15,368	1	0	3	93				
AFR	21,031	2	0	3	127	21,918	2	0	3	133	22,345	2	0	3	151				



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DSX1-LED
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Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Round Straight Steel is a general purpose light pole for up to 30-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION

Pole Shaft: The pole shaft is of 0.120" uniform wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 42,000 psi. Shaft is one-piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly round in cross-section down length of shaft with no taper. Standard shaft diameters are 3", 4", 4.5" and 5". 6" diameter shaft available by quote. Shaft wall thickness of .180" is available with certain tube diameters.

Pole Top: Options include tenon top, drilled for side mount fixture, 4" tenon with drilling (includes extra handhole) and open top. Side drilled and open top poles include a removable press-fit, black, low density polyethylene top cap.

Handhole: A reinforced handhole with grounding provision is provided at 12" or 18" from the base end of the pole assembly on side A. Every handhole includes a cover and cover attachment hardware. 2.5" x 5" rectangular handhole is provided on pole.

Base Cover: A two-piece ABS round plastic full base cover is provided with each pole assembly. Additional base cover options are available upon factory request. Options include fabricated two-piece sheet steel. All base covers are finished to match pole.

Anchor Base/Bolts: Anchor base is fabricated from hot-rolled carbon steel plate that conforms with ASTM A36. Anchor bolts conform to ASTM F1554 Grade 55 and are provided with two hex nuts and two flat washers. Bolts have an "L" blend on one end. All anchor bolts are hot-dipped galvanized a minimum of 12" nominal on the threaded end. Anchor bolts are made of steel rod having a minimum yield strength of 55,000 psi and a yield strength of 75,000 psi to 95,000 psi.

HARDWARE — All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

FINISH — Extra durable standard powder-coat finishes include Dark Bronze, White, Black, Medium Bronze and Natural Aluminum colors. Classic finishes include Sandstone, Charcoal Gray, Tennis Green, Bright Red and Steel Blue colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Hot-dipped Galvanized, Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes. Factory-applied primer paint finish is available for customer field-paint applications.

BUY AMERICAN ACT — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.



Anchor Base Poles

RSS

ROUND STRAIGHT STEEL

BAA

RSS Round Straight Steel Pole

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: RSS 20 4-5B DM19 DDBXD

RSS					
Series	Nominal fixture mounting height	Nominal shaft base size/wall thickness ¹	Mounting ²	Options	Finish
RSS	8'-36' (for 1/2 ft increments, add -5 to the pole height. Ex: 20-5 equals 20ft 6in.) (See technical information table for complete ordering information.)	3B 3" 11ga (.120") 4B 4" 11ga (.120") 4-5B 4.5" 11ga (.120") 5B 5" 11ga (.120") (See technical information table for complete ordering information.)	<u>Tenon mounting</u> PT Open top T20 2-3/8" O.D. (2" NPS) T25 2-7/8" O.D. (2-1/2" NPS) T30 3-1/2" O.D. (3" NPS) T35 4" O.D. (3-1/2" NPS) <u>KAC/KAD/KSE/KSE/KVR/KVE Drill mounting³</u> DM19 1 at 90° DM28 2 at 180° DM28PL 2 at 180° with one side plugged DM29 2 at 90° DM32 3 at 120° DM49 4 at 90° <u>CSX/DSX/RX/AERIS/OMERQ/KA Drill mounting³</u> DM19AS 1 at 90° DM28AS 2 at 180° DM29AS 2 at 90° DM32AS 3 at 120° DM39AS 3 at 90° DM49AS 4 at 90° <u>RAD drill mounting^{3,4}</u> DM19RAD 1 at 90° DM28RAD 2 at 180° DM29RAD 2 at 90° DM32RAD 3 at 120° DM39RAD 3 at 90° DM49RAD 4 at 90° <u>ESX Drill mounting³</u> DM19ESX 1 at 90° DM28ESX 2 at 180° DM29ESX 2 at 90° DM32ESX 3 at 120° DM39ESX 3 at 90° DM49ESX 4 at 90°	<u>Shipped installed</u> VD Vibration damper ⁸ H&xy Horizontal arm bracket (1 fixture) ^{6,7} FDLxy Faston outlet less electrical ^{6,8} CPL12/xy 1/2" coupling ⁶ CPL34/xy 3/4" coupling ⁶ CPL1/xy 1" coupling ⁶ NPL12/xy 1/2" threaded nipple ⁶ NPL34/xy 3/4" threaded nipple ⁶ NPL1/xy 1" threaded nipple ⁶ EHHxy Extra handhole ^{6,9} STLHHC Steel handhole cover (standard is plastic, finish is smooth) ¹⁰ FBCSTL2PC 2 Piece steel base covers (standard is plastic) ¹⁰ IC Interior coating ¹¹ L/AB Less anchor bolts (include when anchor bolts are not needed) TP Tamper resistant handhole cover fasteners NEC NEC 410.30 compliant gasketed handhole (Not UL Labeled) UL UL listed with label (Includes NEC compliant cover) BAA Buy America(s) Act Compliant ¹² VM/original order# Match pole to prior order or project ¹³	<u>Super durable paint colors</u> DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DGCXD Charcoal gray DTGXD Tennis green DBRXD Bright red DSBXD Steel blue DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white <u>Other finishes</u> GALV Galvanized finish <u>Architectural colors and special finishes¹⁴</u> [PAINT] GALV Paint over galvanizing VP30 3 year warranty extension VP53 5 year warranty extension RAL### Use designated Lithonia Lighting nomenclature in brochure Custom color Nomenclature assigned through Customer Care "Custom Color Process"

NOTES:

- Wall thickness will be stylized with a "B" (11 Gauge) or a "F" (7-Gauge) in nomenclature. "B" - 120" | "F" - 180"
- PT open top poles include top cap. When ordering tenon mounting and drill mounting for the same pole, specify as drilling option/tenon option. The combination includes a required extra handhole.
Example: DM28/T20.
Refer to the fixture spec sheet for the correct drilling template pattern and orientation compatibility.
- DM19RAD, DM28RAD and DM32RAD require a minimum top O.D. of 4". DM29RAD, DM39RAD and DM49RAD require a minimum top O.D. of 4.25". VD not available with 3" pole. On 4" and 5" poles, VD cannot be installed if provisions (EHH, FDL, NPL, CPL) are located higher than 2/3 of the pole's total height.
Example: Pole height is 25ft. A provision cannot be placed above 16ft.
- Specify location and orientation when ordering option.
For "x": Specify the height above the base of pole in feet and inches; separate feet and inches with a "-".
Example: 5ft = 5 and 20ft 3in = 20-3
For "y": Specify orientation from handhole (A,B,C,D) Refer to the Handhole Orientation Diagram below.
Example: 1/2" coupling at 5' 3", orientation C = CPL12/5-3C
- Horizontal arm is 18" x 2-3/8" O.D. tenon standard, with radius curve providing 12" rise and 2-3/8" O.D. If ordering two horizontal arms at the same height, specify with H&xy.
Example: HA20B0.

- FDL does not come with GFCI outlet or handhole cover. These must be supplied by contractor or electrician.
- Combination of tenon-top and drill mount includes extra handhole. EHH includes cover.
- Plastic hand hole cover and base covers come standard with all poles. Items ship separately. Additional parts can be ordered as replacements.
- Provides enhanced corrosion resistance. N/A with GALV.
- Use when mill certifications are required.
- Must add original order number. Not for replacement parts or post sales issues, contact tech support or post sales teams. VM is used to ensure poles match in appearance exactly from order to order, on a single project site. A common use case would be a multi-phase project with multiple orders.
Example: V36/010-36784
- Must be quoted through AQD. Finishes do not require RFA. RAL colors available are shown in "Architectural Colors brochure". Lead times may be extended up to 2 weeks due to paint procurement.

Accessories: Order as separate catalog number.	
PL DT20	Plugs for ESX drillings
PL DT8	Plugs for DMxxAS drillings
FVD x0FT	Field installed vibration damper (snake style)



POLE-RSS

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RSS Round Straight Steel Pole

TECHNICAL INFORMATION — EPA (ft ²) with 1.3 gust										
Catalog number	Nominal shaft length (ft)*	Pole shaft size (in x ft)	Wall thickness (in)	80 mph	Max weight	90 mph	Max weight	100 mph	Max weight	Approximate ship weight (lbs.)
RSS 8 4-5B	8	4.5 x 8.0	0.120	24.7	630	19.7	495	16.0	430	55
RSS 10 3B	10	3.0 x 10.0	0.120	10.0	250	7.7	190	6.0	175	55
RSS 10 4B	10	4.0 x 10.0	0.120	19.1	480	15	375	12.2	305	70
RSS 10 4-5B	10	4.5 x 10.0	0.120	24.5	615	19.5	490	15.8	395	75
RSS 12 3B	12	3.0 x 12.0	0.120	7.7	195	5.8	145	4.4	130	60
RSS 12 4B	12	4.0 x 12.0	0.120	15.0	390	11.8	300	9.5	240	80
RSS 12 4-5B	12	4.5 x 12.0	0.120	19.8	495	15.7	395	12.7	320	85
RSS 14 3B	14	3.0 x 14.0	0.120	6.0	175	4.4	130	3.3	90	70
RSS 14 4B	14	4.0 x 14.0	0.120	12.2	305	9.4	250	7.6	195	90
RSS 14 4-5B	14	4.5 x 14.0	0.120	16.2	405	12.8	320	10.3	260	95
RSS 15 4-5B	15	4.5 x 15.0	0.120	12.0	300	9.5	250	7.5	200	96
RSS 16 3B	16	3.0 x 16.0	0.120	4.6	125	3.2	100	2.3	60	80
RSS 16 4B	16	4.0 x 16.0	0.120	9.6	250	7.4	185	5.9	150	100
RSS 16 4-5B	16	4.5 x 16.0	0.120	13.1	330	10.2	265	8.2	205	105
RSS 18 3B	18	3.0 x 18.0	0.120	3.4	90	2.3	60	1.4	70	90
RSS 18 4B	18	4.0 x 18.0	0.120	7.6	190	5.7	180	4.5	130	110
RSS 18 4-5B	18	4.5 x 18.0	0.120	10.5	265	8.2	210	6.5	165	115
RSS 20 3B	20	3.0 x 20.0	0.120	2.4	100	1.4	75	—	—	100
RSS 20 4B	20	4.0 x 20.0	0.120	6.0	150	4.45	150	3.45	125	120
RSS 20 4-5B	20	4.5 x 20.0	0.120	8.5	215	6.6	165	5.2	130	130
RSS 20 5B	20	5.0 x 20.0	0.120	11.75	300	9.1	230	7.25	180	145
RSS 22 4-5B	22	4.5 x 22.0	0.120	6.0	150	4.5	125	3.75	100	134
RSS 25 4B	25	4.0 x 25.0	0.120	2.85	100	1.95	75	1.35	75	145
RSS 25 4-5B	25	4.5 x 25.0	0.120	4.8	130	3.6	90	2.7	90	145
RSS 25 5B	25	5.0 x 25.0	0.120	7.25	180	5.5	150	4.25	150	180
RSS 30 4-5B	30	4.5 x 30.0	0.120	2.3	80	1.5	75	1.0	60	185
RSS 30 5B	30	5.0 x 30.0	0.120	4.2	150	3	125	2.25	100	210

NOTE: EPA values are based ASCE 7-93 wind map.

*For 1/2 ft increments, add .6 to the pole height. Ex: 20-6 equals 20ft 6in.

RSS Round Straight Steel Pole

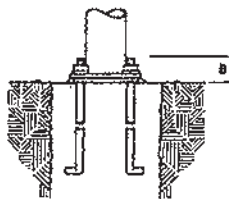
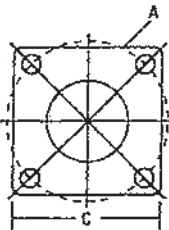
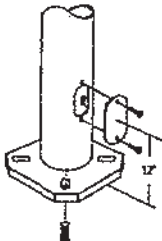
TECHNICAL INFORMATION — EPA (ft²) WITH 3-SECOND GUST PER AASHTO 2013

Series	Mounting Height (ft)*	Shaft Base Size	90 MPH	Max. weight	100 MPH	Max. weight	110 MPH	Max. weight	120 MPH	Max. weight	130 MPH	Max. weight	140 MPH	Max. weight	150 MPH	Max. weight	Approximate ship weight (lbs.)
RSS	8	4-SB	18.5	463	15	375	13	325	11	275	9.5	238	8	200	7	175	55
RSS	10	3B	6	150	5	125	4	100	3.5	88	2.5	63	2	50	2	50	55
RSS	10	4B	12	300	9.5	238	8	200	6.5	163	5.5	138	5	125	4.5	113	70
RSS	10	4-SB	15.5	388	12.5	313	10.5	263	9	225	7.5	188	6.5	163	6	150	75
RSS	12	3B	5	125	4	100	3	75	2.5	63	2	50	1.5	38	1	25	60
RSS	12	4B	10	250	8	200	6.5	163	5.5	138	4.5	113	4	100	3.5	88	80
RSS	12	4-SB	13	325	10.5	263	9	225	7.5	188	6.5	163	5.5	138	4.5	113	85
RSS	14	3B	4	100	3	75	2.5	63	2	50	1.5	38	1	25	0.5	13	70
RSS	14	4B	8.5	213	6.5	163	5.5	138	4	100	3.5	88	3	75	2.5	63	90
RSS	14	4-SB	11	275	9	225	7	175	6	150	5	125	4.5	113	4	100	95
RSS	15	4-SB	10	250	8	200	6.5	163	5.5	138	4.5	113	4	100	3.5	88	96
RSS	16	3B	3	75	2.5	63	1.5	38	1	25	0.5	13	0.5	13	-	-	80
RSS	16	4B	7	175	5.5	138	4	100	3	75	2.5	63	2	50	2	50	100
RSS	16	4-SB	9	225	7	175	6	150	5	125	4	100	3.5	88	3	75	105
RSS	18	3B	2.5	63	1.5	38	1	25	0.5	13	-	-	-	-	-	-	90
RSS	18	4B	5.5	138	4	100	3	75	2.5	63	2	50	1.5	38	1	25	110
RSS	18	4-SB	7.5	188	6	150	4.5	113	4	100	3	75	2.5	63	2	50	115
RSS	20	3B	2	50	1	25	0.5	13	-	-	-	-	-	-	-	-	100
RSS	20	4B	4.5	113	3	75	2	50	1.5	38	1	25	1	25	0.5	13	120
RSS	20	4-SB	6	150	4.5	113	3.5	88	3	75	2.5	63	2	50	1.5	38	130
RSS	20	5B	8	200	6.5	163	5.5	138	4.5	113	3.5	88	3	75	2.5	63	145
RSS	22	4-SB	5	125	3.5	88	2.5	63	2	50	1.5	38	1	25	1	25	134
RSS	25	4B	2.5	63	1	25	0.5	13	-	-	-	-	-	-	-	-	145
RSS	25	4-SB	3.5	88	2	50	1.5	38	1	25	0.5	13	-	-	-	-	145
RSS	25	5B	5	125	3.5	88	3	75	2	50	1.5	38	1.5	38	1	25	180
RSS	30	4-SB	1.5	38	-	-	-	-	-	-	-	-	-	-	-	-	185
RSS	30	5B	2.5	63	1.5	38	1	25	0.5	13	-	-	-	-	-	-	210

NOTE: AASHTO 2013 criteria is the most conservative existing EPA calculation. For poles not showing EPA values under AASHTO 2013, EPA values may exist under commercial criteria (see table above).

*For 1/2 ft increments, add .6 to the pole height. Ex: 20-6 equals 20ft 6in.

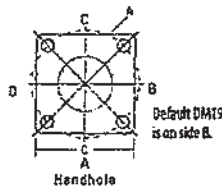
BASE DETAIL



ANCHORAGE AND TEMPLATE INFORMATION

Shaft base size	Bolt circle A	Bolt projection B	Base square C	Template description	Anchor bolt description	Bolt size (in. x ln. x ln.)
3"	7.5" - 8.5"	3.50" - 3.75"	10.50"	ABTEMPLATE PJ50041	AB18-0	3/4 x 18 x 3
4"	7.5" - 8.5"	3.50" - 3.75"	10.50"	ABTEMPLATE PJ50041	AB18-0	3/4 x 18 x 3
4.5"	7.5" - 8.5"	3.50" - 3.75"	10.50"	ABTEMPLATE PJ50041	AB18-0	3/4 x 18 x 3
5"	7.5" - 8.5"	3.50" - 3.75"	10.50"	ABTEMPLATE PJ50041	AB18-0	3/4 x 18 x 3

HANDHOLE ORIENTATION



IMPORTANT INSTALLATION NOTES:

- Do not erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchor placement due to failure to use factory template.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

CAUTION: These specifications are intended for general purposes only. Lithonia Lighting reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.



POLE-RSS

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d^oseries

D-Series Size 0 LED Area Luminaire



Category Number: _____

Item: _____

Spec: _____

Specifications

EPA:	0.44 ft ² (0.04 m ²)
Length:	26.18" (06.3 cm)
Width:	14.06" (33.7 cm)
Height H1:	2.25" (5.7 cm)
Height H2:	7.45" (18.9 cm)
Weight:	23 lbs (10.4 kg)



ds Design Select options indicated by this color background.

Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.



Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect. *See ordering tree for details.

Ordering Information

EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series	LEDs	Color temperature ¹	Color Rendering Index ²	Distribution	Voltage	Mounting		
DSX0 LED	Forward optics	(this section 70CRI only)		ATR Automotive rear row TTS Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare ³ T4M Type III medium T4LG Type IV low glare ³ DTM Forward throw medium	T3M Type V medium T3LG Type V low glare T3W Type V wide BLC3 Type III backlight control ⁴ BLC4 Type IV backlight control ⁴ LCCO Left corner cutoff ⁵ RCCO Right corner cutoff ⁵	MVOLT 120V-277V ⁶ HVOLT 347V-480V ⁶ XVOLT 277V-480V ⁶ 120 V ⁶ 208 V ⁶ 240 V ⁶ 277 V ⁶ 347 V ⁶ 480 V ⁶	Shipped included SPA Square pole mounting (R8 drilling, 3.5" max. 50 pole) RPA Round pole mounting (R8 drilling, 3" max. 800 pole) SPAS Square pole mounting (R1 drilling, 3" max. 50 pole) RPAS Round pole mounting (R5 drilling, 3" max. 300 pole) SPAS4 Square narrow pole mounting (R8 drilling, 1" max. 50 pole) WBA Wall bracket ⁷ MA Max arm adapter (mounts on 2.5" OD vertical track)	
		P1 P5	30K 3000K					70CRI
		P2 P6	40K 4000K					70CRI
		P3 P7	50K 5000K					70CRI
		P4	(this section 80CRI only, extended lead times apply)					
		Rotated optics						
	P10 ¹ P12 ¹	27K 2700K	80CRI					
	P11 ¹ P13 ¹	30K 3000K	80CRI					
		35K 3500K	80CRI					
		40K 4000K	80CRI					
		50K 5000K	80CRI					

Control options	Other options	Finish options
Shipped installed	Shipped installed	DSX0 Dark bronze
NLTAIR2 PIRHN Light AIR gen 2 installed with 8-level motion / ambient sensor, 2-40' mounting height, ambient sensor enabled R 25 ^{8,9,10}	H5 Waterside white (black finish standard) ¹¹	DBLD Black
PIR High/low, motion/ambient sensor 8-40' mounting height, ambient sensor enabled R 25 ^{8,9,10}	L90 Left rotated optics ¹²	DNAXD Natural aluminum
PER NEMA twist-lock receptacle only (tamper resistant) ¹³	R90 Right rotated optics ¹²	DNBRO White
PERS Five-pin receptacle only (tamper resistant) ¹³	CEE Coastal construction ¹⁴	DDBTX0 Textured dark bronze
	NA 10% ambient openness ¹⁵	DBLBD Textured black
	BAA Buy American/Act Compliant	DNATX0 Textured natural aluminum
	SF Single fuse (125, 277, 347V) ¹⁶	DNWGD Textured white
	DF Double fuse (208, 240, 480V) ¹⁶	
	Shipped separately	
	EGOR External Gas Shield (ventilate, field install required, matches housing finish)	
	ESDB Red spikes (field install required)	



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DSX0 LED
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Ordering Information

Accessories

Ordered and shipped separately

BL107 (12R)	Flatfoot - 55, lead-free (120-277V) *
BL145 (1, 1, 120, 2)	Flatfoot - 55, lead-free (240V) *
DL149F (1, 1, 120, 2)	Flatfoot - 55, lead-free (240V) *
DSHRT186	Starting cap *
DSQ95F4	Round pole adapter (package number P1, P2, P10) or plate (4R)
DSRPA (RMSR)	Round pole adapter (R drilling, specify finish)
DSRPA (RMSD)	Round pole adapter (D drilling, specify finish)
DS2145 (RMS16)	Square pole adapter (4" drilling, specify finish)
DSMS2R (RMS16)	External plate (4" drilling, specify finish)
DSMS24 (RMS16)	Rectangular plate (4" drilling, specify finish)

NOTES

- Rotated optics available with packages P10, P11, P12 and P13. Must be combined with option L90 or R90.
- 30K, 40K, and 50K available in 700K and 800K; 27K and 35K only available with 300K. Contact Technical Support for other possible combinations.
- T3LG, T4LD, BLCS, BLCA, LCCO, RCCO not available with option H5.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- MVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
- MVOLT not available with package P1, P2 and P10 when combined with option NLSAR2 PRRH or custom PRR.
- XVOLT operates with any voltage between 277V and 480V (50/60 Hz).
- XVOLT not available in packages P1, P2 or P10. XVOLT not available with fusing (SF or DF).
- SPAS and RPA5 for use with #5 drilling only (not for use with #6 drilling).
- WSA cannot be combined with Type 5 distributions plus photocell (PCC).
- NLSAR2 and PRRH must be ordered together. For more information on slight Air 2.
- NLSAR2 PRRH not available with other controls including PRR, PER, PERS, PER7, FAO, BL30, BL50 and DMG. NLSAR2 PRRH not available with P1, P2 and P10 using MVOLT. NLSAR2 PRRH not available with P1, P2 and P10 using XVOLT. NLSAR2 PRRH not available with P1 using MVOLT.
- PRR not available with NLSAR2, PER, PERS, PER7, FAO, BL30, BL50 and DMG. PRR not available with P1, P2 and P10 using MVOLT. PRR not available with P1 using XVOLT.
- PER, PERS, PER7 not available with NLSAR2, PRR, BL30, BL50. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories, Shutting Cap included.
- FAO not available with other dimming control options NLSAR2 PRRH, PRR, PERS, PER7, BL30, BL50, or DMG.
- BL30 and BL50 are not available with NLSAR2 PRRH, PRR, PER, PERS, PER7, FAO and DMG. BL30 or BL50 must specify 120, 277 or 347V. Consult tech support for 208, 240 or 480V.
- DMG not available with NLSAR2 PRRH, PRR, PER, PERS, PER7, BL30, BL50 and FAO.
- Reference Motion Sensor Default Settings table on page 4 to see functionality.
- Reference Controls Options table on page 4.
- Option H5 not available with T3LG, T4LD, BLCS, BLCA, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- CCF option not available with option R5 and POSK. Contact Technical Support for availability.
- Option HA not available with performance packages P5, P7, P12 and P13.
- Requires luminaire to be specified with PRR, PERS or PER7 option. See Controls table on page 4.
- Single Line (SL) requires 120V, 277V, or 347V. Double Line (DL) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF).

Shield Accessories



External Glare Shield (EGSR)



House Side Shield (HS)

Drilling

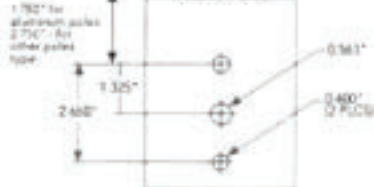
HANDHOLE ORIENTATION

(from top of pole)



Template 8B

Top of Pole



Tenon Mounting Slipfitter

Tenon Size	Mounting	Single Unit	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
2-1/8"	RPA	AS1-5190	AS1-5280	AS1-5290	AS1-5390	AS1-1120	AS1-5490
2-7/8"	RPA	AST25-190	AST25-290	AST25-290	AST25-390	AST25-120	AST25-490
4"	RPA	AST75-190	AST75-290	AST75-290	AST75-390	AST75-120	AST75-490

Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Sides B & D	Sides B & C	Sides B, C & D	Round Pole Only	Sides A, B, C & D
Drill Nomenclature	#1	DM194S	DM284S	DM294S	DM384S	DM124S	DM484S
Minimum Acceptable Outside Pole Dimension							
SPA	#1	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"
RPA	#1	3"	3"	3"	3"	3"	3"
SPAS	#1	3"	3"	3"	3"	3"	3"
RPA5	#1	3"	3"	3"	3"	3"	3"
SPARH	#1	3"	3"	3"	3"	3"	3"

DSX0 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other remote arms, line kits or other accessories are not included in this EPA data.

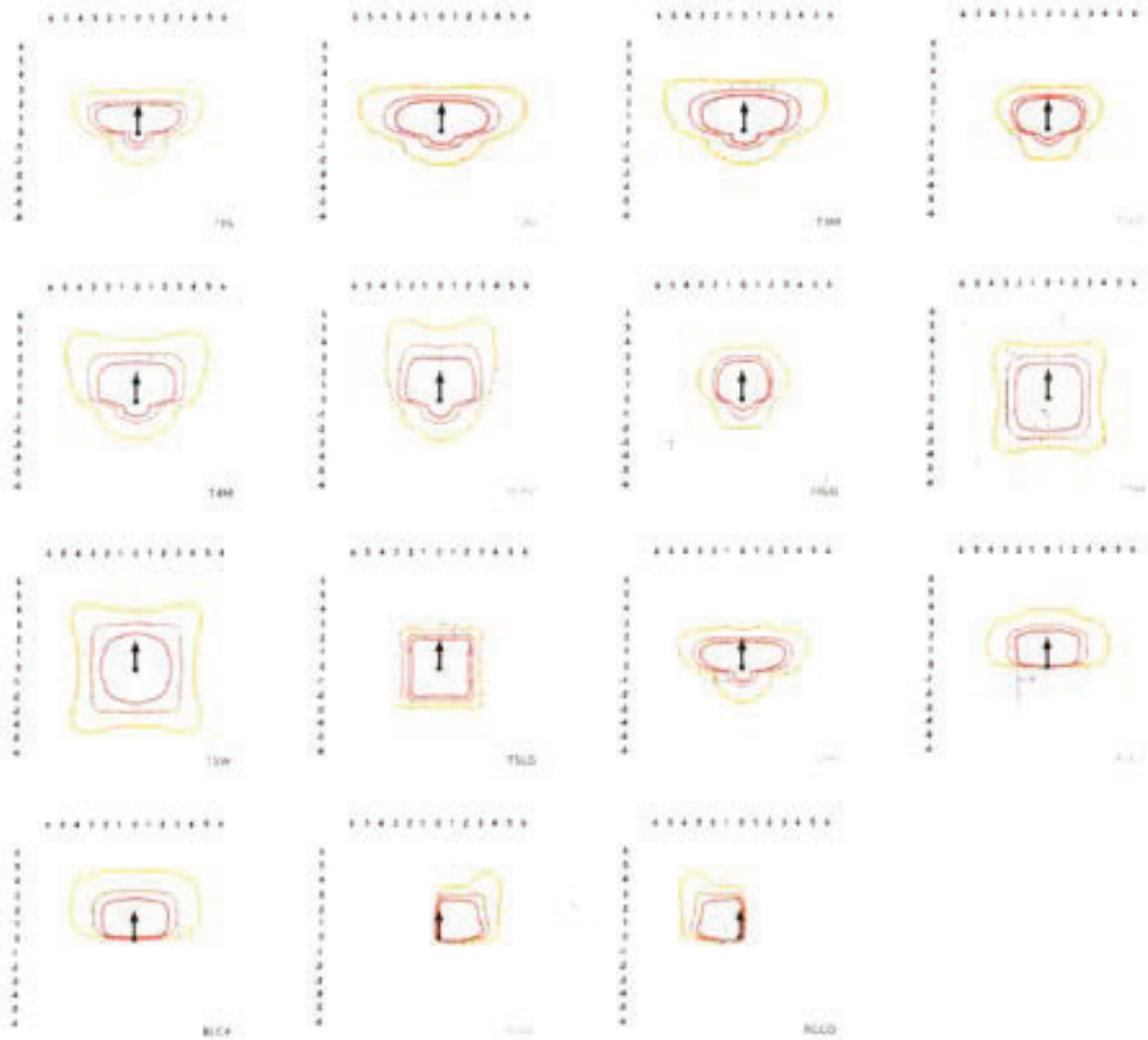
Fixture Quantity & Mounting Configuration	Single DSX1Y	2 @ 180 DSX2	2 @ 90 DSX2Y	3 @ 90 DSX2Y	3 @ 120 DSX2	4 @ 90 DSX4Y
Mounting Type						
DSX0 with SPA	0.44	0.88	0.96	1.18	—	1.56
DSX0 with SPAL, SPARH	0.51	1.02	1.08	1.26	—	1.71
DSX0 with RPA, RPA5	0.51	1.02	1.08	1.26	1.24	1.71
DSX0 with MR	0.44	1.08	1.24	1.62	1.70	1.98

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit [Lithonia Lighting's website](https://www.lithonia.com).

Isolux candle plots for the DS40 LED-F7 40K 10C90. Distances are in units of mounting height (Q71).

- LEGEND**
- 0.1 fc
 - 0.5 fc
 - 1.0 fc



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures. Note: 24°C (32-104°F).

Ambient	Temp	Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°C	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing tested per IESNA LM-80-08 and projected per IESNA TM-21-11.

To calculate LMF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.94
50,000	0.89
100,000	0.82

FAO Dimming Settings

FAO Position	% Wattage	% Lumen Output
8	100%	100%
7	93%	95%
6	86%	88%
5	66%	71%
4	54%	61%
3	41%	49%
2	29%	36%
1	15%	20%

*Note: Calculated values are based on original performance package data. When calculating new values for given FAO position, use published values for each package based on input watts and lumens by optic type.

Electrical Load

Performance Package	LED Count	Drive Current (mA)	Wattage	Current (A)						
				120V	208V	240V	277V	347V	480V	
Forward Optics (Non-Reliable)	P1	20	510	34	0.28	0.16	0.14	0.12	0.10	0.07
	P2	20	700	43	0.38	0.22	0.19	0.16	0.13	0.09
	P3	20	1050	69	0.57	0.33	0.29	0.23	0.20	0.14
	P4	20	1400	94	0.78	0.45	0.39	0.34	0.27	0.19
	P5	40	700	89	0.75	0.43	0.38	0.33	0.26	0.19
	P6	40	1050	136	1.14	0.66	0.57	0.49	0.39	0.28
	P7	40	1300	170	1.62	0.92	0.71	0.62	0.49	0.36
Retracted Optics (Requires 120V or 80V)	P10	30	530	31	0.42	0.24	0.21	0.18	0.15	0.11
	P11	30	700	47	0.37	0.21	0.20	0.21	0.20	0.14
	P12	30	1050	70	0.56	0.30	0.43	0.37	0.30	0.22
	P13	30	1300	129	1.87	0.82	0.54	0.46	0.37	0.27

LED Color Temperature / Color Rendering Multipliers

	70 CRI		90 CRI		98 CRI	
	Lumen Multiplier	Availability	Lumen Multiplier	Availability	Lumen Multiplier	Availability
1000K	101%	Standard	92%	Extended lead time	71%	(see note)
4000K	100%	Standard	92%	Extended lead time	67%	(see note)
7500K	100%	(see note)	90%	Extended lead time	62%	(see note)
18000K	96%	Standard	87%	Extended lead time	67%	(see note)
2700K	94%	(see note)	85%	Extended lead time	57%	(see note)

Note: Some LED types are available as per special request. Contact Technical Support for more information.

Motion Sensor Default Settings

Option	Escalated Dimmed Level	High Level (when occupied)	PhotoCell Operation	Delay Time	Ramp-up Time	Flashing Flash Rate
PR	10%	100%	Enabled @ 2FC	7.5 min	1 sec	1 min
NLAR2 PRRN	10%	100%	Enabled @ 2FC	7.5 min	1 sec	1 min

Controls Options

Recommendation	Description	Functionality	Primary control device	Notes
TAO	Field adjustable output device installed inside the luminaire, wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively bypassing the light output.	TAO device	Cannot be used with other controls options that need the 0-10V leads.
DS (not available on DSX)	Drivers wired independently for 0/10/100 lumen operation.	The luminaire is wired to two separate circuits, allowing for 0/10/100 operation.	Independently wired drivers	Requires two separately switched circuits. Consider eLight AIR as a more cost effective alternative.
PER1 or PER2	Twist-lock photocell receptacle.	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DCL 016 or advanced control nodes such as 90AM.	Per 4 & 5 to dimming leads on driver. Pins 6 & 7 are capped inside luminaire. Cannot be used with other controls options that need the 0-10V leads.
PR	Motion sensor with integral photocell. Sensor suitable for 8' to 40' mounting height.	Luminaire dim when no occupancy is detected.	Acuity Controls rSBC	Cannot be used with other controls options that need the 0-10V leads.
NLAR2 PRRN	eLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor overrides when wireless connected to the eLight Escape.	eLight AIR rSBC	eLight AIR sensors can be programmed and commissioned from the ground using the eLight Pro app. Cannot be used with other controls options that need the 0-10V leads.
BL30 or BL50	Integrated 3-level device that allows a second control circuit to switch all light engines to either 10% or 50% light output.	BL3 device provides input to 0-10V dimming leads on all drivers providing either 100% or dimmed (10% or 50%) control by a secondary circuit.	BL3 (V017)	BL3 device is powered off the 0-10V dimming leads, thus can be used with any input voltage from 120 to 480V.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Forward Optics

Performance Package	System Watts	LED Count	Beam Spread (deg)	Distribution Type	30°					60°					90°				
					132000, 70 (LED)					160000, 70 (LED)					100000, 70 (LED)				
					Lumens	U	V	G	LPW	Lumens	U	V	G	LPW	Lumens	U	V	G	LPW
P1	33W	20	130	T15	4,906	1	0	1	148	5,113	1	0	1	154	4,214	1	0	1	127
				T2M	4,545	1	0	2	137	4,736	1	0	2	143	4,829	1	0	2	145
				T3M	4,187	1	0	2	138	4,791	1	0	2	144	4,885	1	0	2	147
				T3G	4,107	1	0	1	124	4,280	1	0	1	129	4,363	1	0	1	131
				T4M	4,066	1	0	2	141	4,863	1	0	2	146	4,957	1	0	2	149
				T4G	4,244	1	0	1	128	4,423	1	0	1	133	4,509	1	0	1	136
				T7M	4,698	1	0	2	143	4,896	1	0	2	147	4,992	1	0	2	150
				T5M	4,801	3	0	1	145	5,003	3	0	1	151	5,101	3	0	1	154
				T5W	4,878	3	0	1	147	5,084	3	0	1	153	5,183	3	0	1	156
				T5G	4,814	2	0	1	145	5,018	2	0	1	153	5,115	2	0	1	154
				BC3	3,944	0	0	1	101	3,485	0	0	1	105	3,553	0	0	1	107
				BC4	3,454	0	0	2	104	3,599	0	0	2	108	3,670	0	0	2	111
				BCD	3,574	0	0	1	102	3,517	0	0	1	106	3,585	0	0	1	108
				LC0	3,574	0	0	1	102	3,517	0	0	1	106	3,585	0	0	1	108
				AFR	4,906	1	0	1	148	5,113	1	0	1	154	5,213	1	0	1	157
T15	6,328	1	0	1	140	6,595	1	0	1	146	6,724	1	0	1	149				
T2M	5,862	1	0	2	130	6,109	1	0	2	135	6,228	1	0	2	138				
T3M	5,508	1	0	2	131	6,080	1	0	2	137	6,301	1	0	2	140				
T3G	5,297	1	0	1	117	5,521	1	0	1	122	5,628	1	0	1	125				
T4M	6,038	1	0	2	133	6,272	1	0	2	139	6,395	1	0	2	142				
T4G	5,474	1	0	1	121	5,705	1	0	1	126	5,815	1	0	1	129				
T7M	6,060	1	0	2	134	6,316	1	0	2	140	6,439	1	0	2	143				
T5M	6,192	3	0	1	137	6,453	3	0	1	143	6,579	3	0	1	146				
T5W	6,293	3	0	1	139	6,528	3	0	1	145	6,666	3	0	1	148				
T5G	6,210	2	0	1	138	6,472	2	0	1	143	6,598	2	0	1	146				
BC3	4,313	0	0	2	96	4,495	0	0	2	100	4,583	0	0	2	102				
BC4	4,455	0	0	2	99	4,641	0	0	2	103	4,733	0	0	2	105				
BCD	4,352	0	0	2	96	4,530	0	0	2	100	4,624	0	0	2	102				
LC0	4,352	0	0	2	96	4,530	0	0	2	100	4,624	0	0	2	102				
AFR	6,328	1	0	1	140	6,595	1	0	1	146	6,724	1	0	1	149				
T15	9,806	1	0	2	111	9,886	1	0	2	116	9,969	1	0	2	119				
T2M	9,243	2	0	3	125	9,694	2	0	3	130	9,864	2	0	3	133				
T3M	8,419	2	0	3	122	8,795	2	0	3	128	8,967	2	0	3	130				
T3G	7,519	1	0	2	109	7,857	1	0	2	114	8,010	1	0	2	116				
T4M	8,565	2	0	3	124	8,926	2	0	3	129	9,190	2	0	3	132				
T4G	7,790	1	0	2	113	8,119	1	0	2	118	8,277	1	0	2	120				
T7M	8,624	1	0	2	126	8,988	1	0	2	130	9,163	1	0	2	133				
T5M	8,872	3	0	2	128	9,244	4	0	2	133	9,363	4	0	2	136				
T5W	8,955	4	0	2	130	9,333	4	0	2	135	9,515	4	0	2	138				
T5G	8,838	3	0	1	124	9,211	3	0	1	129	9,390	3	0	1	134				
BC3	6,199	0	0	2	89	6,399	0	0	2	93	6,522	0	0	2	95				
BC4	6,340	0	0	2	92	6,567	0	0	2	96	6,738	0	0	2	98				
BCD	6,194	1	0	2	95	6,403	1	0	2	94	6,581	1	0	2	95				
LC0	6,194	1	0	2	95	6,403	1	0	2	94	6,581	1	0	2	95				
AFR	9,806	1	0	2	111	9,886	1	0	2	116	9,969	1	0	2	119				
T15	11,396	1	0	2	122	11,877	1	0	2	128	12,169	1	0	2	130				
T2M	10,557	2	0	3	113	10,963	2	0	3	118	11,217	2	0	3	121				
T3M	10,480	2	0	3	115	10,930	2	0	3	120	11,367	2	0	3	122				
T3G	9,540	1	0	2	103	9,942	1	0	2	107	10,136	1	0	2	109				
T4M	10,839	2	0	3	117	11,296	2	0	3	121	11,516	2	0	3	124				
T4G	9,858	1	0	2	106	10,274	1	0	2	110	10,474	1	0	2	113				
T7M	10,914	2	0	3	117	11,374	2	0	3	122	11,596	2	0	3	125				
T5M	11,352	4	0	2	120	11,822	4	0	2	125	11,849	4	0	2	127				
T5W	11,332	4	0	2	122	11,811	4	0	2	127	12,041	4	0	2	129				
T5G	11,384	3	0	1	120	11,856	3	0	1	125	11,889	3	0	1	128				
BC3	7,768	0	0	2	83	8,096	0	0	2	87	8,254	0	0	2	89				
BC4	8,023	0	0	2	86	8,342	0	0	2	90	8,524	0	0	2	92				
BCD	7,838	1	0	2	84	8,169	1	0	2	88	8,328	1	0	2	90				
LC0	7,838	1	0	2	84	8,169	1	0	2	88	8,328	1	0	2	90				
AFR	11,396	1	0	2	122	11,877	1	0	2	128	12,169	1	0	2	130				

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

Forward Optics																			
Performance Package	System Watts	LED Count	Beam Spread (deg)	Distribution Type	10°					40°					100°				
					(1000K, 70 CRI)					(1000K, 70 CRI)					(1000K, 70 CRI)				
					Lumens	B	U	L	UPW	Lumens	B	U	L	UPW	Lumens	B	U	L	UPW
P1	90W	40	700	T11	12,380	2	0	2	137	12,902	2	0	2	141	13,154	2	0	2	146
				T2W	11,468	2	0	1	127	11,952	2	0	1	131	12,185	2	0	1	135
				T3M	11,801	2	0	3	129	12,081	2	0	1	134	12,524	2	0	4	137
				T3L6	10,363	2	0	2	115	10,800	2	0	1	120	11,011	2	0	2	122
				T4W	11,734	2	0	4	131	12,271	2	0	4	136	12,510	2	0	4	139
				T4L6	10,709	1	0	2	119	11,190	2	0	2	124	11,378	2	0	2	126
				T7TM	17,856	2	0	3	132	18,236	2	0	4	137	18,596	2	0	4	140
				T7M	12,174	4	0	2	134	12,425	4	0	2	140	12,871	4	0	2	143
				T7W	12,310	4	0	3	137	12,816	4	0	3	142	13,080	4	0	3	145
				T9L6	12,749	1	0	2	135	13,062	3	0	2	141	13,969	3	0	2	143
				BLC1	8,438	0	0	1	94	8,794	0	0	2	99	8,966	0	0	2	99
				BLC4	8,715	0	0	1	97	9,083	0	0	1	101	9,740	0	0	1	101
				NC10	8,515	1	0	2	96	8,874	1	0	2	99	9,047	1	0	2	100
				LOD	8,515	1	0	2	94	8,874	1	0	2	99	9,047	1	0	2	100
				AFR	12,180	2	0	2	137	12,901	2	0	2	141	13,154	2	0	2	146
T15	17,545	2	0	3	128	18,185	2	0	3	133	18,642	2	0	3	136				
T2M	16,251	3	0	4	119	16,919	3	0	4	124	17,285	3	0	4	126				
T3M	16,442	2	0	4	120	17,115	2	0	4	125	17,469	2	0	4	128				
T3L6	14,687	2	0	2	107	15,106	2	0	2	112	15,685	2	0	2	114				
T4M	16,687	2	0	4	122	17,091	3	0	3	127	17,739	3	0	3	129				
T4L6	15,177	2	0	2	111	15,817	2	0	2	115	16,125	2	0	2	118				
T7TM	16,802	2	0	4	123	17,511	2	0	4	128	17,852	2	0	4	130				
T7M	17,764	4	0	2	125	17,993	5	0	1	131	18,241	5	0	1	133				
T7W	17,447	3	0	3	127	18,180	5	0	3	133	18,532	5	0	3	135				
T9L6	17,218	4	0	2	126	17,944	4	0	2	131	18,294	4	0	2	134				
BLC1	11,919	0	0	1	97	12,464	0	0	1	95	12,707	0	0	1	95				
BLC4	12,112	0	0	4	90	12,873	0	0	4	94	13,124	0	0	4	96				
NC10	12,967	1	0	3	88	13,174	1	0	3	92	13,621	1	0	3	94				
LOD	12,967	1	0	3	88	13,174	1	0	3	92	13,621	1	0	3	94				
AFR	17,545	2	0	3	128	18,285	2	0	3	133	18,642	2	0	3	136				
T11	20,906	2	0	3	122	21,683	2	0	3	127	22,106	2	0	3	129				
T2M	18,171	3	0	4	113	20,044	3	0	4	118	20,479	3	0	4	120				
T3M	19,497	3	0	5	104	20,319	3	0	5	109	20,715	3	0	5	121				
T3L6	17,416	2	0	2	102	18,071	2	0	2	106	18,504	2	0	2	108				
T4M	19,787	1	0	3	116	20,622	1	0	5	121	21,034	1	0	5	123				
T4L6	17,907	2	0	2	105	18,754	1	0	2	110	19,121	2	0	2	112				
T7TM	19,824	1	0	5	117	20,703	1	0	5	122	21,170	1	0	5	124				
T7M	20,259	3	0	3	118	21,212	3	0	3	124	21,601	3	0	3	127				
T7W	20,689	3	0	3	121	21,591	3	0	3	126	21,982	3	0	3	129				
T9L6	20,418	4	0	2	120	21,279	4	0	2	125	21,694	4	0	2	127				
BLC1	14,182	0	0	1	87	14,780	0	0	1	87	15,068	0	0	1	88				
BLC4	14,647	0	0	4	86	15,245	0	0	4	89	15,562	0	0	4	91				
NC10	14,309	1	0	1	84	14,913	1	0	1	87	15,204	1	0	1	89				
LOD	14,309	1	0	1	84	14,913	1	0	1	87	15,204	1	0	1	89				
AFR	20,806	2	0	3	122	21,683	2	0	3	127	22,106	2	0	3	129				

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-77. Contact factory for performance data on any configurations not shown here.

Related Optics																			
Performance Package	Spikes/Watts	LED Count	Drive Current (mA)	Distribution Type	30K					40K					50K				
					(5000K, 70 CRI)					(5000K, 70 CRI)					(5000K, 70 CRI)				
					Lumens	B	V	G	LPW	Lumens	B	V	G	LPW	Lumens	B	V	G	LPW
P10	57W	10	530	T15	2,399	3	0	3	141	2,213	3	0	3	131	2,062	3	0	3	154
				T24	4,934	3	0	3	133	2,344	3	0	3	140	2,283	3	0	3	143
				T36	4,933	3	0	3	136	2,225	3	0	3	142	2,166	3	0	3	145
				T48	4,194	2	0	2	122	4,433	2	0	2	127	4,381	2	0	2	129
				T60	2,056	3	0	3	138	2,333	3	0	3	144	2,476	3	0	3	147
				T80	4,199	2	0	2	126	4,649	2	0	2	131	4,799	2	0	2	134
				PTM	7,086	3	0	3	139	2,185	3	0	3	143	2,329	3	0	3	148
				T96	2,239	3	0	2	142	2,545	3	0	2	148	2,682	3	0	2	151
				T120	2,217	3	0	2	145	2,667	3	0	2	151	2,816	4	0	2	154
				T144	2,240	3	0	1	143	2,567	3	0	1	149	2,714	3	0	1	152
				BLC3	5,943	3	0	3	99	3,256	3	0	3	103	3,358	3	0	3	105
				BLC4	5,208	3	0	3	103	3,428	3	0	3	107	3,534	3	0	3	109
				NC02	5,089	0	0	2	106	5,383	0	0	2	104	5,407	0	0	2	106
				LC03	5,089	0	0	2	100	5,383	0	0	2	104	5,407	0	0	2	106
				AFR	2,399	3	0	3	141	2,213	3	0	3	131	2,062	3	0	3	154
T15	9,358	3	0	3	138	9,733	3	0	3	140	9,940	3	0	3	146				
T24	9,669	3	0	3	127	9,834	3	0	3	133	9,211	3	0	3	131				
T36	8,768	3	0	3	129	9,138	3	0	3	134	9,316	3	0	3	137				
T48	7,833	3	0	3	115	8,164	3	0	3	120	8,323	3	0	3	122				
T60	8,899	3	0	3	131	9,274	3	0	3	136	9,405	3	0	3	139				
T80	8,093	3	0	3	119	8,405	3	0	3	124	8,599	3	0	3	126				
PTM	9,962	3	0	3	132	9,340	3	0	3	137	9,522	3	0	3	140				
T96	9,334	4	0	2	135	9,542	4	0	2	140	9,728	4	0	2	143				
T120	9,304	4	0	2	137	9,696	4	0	2	143	9,885	4	0	2	145				
T144	9,332	3	0	3	133	9,589	3	0	3	141	9,796	3	0	3	143				
BLC3	6,378	3	0	3	94	6,647	3	0	3	98	6,777	3	0	3	100				
BLC4	6,587	3	0	3	97	6,863	3	0	3	101	6,999	3	0	3	103				
NC02	6,436	0	0	2	95	6,707	0	0	2	99	6,838	0	0	2	101				
LC03	6,436	0	0	2	95	6,707	0	0	2	99	6,838	0	0	2	101				
AFR	9,358	3	0	3	138	9,733	3	0	3	140	9,940	3	0	3	146				
T15	11,247	3	0	3	128	11,806	3	0	3	134	12,075	3	0	3	138				
T24	12,273	4	0	4	119	12,789	4	0	4	124	13,058	4	0	4	125				
T36	12,412	4	0	4	120	12,895	4	0	4	125	13,167	4	0	4	128				
T48	10,089	3	0	3	107	11,334	3	0	3	112	11,782	3	0	3	114				
T60	12,397	4	0	4	122	13,128	4	0	4	127	13,384	4	0	4	129				
T80	11,457	3	0	3	111	11,840	3	0	3	116	12,173	3	0	3	118				
PTM	12,686	4	0	4	123	13,273	4	0	4	128	13,479	4	0	4	130				
T96	12,940	4	0	2	125	13,307	4	0	2	131	13,730	4	0	2	131				
T120	11,170	4	0	3	127	13,726	4	0	3	133	13,984	4	0	3	135				
T144	12,990	3	0	2	129	13,546	3	0	2	131	13,610	3	0	2	134				
BLC3	8,829	3	0	3	87	9,409	3	0	3	91	9,593	3	0	3	94				
BLC4	8,524	4	0	4	90	9,718	4	0	4	94	9,907	4	0	4	96				
NC02	8,110	1	0	2	88	9,495	1	0	2	92	9,680	1	0	2	94				
LC03	8,110	1	0	2	88	9,494	1	0	2	92	9,680	1	0	2	94				
AFR	13,247	3	0	3	128	13,806	3	0	3	134	14,075	3	0	3	138				
T15	15,794	3	0	3	122	16,366	3	0	3	127	16,685	4	0	4	130				
T24	14,547	4	0	4	113	15,267	4	0	4	118	15,457	4	0	4	120				
T36	14,714	4	0	4	114	15,103	4	0	4	119	15,034	4	0	4	121				
T48	13,345	3	0	3	102	13,790	3	0	3	106	13,967	3	0	3	108				
T60	14,873	4	0	4	136	15,583	4	0	4	141	15,867	4	0	4	143				
T80	13,582	3	0	3	105	14,155	3	0	3	110	14,433	3	0	3	112				
PTM	15,219	4	0	4	137	15,673	4	0	4	142	15,979	4	0	4	144				
T96	15,864	4	0	2	139	16,073	4	0	2	144	16,325	4	0	2	147				
T120	15,673	5	0	3	121	16,272	5	0	3	126	16,589	5	0	3	129				
T144	15,409	3	0	2	120	16,039	3	0	2	125	16,372	4	0	2	127				
BLC3	10,703	4	0	4	83	11,153	4	0	4	87	11,512	4	0	4	88				
BLC4	11,054	4	0	4	86	11,520	4	0	4	89	11,743	4	0	4	91				
NC02	10,800	1	0	2	84	11,256	1	0	2	87	11,475	1	0	2	89				
LC03	10,800	1	0	2	84	11,253	1	0	2	87	11,475	1	0	2	89				
AFR	15,794	3	0	3	122	16,366	3	0	3	127	16,685	4	0	4	130				

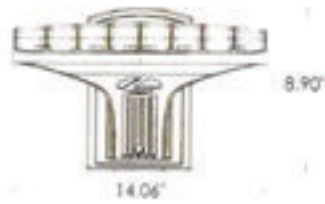
Dimensions



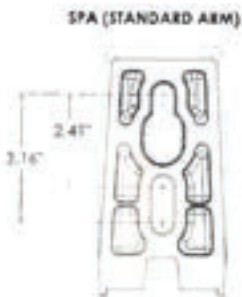
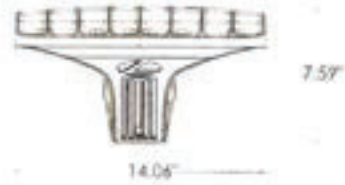
DSX0 with RPA, RPAS, SPAS, SPASN mount
Weight: 25 lbs



DSX0 with WBA mount
Weight: 27 lb



DSX0 with MA mount
Weight: 28 lbs



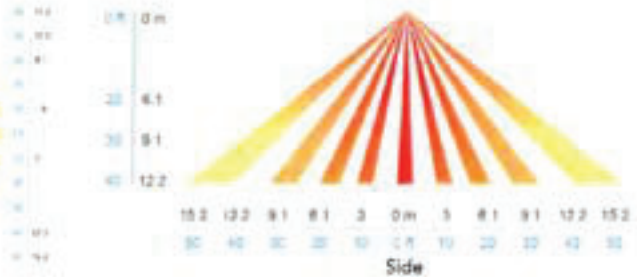
nLight Control - Sensor Coverage and Settings

nLight Sensor Coverage Pattern

NLTAIR2 PIRHN



Top



Side

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing driver compartment is completely sealed against moisture and environmental contaminants (IP66). Vibration rated per ANSI C136.31 for 3G. Low EPA (0.44 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

COASTAL CONSTRUCTION (CCE)

Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times may apply.

OPTICS

Precision-molded proprietary silicone lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. 60CRI configurations are also available. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L80/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10KV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS

The DSX0 LED area luminaire has a number of control options. DSX Size 0 comes standard with 0-10V dimming driver. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. PIR integrated motion sensor with on-board photocell feature field-adjustable programming and are suitable for mounting heights up to 40 feet. Control option BL features a bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output.

nLIGHT AIR CONTROLS

The DSX0 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocell functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLARITY app, nLight AIR equipped luminaires can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclipse. Additional information about nLight AIR can be found [here](#).

INSTALLATION

Integral mounting arm allows for fast mounting using Lithonia standard #8 drilling and accommodates pole drilling's from 2.41 to 3.12" on center. The standard "SPA" option for square poles and the "RPA" option for round poles use the #8 drilling. For #5 pole drillings, use SPAS or RPAS. Additional mountings are available including a wall bracket (WBA) and mast arm (MA) option that allows luminaire attachment to a 2 3/8" horizontal mast arm.

LISTINGS

UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP66 rated. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at [www.dlc.com](#) to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

BUY AMERICAN ACT

Product with the BAA option is assembled in the USA and meets the Buy America(s) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to [www.buyusa.gov](#) for additional information.

WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at [www.lithonia.com](#).

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

ADVANTAGE

ONE SOURCE

SPSV

Color Fencing System



SPSV

SPS STEPHENS

PIPE & STEEL



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GREENSBORO, NORTH CAROLINA 800-582-1533

MELBOURNE, FLORIDA 800-290-7473

HAYDEN, ALABAMA 800-521-3810

MOUNT STERLING, OHIO 800-742-3467

PORT ALLEN, LOUISIANA 866-219-4336

BLADENSBURG, MARYLAND 866-792-5295

MANCHESTER, CONNECTICUT 877-777-8721

National Headquarters RUSSELL SPRINGS, KENTUCKY 270-866-3331 or 800-451-2612

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- Galvanized | PVC-Coated | DuraLast™ Powder-Coated
- Centurion Ornamental Fence and Gates
- OnGuard™ Aluminum Gates and Cantilevers
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- Modular and Boxed Kennel Systems
- OnGuard Security Fence Systems
- SiteGuard™ and Temporary Fencing
- Extended Lengths in 2-1/2", 3" and 4"



Extruded Vinyl Chain Link Fabric

Vinyl chain link fabric from Stephens Pipe & Steel matches your security and enclosure requirements with the appeal that allows the finished fence to blend in or nearly disappear depending on the colors of vinyl chosen. The jacket, of extruded vinyl chain link fabric from Stephens Pipe & Steel, encompasses the steel core making the product suitable for most residential or light commercial applications.

Meets the tenets of ASTM F668, RR-F-191, AASHTO M 81

Vinyl Class 2A Extruded & Bonded Vinyl Chain Link Fabric

Greater life and protection from the environment is afforded for Class 2A by creating an adhesive bond between the vinyl coating and the core wire. This product offers excellent life for residential and commercial installations. Available in meshes from 3/8" to 2 3/8" and in heights up to 20'.

Meets the tenets of ASTM F668, RR-F-191, AASHTO M 81

Vinyl Class 2B Fused and Bonded Chain Link Fabric

Stephens Pipe & Steel offers this product as its premium vinyl solution. The vinyl coating is thermally fused to the galvanized steel core making it ideal for the most difficult of environmental conditions. Available in meshes from 3/8" to 2 3/8" and in heights up to 20'.

Meets the tenets of ASTM F668, RR-F-191, AASHTO M 81

SPSV Framework and Accessories

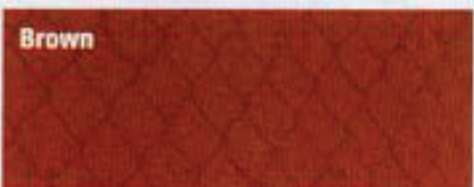
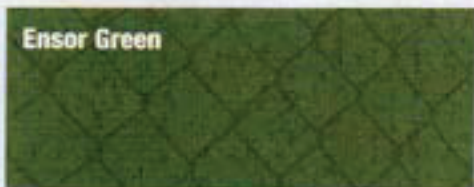
After thorough cleaning, the SPSV framework materials are primed and then PVC coated to meet the most rigid government and ASTM specifications. Our industrial-grade vinyl framework is available in Schedule 40, SS 40 and 20 type products and structural weight pipe. A wide variety of O.D.s and gauges can be coated to meet your needs. All of our hardware items are primed and then coated in accordance with ASTM 626. Available in Ensor Green, Woodland Green, Brown and Black. Other non-stock colors are available.

Framework meets the tenets of ASTM F1043

Fittings meet the tenets of ASTM F 626



COLOR CHART



(Actual color may vary from samples above.)



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SPSV Color Fencing System is available through any of our offices nationwide.





Poly (Vinyl Chloride) (PVC)- Coated Steel Chain Link Fence Fabric

Class 2b - Fused and Adhered

ASTM F668, Federal Specification RR-F-191 Type IV, AASHTO M-181 Type IV

PRODUCT NAME

SPSV Fused and Bonded Poly (Vinyl Chloride)- PVC Coated Steel Chain Link Fence Fabric

MANUFACTURER

Stephens Pipe and Steel, LLC
Manufacturing Locations:

Stephens Pipe and Steel, LLC
1413 Steve Warriner Drive
Russell Springs, Kentucky 42642

Stephens Pipe and Steel, LLC
4301 46th Street
Bladensburg, Maryland 20710

Stephens Pipe and Steel
2891 State Hwy 160
Warrior, Alabama 35180

PRODUCT DESCRIPTION

Basic Use:

Fused and adhered fabric is a bonded vinyl, high strength galvanized steel, chain link fence fabric for industrial, commercial and institutional application. Fused and adhered fabric is the highest quality available and is used in numerous federal, state, civil, and military specifications.

Composition and Materials:

The galvanized steel core wire for producing fused and adhered PVC coated steel chain link fence fabric is produced by cold-drawing good commercial grade steel rod into wire of the appropriate diameter. The steel rod from which the wire is drawn is produced by the open hearth, electric furnace or basic oxygen process. The galvanized coating is produced by passing the cleaned wire through a bath of molten zinc which conforms to ASTM B6.

The fused and adhered PVC coating is produced by first applying a thermoset bonding agent to the galvanized core wire to which the PVC is bonded. A coating of PVC up to 0.010 in. (0.25 mm) is then fused and bonded to the wire.

Standards:

ASTM B 6 Slab Zinc
ASTM F567 Installation of Chain Link Fence
ASTM F668 Poly(Vinyl Chloride) (PVC) and Other Organic Polymer-Coated Steel Chain Link Fence Fabric,
Class 2b
Federal Specification RR-F-191 K1/D
Fencing, Wire and Post Metal (Chain-Link Fence Fabric), Type IV
American Association of State Highway Transportation Officials (AASHTO) M-181 Chain Link Fence, Type IV, Class A

TECHNICAL DATA

General:

The manufacturer, if requested, will supply samples and certification that all materials furnished fully comply with the appropriate specifications.

Chain Link Fence Fabric:

The base metal of the chain link fence fabric is composed of commercial quality, medium-carbon galvanized (zinc coated) steel wire. The vinyl coating is thermally bonded to a thermoset bonding layer over a galvanized steel wire. This process ensures a tightly bonded coating free of voids, as well as a smooth surface appearance. Vinyl coating thickness, galvanized coating weight, and wire tensile strength conform to Federal Specification RR-F-191, ASTM F668, Class 2a, and AASHTO M-181 Type IV, Class A, as shown in Table 1. The wire is PVC coated before weaving and is free and flexible at all joints. Unless otherwise specified, fabric woven in 2 in. (50 mm) mesh, under 72" (1,830 mm) in height, is knuckled at both selvages; fabric 72" (1,830mm) high and over is knuckled at one selvage and twisted at the other. All fabrics woven into meshes under 2 in. (50 mm) have both selvages knuckled.

Wire Coating:

Only plasticized poly(vinyl chloride) (PVC) with a low temperature (-20 °C; -4°F) plasticizer and no extenders or extraneous matter other than the necessary stabilizers and pigments, is used. The PVC coating resists attack from prolonged exposure to dilute solutions of most common mineral acids, seawater, and dilute solutions of most salts and alkali.

ASTM Color System:

Standard colors conform to ASTM F934 and include:

Ensor	Bro wn	B lack
Green	27.76	22.30
28.61	3.37	-0.09
-12.59	4.28	-0.85
1.95		

Other colors are available by special order.

Coating Adhesion: The PVC coated wire shall pass the test for adhesion contained in ASTM F668 for Class 2b chain link fabric.

INSTALLATION

Install fence in accordance with ASTM Practice 567. Handle all PVC coated material with care. If PVC coating is damaged during installation, contractor must replace or repair the material at own expense.

AVAILABILITY AND COST

Availability: PVC-coated steel chain link fence fabric is available for shipment throughout the United States and worldwide.

Cost: Material costs may vary depending on specific requirements. Costs may be obtained through all Stephens Pipe Service Centers.

WARRANTY

Fused and adhered PVC coated steel chain link fence fabric is warranted for 15 years against failure due to rust or corrosion.

MAINTENANCE

Periodic inspection is recommended but no routine maintenance is required.

TECHNICAL SERVICES

Technical services are available. Call your sales representative for assistance.



800.451.2612

ADVANTAGE
ONE
SOURCE

Memorandum

To: Aneta Mistak, District 214
Jeff Daurer, District 214
Andrew Phelps, STR Partners, LLC

From: David Westergreen, GHA

Copy: Don Matthews, GHA

Date: February 20th, 2024

Subject: Parking Analysis
Buffalo Grove High School
1000 W Dundee Road
Buffalo Grove, Illinois 60089

Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Parking Analysis for the existing Buffalo Grove High School campus. The school is located at 1000 W Dundee Road, at the northeast corner of Arlington Heights Road and W Dundee Road, in Buffalo Grove, IL. The student body of Buffalo Grove High School is reported at 1,957 students enrolled for the 2023-2024 school year. The staff count for Buffalo Grove High School is 251 teachers and faculty.

The school is served by a total of 655 parking spaces including 10 accessible spaces, 6 electric vehicle spaces, and 7 small bus and van spaces. The spaces are divided into four parking lots: the west administration lot, the main north lot, the main south lot, and the remote lot. There are three (3) full driveway accesses to the school. One access is a signalized intersection with W Dundee Road, and two are full unsignalized accesses along the east side of Arlington Heights Road. One of the access drives is exclusively for the administration lot and the other access is for the drop-off lane and access to the main and remote parking lots. Student parking is only available in the main parking lots and the remote lot.

The following provides a summary of existing conditions and the Parking Analysis conducted. *Exhibits* and *Appendices* referenced are located at the end of this document.

Part II. Background Information

Site Location Map and Roadway Inventory

Exhibit 1 provides a site location map as well as a map of the existing parking lots.

Roadway Network

Arlington Heights Road is a north-south, minor arterial roadway providing a five-lane cross-section (2 travel lanes in each direction with a paved median providing turn lanes) with a posted speed limit of 35 mph in the site vicinity. There is a signalized intersection southwest of the property at Arlington Heights Road and W Dundee Road. Arlington Heights Road is under the jurisdiction of Cook County in the vicinity of the site.

W Dundee Road (IL Route 68) is an east-west, other principal arterial roadway providing a 4-lane cross-section (two travel lanes in each direction) with a posted speed limit of 35 mph in the site vicinity. There is a signalized intersection southwest of the property at Arlington Heights Road and W Dundee Road. Arlington Heights Road is under the jurisdiction of Cook County in the vicinity of the site. W Dundee Road widens on approach to this signalized intersection to provide dual left-turn lanes in each direction onto Arlington Heights Road. W Dundee Road is under the jurisdiction of the Illinois Department of Transportation.

Pedestrian Facilities

Sidewalks are provided along both the west and south sides of the site adjacent to the roadways. Zebra-style striped crosswalks are maintained across all three of the site drives, and Continental-style striped crosswalks are maintained across W Dundee Road and Arlington Heights Road at the two signalized intersections in the site vicinity.

Part III. Parking Evaluation

Parking Requirements

Based on the parking requirements outlined in the Village of Buffalo Grove Municipal Code, 1 parking spot is required for every faculty member, as well as 1 parking spot is required for every 6 students for high schools. This total number of parking spaces required for Buffalo Grove High School with 2023-2024 enrollment is 578 spaces. The excerpt of the Village Code can be found in **Appendix A**.

Parking Supply and Occupancy Survey – Buffalo Grove High School

A parking supply and occupancy survey of the parking serving Buffalo Grove High School was conducted on Tuesday, February 12th, 2024, from 7:00 AM to 9:00 AM and 2:00 PM to 4:00 PM. The results of the parking survey are summarized on the exhibit contained in **Appendix B**. See **Exhibit 1** for a map of parking spaces.

The findings of the survey are summarized below:

- A total of 655 parking spaces were surveyed: 20 spaces to the west of the building (areas A to B on the map), 229 parking spaces in the north main parking lot (areas C to I on the map), 206 parking spaces in the south main parking lot (areas J to P on the Map), and 179 parking spaces in the remote lot (areas Q to U on the map), and the 23 spaces for bus, ADA, and electric vehicles.
- Approximately 80 percent (525 of 655) of the total parking spaces surveyed were occupied at the building's observed peak occupancy, which occurred between 8:00 and 9:00 AM.
- Our observations indicate that the occupancy of the parking lot slowly reduced during the day after the scheduled start of school at 8:00 AM, as students leave campus for various reasons before the school dismissal at 3:00 PM.
- Based on the maximum occupied parking spaces (525), and the total student count (1957) and faculty count of 251, the observed peak parking rate per student for the existing school is 1 parking space for every 7 students, which is less than the ratio required by the Village Municipal Code (1 space per 6 students). This measurement does assume that every member of the 251 faculty park on site daily.

GHA has been retained to design site updates to Buffalo Grove High School. For the latest proposed plan, see **Appendix C**. The updates include changing locations of the baseball and softball fields, changing location of the tennis courts, and removal of the remote lot in favor of a smaller new lot closer to the football stadium. With these changes, a parking total of 581 spaces is expected. With 578 parking spaces being required by 2023-2024 enrollment, Buffalo Grove High School still meets Village code parking requirements.

- A summary of the parking observations can be found in **Exhibit 2**.

- As a guideline, parking demand should not exceed 90% of the supply. This allows more efficient parking as motorists can more readily find open spaces. With 2023-2024 enrollment, the observed parking demand was 90% of the capacity of the future parking supply.

Part IV. Recommendations and Conclusions

A Parking Analysis was performed for Buffalo Grove High School. In summary, the existing parking spaces are sufficient to meet the observed parking demand as well as Village code.

Even after the site updates, which will reduce parking from 655 spaces in the existing condition to 581 spaces in the future condition, Village code is met based on the 2023-2024 school enrollment.

Should school enrollment increase or new hires to faculty be made, new parking spaces may need to be added to meet the Village Code. For non-school hours special events, such as heavily attended football games or other school functions, we recommend that off-site parking be made available. We understand that the school has an agreement with nearby Henry Wadsworth Longfellow School to utilize that school's parking if needed.

Part V. Technical Addendum

The following *Exhibits* and *Appendices* were previously referenced. They provide technical support for our observations, findings and recommendations discussed in the text.

Exhibits

1. Location Map
2. Parking Calculations

Appendices

- A. Village of Buffalo Grove Municipal Code Excerpts
- B. Buffalo Grove High School – Parking Occupancy Survey
- C. Proposed Future Plan

5651.145 Buffalo Grove High School Parking Study.docx



CHA GEWALT HAMILTON ASSOCIATES, INC.

W Dundee Rd

E Dundee Rd



1 inch = 225 Feet

Exhibit 1 - Location Map

Buffalo Grove High School
Buffalo Grove, Illinois

Exhibit 2
Weekday Peak Parking Calculations
Buffalo Grove High School

1. Current Demand

A. Weekday Parking

	7:00 - 8:00 AM	8:00 - 9:00 AM	2:00 - 3:00 PM	3:00 - 4:00 PM
Total =	118	525	470	178
% Occupied	18%	80%	72%	27%

2. Subtracted Parking Spaces

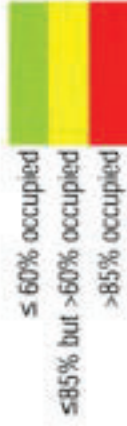
76
Spaces Lost

3. Future Demands

A. Weekday Parking

	8:00 AM	9:00 AM	2:00 PM	3:00 PM
Total =	118	525	470	178
% Occupied	20%	93%	81%	31%

Parking Occupancy Key



- A. Schedule of Requirements. Requirements governing the number of off-street parking and off-street loading facilities in relation to the use of property are established hereinafter in sections of this Title, The parking and loading requirements for any use not specified herein shall be the same as for a similar specified use as determined by Sections 17.36.040 and 17.36.050.
- B. Floor Area. The term "floor area" as employed herein in the case of office, merchandising or service types of use shall mean the gross floor space of a building or structure.
- C. Residential Uses.
 - 1. Dwelling, detached: 2.0 spaces per dwelling unit.
 - 2. Dwelling, semi-detached and attached: 2.0 spaces per dwelling unit.
 - 3. Dwelling, two-family and multiple-family: 1.7 spaces per dwelling unit.
 - 4. Apartment for senior citizens (fifty-five years of age and older): 1.0 space per dwelling unit plus 1.0 space per employee.
 - 5. Dormitory: 5.0 spaces per one thousand square feet of floor area.
 - 6. Convent, rectory: 2.0 spaces per one thousand square feet of floor area.
 - 7. Convalescent home, nursing home: 1.0 parking space for every four beds, plus one for each vehicle used in the conduct of the enterprise.
- D. Manufacture and Industrial Uses. 2.0 spaces per every three employees.
- E. Transportation, Communication and Utilities.
 - 1. Airport, bus terminal, heliport, railroad passenger terminal: spaces as required after review by the Planning and Zoning Commission plus additional parking for retail service uses.
 - 2. Air freight terminal, newspaper distribution facility, railroad freight terminal: 2.0 spaces per every three employees.
 - 3. Microwave relay towers, radar installations and towers, radio and television stations and towers, parking garage, parking lot: 1.0 space per employee.
 - 4. Telegraph office, telephone operator and business office: 4.0 spaces per one thousand square feet of floor area.
 - 5. Public and private utilities installation: 2.0 spaces per every three employees.
 - 6. Auto graveyards, dumps, junk yards, sanitary landfill: 2.0 spaces per each employee.
 - 7. Cartage and express facilities, motor freight terminal: 2.0 spaces per each three employees.
- F. Retail and Wholesale Trade.
 - 1. General commercial/retail (individual businesses): 1.0 space per two hundred fifty square feet of floor area.
 - 2.

Shopping Centers: 1.0 space per two hundred twenty square feet of floor area. In a case where a major tenant is of a nature that would require a significant deviation from this standard, the parking requirement for that individual use shall be used.

3. Eating and drinking establishments: 1.0 space per one hundred square feet of floor area. Establishments with a drive-thru window shall provide a minimum of ten stacking spaces per window.
4. Household appliance stores, furniture stores, motor vehicle sales: 2.0 spaces per one thousand square feet of floor area.

G. Services and Institutions.

1. Business and professional offices: 1.0 space per every three hundred square feet of floor area.
2. Bank, savings and loans, and financial institutions: 1.0 space per every two hundred fifty square feet of floor area.

Drive-in establishments shall provide six stacking spaces per teller or customer service area.

3. Auto laundry: 1.0 space per employee.
4. Hotel, motel: 1.0 space per each dwelling unit plus one space per each employee plus additional parking spaces for the retail/service/entertainment areas.
5. Animal kennel and hospitals: 4.0 spaces per every one thousand square feet of floor area.
6. Health or medical institutions or sanitarium: 1.5 spaces per every one thousand square feet of floor area.
7. Dental and medical clinic or office: 5.0 spaces per every one thousand square feet of floor area.
8. Funeral parlor: 4.0 spaces per one thousand square feet of floor area.
9. Day care center, child care center, nursery school, pre-school: 2.0 spaces per every one thousand square feet of floor area.
10. Boarding school, elementary school, junior high school: 1.0 space per employee.
11. Senior high school: 1.0 space per employee plus 1.0 space per every six students based on rated design capacity.
12. College, junior college, university: 1.0 space per every two employees plus 1.0 space per each four students based on rated design capacity.
13. Business school, commercial school, trade school, vocational school: 1.0 space per employee plus 1.0 space per student based on rated design capacity.
14. Dance school, music school, vocal school: 1.0 space per employee plus 1.0 space per every three students based on rated design capacity.

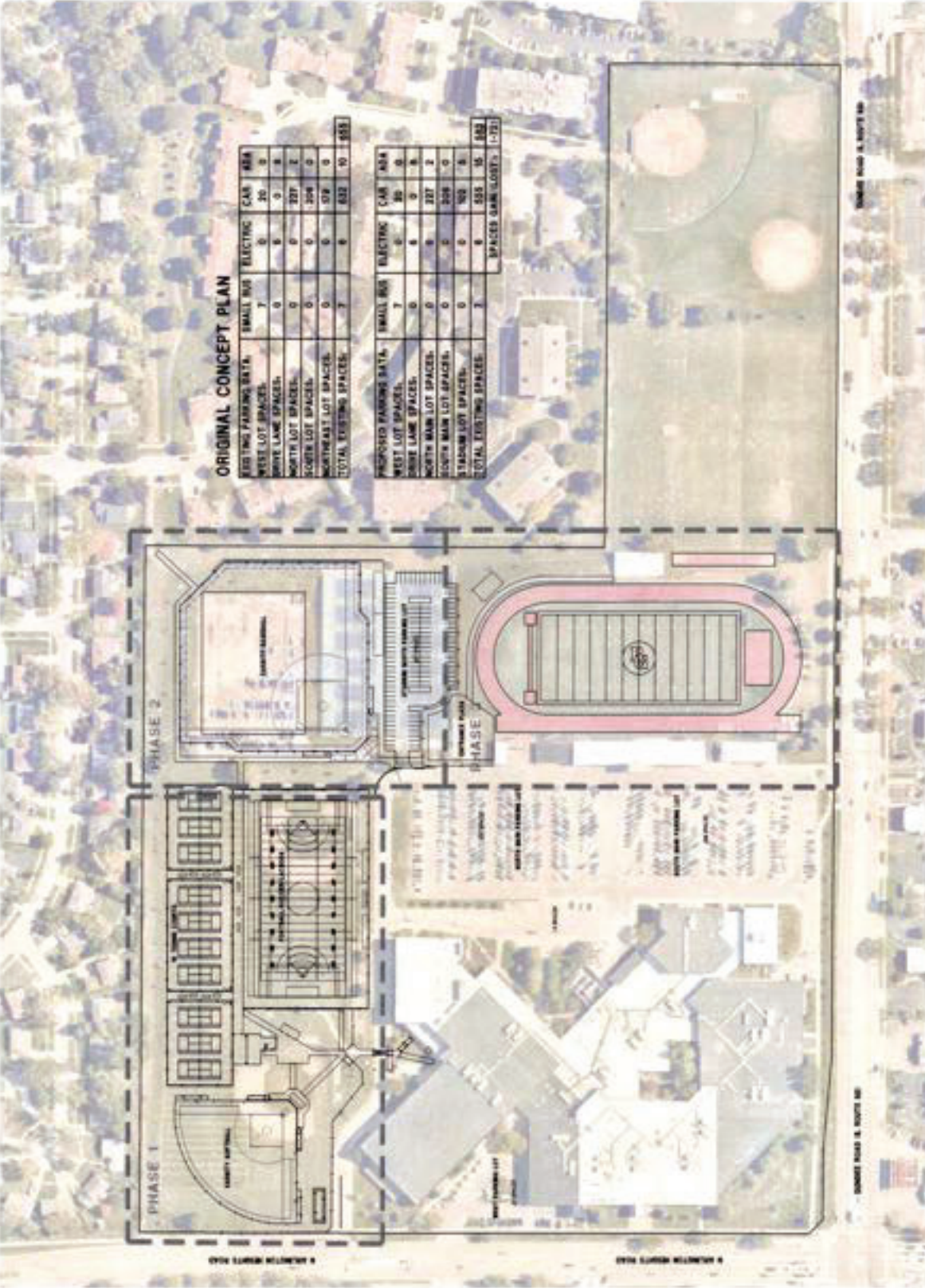
15. Governmental services: 4.0 spaces per one thousand square feet of floor area.
16. Chapel, church, synagogue, temple: 1.0 space per three seats based on rated design capacity.
17. Philanthropic and charitable institutions, religious retreat: 1.0 space per one thousand square feet of floor area.

H. Cultural Uses, Entertainment and Sports.

1. Art gallery, historic site, library, museum: 2.0 spaces per one thousand square feet of floor area.
2. Community center, convention hall, exhibition hall, meeting hall, recreation building: 1.0 space per one thousand square feet of floor area.
3. Amphitheater, auditorium fairgrounds, fieldhouse: 1.0 space per four seats.
4. Theater: 1.0 space per 2.5 seats.
5. Amusement park, miniature golf, kiddie park: 3.0 spaces per one thousand square feet of floor area plus 3.0 spaces per one thousand square feet of land area.
6. Billiard hall, bowling alley, pool hall, skating rink: 10.0 spaces per one thousand square feet of floor area.
7. Golf course, full size: 60.0 spaces per nine holes (regular golf).
8. Camping grounds, outdoor rifle, trap, skeet shooting range: 1.0 space per two thousand square feet of land area.
9. Athletic field, public parks and playgrounds, tennis courts club: 1.0 space per five thousand square feet of land area.
10. Public swimming pool: 1.0 space per five thousand square feet of land area plus 1.0 space per seventy-five square feet of water area.

(Ord. No. 2014-43, § 29, 6-16-2014)

Appendix B						
Buffalo Grove High School						
Location	Supply	Tuesday, February 13th 2024				
Parking Bay	Parking Bay Total	7:00 - 8:00 AM	8:00 - 9:00 AM	Midday Gap	2:00 - 3:00 PM	3:00 - 4:00 PM
A	17	12	14	-	12	8
B	3	3	3	-	3	2
C	22	1	22	-	21	10
D	37	2	37	-	33	16
E	34	2	34	-	28	15
F	34	14	34	-	28	11
G	34	14	34	-	29	10
H	34	15	34	-	34	10
I	34	6	34	-	32	15
J	30	9	27	-	29	11
K	32	8	30	-	26	8
L	31	5	26	-	25	5
M	30	4	25	-	23	9
N	30	5	29	-	29	5
O	32	6	31	-	24	10
P	19	5	16	-	12	7
Q	36	0	36	-	28	7
R	36	0	34	-	23	8
S	36	0	14	-	10	3
T	36	0	1	-	11	1
U	35	0	0	-	0	0
Van/Electric/ADA	23	7	10	-	10	7
Occupied Total:	655	118	525	-	470	178



ORIGINAL CONCEPT PLAN

EXISTING PARKING DATA	SMALL BUS	ELECTRIC CAR	CAR	AREA
WEST LOT SPACES:	7	0	20	0
DRIVE LANE SPACES:	0	0	0	0
NORTH LOT SPACES:	0	0	207	2
SOUTH LOT SPACES:	0	0	204	0
NORTHEAST LOT SPACES:	0	0	504	0
TOTAL EXISTING SPACES:	7	0	635	NO. 652

PROPOSED PARKING DATA	SMALL BUS	ELECTRIC CAR	CAR	AREA
WEST LOT SPACES:	7	0	35	0
DRIVE LANE SPACES:	0	0	0	0
NORTH MAIN LOT SPACES:	0	0	237	2
SOUTH MAIN LOT SPACES:	0	0	208	0
STADIUM LOT SPACES:	0	0	502	0
TOTAL EXISTING SPACES:	7	0	552	NO. 652

ORIGINAL CAMPUS CONCEPT PLAN

STR
 400 Franklin Ave.
 300 West Chicago Street, Suite 200
 Chicago, IL 60606
 www.strgroup.com

GHA GENWALT HAMILTON ASSOCIATES, INC.
 625 Grand Eagle Drive • Lincoln, IL, 62451
 TEL: 618-628-1100 • FAX: 618-628-1101

D214 BGHS ATHLETIC FIELD RENOVATIONS PHASING
 1100 W Dundee Road, Niles, IL 60094
 Township High School District 214
 2113024

Buffalo Grove High School Athletic Fields Noise Study

April 10, 2024

Prepared for:

STR Partners LLC - 350 West Ontario Street, Suite 200 Chicago, IL 60654

Thunder Hearing & Sound was asked to study the noise changes from relocating athletic fields/courts at Buffalo Grove High School in School District 214. Phase 1 of the plan includes a varsity softball field, 10 tennis courts, and a multi-use field (football/soccer/lacrosse). Phase 2 includes a varsity baseball field and a parking lot which will be graded to about the same elevation as the other fields. These fields/courts will have games and practices throughout the week, generally in the afternoon and early evening. There will be several lights included, but games/practices are expected to end by 7:30 pm (note there are also several security lights, but those are not considered to have a noise impact). Even though Buffalo Grove HS has operated similar activities in this area for years, we were asked to evaluate possible noise impacts on nearby residents compared to typical community noise for the area.

Ambient Noise Assessment

The impact of a noise source depends mostly on its audibility. To assess the degree of audibility, the existing ambient noise must be evaluated. We conducted this work by visiting the site on Thursday, March 7, 2024. During this visit, we inspected the topography of the site, examined the surrounding area, characterized the ambient noise, identified its sources, and set up professional-grade equipment to record the noise. The equipment was set up on the north side of the property, next to the backyard of 1039 Beechwood Rd, as shown in **FIGURE 1**.



Figure 1 - View of the digital audio equipment

The recording ran for about 1½ hours and was later analyzed to determine the sound levels at 1-second intervals. The result of this analysis can be seen in **FIGURE 2** (note there are larger

charts attached to the end of this report). In this graph, you can see a few of the noise sources called out. Included in these sources is the typical existing noise from baseball practice. The metric to measure noise is a logarithmic time-averaged value called the equivalent level or Leq. To better visualize the trend of the ambient noise, we computed the 1-minute Leq which varies between 48-61 dB(A). **The Leq of the entire sample was 52 dB(A).** The dominant noise at this site was from traffic on Dundee Road and airplanes overhead. Therefore, we can use hourly traffic counts on Dundee Road to estimate the ambient sound level at other times of the day. Using this information, we estimate that the ambient noise varies from **53 dBA in the 3:00 PM hour to 52 dBA in the 7:00 PM hour.**

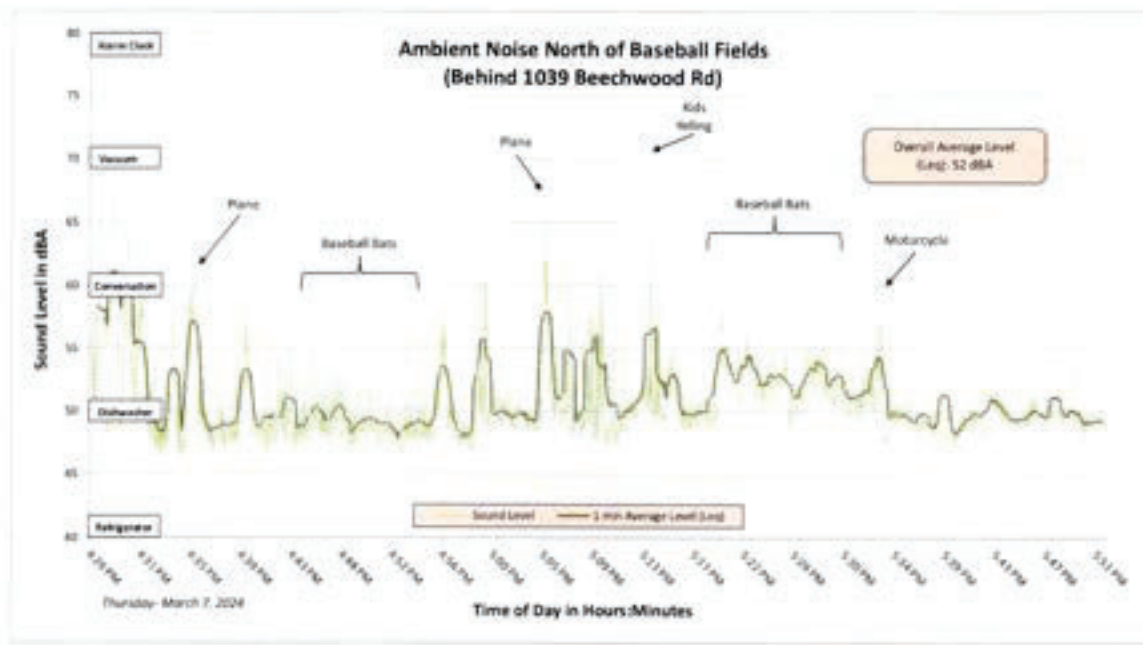


Figure 2 – Sound level trace of ambient noise at the site in the 4:00 and 5:00 PM hours

Source Sounds

Impact also depends on the sound levels from future sources. Therefore, we conducted source measurements of various sound sources to be able to calculate the future sound levels. We set up a second microphone near the existing tennis courts while a practice was conducted to record the sound. We then post-processed the recording in our lab the same as the ambient recording. From this, we were able to determine that the sound power level of a pair of tennis players was **79 dBA (SWL)**.

Sound Power Level (SWL) is a measure of the total energy emitted from a sound source. It differs from the more commonly used sound pressure level because sound power is independent of distance. It is the preferred unit when modeling sound sources because it represents the overall acoustic energy output without being influenced by distance.

Note that this is likely an overestimate due to high background noise during the sampling period. We repeated this same process for noise from the baseball practice and determined the sound power level for an entire baseball practice (with batting) was **103 dBA (SWL)**. This is also likely an overestimate.

Sound Modeling

To predict the sound levels radiated from the new athletic fields/courts, we used an Internationally accepted software program called SoundPlan™. This program calculates the sound level at millions of distant points based on the source sound levels, the topography of the site, reflections from buildings, absorption by the atmosphere and vegetation, and shielding from berms and structures. Based on these calculations, the program then generates color sound-level contours surrounding the site. The program calculates the time-average levels based on the input parameters.

We modeled five sound sources:

- Tennis – Using the collected data, we modeled a worst-case scenario of all 10 tennis courts in use with a doubles game. Note, that only 6 were in use for the data collection.
- Softball – We used the collected baseball data to estimate the noise from softball.
- Baseball - We used the collected baseball data.
- PA Speakers – We used existing data from our software for JBL AW266 speakers. There were 3 speakers for the softball field, 4 for the multi-use field, and 3 for the baseball field. Because PA speakers are inherently adjustable, we set these to levels that achieved good signal-to-noise ratios as an example of reasonable and typical levels.
- Crowd Noise – We used existing data from our software and placed crowds on each bleacher section.

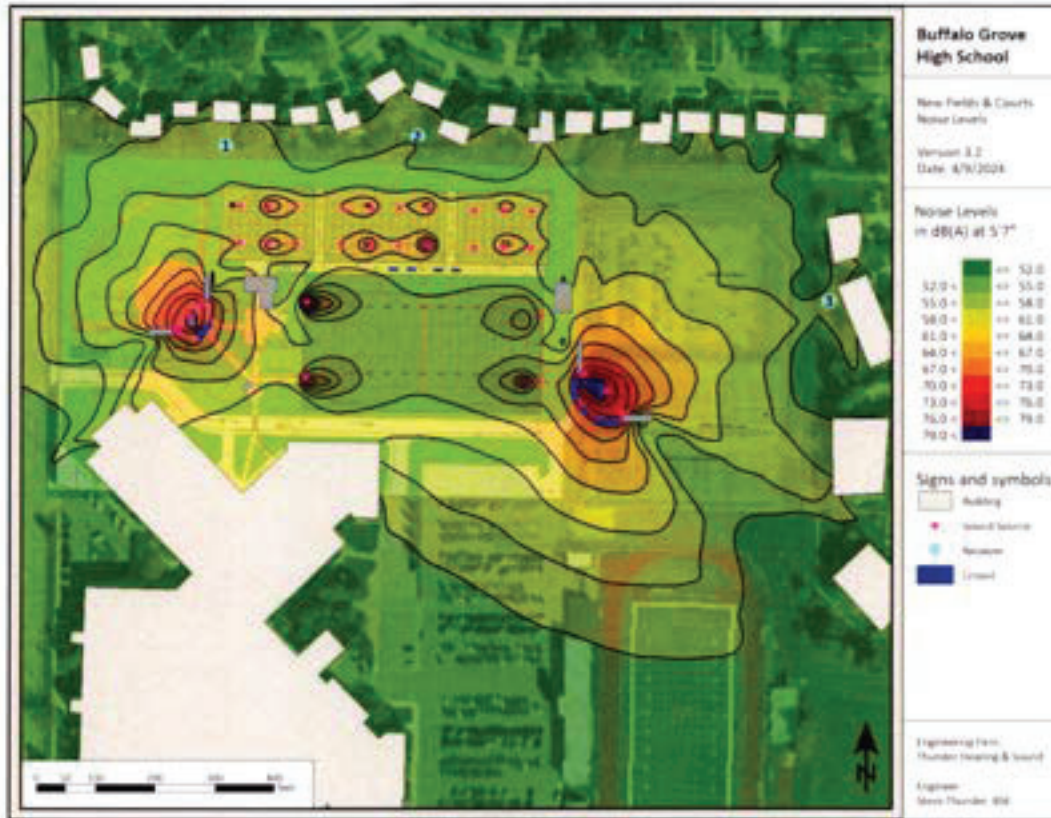


Figure 3 – Sound level contours around the proposed athletic fields/courts

FIGURE 3 shows the projected time-average contours with all practices fully active, PA speakers in use, and full crowds. For illustration, we set the green color on the legend to 52 dB(A), the ambient noise level from our measurements. The sound levels in three representative backyards were **57 dBA (blue dot 1)**, **55 dBA (blue dot 2)**, and **55 dBA (blue dot 3)**. When comparing this to the ambient noise of 53 to 52 dB(A) it is only a 2-5 dB difference which we rate as **no impact to a mild impact** (see **TABLE 1**). Keep in mind that many aspects of the details we modeled were worst-case; so real-world levels would be less; likely causing no impact to a slight impact.

This is not to say that all activity on the field/courts will be inaudible, but the long-term impact is assessed by using the time-averaging approach advocated by the US EPA and stipulated by the State of Illinois. In short, the LEQ is a dose effect in that it depends on the intensity of the sounds and the number of events in any one-hour period.

Table 1 – Perceptual Difference as a Function of the Decibel Increase

Decibel Increase	Perceptual Difference	Impact
1-2 dB	Negligible	None
3-4 dB	Just Noticeable	Slight
5-6 dB	Clearly Noticeable	Mild
7-8 dB	Strongly Noticeable	Moderate
9-10 dB	Doubling in Loudness	Substantial

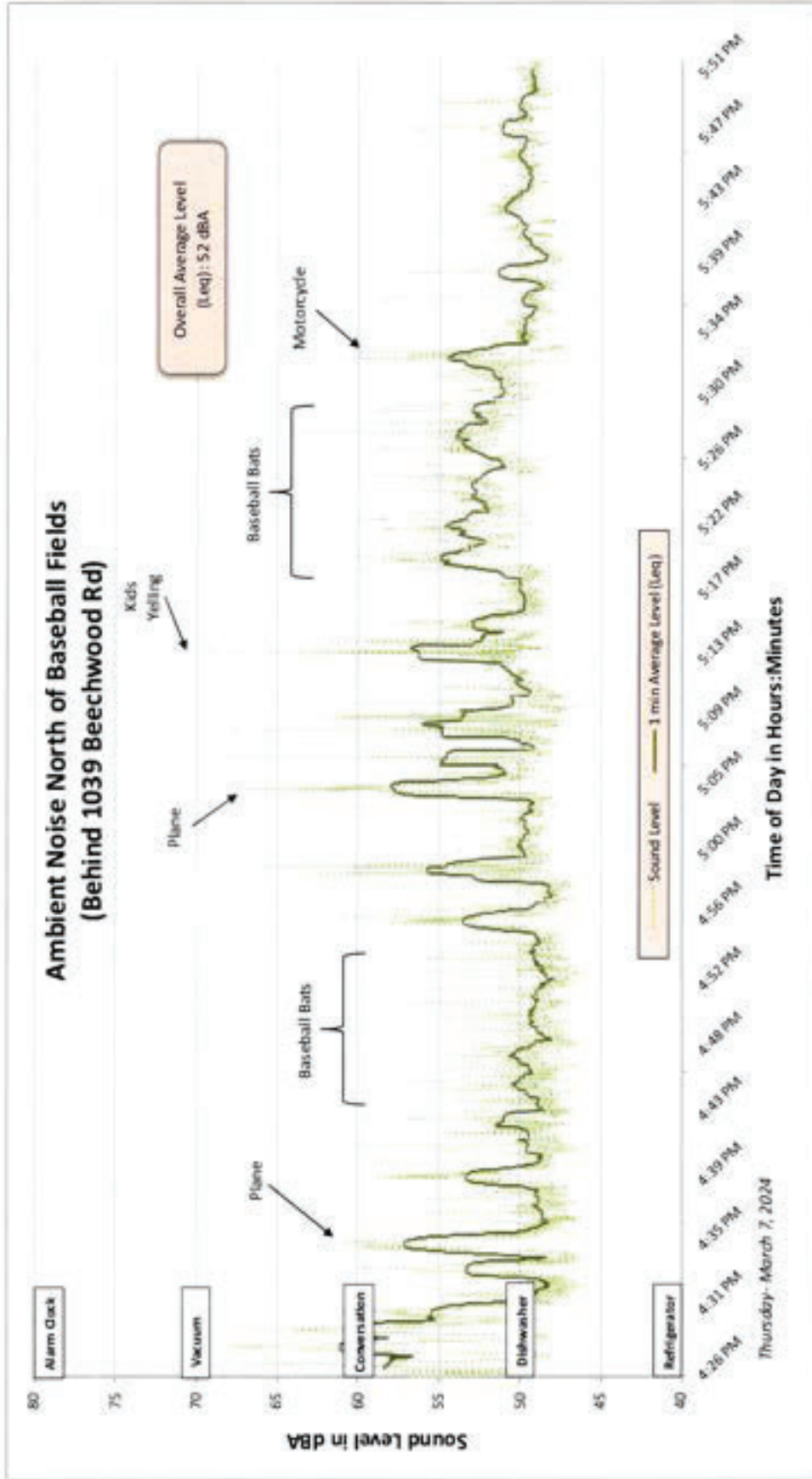
Conclusion

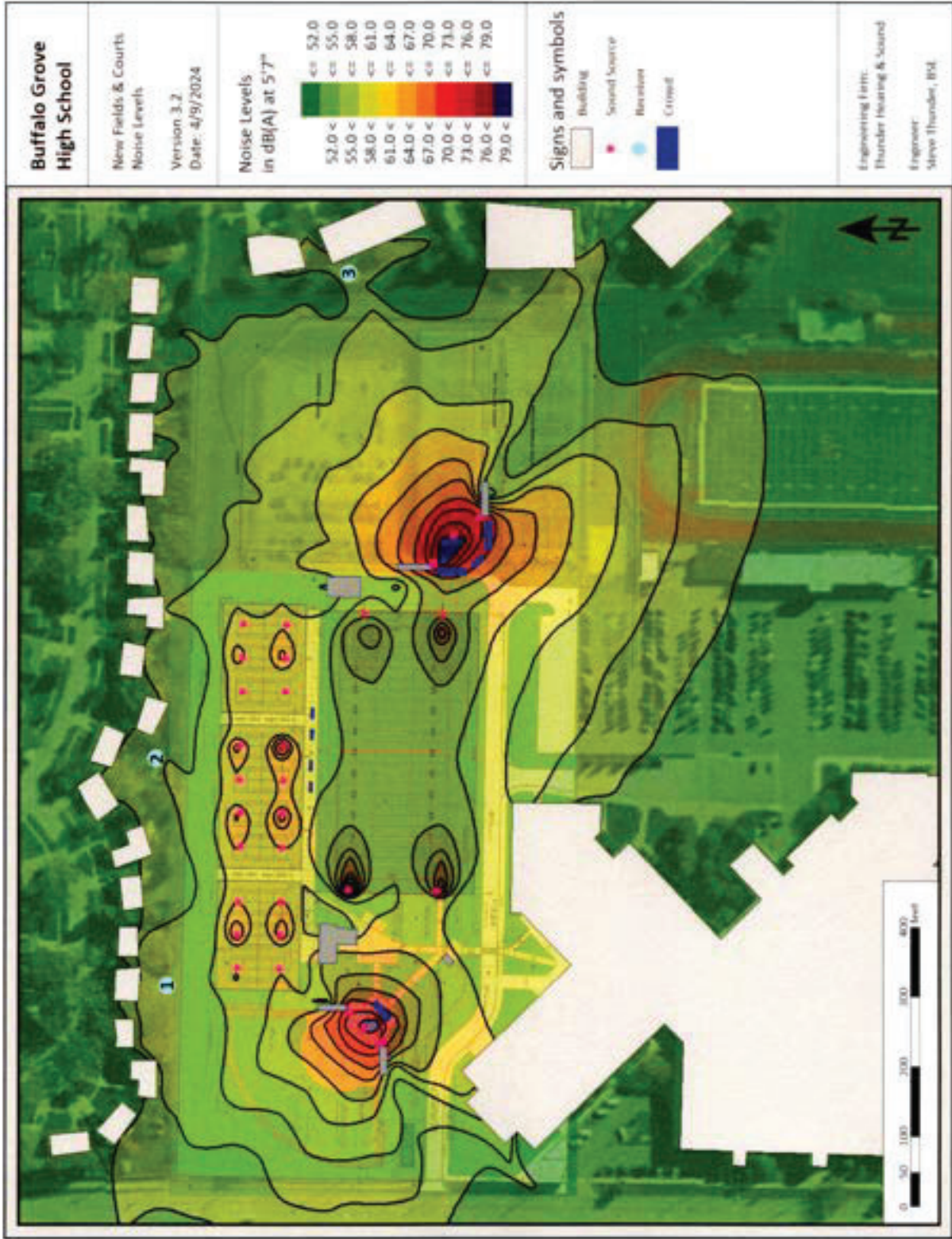
Thunder Hearing & Sound studied noise changes from relocating athletic fields at Buffalo Grove High School. Phases 1 & 2 include a softball field, a baseball field, 10 tennis courts, and a multi-use field. Activities will occur mainly in the afternoon and early evening up to about 7:30 pm. An ambient noise assessment found levels ranging from 48-61 dB(A), dominated by traffic and airplanes. Source measurements showed tennis players emit 79 dBA (SWL) and baseball practice 103 dBA (SWL). Sound modeling predicted a total source level of 2-5 dB greater than the ambient levels. Since our modeling is based on worse-case source data, we believe there will be a limited increase in noise levels, that would create no impact to a slight impact on nearby residents.

Submitted by:



Steve Thunder, BSE
Acoustical Engineer







During your testimony at the Public Hearing, you need to testify and present your case for the Special Use being requested. In doing so, you need to address the six (6) Special Use Standards listed below:

SPECIAL USE STANDARDS

1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;
Response: The revised special use will continue to serve the public convenience as the community High School.
2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;
Response: The location and size of the revised special use remains the same and will not inflict greater burden on the streets giving access to the site and will remain in harmony with the development of the district in which it is located.
3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations with the neighborhood;
Response: The revised special use will continue to not be injurious to the use and enjoyment of the other property in the immediate vicinity of the subject property and the improvements may lead to increased property valuations within the neighborhood.
4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;
Response: The nature, location and size of the buildings and structures involved in the revised special use are set well away from the property boundaries and will not hinder or discourage the development and use of adjacent land.
5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;
Response: Adequate utilities, access roads, drainage and other facilities have been provided for the revised to the special use.
6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.
Response: Adequate parking is provided for the revised special use per the Village Zoning requirements. Agreements with area Elementary Schools are in place when additional parking capacity is necessary.

We are requesting an update to the site plan that accompanies the existing Special Use Ordinance 2018-02



During your testimony at the Public Hearing, you need to testify and present your case for the variance being requested. During your testimony, you need to address the Variation Standards listed below:

Criteria for Fence Variation.

A. The regulations of this Title shall not be varied unless findings of fact are made based upon evidence presented at the hearing that:

1. The plight of the owner is due to unique circumstances;

Response:

The Owner is a High School seeking to renovate and modernize their athletic facilities.

2. The proposed variation will not alter the essential character of the neighborhood;

Response:

The proposed fencing and safety netting will be an upgrade to the existing fencing on the site and is similar to those currently in use at Buffalo Grove Park District facilities.

3. There are practical difficulties or particular hardships in carrying out the strict letter of this chapter which difficulties or hardships have not been created by any person presently having an interest in the property;

Response:

The installation of fencing and safety netting of various heights at the proposed softball field, tennis courts, multi-sport field and baseball field is required by IHSA and other regulatory bodies to protect the users, spectators, and public.

4. The proposed variation will not be detrimental to the public health, safety and welfare;

Response:

The proposed variation is for the express purpose of protecting the public health, safety, and welfare.

ORDINANCE NO. 2018 - 002

**AN ORDINANCE APPROVING A SPECIAL USE AND VARIATION
IN THE R1 RESIDENTIAL DISTRICT
VILLAGE OF BUFFALO GROVE,
COOK AND LAKE COUNTIES, ILLINOIS**

**Buffalo Grove High School
1100 W Dundee Road
Special Use and Variation for a High School**

WHEREAS, the Village of Buffalo Grove is a Home Rule Unit by virtue of the Illinois Constitution of 1970; and,

WHEREAS, the property at 1100 W Dundee Road ("Property") legally described in EXHIBIT A attached hereto is zoned in the R1 Residential District; and,

WHEREAS, Township High School District 214 ("Petitioner"), has petitioned the Village for approval of a special use and variation to expand an existing elementary school at the Property; and,

WHEREAS, the Village Plan Commission conducted a public hearing on January 3, 2018 concerning the petition for the special use and variation; and,

WHEREAS, the Plan Commission determined that the petition meets the criteria of a special use and variation as set forth in the Buffalo Grove Zoning Ordinance; and,

WHEREAS, the Plan Commission voted 5 to 0 to recommend approval of the special use and variation; and,

WHEREAS, the President and Village Board of Trustees after due and careful consideration have concluded that the proposed expansion of the high school is a reasonable use of the Property and will serve the best interests of the Village.

WHEREAS, the proposed expansion of the Buffalo Grove High School shall be operated in accordance with and pursuant to the following exhibits:

- EXHIBIT A Legal Description
- EXHIBIT B Acceptance and Agreement concerning special uses
- EXHIBIT C Engineering Plans and Building Elevations

NOW, THEREFORE, BE IT ORDAINED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF BUFFALO GROVE, COOK AND LAKE COUNTIES, ILLINOIS:

Section 1. This Ordinance is made pursuant to and in accordance with the Village's Zoning Ordinance and the Village's Home Rule powers. The preceding whereas clauses are hereby made a part of this Ordinance.

Section 2. The Corporate Authorities hereby grant a special use and variations to Township High School District 214 for an existing elementary school at the Property subject to the following conditions:

1. The proposed development shall substantially conform to the plans attached as part of this petition.
2. Final engineering shall be revised in a manner acceptable to the Village Engineer.
3. Approval from MWRD, IEPA and the Regional Office of Education shall be obtained for the proposed holding tank.
4. A final plat of subdivision consolidating all the lots shall be submitted in a manner acceptable to the Village.

Section 3. This Ordinance shall be in full force and effect upon the submittal of a signed Exhibit B (Acceptance and Agreement) hereto. This Ordinance shall not be codified.

AYES: 5 – Berman, Stein, Weidenfeld, Johnson, Smith

NAYS: 0 - None

ABSENT: 1 - Ottenheimer

PASSED: January 22, 2018.

APPROVED: January 22, 2018.

APPROVED:


 Beverly Sussman Village President

ATTEST:


 Janet M. Sirabian, Village Clerk

EXHIBIT A
LEGAL DESCRIPTION

Township High School District 214 – Buffalo Grove High School
1100 W Dundee Road
Special Use and Variation for a High School

SUBJECT PROPERTY LEGAL DESCRIPTION:

The Southwest Quarter of the Southwest Quarter of Section 5, Township 42 North, Range 11, East of the Third Principal Meridian, in Cook County, Illinois.

ALSO

That part of the South Half of the East Half of the Southwest Quarter of Section 5, Township 42 North, Range 11, East of the Third Principal Meridian, bounded by a line described as follows: beginning at the Southwest corner of the South Half of the East Half of said Southwest Quarter; Thence North along the West line thereof, 475.0 feet; Thence East parallel to the South line of said Southwest Quarter, 887.0 feet; Thence South parallel with the West line of the South Half of the East Half of said Southwest Quarter 475.0 feet to a point on the South line of said Southwest Quarter; Thence West along the Southwest Quarter of said Section 5, 887.0 feet to the point of beginning, excepting therefrom the South 50.0 feet thereof, in Cook County, Illinois.

EXCEPT

That part of the Southwest Quarter of Section 5, Township 42 North, Range 11, East of the Third Principal Meridian, described as follows: Beginning at the intersection of the present North line of Dundee Road, being a line 50.00 feet North of and parallel with the South line of said Southwest Quarter of Section 5, with a line that is 887.00 feet East of, as measured along the South line of said Southwest Quarter of Section 5, and parallel with the West line of the East half of said Southwest Quarter; Thence North 0° 00' 00" East, parallel with the West line of the East half of said Southwest Quarter of section 5, a distance of 64.50 feet; Thence South 90° 00' 00" West, a distance of 1.00 foot; Thence South 20° 13' 29" West, a distance of 40.50 feet; Thence South 31° 41' 11" West, a distance of 30.85 feet to the aforesaid North line of Dundee Road; Thence South 89° 46' 48" East along said North line, a distance of 31.00 feet to the place of beginning, in Cook County, Illinois.


SUBJECT PROPERTY COMMON DESCRIPTION: 1100 W Dundee Road, Buffalo Grove, IL
(PINS 03-05-302-003-0000, 03-05-302-002-0000,
03-05-303-029-0000, 03-05-303-003-0000)

EXHIBIT B
Acceptance and Agreement Concerning Special Use

Township High School District 214 – Buffalo Grove High School
1100 W Dundee Road
Special Use and Variation for a High School

Township High School District 214 acknowledges that it has read and understands all of the terms and provisions of Buffalo Grove Ordinance No. 2018 - 002 pertaining to the special use and variation, and does hereby accept and agree to abide by and be bound by each of the terms, conditions and limitations of said Ordinance.

Township High School District 214

By: 

Name (print): Cathy Johnson

Title: Associate Supt. for Finance & Operations

EXHIBIT C

Engineering Plans and Building Elevations

**Township High School District 214 – Buffalo Grove High School
1100 W Dundee Road
Special Use and Variation for a High School**

ARCHITECT:
 STR Architecture LLC
 30 West Orange Street | Suite 200
 Orange & Essex
 5: 317.641.1411
 www.strarch.com

PROJECT:
 The Board of Education Township
 100 W Dundee Rd.
 6.250.0000, R. 6000A

DATE:
 02/14/2019

PROJECT NO:
 2019-001

SCALE:
 1/8" = 1'-0"

DATE PLOTTED:
 02/14/2019 10:00 AM

PLT BY:
 J. B. BROWN

DATE PLOTTED:
 02/14/2019 10:00 AM

PLT BY:
 J. B. BROWN

DATE PLOTTED:
 02/14/2019 10:00 AM

PLT BY:
 J. B. BROWN

PROJECT:
 D214 CPP 2018-2019 RN
 100 W Dundee Rd.
 6.250.0000, R. 6000A

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 D214 CPP 2018-2019 RN
 100 W Dundee Rd.
 6.250.0000, R. 6000A

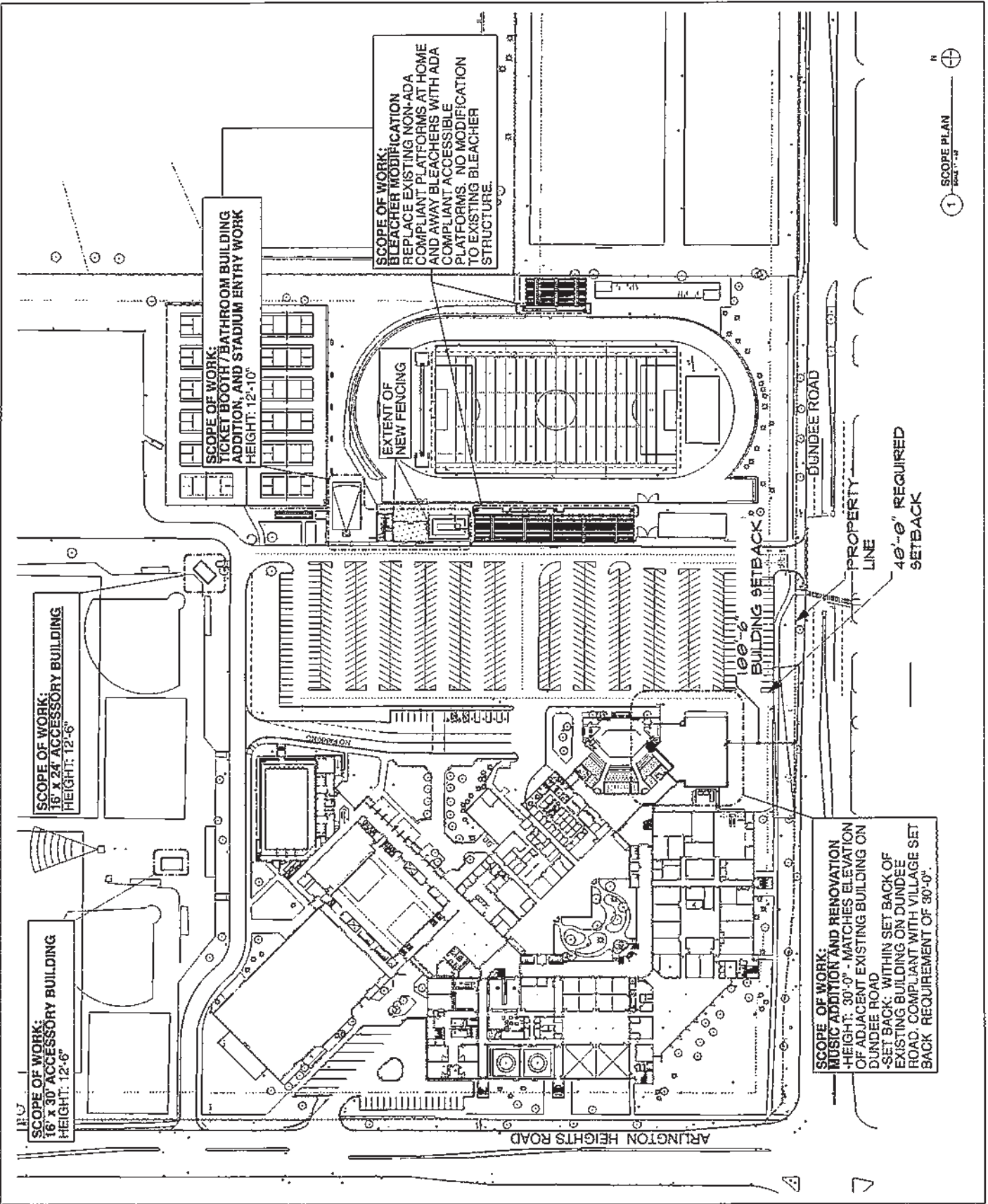
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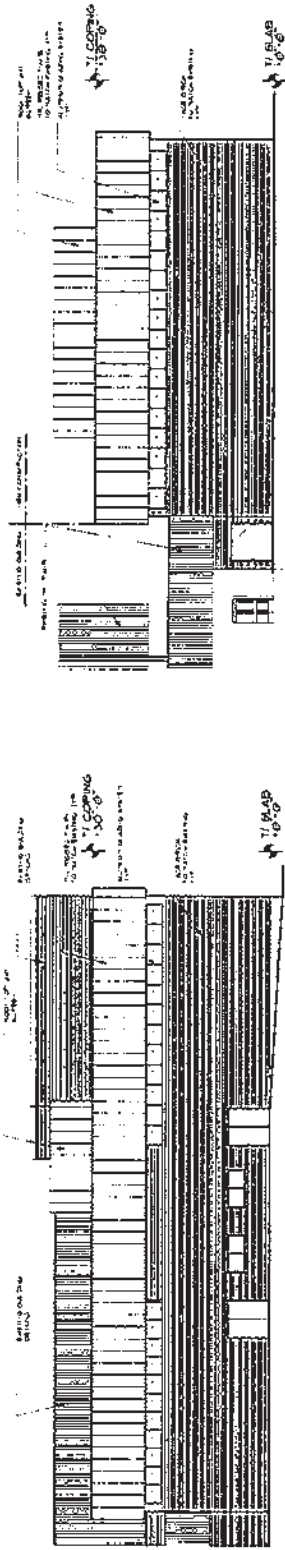


1 SCOPE PLAN
 SCALE: 1" = 20'

A1.0

PROJECT:
185 Parkside
120 West Concord Street | June 2018
Croyce & Papp

OWNER: Board of Education
180 West Concord Street
Caldwell, NJ 07006
PROJECT NO.: 2018-001
DATE: 06/15/18
DRAWN BY: J. Papp
CHECKED BY: C. Papp
SCALE: AS SHOWN
SHEET NO.: 18 OF 24
PROJECT NO.: 2018-001
DATE: 06/15/18
DRAWN BY: J. Papp
CHECKED BY: C. Papp
SCALE: AS SHOWN
SHEET NO.: 18 OF 24



3 ADDITION SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

2 ADDITION WEST ELEVATION
SCALE: 1/8" = 1'-0"

NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES.
2. ALL MATERIALS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.
3. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.
6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES AND STRUCTURES.
8. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
9. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.
10. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS.

PROJECT:
D214 CPP 2018-2019 RN
180 West Concord Street
Caldwell, NJ 07006

The Board of Education Township
180 West Concord Street
Caldwell, NJ 07006
PROJECT NO.: 2018-001
DATE: 06/15/18
DRAWN BY: J. Papp
CHECKED BY: C. Papp
SCALE: AS SHOWN
SHEET NO.: 18 OF 24

IN-PROGRESS
NOT FOR CONSTRUCTION

1 ADDITION EAST ELEVATION
SCALE: 1/8" = 1'-0"

PROJECT:
D214 CPP 2018-2019 RN
180 West Concord Street
Caldwell, NJ 07006

Project: Board of Education Township
2014 CPP 2018-2019 RN
100 W. Center Rd.
Bloomington, IL 61710

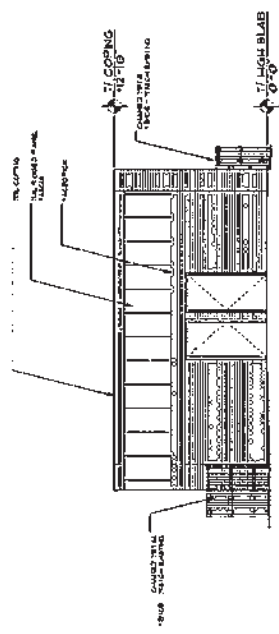
THE BOARD OF EDUCATION TOWNSHIP
2014 CPP 2018-2019 RN
100 W. Center Rd.
Bloomington, IL 61710

The Board of Education Township
2014 CPP 2018-2019 RN
100 W. Center Rd.
Bloomington, IL 61710

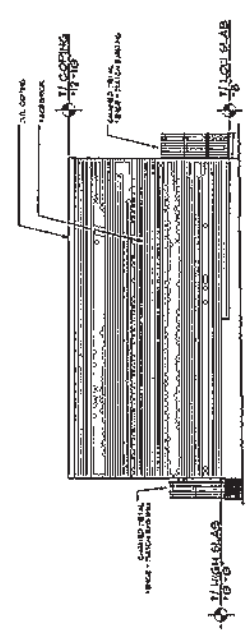
IN PROCESS
NOT FOR CONSTRUCTION

ELEVATIONS AND
SECTIONS - AREA D -
TOILET ROOM /
TICKET BOOTH

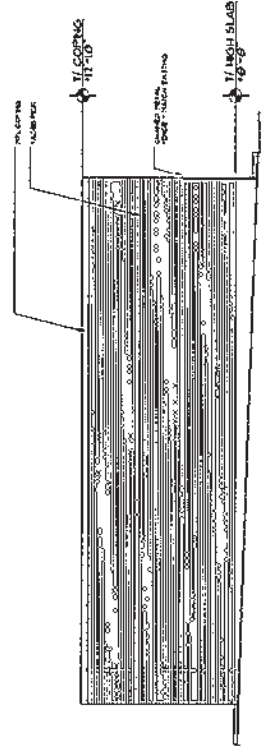
A4-1.1



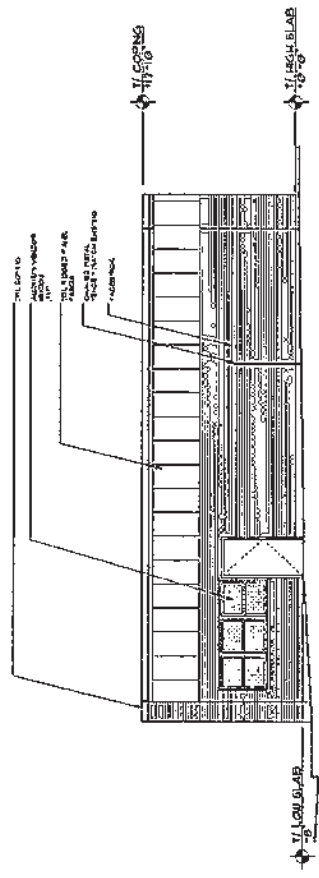
TOILET ROOM / TICKET BOOTH
EAST ELEVATION
SCALE: 1/8" = 1'-0"



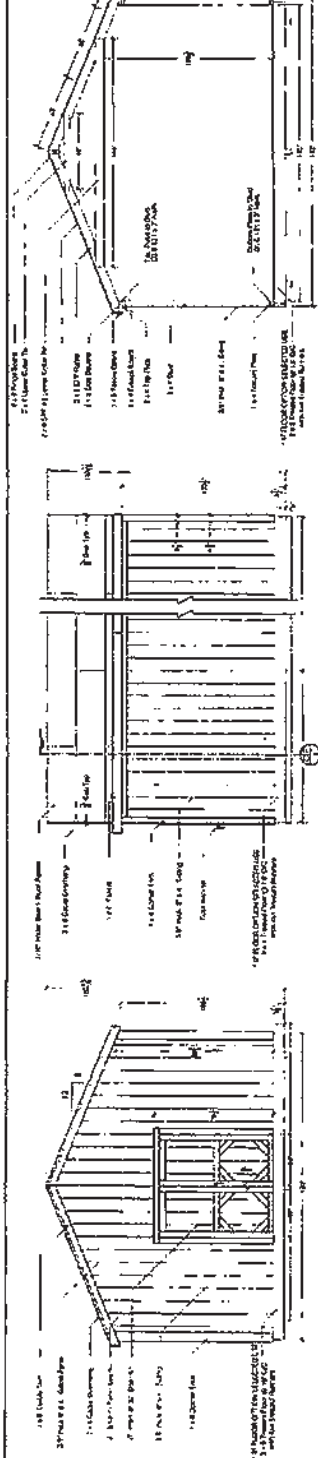
TOILET ROOM / TICKET BOOTH
WEST ELEVATION
SCALE: 1/8" = 1'-0"



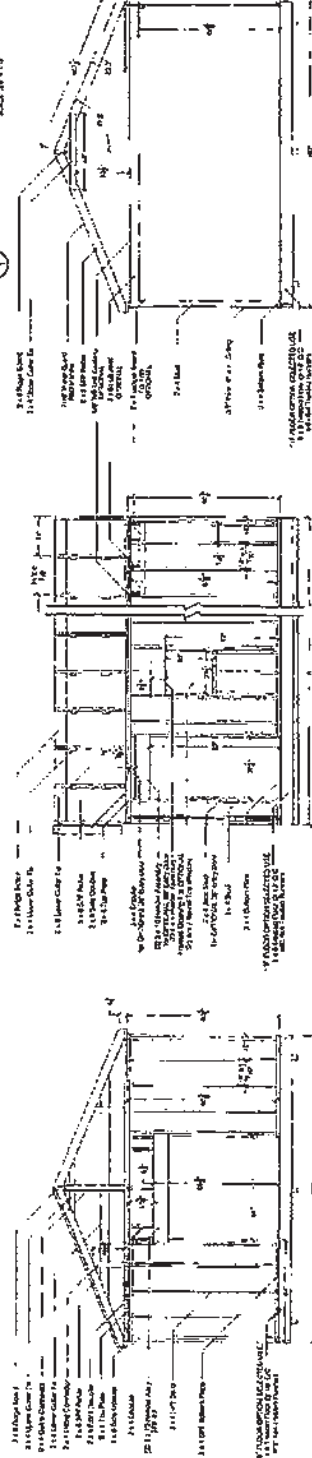
TOILET ROOM / TICKET BOOTH
NORTH ELEVATION
SCALE: 1/8" = 1'-0"



TOILET ROOM / TICKET BOOTH
SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

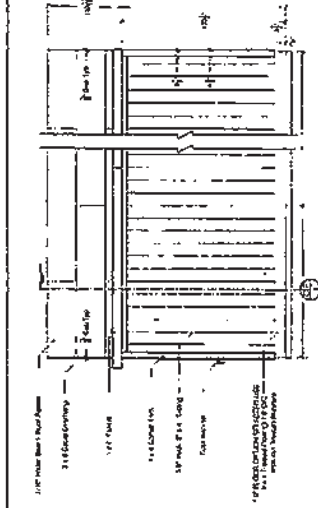


1 FRONT ELEVATION
SCALE: 3/4\"/>

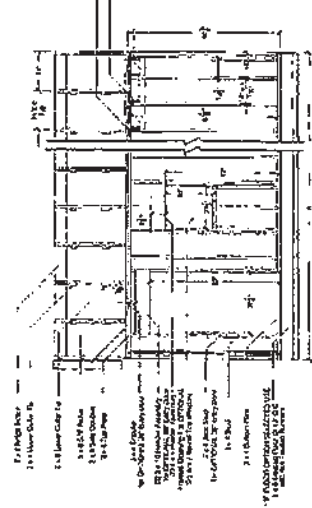


2 STANDARD FRONT FRAMING
SCALE: 3/4\"/>

* NOTE *
IF INSTALLING A PANEL STYLE DOOR...
CONSULT MANUFACTURERS REQUIREMENTS
FOR THE PROPER ROUGH OPENING DIMENSIONS

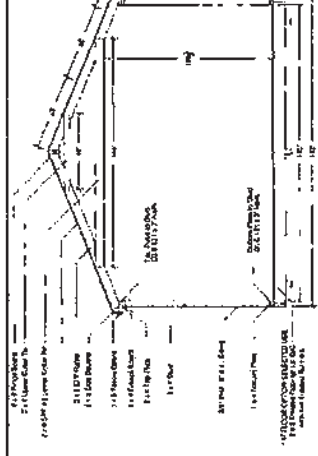


3 SIDE ELEVATION
SCALE: 3/4\"/>

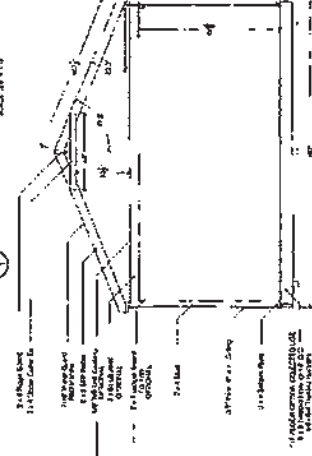


4 SIDE FRAMING
SCALE: 3/4\"/>

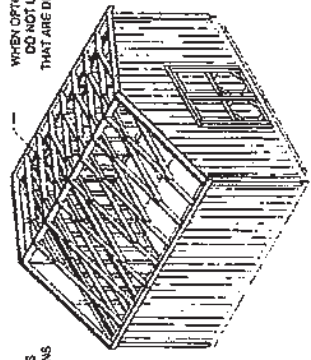
* NOTE *
WHEN OPTIONAL LOFT IS INSTALLED
DO NOT USE 2 X 6 COLLAR TIES
THAT ARE DIRECTLY ABOVE THE LOFT



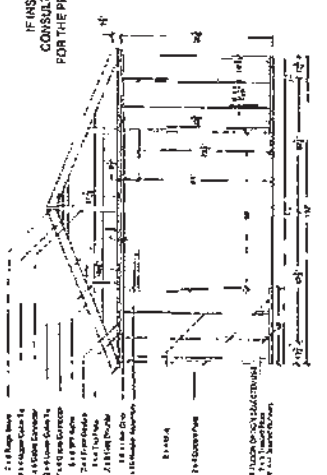
5 STANDARD SECTION
SCALE: 3/4\"/>



6 SECTION WITH LOFT
SCALE: 3/4\"/>



7 ISOMETRIC VIEW WITH LOFT
SCALE: 3/4\"/>



8 FRONT FRAMING FOR 8' X 7' OVERHEAD DOOR
SCALE: 3/4\"/>

Depth Dim "A"	16'-0"	20'-0"	24'-0"	28'-0"
GAZON				
16'-0" width BY:				

16' x 24'
16' x 30'

ASPEN

* NOTE *
FOLLOW LOCAL BUILDING CODES
FOR FOUNDATION REQUIREMENTS



EXHIBIT C

Minutes from April 17, 2024, Planning & Zoning Commission Meeting
Buffalo Grove High School
School District #214
1100 W Dundee Road

MINUTES OF THE REGULAR MEETING OF THE PLANNING AND ZONING COMMISSION OF THE VILLAGE OF BUFFALO GROVE HELD IN THE COUNCIL CHAMBERS, 50 RAUPP BOULEVARD, BUFFALO GROVE, ILLINOIS ON WEDNESDAY, APRIL 17, 2024

Call to Order

The meeting was called to order at 7:30 PM by Chair Mitchell Weinstein

Public Hearings/Items For Consideration

1. Consideration of a Petition for Approval of a Preliminary Plan, an Amendment to the Special Use Approved by Ordinance No. 2018-002, and Variations from the Fence Code to Allow Site Improvements and Construction of Accessory Structures on the Buffalo Grove High School Property Located at 1100 W Dundee Road (Trustee Weidenfeld) (Staff Contact: Kelly Purvis)

Deputy Director Purvis provided an overview of the project and the proposed requests.

The following representatives were sworn in on behalf of School District 214's petition:

Andrew Phelps, project architect with STR Partners; Thomas Grunert, project manager with Pepper Construction; Don Mathews and David Guerrero, project engineers with Gewalt Hamilton Associated, Inc.

Phelps stated that improvements to the site are drastically needed; drainage is failing, and after significant rain, the fields can't be used sometimes for weeks.

Com. Moodhe asked if ingress/egress has been provided for emergency vehicles.

Phelps indicated that the north side of the fields are not fenced in and that is the access route for emergency vehicles.

Com. Moodhe asked if there is a plan for special events parking?

Phelps responded that the school district has made arrangements with surrounding elementary schools for larger event parking.

Com. Moodhe asked about the changes to the retention basin, and whether the new baseball field would be natural grass?

Phelps indicated that it would, and also noted that a storm basin vault will be constructed beneath the outfield which will collect stormwater.

Com. Moodhe asked about extending the sidewalks along the north driveway access.

Guerrero walked through utility locations and indicated that the proposed fence can't be moved, preventing installation of a sidewalk along the north side. He indicated that they would take a look to see if there is any possibility of adding the sidewalk in this location.

Com. Richards asked if the petitioner could walk the Commission through the changes to the stormwater on site.

Guerrero indicated that the stormwater system will be designed to convey stormwater into storm drains. The tennis courts will drain north to south, away from the homes. He indicated there will be a network of underdrains.

Com. Richards asked for the petitioner to talk through the loss of parking, and indicated that it is difficult to park on the school campus now.

Mathews indicated that they looked at the parking from two perspectives: what the code requires, and what the demand on a typical school day would be. The parking provided does meet the Village's requirements, and the field counts done for the school campus showed that about 10% of the parking would be unused at peak capacity, after the removal of approximately 74 parking spaces.

Com. Richards asked about the meetings held with the residents and if they expressed any concerns.

Phelps indicated that most wanted more synthetic fields and wanted to know if pickle ball would be allowed when the tennis courts were not in use.

Com. Worlikar asked about the height of the existing fences on the property.

Phelps indicated that the baseball field has protective fencing up to 40 feet, and the softball field is a little less than 30 feet now.

There was some discussion regarding the fencing along Arlington Heights Road, and why the 14-foot height is needed.

Phelps indicated the reason is largely to protect vehicles along Arlington Heights Road from home run balls.

Com. Worlikar asked if there are any major changes to traffic flow.

Phelps indicated that there are not.

Com. Worlikar asked if more EV chargers would be installed.

Phelps indicated that there are not additional EV chargers proposed in the new lot.

Com. Worlikar asked how the Village's emergency teams would know how to access the site.

Phelps indicated that the school district and Police/Fire Departments work closely on these plans to ensure proper response during an emergency.

Com. Worlikar asked how parents and students will know about overflow parking for special events.

Phelps indicated that it would be clearly communicated by the school administration.

Com. Spunt agreed with Com. Moodhe's statements regarding the sidewalk along the north drive access.

Com. Spunt also asked if the school district would be replacing the fence along the north lot line abutting the single-family residential homes.

Phelps reviewed the timeline for replacement of the fence, which is likely to be in phase two or three of the project.

Chairman Weinstein asked if the reality is going to be 70 less parking spaces for students on a daily basis.

Phelps responded yes, and indicated the parking is not being utilized at this point.

Chairman Weinstein asked if the 40-foot safety fencing is a standard height for recreational facilities.

Phelps responded that it is.

Chairman Weinstein asked for confirmation that the tennis courts would not be lit, and would be fenced off, and locked during off hours.

Phelps confirmed that is correct.

Com. Moodhe asked if the culvert between Arlington Heights Road and the site will be impacted by the changes to the drainage system.

Guerrero reviewed the proposed changes to the site, and indicated the culvert would not be impacted.

Com. Moodhe asked if the drainage to the north would be impacted.

Guerrero indicated that it would not.

Com. Moodhe asked for the photometric plan to be displayed and asked where the zero footcandle line would be.

Phelps responded by showing the area on the plan.

Chairman Weinstein entered the revised Geometric Plan into the record as Exhibit 1 and the Staff Report as Exhibit 2.

The public hearing was closed at 8:18PM.

Com. Richards made a motion to recommend approval of a preliminary plan, an amendment to the Special Use approved by Ordinance No. 2018-002, and Variations from the Fence Code requirements for residential districts related to fence heights on and adjacent to the athletic fields, to accommodate the proposed improvements to the BGHS properties located at 1100 W Dundee Road, subject to the following conditions:

- 1. The proposed improvements shall be constructed in substantial conformance with the plans attached as part of the petition.*
- 2. The Final Engineering plans shall be submitted in a manner acceptable to the Village.*
- 3. Any directional or incidental signage added to the site shall be reviewed administratively by staff.*
- 4. Landscaping on the property shall be maintained in accordance with the approved landscape plan in perpetuity.*
- 5. All light fixtures shall be appropriately screened to avoid glare into surrounding residential properties and field lighting shall be turned off when not in use.*

Com. Davis seconded the motion.

Com. Moodhe began deliberations by noting that the fence heights are pretty typical and indicated that he understands the need for the variations. He indicated that he was at first concerned about the reduction in parking, but visited the site and found that the lot that will be removed is underutilized.

Com. Richards indicated his support for the requests, noting that the special use amendment would allow for needed improvements to the facilities. He indicated that the variations for the fence make sense and that this is a positive proposal.

Com. Worlikar indicated that he was fine with the fence height but was a little concerned that the student enrollment might increase in the future with 90% of the parking supply occupied.

With no further comments from the Commission a vote was taken.

RESULT:	RECOMMENDATION TO APPROVE [UNANIMOUS]
AYES:	Moodhe, Spunt, Weinstein, Richards, Worlikar, Davis
ABSENT:	Amy Au, Sujat Saxena

2. Consideration of a Request for a Special Use for a Home Daycare at 4 Brucewood Court - Consideration of This Item Will be Continued to the May 15, 2024 PZC Meeting. (Trustee Weidenfeld) (Staff Contact: Kelly Purvis)

The Public Hearing was opened.

Deputy Director Purvis indicated that additional information was being collected from the applicant and that the petition was not ready to be presented to the Commission tonight.

Com. Richards made a motion to continue the public hearing for this item until May 15, 2024.

Com. Davis seconded the motion.

RESULT:	TABLED [UNANIMOUS]
AYES:	Moodhe, Spunt, Weinstein, Richards, Worlikar, Davis
ABSENT:	Amy Au, Sujat Saxena

Regular Meeting

Other Matters for Discussion

Approval of Minutes

1. Planning and Zoning Commission - Regular Meeting - Mar 6, 2024 7:30 PM

Com. Richards made a motion to approve the March 6, 2024 Planning and Zoning Commission meeting minutes.

Com. Spunt seconded the motion.

RESULT:	ACCEPTED [UNANIMOUS]
AYES:	Moodhe, Spunt, Weinstein, Richards, Worlikar, Davis
ABSENT:	Amy Au, Sujat Saxena

Chairman's Report

None

Committee and Liaison Reports

Com. Richards indicated that there were no Planning and Zoning Commission items presented at the previous Village Board meeting.

Staff Report/Future Agenda Schedule

Deputy Director Purvis indicated that a fence variation request will come before the Commission on May 1, 2024 and that there are three items ready for the May 15, 2024 agenda.

04/17/2024

Purvis also reminded the Commission to complete their compliance filings and OMA training prior to May 1, 2024.

Public Comments and Questions

Adjournment

The meeting was adjourned at 8:26 PM

Action Items

Kelly Purvis

APPROVED BY ME THIS 17th DAY OF April, 2024

Mitchell Weinstein, Commissioner



AGENDA ITEM SUMMARY

PLANNING AND ZONING COMMISSION

Regular Meeting: November 19, 2025

AGENDA ITEM 2.B.

Consideration of an Amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, and a Special Use for a drive-through facility, as well as parking and sign variations for Dutch Bros. Coffee at 80 McHenry Road

Contacts

Liaison: Trustee Ottenheimer

Staff: Andrew Binder

Staff Recommendation

Staff recommends approval.

Recommended Motion

The PZC moves to make a positive recommendation to the Village Board to allow an amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, for a Special Use for a drive-through facility, as well as Parking, and Sign Variations for Dutch Bros. Coffee at 80 McHenry Road, subject to the following conditions:

1. The proposed development shall be constructed in substantial conformance with the plans attached and in accordance with Section 16.20.070 of the Development Ordinance.
2. Final Engineering plans shall be revised in a manner acceptable to the Village.
3. Any directional or incidental signage added to the sign package shall be reviewed administratively by staff.
4. The landscaping on the site shall be maintained in compliance with the approved landscape plan in perpetuity.

Summary

Dutch Bros is requesting an amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, a Special Use for a drive-through facility, and parking and sign variations at 80 McHenry Road. Dutch Bros Coffee plans to renovate a vacant building in The Clove Development to open a coffee shop with various drinks and prepackaged foods. The project will include an interior remodel, a second drive-through lane, and exterior updates, including new lighting, signs, and landscaping.

File Attachments

- 1. 80 McHenry Rd - Staff Report
- 2. 80 McHenry Rd - Plan Set





VILLAGE OF BUFFALO GROVE PLANNING & ZONING COMMISSION STAFF REPORT

Meeting Date:	November 19, 2025
Subject Property Location:	80 McHenry Road, Buffalo Grove, IL 60089
Petitioner:	Lisa Smola-Hollo, Dutch Bros, LLC
Prepared By:	Andrew Binder, Associate Planner
Request:	The petitioner seeks approval of an amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, and a Special Use for a drive-through facility, as well as parking and sign variations for Dutch Bros. Coffee at 80 McHenry Road.
Existing Lane Use and Zoning:	The property is improved with a stand-alone drive-through restaurant building (previously Burger King) and is currently zoned B-5: Town Center Business District.
Comprehensive Plan:	The Village Comprehensive Plan calls for this property to be commercial.

PROJECT BACKGROUND

Ben Siembida, of Bohler Engineering, who is representing the Petitioner, Dutch Bros. LLC, is requesting an amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, and a Special Use for a drive-through facility, as well as parking and sign variations for Dutch Bros. Coffee at 80 McHenry Road, *as shown in Figure 1.*

Dutch Bros. Coffee plans to renovate the vacant outlet building within The Clove Development to open and operate a coffee shop featuring a variety of beverages and prepackaged foods. The proposed project will include an interior remodel, the addition of a second drive-through lane, a completely updated façade with new lighting, signage and landscaping.

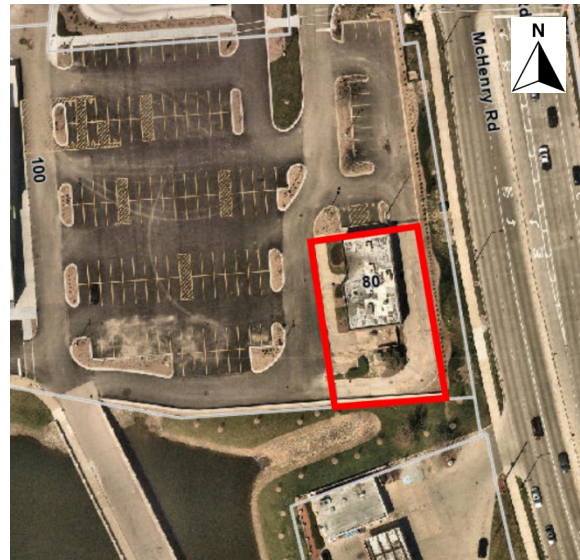


Figure 1: Subject Property

SITE HISTORY

The existing standalone building was developed as a Burger King restaurant in accordance with Ordinance 1998-077, which approved the Preliminary Plan, Planned Unit Development, Special Use for a drive-through facility, as well as Parking and Sign Variations, similar to the proposed request. The restaurant closed in 2024, and the site has remained vacant since then.

LAKE COOK CORRIDOR MARKET STUDY AND PLAN

The subject property is located in the “Town Center” of the larger 475-acre Lake Cook Corridor. [The Lake Cook Corridor Market Study and Plan \(LCCP\)](#), represents a community-driven vision and plan for the Corridor. In 2018, Buffalo Grove adopted the LCCP as a component of the Village’s Comprehensive Plan. The LCCP has designated the “Town Center” for retail uses, which was developed into The Clove Development. The addition of Dutch Bros. will support the ongoing implementation of the LCCP’s vision, The Clove Development, and key concepts from the LCCP plan.



Figure 2: LCCP Future Uses

PLANNING & ZONING ANALYSIS

Dutch Bros. Coffee plans to renovate the interior and exterior of the vacant 2,900-square-foot stand-alone restaurant building to open and operate a coffee shop. Dutch Bros. Coffee is a national coffee chain operating over 1,000 locations nationwide, with new locations opening in Illinois, including Oak Park, Naperville, and Rockford.

Business Operations

Dutch Bros. Coffee is a full-service coffee shop offering a wide variety of beverages and prepackaged food options. The proposed hours of operation are from 5:00 AM to 11:00 PM, seven days a week. Peak hours are expected to be from 8:00 AM to 1:00 PM. Each shift will have between 5 to 10 employees. During peak hours, two employees will serve as “runners” to assist customers in the drive-through lanes, providing quicker transactions and helping to increase traffic flow.

Use

The 2009 Comprehensive Plan designates the site for commercial use. Restaurant uses are permitted in the B-5 Town Center District; however, drive-through facilities require a Special Use. Since the site has been a drive-through restaurant since 1998, Staff has no concerns with the proposed use.

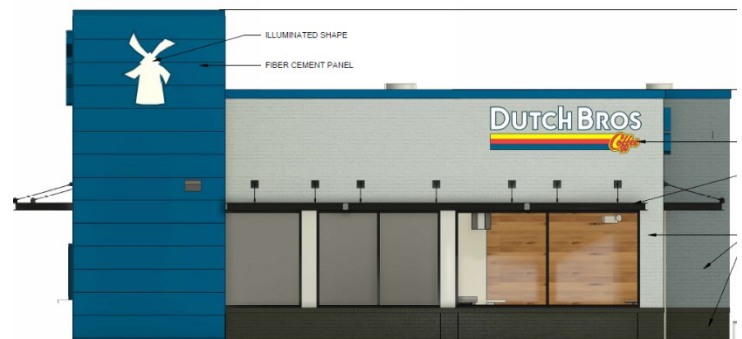


Figure 3: Proposed North Elevation

Building Elevations & Site Improvements

Dutch Bros. intends to renovate the former Burger King by painting its brick façade, adding a tower feature at the northeast corner, and installing new fiber-cement panels and awnings, as shown in Figure 3. They also plan to create an outdoor dining patio on the west side of the building near the main entrance, with seating for up to 15 customers. A new painted brick trash enclosure matching the building’s exterior, will be constructed on the south part of the site, positioned between the building and the drive-through lanes.

Signage

Dutch Bros. is proposing a complete sign package for this site and is requesting multiple variations from the Village’s Sign Code to meet Dutch Bros.’ Corporate Signage Standards. The petitioner proposes a combination of six wall signs: two signs on the north and east sides of the building (4 signs total), and one sign on the south and west sides (2 signs total). All wall signs will be internally illuminated channel letter signs.

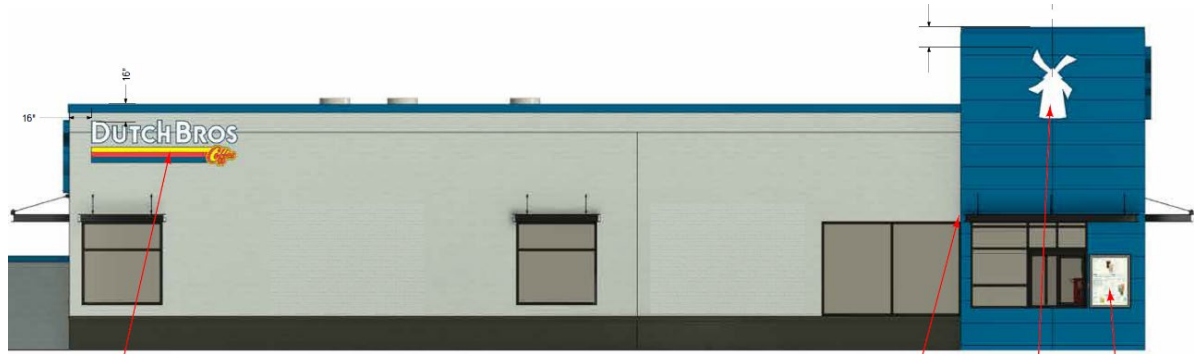


Figure 4: East Elevation with Proposed Signage

The Village’s Sign Code allows one wall sign to be installed along each frontage and above the main entrance to the tenant space when it does not face a right-of-way; therefore, a variation for the number of wall signs and a variation for the signs on the north and south elevations are required. In addition, the height of the wall signs on the north, south, and east elevations and the length of the wall sign on the north elevation exceed the maximum permitted, which will also require variations, as shown in Figure 5.

As mentioned, Dutch Bros. is also planning to add a second drive-through lane to the site, which will include a second set of menu board signs. Dutch Bros. also plans to add a fifth menu board sign on the wall, next to the drive-through window. The Village’s sign code permits one menu board sign per drive-through; therefore, a variance for the number of menu board signs is required. Requests for pre-ordering boards have become common, as they allow customers to view options and make choices prior to pulling up to the ordering menu board, which in turn reduces wait times. The new menu board signs will otherwise comply with the specifications of the Village’s Sign Code. Dutch Bros also plans to install directional signage at the entrance and exit of the drive-through lanes and tenant panels on the existing clove monument signs.

Elevation	Criteria	Total Height (ft)	Total Length (ft)	Number of Signs
North	Permitted	6.6'	12.4'	0
	Proposed	8.2'*	13.8'*	2*
South	Permitted	4.3'	13.7'	0
	Proposed	4.9'*	3.7'	1*
East	Permitted	6.6'	24'	1
	Proposed	8.2'*	12.8'	2*
West	Permitted	4'	23.9'	1
	Proposed	3.2'	10.1'	1
*Requested Variation				

Figure 5. Sign Variation Chart

Staff supports the numerous sign variation requests due to the location of the building being exposed on all sides and the need for proper identification of the business. The multiple menu board signs are an industry standard for drive-throughs, and since they meet village size requirements, staff has no concerns. Furthermore, the signs' overall appearance is complementary and matches the building's design and aesthetic.

Traffic & Accessibility

The petitioner intends to expand the existing drive-through from a single lane to a double lane, increasing the total vehicle stacking capacity to 14 cars, as shown in Figure 6. According to the Village's Zoning Ordinance, drive-throughs are required to have a minimum of 10 stacking spaces.

Since the property is an outlot at the southeast corner of The Clove Development, it can be reached via multiple access drives. However, the petitioner states that there will be two main access points used: a full access drive on McHenry Road and a right-in/right-out access drive on Lake Cook Road. No changes to the existing access drives are proposed as part of this project. An access easement between The Clove Development and the subject property has already been established to allow cars to pass through The Clove property to reach the site. The project also features a connection to the sidewalk adjacent to McHenry Road, enhancing pedestrian connectivity.

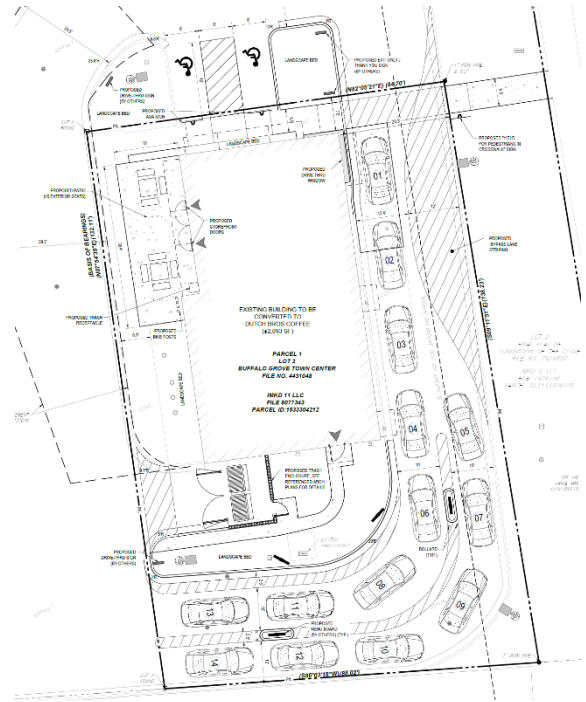


Figure 6: Site Plan

A Traffic Impact Study was submitted as part of the plan set, which notes a slight increase in traffic at the McHenry Road and Lake Cook Road access points during the weekday morning peak hour, with levels remaining within acceptable service standards. The analysis also states that the site's internal circulation, with the drive-through and bypass lane, will accommodate vehicle queues and maintain smooth traffic flow. Staff has no concerns about traffic circulation, as the proposed business is similar to the previous Burger King, which did not cause traffic backups or issues.

Parking

The Zoning Ordinance requires a minimum of 1 parking space per 100 square feet of floor area for an eating and drinking establishment. The 2,900 square foot Dutch Bros. would require a total of 29 parking spaces. Due to the way this property is laid out within a larger development, there are no parking stalls on the property. As previously indicated, the subject property has an agreement with the larger Clove Development to share in the use of their 787 parking stalls, however a parking variation is still required. Staff have no concerns about parking availability due to the business's nature as a drive-through oriented use, and the availability of ample parking stalls surrounding the site.

Lighting

The proposed lighting complies with the Village illumination standards. There will be shielded LED parking lot lights within the drive-through lanes. New accent light fixtures and lighting under the proposed awnings will be installed on the building to meet Dutch Bros.' corporate standards.

Landscaping

The petitioner has provided a landscape plan showing installation of plantings throughout the site, including the parking lot islands on the north, foundation landscaping on the west, canopy trees along McHenry Road, and screening shrubs around the trash enclosure and transformer on the south. The Village Forester reviewed the plan and has no concerns.

Stormwater & Engineering

Our Engineering Team has reviewed the preliminary plans and has no concerns, as no significant changes to the site are proposed. The minor increase in impervious surface on the site (due to the additional drive-through lane) is offset by the previous reduction in impervious surface within The Clove Development. Our Engineers will continue to work with the applicant during the permitting process to ensure Stormwater and Utility connection requirements are met.

Departmental Reviews

Village Department	Comments
Building	The Building Division has reviewed the plans and does not have any concerns.
Engineering	The Village Engineer has reviewed the preliminary engineering plans and has no concerns.
Forestry	The Village Forester has reviewed the landscape plan and does not have any concerns.
Fire	The Fire Department has reviewed the plans and does not have any concerns.

Surrounding Property Owners

Pursuant to Village Code, the surrounding property owners within 250 feet were notified by mail, notice was published in the Daily Herald, and a public hearing sign was posted on the subject property. All notifications were completed within the prescribed timeframe as required. As of the date of this Staff Report, the Village has not received any comments or questions related to the project.

Standards

The Planning & Zoning Commission is authorized to make a recommendation to the Village Board on requested Planned Unit Developments/Amendments based upon the following criteria:

1. That the PUD has the minimum areas as set forth in [Section 17.16.060](#).
2. The uses permitted in such development are not of such a nature or so located as to exercise an undue detrimental influence or effect upon the surrounding neighborhood;
3. The plan effectively treats the developmental possibilities of the subject property, making appropriate provisions for the preservation of streams, wooded areas, scenic views, floodplain areas, and similar physical features;
4. All requirements pertaining to commercial, residential, institutional or other uses established in the planned unit development conform to the requirements for each individual classification as established elsewhere in this Title, except as may be specifically varied for the proper planning of the planned unit development;
5. The Planning and Zoning Commission shall determine that the area and width of the lot shall be sufficient for the proposed use, and that the development of the property in the proposed manner creates no outlots which will be difficult to develop in an appropriate manner.

Planned Unit Developments are also Special Uses, and therefore must meet the Special Use criteria as follows:

1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;
2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such

special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;

3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations with the neighborhood;
4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;
5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;
6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.

The petitioner has provided written responses to both sets of standards, which are included in the attached packet.

Zoning Variation Requests:

The Planning & Zoning Commission is authorized to make a recommendation to the Village Board on requested Zoning Variations based on the following criteria:

1. The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations of the zoning district in which it is located except in the case of residential zoning districts.
2. The plight of the owner is due to unique circumstances.
3. The proposed variation will not alter the essential character of the neighborhood.

The petitioner provided written responses to the variation standards in the attached packet.

Sign Variation Requests:

- A. Except for Prohibited signs (Chapter 14.32), the Village Planning & Zoning Commission may recommend approval or disapproval of a variance from the provisions or requirements of the Sign Code subject to the following:
 1. The literal interpretation and strict application of the provisions and requirements of this Title would cause undue and unnecessary hardships to the sign user because of unique or unusual conditions pertaining to the specific building, parcel or property in question; and
 2. The granting of the requested variance would not be materially detrimental to the property owners in the vicinity; and
 3. The unusual conditions applying to the specific property do not apply generally to other properties in the Village; and
 4. The granting of the variance will not be contrary to the purpose of this Title pursuant to Section 14.04.020
- B. Where there is insufficient evidence, in the opinion of the Planning & Zoning Commission, to support a finding under subsection (A), but some hardship does exist, the Planning & Zoning Commission may consider the requirement fulfilled if:
 1. The proposed signage is of particularly good design and in particularly good taste; and
 2. The entire site has been or will be particularly well landscaped.

The petitioner provided written responses to the variation standards in the attached packet.

STAFF RECOMMENDATION

Staff recommends approval of an Amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, and a Special Use for a drive-through facility, as well as Parking and Sign Variations for Dutch Bros. Coffee at 80 McHenry Road, subject to the conditions outlined in the PZC motion below.

ACTION REQUESTED

The Planning & Zoning Commission (PZC) shall open the public hearing and take public testimony concerning the request for an approval of an amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, for a Special Use for a drive-through facility, as well as Parking, and Sign Variations for Dutch Bros. Coffee at 80 McHenry Road. The PZC shall make a recommendation to the Village Board regarding the requested approvals.

Suggested PZC Motion

The PZC moves to make a positive recommendation to the Village Board to allow an amendment to the Planned Development and Preliminary Plan approved by Ordinance No. 1998-077, for a Special Use for a drive-through facility, as well as Parking, and Sign Variations for Dutch Bros. Coffee at 80 McHenry Road, subject to the following conditions:

- 1. The proposed development shall be constructed in substantial conformance with the plans attached and in accordance with Section 16.20.070 of the Development Ordinance.*
- 2. Final Engineering plans shall be revised in a manner acceptable to the Village.*
- 3. Any directional or incidental signage added to the sign package shall be reviewed administratively by staff.*
- 4. The landscaping on the site shall be maintained in compliance with the approved landscape plan in perpetuity.*

ATTACHMENTS

- Narrative Description
- Site Plan
- Architectural Plan Set (Elevations, Floor Plan)
- Signage Plan
- Preliminary Storm & Utility Plan with Stormwater Letter
- Landscape Plan
- Photometric Plan & Lighting Specs
- Traffic Study
- Response to PUD, Special Use, Zoning, and Sign Variation Standards
- Ord. 1998-077

July 30, 2025

Community Development Department
Village of Buffalo Grove
50 Raupp Blvd
Buffalo Grove, IL 60089
[sent via email]

Re: 80 McHenry Rd, PUD Amendment and Special Use Application

The Applicant, Dutch Bros Coffee, is hereby submitting the enclosed documents relating to a PUD Amendment and Special Use Permit for a proposed Dutch Bros Coffee restaurant, located at approximately 80 McHenry Rd, Buffalo Grove, IL 60089.

The subject project is located within the B-5 Zoning District (Town Center Planned District) and is subject to a PUD Amendment for the proposed redevelopment of the site and a Special Use as described in Buffalo Grove Code of Ordinances Chapter 17.44.060.C.1.e.

PROJECT NARRATIVE

The Applicant is proposing to renovate a former Burger King restaurant into a Dutch Bros Coffee restaurant. Interior seating and service improvements will be made to the existing building as well as façade improvements, drive-thru pickup window relocation, and new branding and wayfinding signage. Nearby, off-site parking will be provided to accommodate patrons and employees of the restaurant.

Site improvements generally consist of: outdoor seating, public sidewalk connection, drive-thru improvements, new trash and recycling enclosure, landscaping enhancements, improved site lighting, limited repaving and restriping, and reuse of existing utility services as appropriate.

DESCRIPTION OF BUSINESS OPERATIONS

Dutch Bros Coffee business hours are typically 5:00am – 11:00pm. Peak hours of operations is generally 8:00am – 1:00pm where the average number of transactions per hour is approximately 49.

Customers largely use the drive-thru service to place orders and receive mobile orders. During peak hours, Dutch Bros uses up to two employees as “runners” to meet customers in the drive-thru who haven’t placed an order to interact with the customer, receive orders, and deliver orders. This process allows for quicker service times. Customers that receive their order from runners have the ability to use the bypass lane to exit the drive-thru queue and complete their transaction quicker.

The number of employees on any given shift can range from 5 to 10.

Indoor and outdoor dining is proposed at this location. Food preparation is limited to heating premade goods.

ATTACHMENTS

- Petition for Concept & Preliminary Plan Review
- Proof of Ownership
- Property Owner Authorization
- Letter of Support from Landlord
- Recovery of Village Costs Form
- Certificate of Mailing Form

- Mailing Labels for Properties within 350 feet of the Subject Property
- Response to Planned Unit Development Standards
- Response to Special Use Standards
- Plat of Survey & Legal Description
- Detailed Site Plan
- Preliminary Utility & Storm Sewer Plan
- Landscaping Plan
- Site Lighting Plan
- Trash Enclosure Details
- Conceptual Building Elevations
- Schematic Floor Plan
- Signage Plan and Details

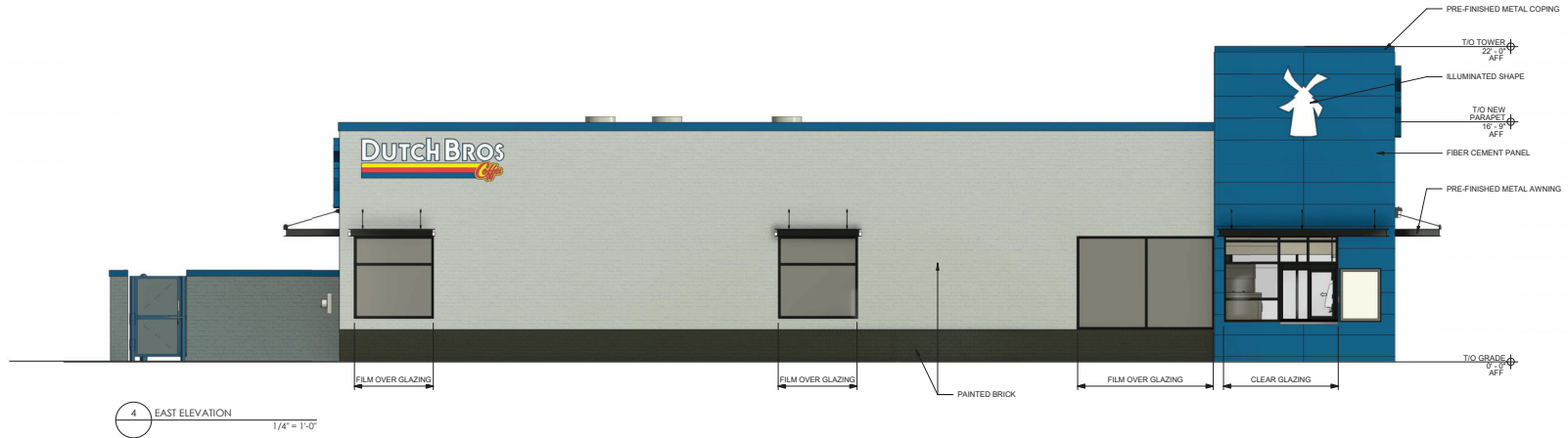
If you have any questions or comments, or wish to discuss this submission in further detail, please feel free to contact the undersigned at your convenience (bsiembida@bohlereng.com or (380) 800-4004)

Sincerely,



Ben Siembida, Project Manager
Bohler, LLC (Agent for Applicant)

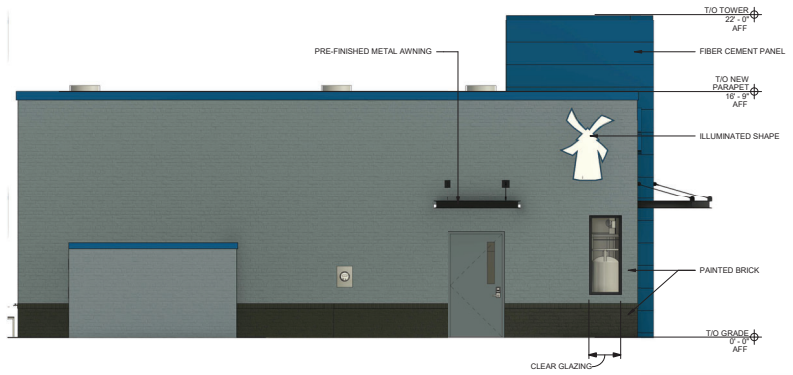
The word DUTCHBROS, and all associated logos, designs, slogans, slogans, and other marks herein, are the registered trademarks of Dutch Bros Coffee, LLC. All other marks herein are the property of their respective owners. All other marks herein are the property of their respective owners. All other marks herein are the property of their respective owners. All other marks herein are the property of their respective owners.



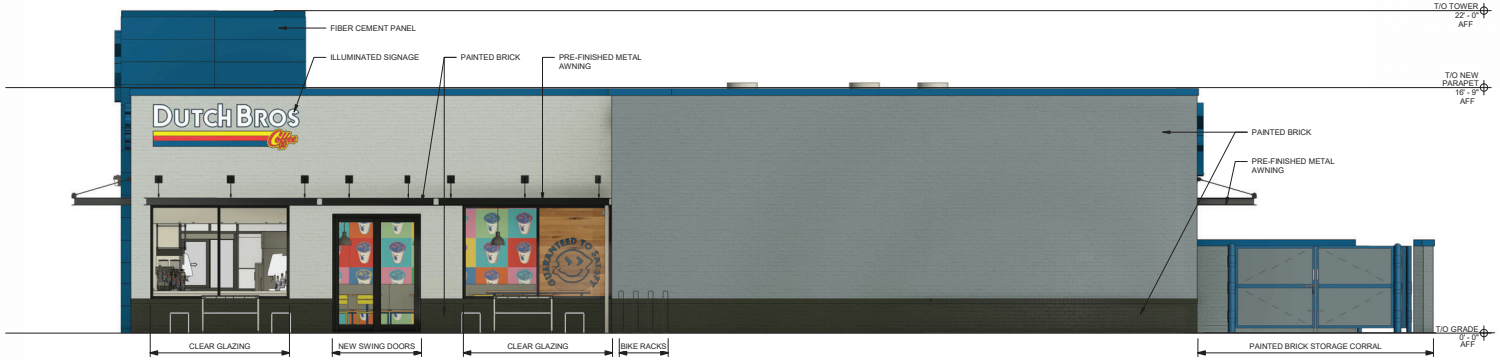
4 EAST ELEVATION
1/4" = 1'-0"



3 NORTH ELEVATION
1/4" = 1'-0"



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



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



I HEREBY CERTIFY THAT THESE PLANS HAVE BEEN PREPARED UNDER MY SUPERVISION AND THAT TO THE BEST OF MY KNOWLEDGE, THEY COMPLY TO APPLICABLE LAWS, RULES, REGULATIONS AND ORDINANCES OF BEZEL GROVE IL RELATIVE TO STRUCTURES AND BUILDINGS.

CASE ENGINEERING INC.
 796 MERUS CT. FENTON, MO 63026
 T: 636.349.1400
 CASEENGINEERINGINC.COM

BOHLER ENGINEERING
 4100 RECENT STREET, SUITE M COLUMBUS, OH 43219
 T: 380.800.4004
 BOHLERENGINEERING.COM

Project No: IL0401
 Dutch Bros Coffee - Conversion Store
 80 McHenry Rd, Buffalo Grove, IL 60089
 For: Dutch Bros Coffee
 300 W. Ohio Parkway
 Tempe, AZ 85281

A1 PROTOTYPE - 06/27/25
 ISSUED FOR LANDLORD REVIEW:

REV. DATE	DESCRIPTION
09.17.2025	

SHEET NAME:

BUILDING ELEVATIONS - COLOR

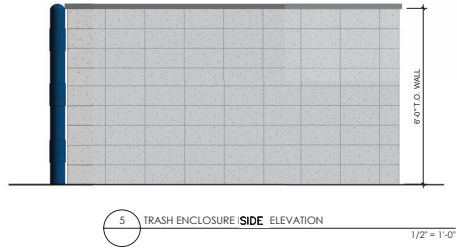
DRAWN BY: JLU / CO CHECKED BY: MWW

SHEET NUMBER:

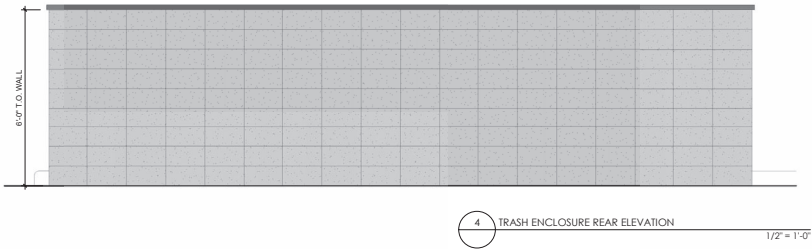
V-6.1

© 2025 Dutch Bros Coffee, LLC

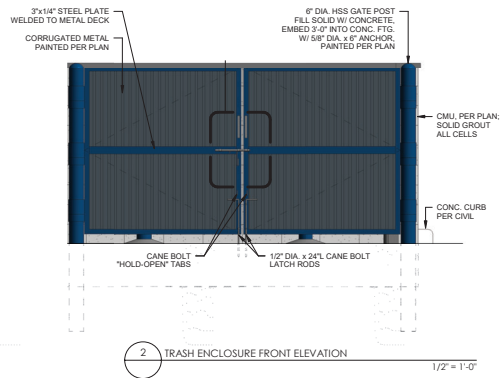
The name DUTCH BROS. and all associated logos, designs, names, information and other materials, text, design, depicted components, are made available by Dutch Bros, Inc. and its affiliates, including its subsidiaries, for use in connection with the design, construction, installation, operation, and maintenance of the waste-to-energy plant, and are not to be used for any other purpose without the prior written consent of Dutch Bros, Inc. and its affiliates.



5 TRASH ENCLOSURE SIDE ELEVATION
1/2" = 1'-0"



4 TRASH ENCLOSURE REAR ELEVATION
1/2" = 1'-0"



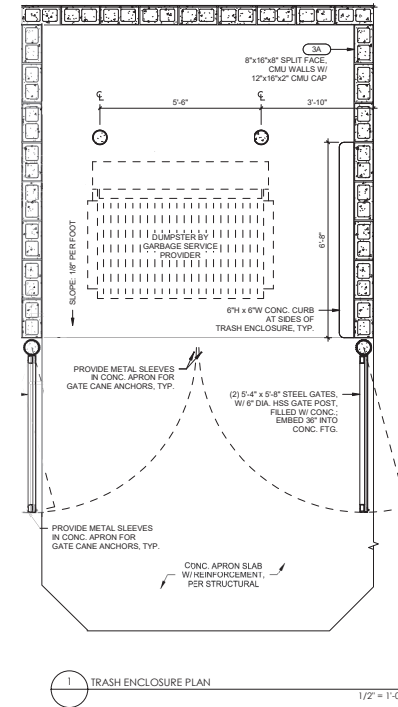
2 TRASH ENCLOSURE FRONT ELEVATION
1/2" = 1'-0"

- TRASH ENCLOSURE GENERAL NOTES:**
- REFER TO STRUCTURAL FOR MASONRY, CONCRETE, STRUCTURAL STEEL AND REINFORCING STEEL FOR SPECIFICATIONS.
 - PROVIDE LOCKING MECHANISM ON GATES AND PEDESTRIAN GATE.
 - PROVIDE SITE LIGHTING AT TRASH ENCLOSURE. MIN. 5 FOOT CANDELE.
 - GATES TO BE BUILT WITH 3/4" X 3/4" SQUARE STEEL TUBING WITH ALL JOINTS FULLY WELDED TOGETHER AND 1 CROSS MEMBER PER GATE. FRAME TO BE PRIMED AND PAINTED PER PLAN.



TRASH ENCLOSURE MATERIALS				
ID	MATERIAL	MANUFACTURER	COLOR	NOTES
3A	CMU BLOCK	BASALITE	490	SPLIT FACE, 8x16x8, 8x8x8 AS NECESSARY
3B	CMU CAP	BASALITE	490	12x16x2
PT-1	PAINT	SHERWIN-WILLIAMS	GP-0824	DUTCH BROS GRAY, GATES BODY
PT-2	PAINT	SHERWIN-WILLIAMS	GP-0942	DUTCH BROS BLUE, GATE FRAMES & POSTS

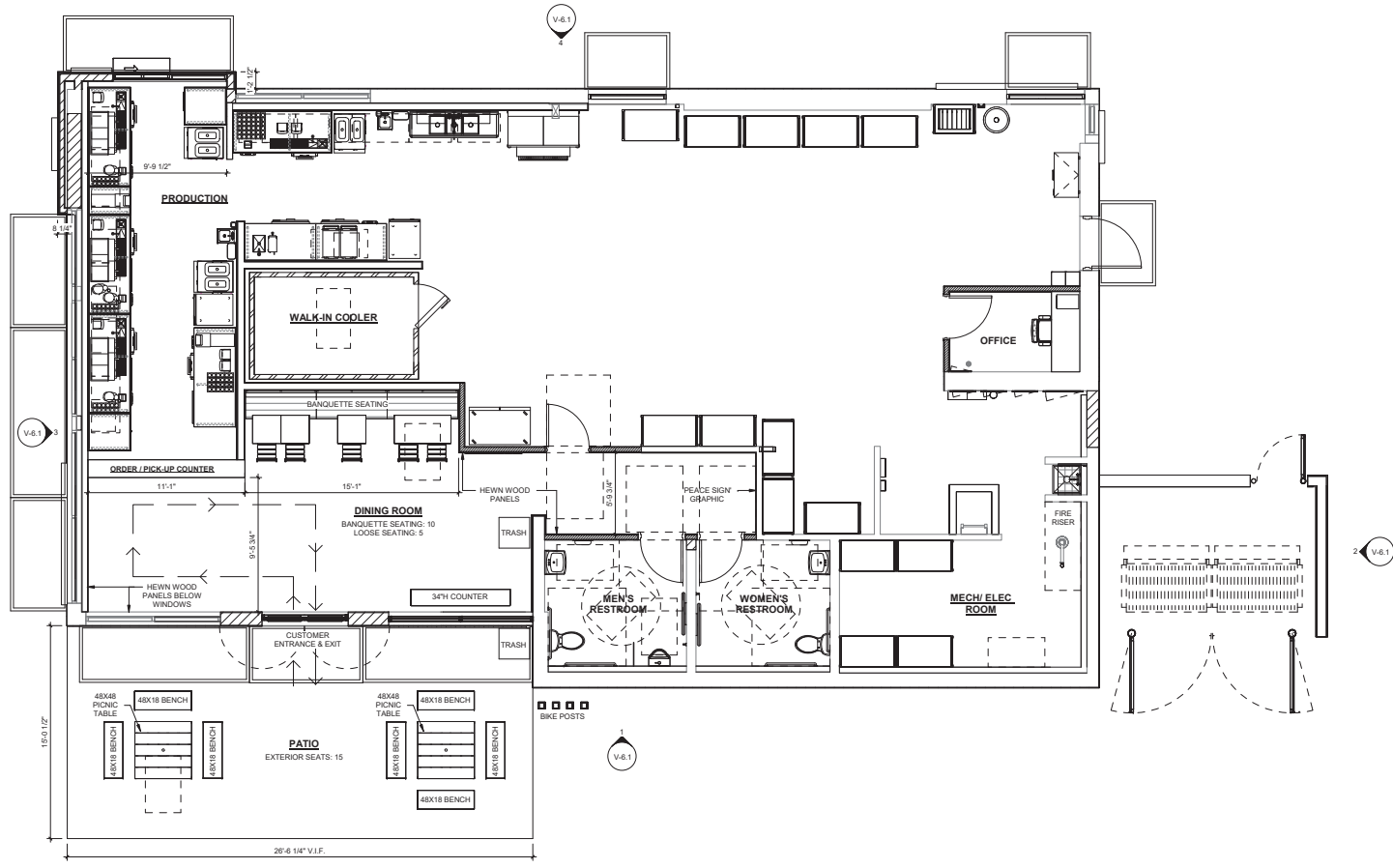
NOT FOR CONSTRUCTION



1 TRASH ENCLOSURE PLAN
1/2" = 1'-0"

SHEET NAME:
PROPOSED TRASH ENCLOSURE PLAN/ELEVATIONS

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1 EQUIPMENT PLAN
 1/4" = 1'-0"



CA
CHIPMAN DESIGN ARCHITECTURE INC.
 1330 E. TOWNY AVE
 FIRST FLOOR EAST
 DES PLAINES, IL 60018
 TEL: 847.298.6900

I HEREBY CERTIFY THAT THESE PLANS HAVE BEEN PREPARED UNDER MY SUPERVISION AND THAT TO THE BEST OF MY KNOWLEDGE, THEY COMPLY TO APPLICABLE LAWS, RULES, REGULATIONS AND ORDINANCES OF THE STATE OF ILLINOIS RELATING TO STRUCTURES AND BUILDINGS.

CASE ENGINEERING INC.
 796 MERUS CT. FENTON, MO 63026
 T: 636.349.1400
 CASEENGINEERINGINC.COM

BOHLER ENGINEERING
 4100 REGENT STREET, SUITE M COLUMBUS, OH 43219
 T: 380.800.4004
 BOHLERENGINEERING.COM

Project No: IL0401
 Dutch Bros Coffee - Conversion Store
 80 McHenry Rd, Buffalo Grove, IL 60089
 For: Dutch Bros Coffee
 300 W. 14th St, Des Moines, IA 50321
 Temp: AL 68281
 DB25.5030-A1

A1 PROTOTYPE - 06/27/25
 ISSUED FOR LANDLORD REVIEW:

09.17.2025

REV. DATE	DESCRIPTION

SHEET NAME:
EQUIPMENT PLAN
 DRAWN BY: JLC
 CO
 CHECKED BY: MWM
 SHEET NUMBER:

V-1.0
 © 2025 Chipman Design Architecture, Inc.



Site ID
IL0401

Site Address
80 McHenry Rd,
Buffalo Grove IL 60056

Date
09-25-2025

Revision
03

As the Owner/Lessor/Mortgage or Security interest holder, I hereby acknowledge and accept the installation of signs as illustrated within the renderings shown within this brand proposal. By signing below I consent to the installation of signs at the premises and property address listed within this brand proposal and acknowledge that I have reviewed all details of this brand proposal in its entirety.

Signature of (Owner/Lessor/Mortgage or Security Interest Holder)

Print Name

Date

CODE RESEARCH FORM		Property ID:	
A.) Project Name:	Dutch Bros	Date Completed:	2/14/25
B.) Street Address:	80 McHenry Rd	Typical Sign Package allowed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
G.) City/Town of:	Buffalo Grove	State:	IL
		Zip:	60056
		Budget:	
H.) Zoning/Category:	Village of Buffalo Grove IL - Zone: B-5 - Town Center Business District		
WALL SIGNS		Typical Sign Package allowed?	
1.) Formula for square ft (Max. Sq. Ft. - Main ID & Secondary signs):	NTE a total area of 3 sq ft of copy for each lineal foot of occupant's store frontage or that area of copy permitted in Section 14.16.070, whichever is the lesser.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Wall signs (14.16.070)</p> <p>The following provisions apply to all wall signs except those provided for in Section 14.16.060:</p> <p>A. Sign area refers to the area of the background of the sign with the exception of individual letters. The letters must fit into a rectangle with the length of the rectangle being not greater than one-third of the occupants store frontage, and the height of the rectangle being not greater than one-half of the portion of the building above the lintel.</p> <p>1. CATEGORY 1: Where a business has no ground or roof sign on the same premises, 33% of the wall sign background may be used for copy of enclosed sign;</p> <p>2. CATEGORY 2: Where a business has its own ground sign but no roof sign, 20% of the wall sign background area may be used for copy of enclosed sign.</p> <p>B. Where individual mounted letters are used without a sign background, the foregoing percentages will apply, but will be computed on the area of the total facade between the lintel and the floor level of the floor above a multi-storied building.</p> <p>C. The frontage factor is relative to each tenant's building frontage facing each public right-of-way, excluding alleys and service ways.</p> <p>D. Premises fronting on more than one public right-of-way may not combine permissible signs for one frontage with another frontage for the purpose of placing the combined area of signs on one frontage.</p> <p>E. Each business is permitted one wall sign over their primary entrance when a building does not face public right of way. Corner units may be allowed a second wall sign along the frontage perpendicular to the primary entrance. The second wall sign shall not be larger than the wall sign located over their primary entrance.</p>			
2.) Sq Ft for sides/rear:	see above and below		
3.) Transferrable allowances?	no		
4.) # allowed:	1 per parcel / Bus with frontages exceeding 300 LF may be allowed up 3 (see notes below)		
<p>One wall sign for each occupancy within the developed parcel. Businesses with frontages exceeding 300 lineal feet may be allowed up to a total of 3 wall signs however the total area for all three signs combined shall not exceed the maximum allowable sign area. Such signs shall not exceed a total area of 300 sq ft of copy for each lineal foot of occupant's store frontage or that area of copy permitted in Section 14.16.070, whichever is the lesser. If such occupancy is a corner unit, one additional wall sign will be permitted. For buildings with single occupancy that face multiple public rights of way, an additional wall sign shall be permitted per frontage. If the building includes a canopy, each occupant will be permitted one canopy sign in conformity with Section 14.16.080.</p> <p>Sign area refers to the area of the background of the sign with the exception of individual letters. The letters must fit into a rectangle with the length of the rectangle being not greater than one-third of the occupants store frontage, and the height of the rectangle being not greater than one-half of the portion of the building above the lintel.</p>			
5.) Calculation Method:			
6.) Max. Overall Height:	illumination: permitted - no flashing, blinking, animation or glare		
7.) Special Wall sign codes-this property:			
8.) Other:			
FREESTANDING SIGNS		Typical Sign Package allowed?	
1.) Formula for square ft (Max. Sq. Ft. - Main ID & Secondary signs):	The maximum area of a ground sign shall not exceed 120 square feet for each face of a double-faced sign or for the sole face of a single-faced ground sign. The maximum permitted area of ground signage for a given parcel shall be determined as follows. For parcels with street frontage of less than 800 feet, one sign with a maximum area as set forth below for the first 300 feet of street frontage or actual street frontage if less than 300 feet. For parcels with street frontage of 800 or more, the maximum permitted area of ground signs shall be determined by dividing the total frontage abutting a developed parcel into a number of segments equal to the number of signs permitted under subsection A of this section. For each such segment of frontage, one ground sign may be erected with a maximum area as set forth below:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<p>Property Frontage (Lineal Feet) = Maximum Permitted Area of Sign (Square Feet)</p> <p>1—less than 200 = 60 sq ft</p> <p>200—less than 400 = 80 sq ft</p> <p>400—less than 600 = 100 sq ft</p> <p>600—less than 800 = 120 sq ft</p>		

2.) # allowed:	1 per permitted for each developed parcel unless provided otherwise in this Title; provided, that no such sign may be closer than one hundred fifty feet to any permanent ground sign within the Village on the same side of the street. One additional ground sign may be erected for each additional five hundred feet of street frontage in excess of the first three hundred feet of street frontage abutting the developed portion of said parcel	illumination	permitted
3.) Height Max:	No ground sign may exceed in height the distance measured from any portion of the sign to the nearest property line; provided, however, that the maximum height of any ground sign or sign structure shall be 15 feet from ground level or top of foundation whichever is less.	Grade-to-sign Clearance:	Where a ground sign projects over a vehicular traffic area, such as driveway or parking lot aisle, the minimum clearance between the bottom of the sign and the ground shall be 14 feet.
4.) Set-back:	No ground sign shall be located nearer than ten feet to the property line		
All ground signs are to be landscaped around the base in accordance with a landscape plan as approved by the Village			
DIRECTIONAL SIGNS		Typical Sign Package allowed?	
1.) # Allowed:	max of 2 for each driveway	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Directional signs shall be created with colors compatible with the building or structure.</p> <p>NO PERMIT REQUIRED IF: Directional or Incidental Signs. Signs which provide direction or instruction and are located entirely on the property to which they pertain, do not exceed 4 square feet in area, are not illuminated and do not have any electrical components. Examples of such signs are parking lot entrance and exit signs, signs identifying rest rooms, public telephones and walkways.</p> <p>"Directional sign" means any sign which serves solely to designate the location or direction to any place or area. Included in this group of signs are those designated to guide or direct pedestrians or vehicular traffic to an area or place on the premises of a business building or development by means of a directory designating names and addresses only.</p>			
2.) Max. SqFt:	4 sq ft each	Max. Height:	4'
3.) Permit required?:	no	Set-back:	
MENU SIGNS		Typical Sign Package allowed?	
1.) # Allowed:	NOT ADDRESSED IN CODE - SUBMIT FOR REVIEW	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.) Max. SqFt:		Max. Height:	
3.) Permit required?:		Other:	
WINDOW SIGNS		Typical Sign Package allowed?	
1.) # Allowance (or Formula for square ft):	no window surface shall be covered by any type of window sign regardless of the material, in excess of 40% of the total window surface area of each elevation.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.) Max. SqFt:	40% of window area	Max. Height:	
3.) Permit required?:	Not required if under 4sf	Other:	
A-FRAME SIGNS			

A-FRAME SIGNS	
1.) # Allowed:	<p>Portable signs.</p> <p>Portable signs are permitted subject to the following requirements:</p> <p>A. A permit is required for a Portable sign which permit shall be for a period not to exceed one year. The permit is renewable as approved by the Administrator.</p> <p>B. A Village permit is subject to approval from the property manager and/or property owner.</p> <p>C. A Portable sign shall be permitted only in the business zoned districts as set forth in the Village's Zoning Ordinance.</p> <p>D. Portable signs shall be placed on private property subject to the property owner's approval and shall be placed adjacent to the building. If placed on private sidewalk, the sign shall not reduce the open portion of any sidewalk to less than 36 inches and shall not interfere with any accessible route.</p> <p>E. One Portable sign shall be permitted per business establishment. An additional Portable sign shall be permitted if the front elevation of the business exceeds 300 feet. A Portable sign shall only be displayed during business hours and must be removed at the close of each business day.</p> <p>F. A Portable sign shall not exceed 4 feet in height and the sign area shall not exceed 6 square feet per sign face with a maximum of 2 faces per sign.</p> <p>G. Portable signs shall be properly mounted for safety purposes.</p> <p>H. Portable signs shall be professionally created and weather resistant.</p>
2.) Permit required?: Yes	Other:
Miscellaneous Notes	
<p>TEMP BANNERS / SIGNS: Signs for events, which include but are not limited to banners, pennants, searchlights, balloons or other gas filled figures, are subject to the following requirements:</p> <p>A. A permit from the Village is required for Signs for events.</p> <p>B. Landlord approval is required for all Signs for event on leased properties.</p> <p>C. A maximum of 4 events per business are permitted for a maximum of 60 days total annually for each developed parcel.</p> <p>D. The size of a Sign for event sign shall be limited to no greater than 4 x 8 feet or 32 square feet in area.</p> <p>E. Signs in excess of 32 square feet in area may be erected in promotion of a public parade, public event or public celebration for a period not to exceed 15 days. Signs shall require a permit and shall be approved by the Administrator. Signs shall be removed no more than 2 days after the event.</p> <p>F. Balloons may be utilized but not aggregated or grouped together in excess of 27 cubic feet and in no event shall have a cross-sectional dimension greater than 3 feet.</p> <p>G. Event banners shall be counted against any signs/banners allowed per the applicant's Amusement Activity application as set forth in Chapter 5.08 of this Code.</p>	
PRE-PERMIT SIGN INFO - Notes, continued	
<p style="text-align: right;">Property ID: 0</p>	
<p>Village of Buffalo Grove 50 Raupp Blvd, Buffalo Grove, IL 60089 Contact: Andrew Binder 847-459-2530 / abinder@vbg.org typically 5 business days for review SEDs may be required all contractors must be registered with the Village prior to permit issuance Wall & Ground: NON-Illum: \$125 / Illum: \$200 / Temp signs: \$75-\$85 / Construction sign: \$125</p> <p>VARIANCES: Takes 2-3 months Permit requirements for submittal: 1. Name and address of the owner of the sign; cost of the sign, sign dimensions and names, address and telephone numbers of contractors. 2. Clear and legible drawings with description definitively showing location of the sign which is the subject of the permit and all other existing signs whose construction requires permits, when such signs are on the same premises or zoning lot; 3. Drawings showing the dimensions, colors, construction supports sizes, electrical wiring and components, materials of the sign and method of attachment and character of structural members to which the attachment is to be made. The design, quality, materials and loading shall conform to the requirements of the Village. If required, engineering data shall be supplied on plans submitted and certified by a duly licensed engineer;</p>	

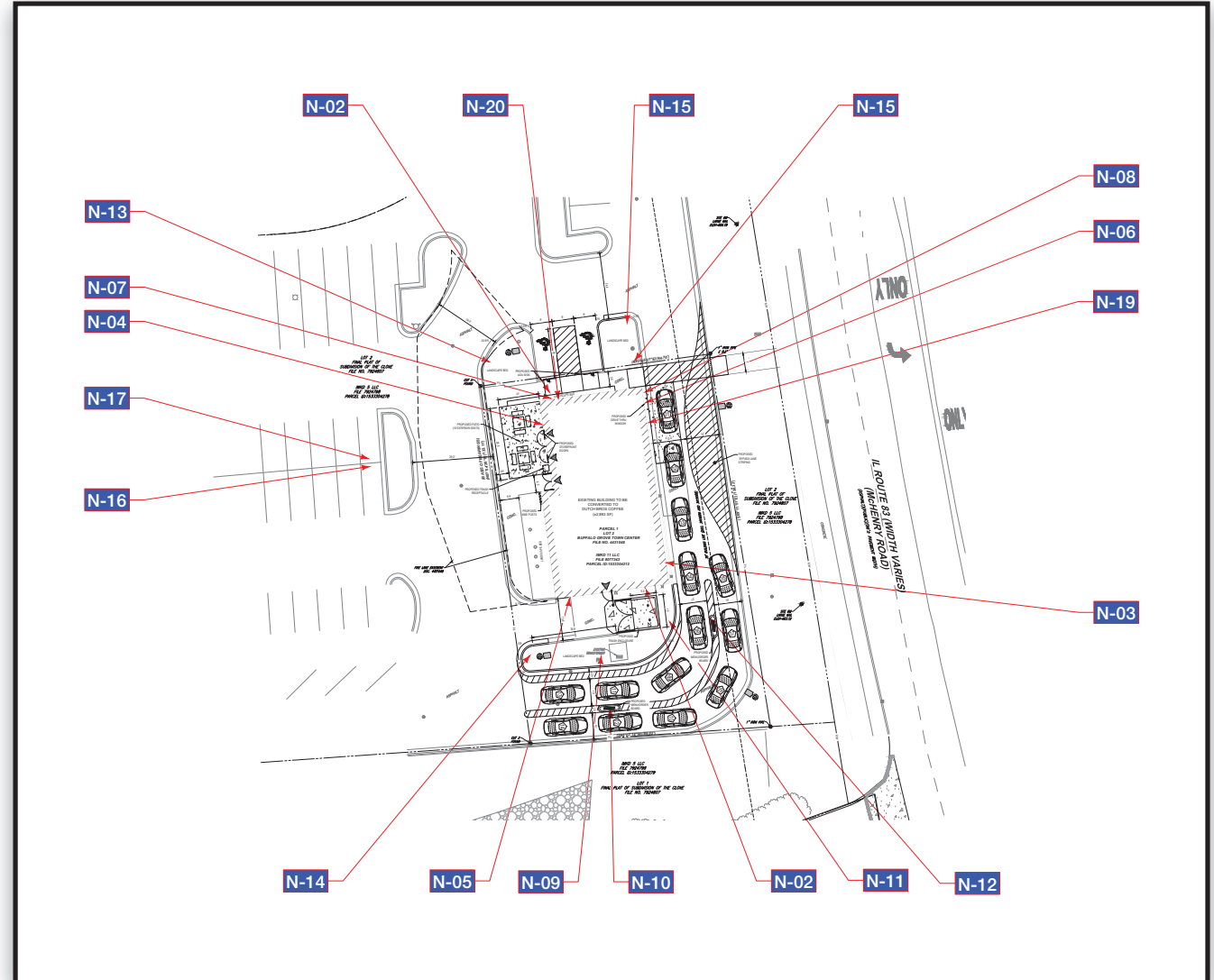
SITE PLAN

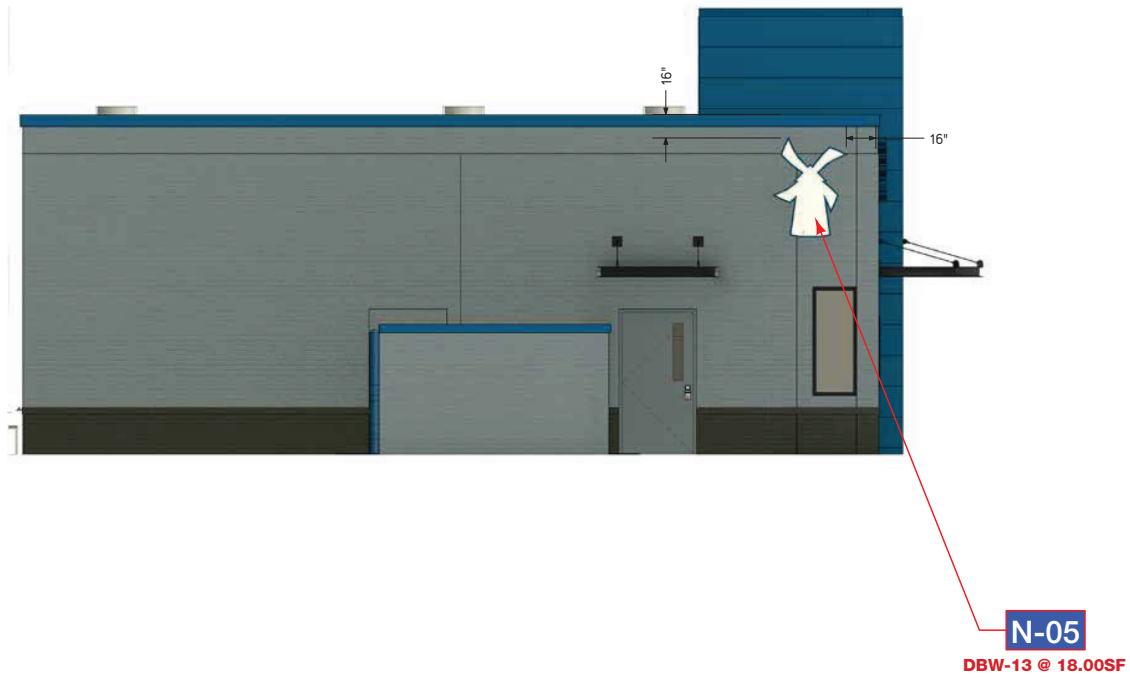
SIGN GUIDE

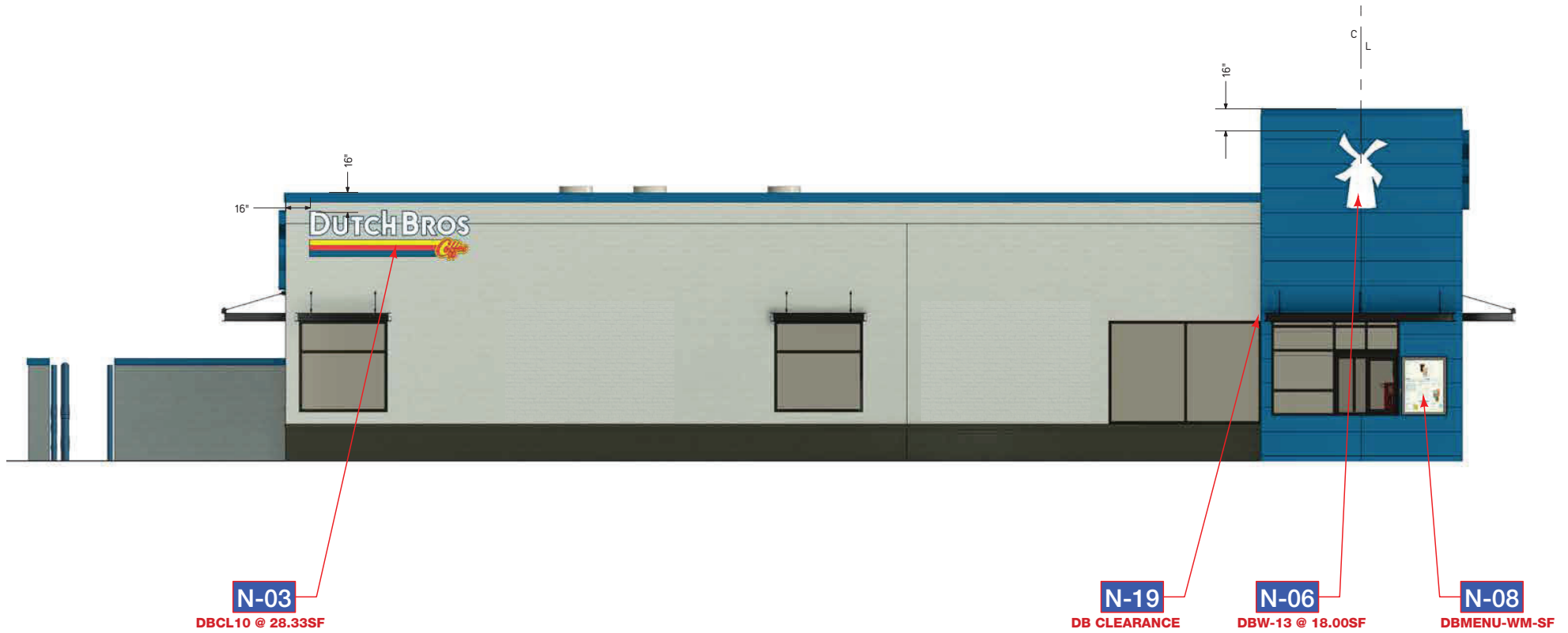
PROPOSED SIGNS

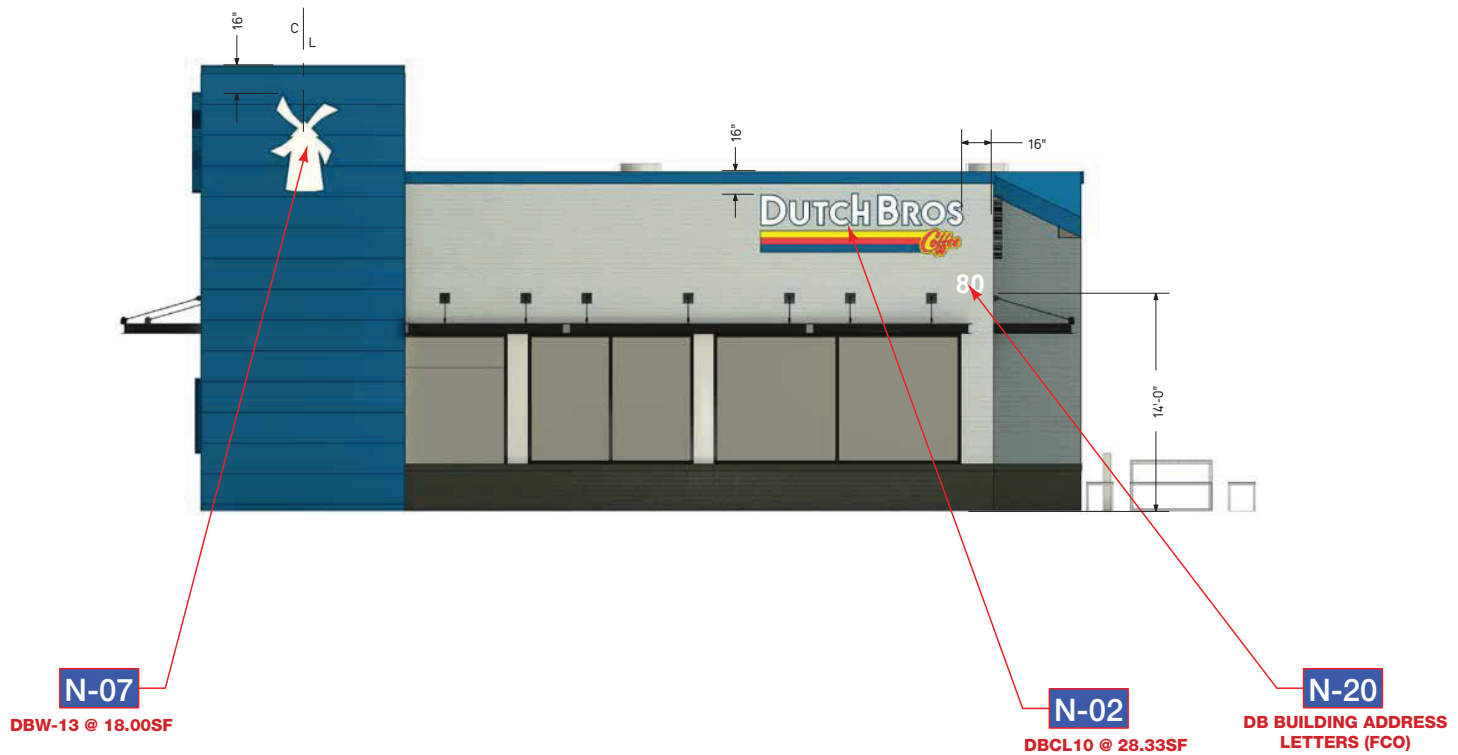
KEY	RECOMMENDED SIGN	SQUARE FOOTAGE
E-01	CUSTOM TENANT PANEL	TBD
N-02	DBCL10	28.33
N-03	DBCL10	28.33
N-04	DBCL10	28.33
N-05	DBW13	18.4
N-06	DBW13	18.4
N-07	DBW13	18.4
N-08	DBMENU-WM	10.70
N-09	DBMENU-PM-SF	10.70
N-10	DBMENU-PM-SF	10.70
N-11	DBMENU-PM-SF	10.70
N-12	DBMENU-PM-SF	10.70
N-13	DBDIR-DT-SF	2.0
N-14	DBDIR-DT-SF	2.0
N-15	DBDIR-EO-DF	2.0
N-16	MOBILE ORDER SIGN	1.5
N-17	MOBILE ORDER SIGN	1.5
N-18	YIELD SIGN	3.5
N-19	DB CLEARANCE	.75
N-20	ADDRESS NUMERALS (80)	1.49

SITE PLAN



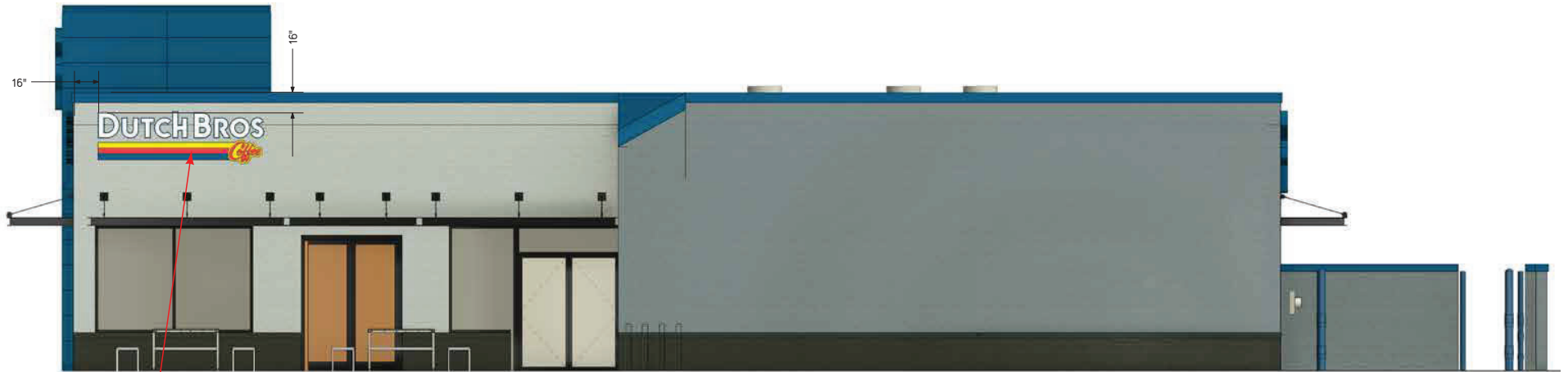






WEST ELEVATION

DUTCH BROS
80 McHenry Rd, Buffalo Grove IL 60056



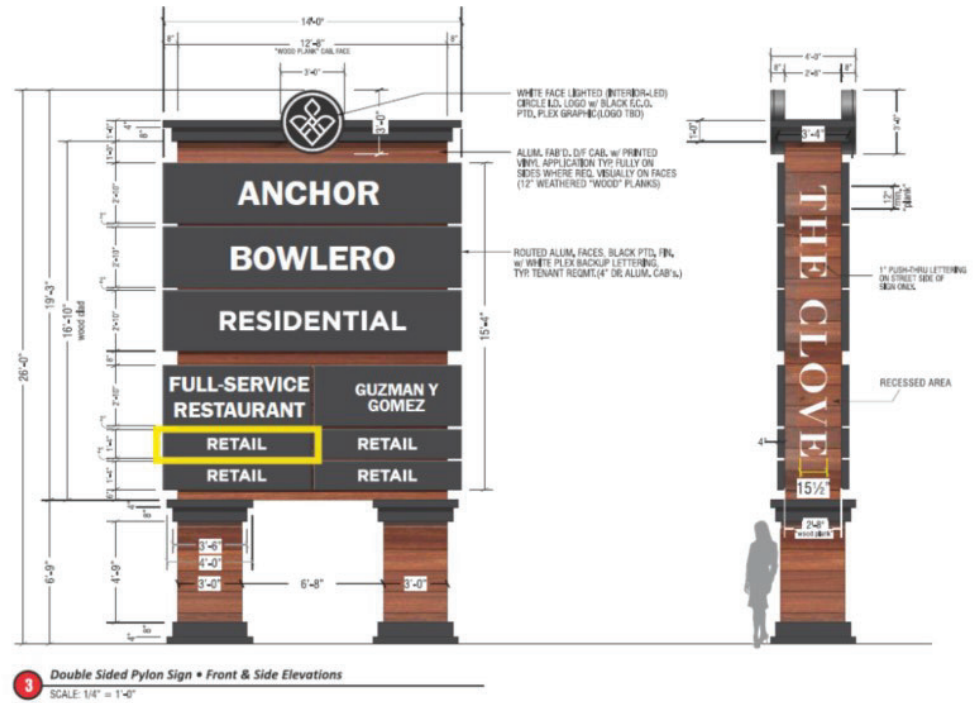
N-04

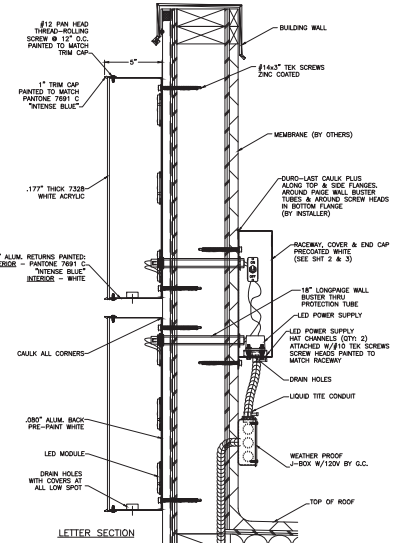
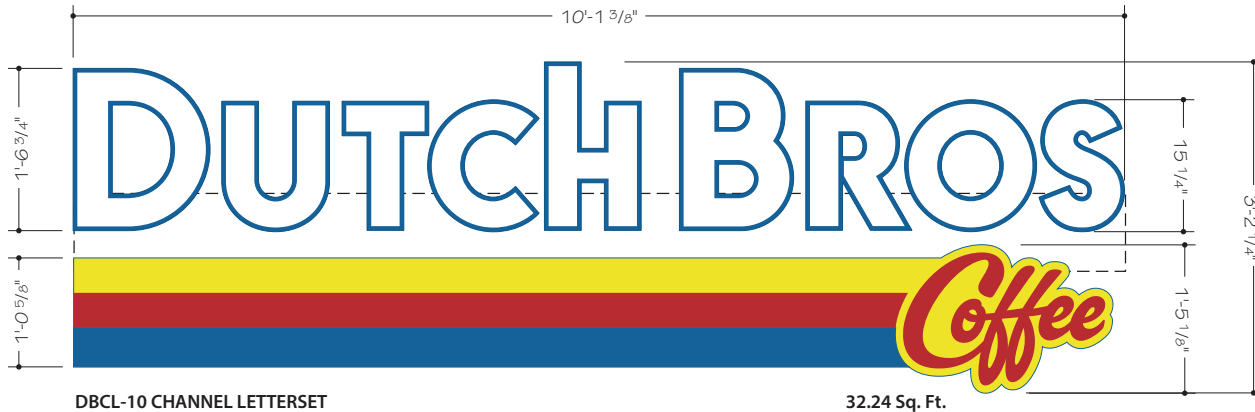
DBCL10 @ 28.33SF

CUSTOM TENANT PANEL

COLOR CODE

WHITE





- Face Lit Flush Mount Channel Letters Returns & Trimcap painted to match Pantone 7691 C "Intense Blue"
- Letter 7328 White Acrylic Faces w/ 230-127 Intense Blue Outline
- Coffee Logo 7328 White Acrylic Faces w/ 230-127 Intense Blue / PSV 230-015 Yellow PSV, 230-33 Red PSV Vinyls
- LED illumination

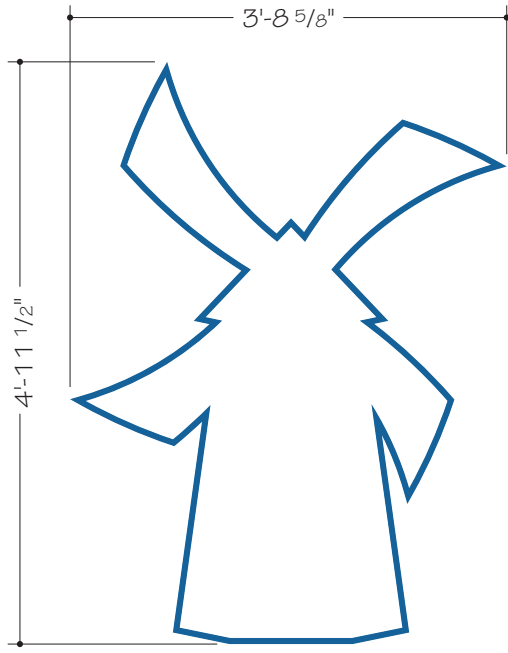
COLOR CODE

- 230-015 YELLOW PSV
- 230-33 RED PSV
- 230-127 INTENSE BLUE PSV
- WHITE

NOTE: (if applicable)



Typical



DBW-13 WINDMILL

18.4 Sq. Ft

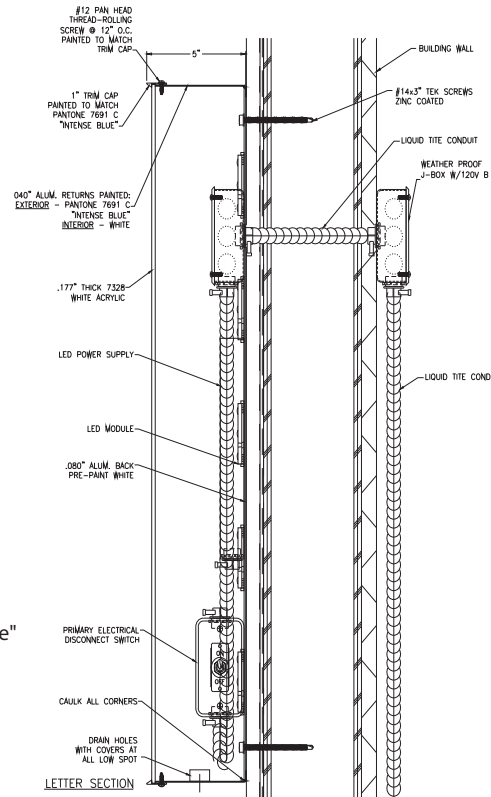


Side View

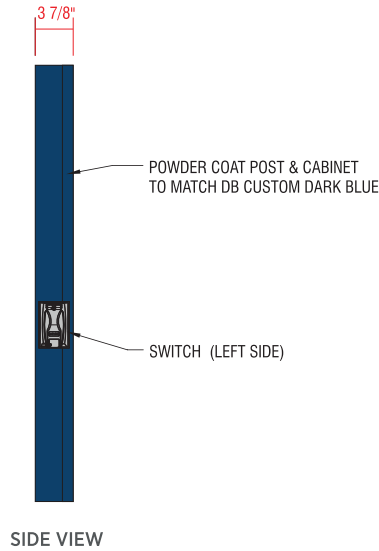
- Face Lit Flush Mount Channel Logo Returns & Trimcap painted to match pantone 7691 C "Intense Blue"
- Letter 7328 White Acrylic Faces w/ 230-127 Intense Blue Outline
- LED illumination

COLOR CODE

230-127 INTENSE BLUE PSV



Typical



Typical

DBMENU-WM

WALL-MOUNTED BACK-LIT MENU SIGN

- Printed menu panel not included
- LED outdoor light box
- Lockable hinged door
- Aluminum construction

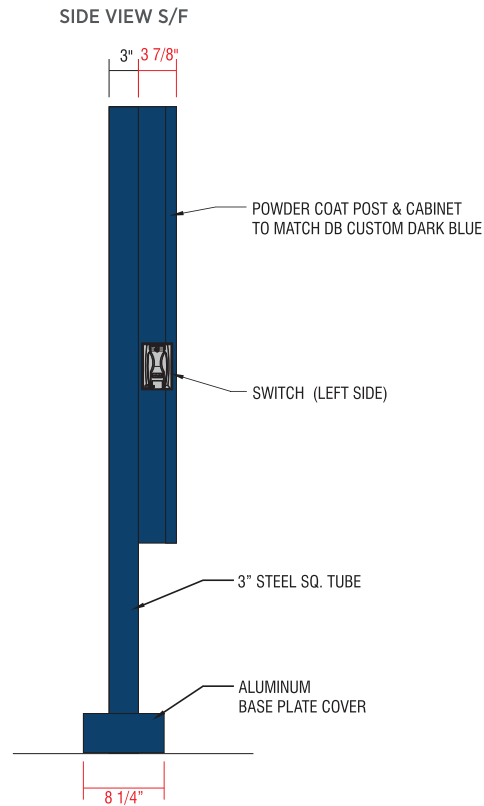
COLOR CODE



DIGITAL PRINT



POWDER COATED
DB CUSTOM DARK BLUE



DBMENU-PM-SF

FREESTANDING BACK-LIT MENU SIGN

- Printed menu panel not included
- LED outdoor light box
- Lockable hinged door
- Aluminum construction
- Assemble post & menu
- Footing installed by G.C.

COLOR CODE

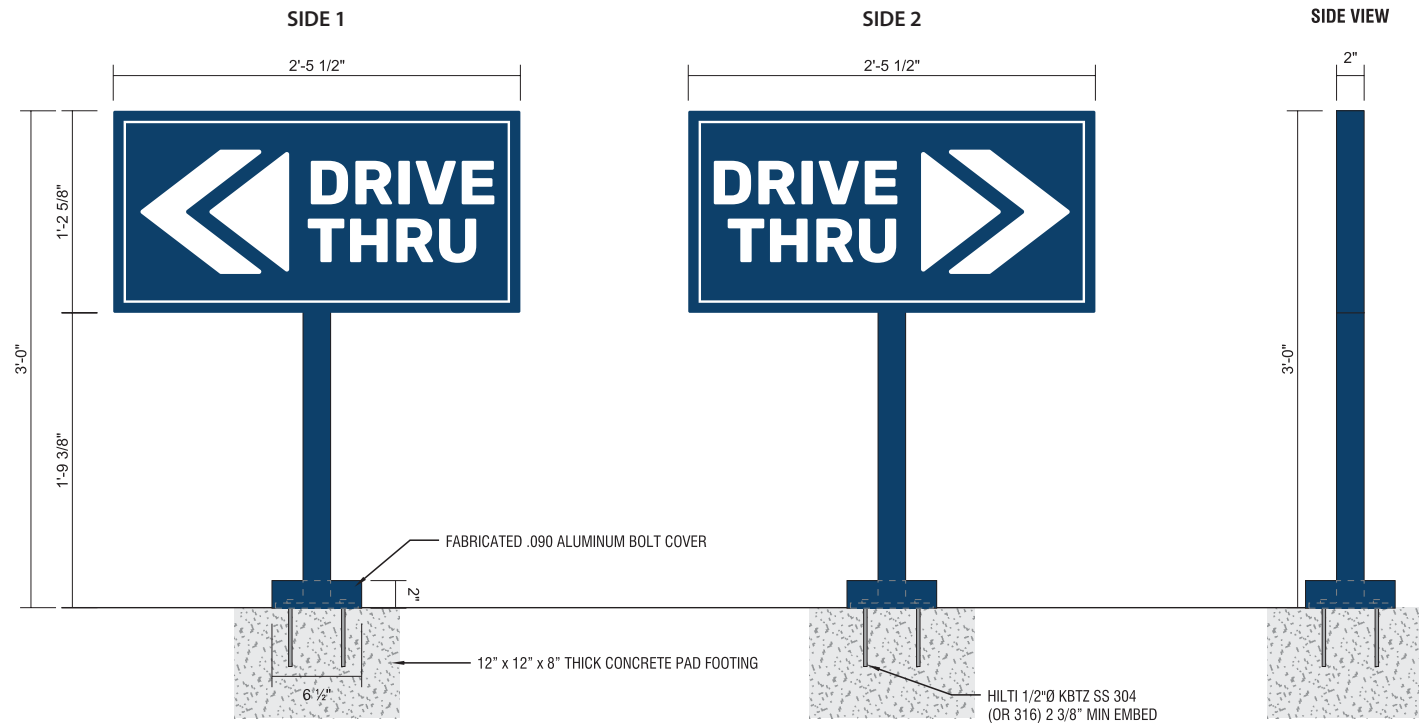


DIGITAL PRINT



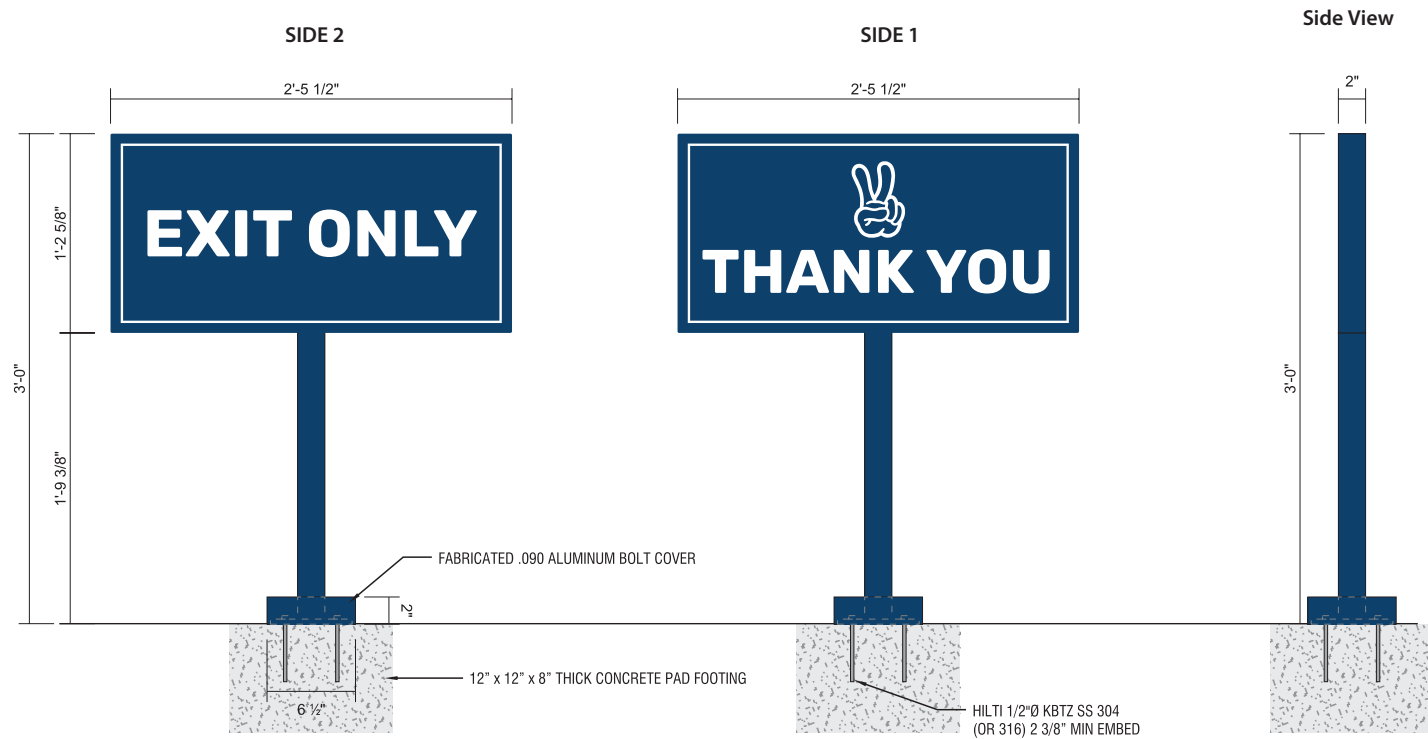
**POWDER COATED
DB CUSTOM DARK BLUE**

DBDIR-DT-DF



- Diamond grade reflective white vinyl with digitally printed PMS 541 C blue background
- 2"x2" square tube aluminum frame & post with aluminum faces & 3/8" x 6" x 6" plate
- Paint PMS 541 C
- Install plate-mount sign with Hilti Kwik bolts
- Pad footing install by GC

DBDIR-EO-DF

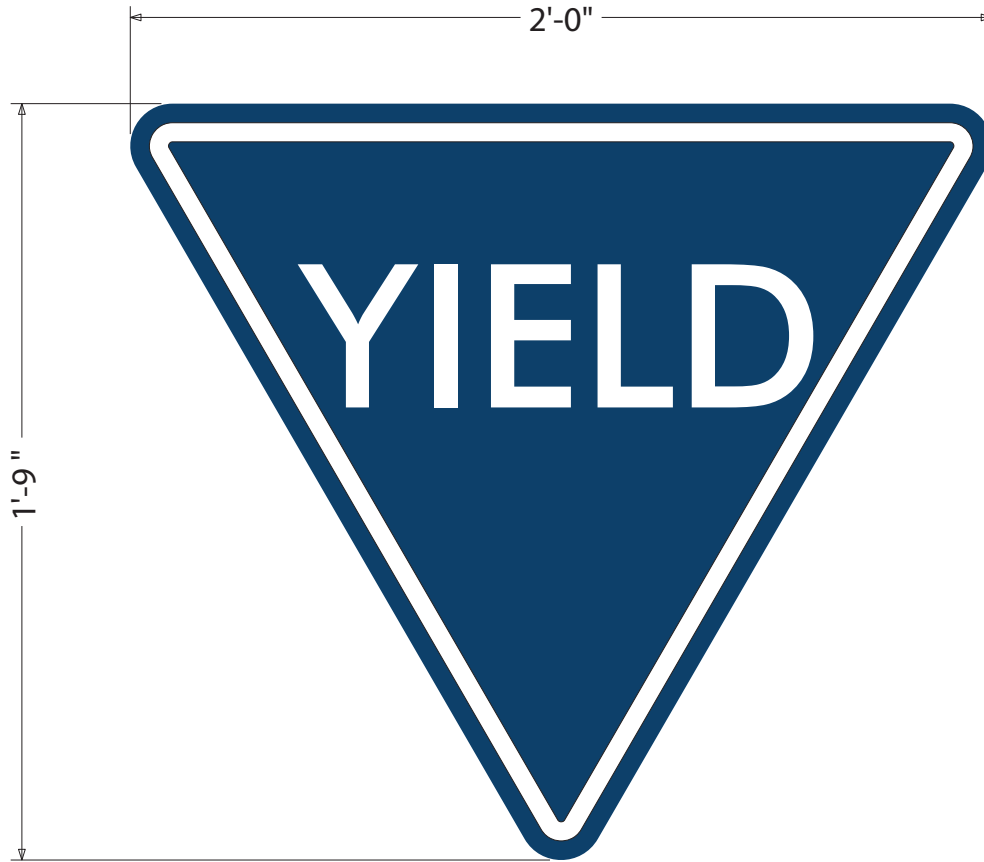


- Diamond grade reflective white vinyl with digitally printed PMS 541 C blue background
- 2"x2" square tube aluminum frame & post with aluminum faces & 3/8" x 6" x 6" plate
- Paint PMS 541 C
- Install plate-mount sign with Hilti Kwik bolts
- Pad footing install by GC



12" X 18" ALUMINUM OR ACM SIGN BLANK WITH 1 1/2" RADIUS CORNERS
DIAMOND GRADE REFLECTIVE WHITE VINYL WITH DIGITALLY PRINTED GRAPHICS & MATTE FINISH OVERLAM

G.C. TO MOUNT TO EXISTING SIGN POST



Corners - Standard Federal Radius

Finish - Reflective

Hole Diameter - 3/8 "

Hole Placement - Top and Bottom Centered

Hole Qty - 2

Vinyl Color - 230-127 INTENSE BLUE

Material - Aluminum .080

DB CLEARANCE

AWNING-MOUNTED CLEARANCE SIGN

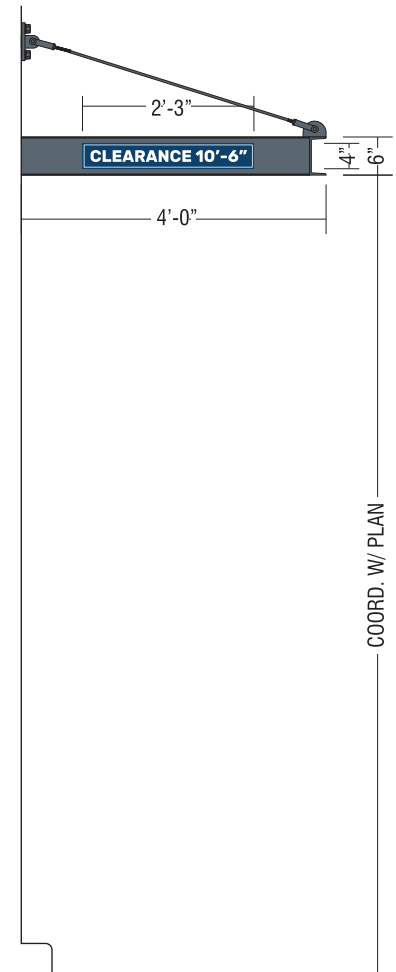
COLOR CODE

- REFLECTIVE WHITE PSV
- DB CUSTOM DARK BLUE

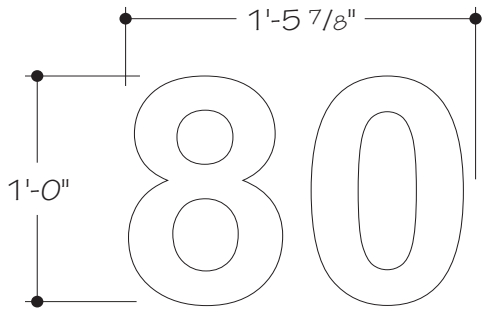


- 3mm ACM sign panel painted DB Custom Dark Blue
- White reflective vinyl copy & border (numbers shipped loose & field applied).
- Mount directly to aluminum awning drive-thru entrance side
- with exterior grade 3M VHB tape.

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

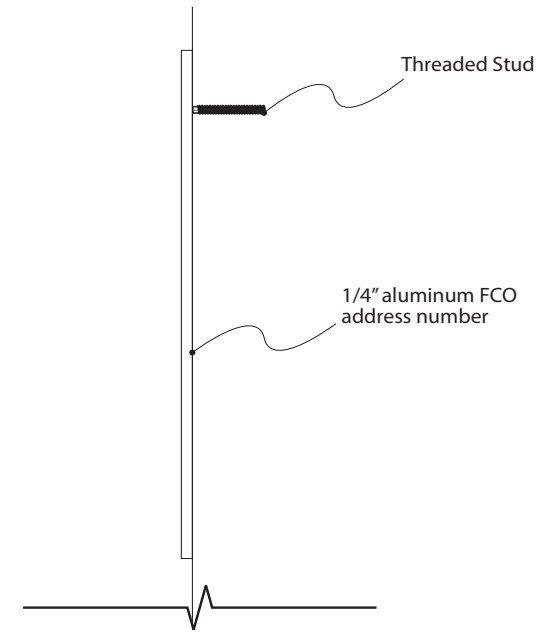


DB BUILDING ADDRESS LETTERS (FCO)

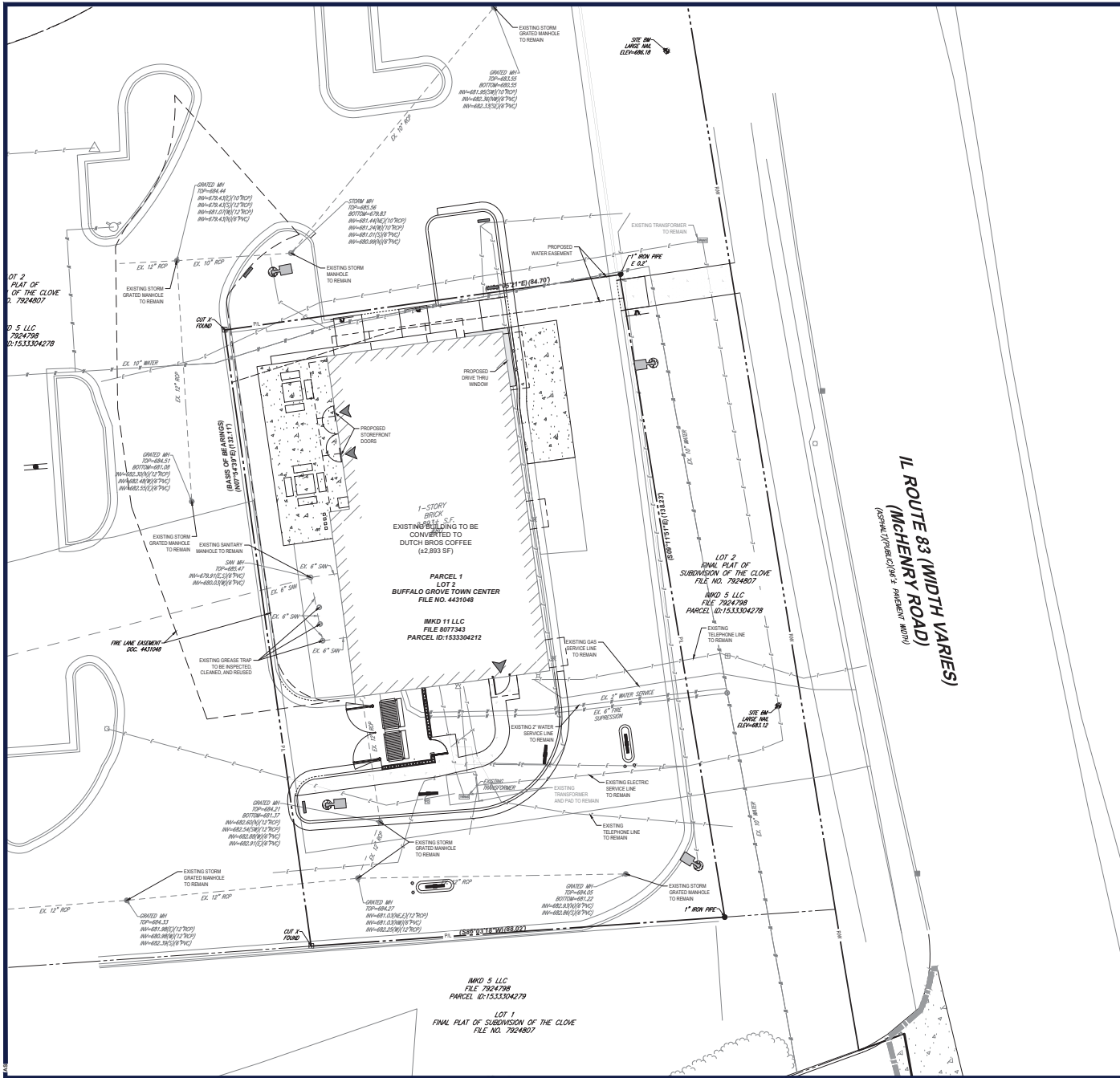


- Painted satin white with reflective white vinyl (1st surface)
- Numerals 1/4" thick aluminum
- Arial Bold font

1234567890



SIDE VIEW



EXISTING LEGEND	
CONTOUR	--- 123 ---
SPOT ELEVATION	x 100
EDGE OF PAVEMENT ELEVATION	x @ 104
TOP OF CURB ELEVATION	x @ 104
GUTTER ELEVATION	x @ 104
TOP OF WALL ELEVATION	x @ 104
BOTTOM OF WALL ELEVATION	x @ 104
TOP OF ISLAND ELEVATION	x @ 104
BOTTOM OF ISLAND ELEVATION	x @ 104
HYDRANT	⊕
FIRE DEPARTMENT CONNECTION	⊕
WATER VALVE	⊕
GAS VALVE	⊕
OVERHEAD WIRES	— 0 — 0 —
APPROX LOC UNDERGROUND CABLE LINE PER UTILITY MARKOUT	— C — C —
APPROX LOC UNDERGROUND ELEC LINE PER UTILITY MARKOUT	— E — E —
APPROX LOC UNDERGROUND FIBER OPTIC LINE PER UTILITY MARKOUT	— F — F —
APPROX LOC UNDERGROUND GAS LINE PER UTILITY MARKOUT	— G — G —
APPROX LOC UNDERGROUND SEWER LINE PER REF	— S — S —
APPROX LOC UNDERGROUND TEL LINE PER UTILITY MARKOUT	— T — T —
APPROX LOC UNDERGROUND WATER LINE PER UTILITY MARKOUT	— W — W —
APPROX LOC UNDERGROUND STORM SEWER LINE PER REF	— ST — ST —
LIMITS OF FLOORPLAN	— P — P —
FLARED END SECTION	⊕
UTILITY POLE	⊕
TRAFFIC SIGNAL	⊕
MONITORING WELL	⊕
ELECTRIC METER	⊕
ELECTRIC BOX	⊕
TRANSFORMER	⊕
SANITARY MANHOLE	⊕
TELEPHONE MANHOLE	⊕
ELECTRIC MANHOLE	⊕
WATER MANHOLE	⊕
STORM DRAIN MANHOLE	⊕
WATER METER	⊕
GAS METER	⊕
ROOF DRAIN	⊕
SIGN	⊕
MAIL BOX	⊕
BOLLARD	⊕
U-BOLLARD	⊕
METAL GUARDRAIL	⊕
FENCE	⊕
LANDSCAPED AREA	LSA
AREA LIGHT	⊕
CLEAN OUT	⊕
PAINTED ARROWS	⊕
TITLE REPORT EXCEPTION	⊕
DENOTES PARKING SPACE COUNT	⊕
BENCHMARK	⊕
UTILITY POLL LIGHT POLE	⊕
STREET LIGHT	⊕
GUY WIRE	⊕
TRAFFIC SIGNAL POLE	⊕
TREE LINE	⊕
TREE (SIZE AS NOTED)	⊕
PROP CORNERS TO BE SET	⊕
BORING LOCATION	⊕
WETLANDS	⊕



THIS PLAN TO BE UTILIZED FOR UTILITIES PURPOSES ONLY

BOHLER
 SITE CIVIL AND CONSULTING ENGINEERING
 PROGRAM MANAGEMENT
 LANDSCAPE ARCHITECTURE
 PLANNING SERVICES
 PERMITTING SERVICES
 TRANSPORTATION SERVICES

REVISIONS		
REV	DATE	COMMENT

LITL
 CIVIL & SURVEYING
 YOU MUST CALL IN BEFORE ANY EXCAVATION
 WITHIN THE 100 FEET BUFFER ZONE OF PUBLIC LAND

PROJECT No.: CHA25005-00-04
 DRAWN BY: ACS/SSJ
 CHECKED BY: BJS
 DATE: 8/20/2025
 CAD ID: P-CIVIL-LITL

SITE PLAN
 FOR
Dutch Bros
 PROPOSED DEVELOPMENT
 80 MCHEENRY ROAD
 BUFFALO GROVE, ILLINOIS 60089

BOHLER
 4100 REGENT STREET, SUITE M
 COLUMBUS, OH 43219
 Phone: (385) 800-4004
 www.BohlerEngineering.com

SHEET TITLE:
UTILITY PLAN

SHEET NUMBER:
C-501

ORG. DATE: 6/30/2025

October 28, 2005

Andrew Binder – Associate Planner
Community Development Department
Village of Buffalo Grove
50 Raupp Blvd
Buffalo Grove, IL 60089
ABinder@vbg.org

RE: The Clove Mixed Use Development Storm Water

Mr. Binder,

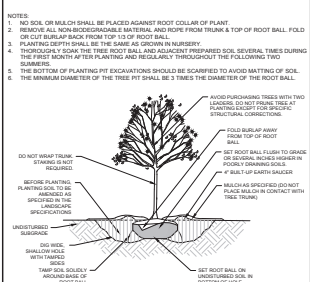
The original Buffalo Grove Town Center, prior to demolition, included approximately 17.84 acres of impervious surface area. Based on our final engineering plans, The Clove has been designed with 16.71 acres of impervious area. This results in a net reduction of approximately 1.13 acres. Given this reduction, we believe the additional 0.02 acres of impervious area requested by Dutch Bros can be reasonably accommodated within the overall decrease from the original development.

Should you have any questions please feel free to reach out.

Sincerely

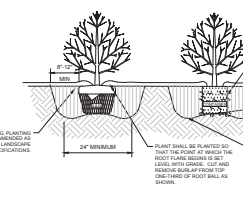


Daniel Rea – IMKD 5 LLC

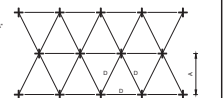


DECIDUOUS TREE PLANTING

BIOBARRIER ROOT BARRIER



SHRUB PLANTING



GROUNDCOVER & ANNUAL SPACING

PERENNIAL AND GROUND PLANTING

LANDSCAPE SPECIFICATIONS

- SCOPE OF WORK:** THE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SOILING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE SPECIFIED BY THE GENERAL CONTRACTOR.
- MATERIALS:**
 - GENERAL:** ALL LANDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.
 - TOPSOIL:** NATURAL SOIL SHALL HAVE AN ORGANIC CONTENT NOT LESS THAN 1% A 4% RANGE BETWEEN 5.5 TO 7.1 IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLUSTERS.
 - LAWN:** LAWN AREAS SHALL BE SEEDS OR SEDGED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED WITHIN THE SOIL EROSION AND SEDIMENT CONTROL NOTES. FOR SOIL BED PREPARATIONS, REFER TO ITEM 8 BELOW.
 - SOIL:** SOIL MUST BE MOISTURE WET BEING SEEDS.
 - SOIL SHALL BE THOROUGHLY ROOTED, WEED AND DISEASE/FREE WITH A UNIFORM THICKNESS. SOIL INSTALLED ON SLOPES GRADIENTS 4:1 OR GREATER SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE BROADCASTED BROWN BARK MULCH. UNLESS OTHERWISE SPECIFIED, MULCH SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE BROADCASTED BROWN BARK MULCH. UNLESS OTHERWISE SPECIFIED, MULCH SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE BROADCASTED BROWN BARK MULCH.**
 - FERTILIZER:** FERTILIZER SHALL BE DELIVERED TO THE SITE AS SPECIFIED IN THE ORIGINAL UNFINISHED STANDARD BIDS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.
 - FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 0% PHOSPHORUS AND 0% POTASSIUM BY WEIGHT. FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.**
 - PLANT MATERIAL:**
 - ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1, LATEST EDITION, AS PUBLISHED BY AMERICAN HORT FORMERLY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION).
 - IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.
 - PLANTS SHALL BE LABELLED TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.
 - TREES WITH BRANCHES ON THE BARK, SIGN DISCOLORATION, DISRUPTION OR TRENCH CUTS OF LIMBS OVER 1/2" WHICH HAVE NOT BEEN COMPLETELY CALLED SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.
 - ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH. WELL DEVELOPED BRANCHES OR BRANCHES SHALL BE ALLOWED TO REMAIN UNLESS OTHERWISE SPECIFIED.
 - CALIPER MEASUREMENTS OF NURSERY-GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE NATURAL GRADE EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.
 - SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB AND NOT TO THE LONGEST BRANCH.
 - TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.
- GENERAL WORK PROCEDURES:**
 - CONTRACTOR TO USE THE INTERNATIONAL STANDARD IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED AS SPECIFIED HEREIN. THE WORK SHALL BE COMPLETED BY THE END OF EACH WORKDAY.
 - WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, STOCKPILED OR DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE REMOVED COMPLETELY FROM THE SITE.
- SITE PREPARATIONS:**
 - BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF AS ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.
 - ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DROUGHT.
 - CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.
- TREE PROTECTION:**
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DROP LINE OR 15 FEET FROM THE TRUNK OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.
 - A FORTY EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-VISIBILITY FENCING, OR APPROVED EQUIVALENT, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER AS INDICATED WITHIN THE TREE PROTECTION DETAIL.
 - WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.
 - AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.
- SOIL MODIFICATIONS:**
 - CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.
 - CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE CONTRACTOR DEPENDING ON SITE CONDITIONS.
 - THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHALL BE REVISIT DEPENDENT ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.
 - TO INCREASE SANDY SOILS' ABILITY TO RETAIN WATER AND NUTRIENTS, THROUGHOUT A FULL ORGANIC MATTER INTO THE TOP 6-12" USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.
 - TO INCREASE ORGANIC MATTER HEAVY CLAY OR SILT CLAY OR SILT BY ADDING COMPOSTED PEAT BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL DRYLUM COMPOST BARK (AND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY BE ADDED TO INCREASE DRAINAGE.
 - MOIST EXTREMELY SANDY SOILS (MORE THAN 80% SILT) BY ADDING ORGANIC MATTER AND/OR SILT. SWEET CLAY LOAM UP TO 30% OF THE TOTAL MIX.
- FINISHED GRADING:**
 - UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.
 - CONTRACTOR SHALL VERIFY THAT SLOPES FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1").
 - ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM GRADE WITH NO SLOPES THAT ARE SPECIFIED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.
 - ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.
- TOPSOILING:**
 - CONTRACTOR SHALL PROVIDE A SIX INCH (6") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AND LAWN AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE WITH A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.
 - ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF

- IT HAS NOT BEEN PROPERLY FENCED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE USED IN ALL PLANTING AREAS. THE AMOUNT AND WETTED LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.
- TOPSOIL SHALL BE SPREAD TO A MINIMUM OF SIX INCHES (6") ABOVE THE SUBGRADE. TOPSOIL SHALL BE SPREAD FROM EXCAVATION AND CULTIVATION SHALL BE EXPEDITED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TAKEN INTO THE TOP FOUR INCHES (4") OF TWO SPECIFIED QUANTITIES. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.
- ALL PLANTED TREES OR BRANCHES SHALL BE PREPARED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY UNINJURED OR DISEASED BRANCHING SHALL BE REMOVED.
- ALL PLANTING CONTAINERS, BASKETS AND NON-Biodegradable MATERIAL SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.
- POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PIT'S. UNLESS NECESSARY, ADJUSTMENTS ARE DIRECTED.**
- PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE AS SHOWN ON THE APPROVED LANDSCAPE PLAN MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS: THE PLANTING OF TREES, SHRUBS, VINES OR GRASS COVER SHALL OCCUR ON DURING THE FOLLOWING PLANTING SEASONS:**
 - PLANTS MARCH 15TH TO DECEMBER 15TH
 - LAWN AND MEADOW SEED MIXES: MARCH 15TH TO MAY 15TH OR BETWEEN AUGUST 15TH AND OCTOBER 15TH
- PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.**
- FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE, WITH TRANSPARENT BARK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY. THE RISK OF PLANT BEING IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:**
 - BETULA VARIETIES
 - CARPINUS VARIETIES
 - CRATAEGUS VARIETIES
 - NOELERSTERA VARIETIES
 - LIQUIDAMBAR STYRACIFLUA
 - LIRIODENDRON FLORIDANA
 - ZELKOVA VARIETIES
- PLANTING PIT'S SHALL BE DUG WITH LEVEL OR CONVEX BOTTOMS, WITH THE WIDTH THREE TIMES THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIX THOROUGHLY:**
 - 1 PART PLANT MIX
 - 1 PART COMPOSTED COV MANURE BY VOLUME
 - PLANT MIX PER GALLON PLANT
 - 2 TABLETS PER GALLON PLANT
 - 3 TABLETS PER GALLON PLANT
 - LARGER PLANTS 2 TABLETS PER 1/2 CALIPER OF TRUNK
- FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.**
- ALL PLANTS SHALL BE PLANTED SO THAT THE ROOT OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GRADE LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.**
- ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT 7' FROM GRADE. PRUNING SHALL BE CONDUCTED WITHIN THE FIRST YEAR OF PLANTING.**
- GROUND COVER AREAS SHALL RECEIVE A 1/2" LAYER OF HAY/STRAW RIGID TO THE TOP OF PREPARED SOIL FROM MANUFACTURER'S RECOMMENDATION.**
- ALL PLANTING AREAS AND PLANTING PIT'S SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.**
- ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.**
- TRANSPLANTING (WHEN REQUIRED):**
 - ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT. (SEE SPECIFICATION 2.F. ABOVE).
 - IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEADED IN MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.
 - PLANTS SHALL NOT BE DUG FOR TRANSPORT BETWEEN APRIL 15TH AND JUNE 30TH.
 - UPON REPLANTING, BACKFILL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.
 - TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.
 - IF TRANSPLANTS ARE SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY TREE REPLACEMENT GUIDELINES.
- WATERING:**
 - NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.
 - THE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BATS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.
 - IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.
- GUARANTEE:**
 - CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE GUARANTEE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.
 - ANY DEAD OR DRYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCESSFUL PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION. A PLANT SHALL BE CONSIDERED "DEAD OR DYING" IF MORE THAN 30% OF ITS BRANCHES ARE DEAD.
 - TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND UNTIL TURNOVER TO THE OWNER. CONTRACTOR SHALL MAINTAIN PLANTS THROUGHOUT CONSTRUCTION AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.
 - LAWN SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND UNTIL TURNOVER TO THE OWNER. CONTRACTOR SHALL MAINTAIN PLANTS THROUGHOUT CONSTRUCTION AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.
- CLEANUP:**
 - UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.
 - THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

REVISIONS			
REV	DATE	COMMENT	APPROVED BY

YOU MUST CALL IN BEFORE ANY EXCAVATION WITHIN THE DISTURBANCE AREA OF THIS PROJECT.

PROJECT NO.: CHA250026-00-A
 DRAWN BY: ACSS
 CHECKED BY: BAS
 DATE: 10/08/2023
 CAD ID: P-CIV-L10T

PROJECT: CIVIL SITE PLANS

FOR: DUCHBOOS

PROPOSED DEVELOPMENT
 80 MCHEERY ROAD
 BUFFALO GROVE, ILLINOIS 60089

4100 REGENT STREET, SUITE M
 COLUMBIANA, OH 43219
 Phone: (382) 800-4004

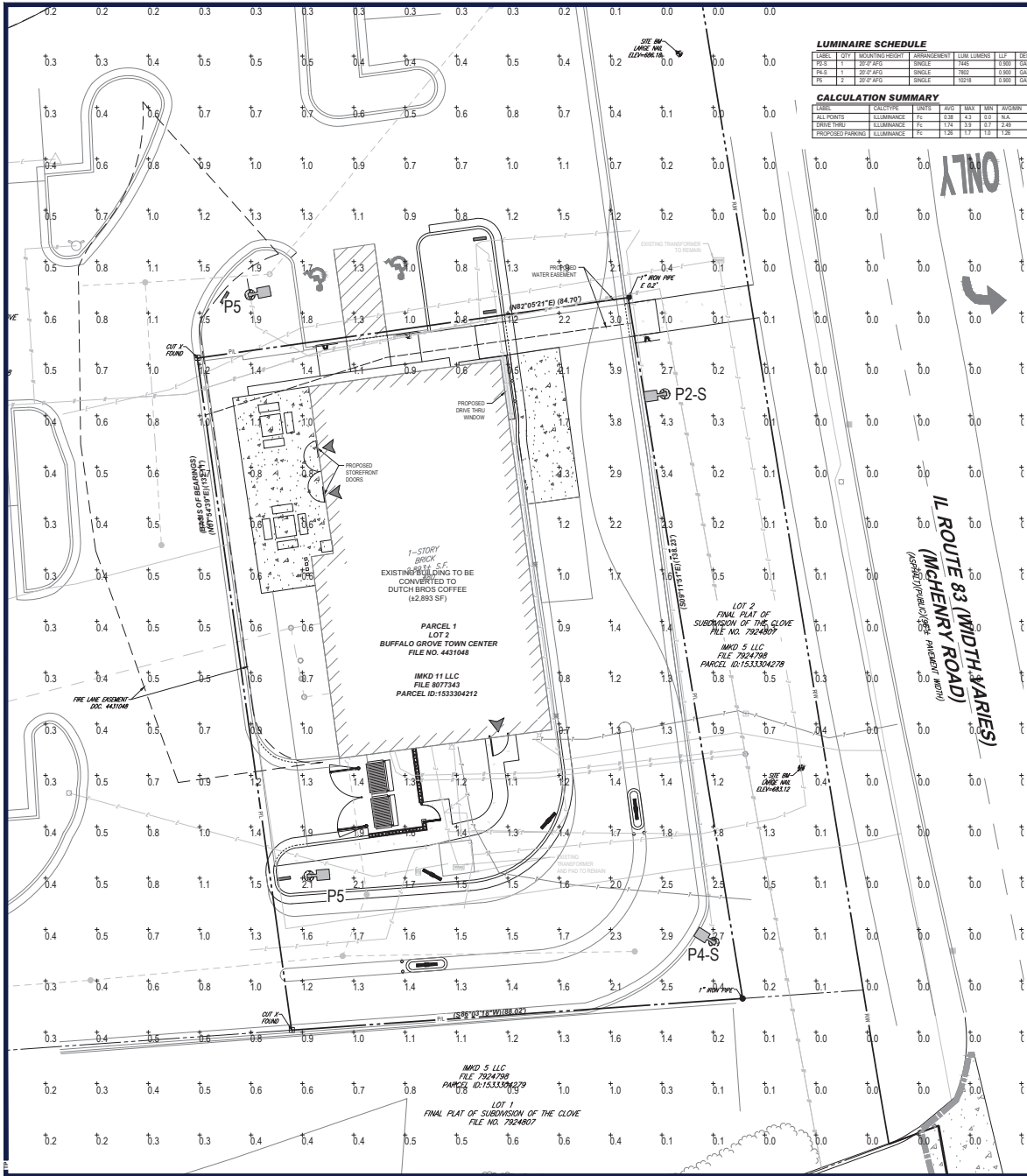
www.BohlerEngineering.com

M.W. TAKACS
 REGISTERED LANDSCAPE ARCHITECT
 PENNSYLVANIA LICENSE NO. LA029004
 OHIO CERTIFICATE NO. LA210168
 MINNESOTA LICENSE NO. 36600

SHEET TITLE:
LANDSCAPE NOTES AND DETAILS

SHEET NUMBER:
L-102

ORG. DATE: 6/30/2025

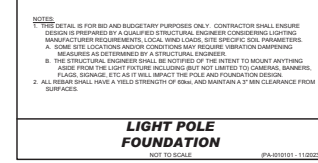
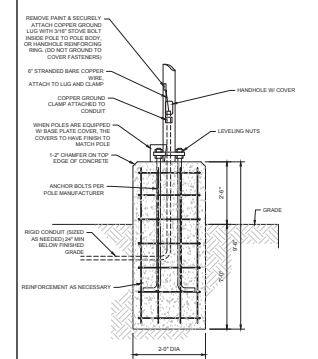


LUMINAIRE SCHEDULE

LINE	TYPE	MANUFACTURER	DESCRIPTION	LM	LMH	LF	DESCRIPTION	FOOT CANDLE
P1-S	1	20' P-216	SINGLE	746	0.300		CARDON BY BONNY ECGOFORM SMALL GEN 1 LED AREA LUMINAIRE TYPE 1 WITH HOUSE SIDE SHELL ZERO UP LIGHT (REF'S 3-SL-70-NW-AR-02-S-4)	1.0
P2-S	1	20' P-216	SINGLE	746	0.300		CARDON BY BONNY ECGOFORM SMALL GEN 1 LED AREA LUMINAIRE TYPE 1 WITH HOUSE SIDE SHELL ZERO UP LIGHT (REF'S 3-SL-70-NW-AR-02-S-4)	1.0
P3-S	2	20' P-216	SINGLE	1018	0.300		CARDON BY BONNY ECGOFORM SMALL GEN 1 LED AREA LUMINAIRE TYPE 1, ZERO UP LIGHT (REF'S 3-SL-70-NW-AR-02-S-4)	1.0

CALCULATION SUMMARY

LINE	TYPE	DESCRIPTION	MIN	MAX	AVG	MIN	MAX	AVG
ALL POINTS	ILLUMINANCE	FC	0.38	4.3	0.9	N/A	N/A	N/A
PROPOSED PARKING	ILLUMINANCE	FC	1.1	1.3	1.2	2.0	2.5	2.3
	ILLUMINANCE	FC	1.28	1.7	1.5	1.28	1.70	1.50



GENERAL LIGHTING NOTES:

- THE GENERAL NOTES FOUND ON THE NOTES PAGE OF THIS PLAN SET MUST BE INCLUDED AS PART OF THE ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE ELECTRICAL CONTRACTOR MUST BECOME FAMILIAR WITH, REFER TO AND FULLY COMPLY WITH THESE NOTES IN THEIR DESIGN.
- THE ELECTRICAL CONTRACTOR MUST COMPLY WITH ALL APPLICABLE CONTRACTOR NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL APPLICABLE AGENCY AND GOVERNMENTAL REGULATIONS. THE LIGHTING PLAN DEPICTS PROPOSED, SUS-TAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURERS. ACTUAL, SUS-TAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, MAINTENANCE, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
- THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT GROUND LEVEL UNLESS OTHERWISE NOTED. ILLUMINATION LEVELS ARE SHOWN IN FOOT-CANDLES (FC).
- THE LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES, POWER SYSTEMS, CONDUITS, WIRING, CONTROLS, AND OTHER ELECTRICAL COMPONENTS ARE SOLELY THE ARCHITECT'S, ELECTRICAL ENGINEER'S AND/OR ELECTRICAL CONTRACTOR'S RESPONSIBILITY, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THE CONTRACTOR MUST COORDINATE WITH THE PROJECT ARCHITECT AND/OR ELECTRICAL ENGINEER REGARDING ANY AND ALL POWER SOURCES AND TRUNK SERVICES NECESSARY TO MEET THE DESIGN INTENT. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) AND ALL APPLICABLE BUILDING AND LOCAL ELECTRICAL CODES.
- THE ELECTRICAL CONTRACTOR MUST BRING IMMEDIATELY, IN WRITING, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE UTILITIES, OR OTHER STRUCTURES TO THE PROFESSIONAL OF RECORD FOR ATTENTION PRIOR TO THE START OF CONSTRUCTION.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL LIGHTING IS INSTALLED PER THE LIGHTING PLAN, INCLUDING THE LOCATION, ORIENTATION, SHIELDING, AND/OR ROTATED OFFICES ARE INSTALLED AS INDICATED ON THE PLAN IN ORDER TO ACHIEVE THE LIGHTING LEVELS DEPICTED ON THIS PLAN. EXISTING POLES AND FOUNDATIONS ARE NOT TO BE REUSED.
- UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT IS NOT LIMITED TO, VISUAL OBSERVATION, CLEANING OF LENSES, AND OTHER MAINTENANCE SPECIFIED BY THE MANUFACTURER. FAILURE TO FOLLOW THE ABOVE STEPS COULD RESULT IN IMPROPER LIGHT DISTRIBUTION AND FAILURE TO COMPLY WITH THE APPROVED DESIGN.
- THE LIGHT LOSS FACTORS (LLF) DEPICTED IN THE LUMINAIRE SCHEDULE ON THIS PLAN ARE BASED ON DATA PROVIDED BY THE MANUFACTURER FOLLOWING IES LM-60-21 TESTING (OR MOST RECENT EDITION). THE LIGHT LEVELS DEPICTED ON THIS PLAN WERE CALCULATED BASED ON THE LLF LISTED IN THE LUMINAIRE SCHEDULE.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO BOHLER FOR REVIEW AND APPROVAL. SUBSTITUTION REQUESTS MUST BE ACCOMPANIED BY A HORIZONTAL PHOTOMETRIC STUDY DEMONSTRATING THAT THE LUMINAIRES IN QUESTION WILL MEET THE DESIGN INTENT OF THIS PLAN. SUBSTITUTION REQUESTS WITHOUT A PHOTOMETRIC STUDY WILL BE REJECTED.
- LIGHT POLE FOUNDATIONS ARE SHOWN ON THE PLAN IN THE INTENDED LOCATION BASED ON THE LIGHTING CALCULATIONS. UNLESS OTHERWISE NOTED, LIGHT SYMBOLS ARE SHOWN LARGER THAN ACTUAL SIZE, HOWEVER FOUNDATION SIZE IS SHOWN AT ACTUAL SIZE.

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
PROJECT MANAGEMENT
LANDSCAPE ARCHITECTURE
PLANNING
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	APPROVED

Call Before You Dig
1-800-4-A-DAWN
YOU MUST CALL 48 HOURS BEFORE AN EXCAVATION WHEN THERE IS AN UNDERGROUND UTILITY.

THIS SHEET IS INTENDED FOR GENERAL ARCHITECTURAL AND ENGINEERING PURPOSES ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION OF ANY STRUCTURE OR FOR ANY OTHER PURPOSE.
PROJECT NO.: CHA250025-00-0A
DRAWN BY: ACS/SJS
CHECKED BY: BAS
DATE: 10/02/2025
CAD ID: P-CIV-L-LOT

CIVIL SITE PLANS
FOR
Durch Bros
PROPOSED DEVELOPMENT
80 MCHEERY ROAD
BUFFALO GROVE, ILLINOIS 60089

BOHLER
4100 REGENT STREET, SUITE M
COLUMBIANA, OH 43219
Phone: (380) 800-4004
www.BohlerEngineering.com

M.W. TAKACS
REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA LICENSE NO. LA020094
OHIO CERTIFICATE NO. LA210568
PENNSYLVANIA LICENSE NO. 3660

SHEET TITLE:
LIGHTING PLAN
SHEET NUMBER:
L-201
ORG. DATE: 6/30/2025



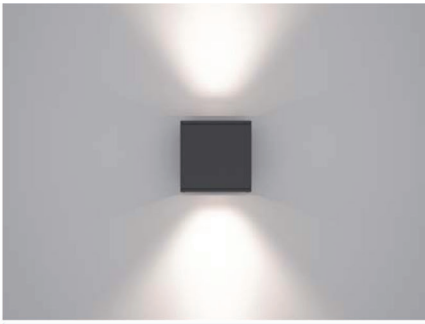
THIS PLAN TO BE UTILIZED FOR LIGHTING PURPOSES ONLY



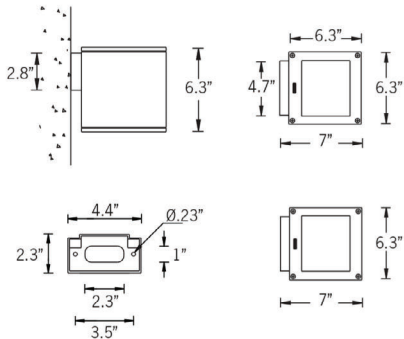


UMT-31416 Matrix 3 Surface

L4 - Exterior Sconce



14/14w COB 1128 Lumens Down, 1128 Lumens Up
IP65 • Suitable For Wet Locations
IK07 • Impact Resistant
Weight 4.8 lbs



Mounting Detail

Construction

Aluminum

Less than 0.1% copper content - Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

Pre paint

8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket

Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management

LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression

Standard 10kv surge suppressor provided with all fixtures.

BUG Rating

B1 - U5 - G0

Finishing

All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint

UV Stabilized 4.9mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes

The Inspired by nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

The Coating Process

After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder provides protection against wear, abrasion, impact and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customized oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a vivid timber look on aluminum remains.

Wood grain coating can create beautiful wood-looking products of any sort. There are over 300 combinations of designs currently in use. Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits

- Resistance to salt-acid room, accelerated aging
- Boiling water, lime and condensed water resistant
- Anti-Graffiti, Anti-Slip, Anti-Microbial, Anti-Scratch
- Super durable (UV resistant)
- TGIC free (non-toxic)

Hardware

Provided Hardware is Marine grade 316 Stainless steel.

Anti-Seize Screw Holes

Tapped holes are infused with a special anti-seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens

Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED

Precise optic design provides exceptional light control and precise distribution of light. LED CRI > 80

Lumen - Maintenance Life

L80 /B10 at 50,000 hours (This means that at least 90% of the

Square surface wall-mounted architectural lighting range. Family of lighting effects sanctioning imagination and inspiration to reign in designs.

A small profile wall mounted compact cubic luminaire with up and downward light distributions. The Matrix is designed with five light distribution options, namely narrow, medium, wide, very wide and spike.

The Matrix uses high efficiency, long life LEDs and is designed to illuminate the wall and surfaces in front of the wall, as well as light accents on vertical and horizontal surfaces. The Matrix is suitable for indoor and outdoor applications.

This luminaire is available with decorative spikes and can be used with various combinations of light distribution optics.

This luminaire can be mounted at different angles to produce interesting decorative lighting effects on the side of the building facade. The standard Matrix is designed to mount over a 3" octagonal j-box, a 4" j-box cover plate is available upon request.





UMT-31416 Matrix 3 Surface

LIGMAN
LIGHTING USA

PROJECT					DATE	
QUANTITY		TYPE		NOTE		

ORDERING EXAMPLE || UMT - 31416 - 14/14w - W30 - 02 - 120/277v - Options

UMT-31416	14/14w	N		W40	02	
LAMP	BEAM UP	BEAM DOWN	LED COLOR	FINISH COLOR	VOLTAGE	
14/14w COB 1128 Lumens Down 1128 Lumens Up	N - Narrow 20° M - Medium 25° W - Wide 36° VW - Very Wide 74°	N - Narrow 20° M - Medium 25° W - Wide 36° VW - Very Wide 74°	W27 - 2700K W30 - 3000K W35 - 3500K W40 - 4000K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003 04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	120/277v Other - Specify	

ADDITIONAL OPTIONS		

NAT - Natarorium Rated
F - Frosted Lens
4J - Mounting Plate for 4" Junction Box
DIM - 0-10v Dimming

COLORED DICHROIC FILTERS
RD - Red Lens
BL - Blue Lens
GR - Green Lens
AM - Amber Lens
[Specify Other Color]

INSPIRED BY NATURE FINISHES

SW01 - OAK FINISH	
SW02 - WALNUT FINISH	
SW03 - PINE FINISH	
DF - DOUGLAS FIR FINISH	
CW - CHERRY WOOD FINISH	
NW - NATIONAL WALNUT FINISH	
SU01 - CONCRETE FINISH	
SU02 - SOFTSCAPE FINISH	
SU03 - STONE FINISH	
SU04 - CORTEN FINISH	

THERE IS AN ADDITIONAL COST FOR THESE FINISHES

More Custom Finishes Available Upon Request

Consult factory for pricing and lead times

Oak	Cherry	Beech	Carbon
Walnut	Chestnut	Bamboo	Galvanized
Pine	Mahogany	Birch	Steel



Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.





L6 - Wall Pack

WPLED26

RAB



Project: <input type="text"/>	Type: <input type="text"/>
Prepared By: <input type="text"/>	Date: <input type="text"/>

Driver Info		LED Info	
Type	Constant Current	Watts	26W
120V	0.22A	Color Temp	5000K (Cool)
208V	0.13A	Color Accuracy	70 CRI
240V	0.11A	L70 Lifespan	100,000 Hours
277V	0.10A	Lumens	3,851 lm
Input Watts	28.7W	Efficacy	134.2 lm/W

Technical Specifications

Compliance

UL Listed:
Suitable for wet locations. Suitable for mounting within 4ft (1.2m) of the ground.

IP Rating:
Ingress protection rating of IP66 for dust and water

DLC Listed:
This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: P00001701

Performance

Lifespan:
100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Wattage Equivalency:
Equivalent to 150W Metal Halide

Electrical

Driver:
Constant Current, Class 2, 120-277V, 50/60Hz, 120V: 0.22A, 208V: 0.13A, 240V: 0.11A, 277V 0.10A

Dimming Driver:
Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:
10.68% at 120V, 10.68% at 277V

Power Factor:
95.4% at 120V, 95.4% at 277V

Construction

Finish:
Formulated for high durability and long-lasting color

Ambient Temperature:
Suitable for use in up to 40°C (104°F)

Cold Weather Starting:
The minimum starting temperature is -40°C (-40°F)

Green Technology:
Mercury and UV free. RoHS-compliant components.

LED Characteristics

Color Consistency:
7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Color Stability:
LED color temperature is warranted to shift no more than 200K in color temperature over a 5-year period

Color Uniformity:
RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Other

Patents:
The WPLED design is protected by U.S. Pat. D634878, Canada Pat 134878, China Pat. CN301649064S.

Buy American Act Compliance:
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Optical

BUG Rating:
B1 U0 G0

Family	Wattage	Color Temp	Finish	Battery Backup	Photocell
WPLED	26 = 26W	Blank = 5000K (Cool) Y = 3000K (Warm) N = 4000K (Neutral)	Blank = Bronze W = White	JE = Battery Backup IEC = Cold Start Battery Backup	Blank = No Photocell IPC = 120V Button IPCS = 120V Swivel IPC2 = 277V Swivel

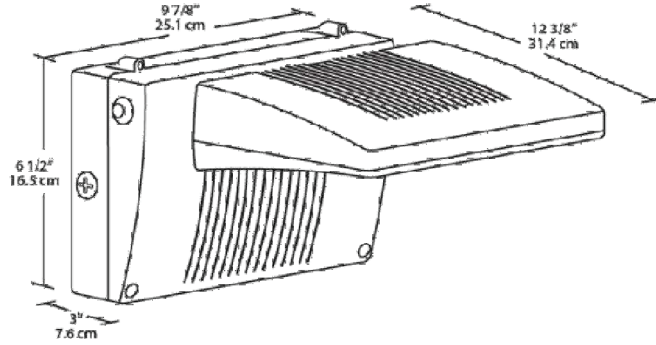
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Verify required

Page 1 of 2



Dimensions



Features

- Backup battery UL 924 listed
- UL listed for wet locations
- 90 minutes illumination time during power interruption
- Includes test switch and charge indicator light
- Universal input voltage
- 5-year warranty

Ordering Matrix

Family	Wattage	Color Temp	Finish	Battery Backup	Photocell
WPLED	26 = 26W	Blank = 5000K (Cool) Y = 3000K (Warm) N = 4000K (Neutral)	Blank = Bronze W = White	/E = Battery Backup /EC = Cold Start Battery Backup	Blank = No Photocell /PC = 120V Button /PCS = 120V Swivel /PC2 = 277V Swivel

Verify required



L9, L9E - Soffit Light at Framed Canopy

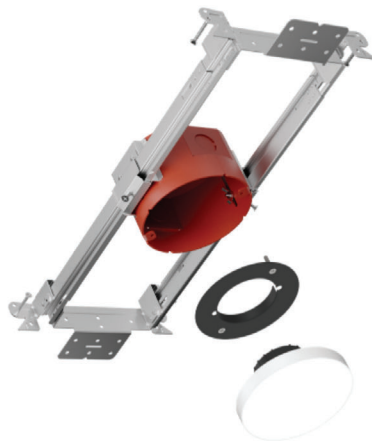
DRD5S & SurfaceFrame

4" Surface Mount Downlight















F4NC 4" New Construction
Fire Rated Shallow Junction Box

Project:	Type:
Product Code:	Date:

V072823



- Thinnest-in-class DRD5S delivers the pure, smooth light and the elegant look of a high-end recessed downlight
- Features multiple ratings to meet the demands of a wide range of situations
- Ultra-low profile allows it to install in as little as 2" of ceiling space when 5/8" drywall is used

Application New Construction		Aperture 4" Round Junction Box	
Delivered Lumens 750 lm (9.0W), 1000 lm (12.0W)		Color Quality 90+ CRI, < 3-step SDCM	
Color Temperature  2700K 3000K 3500K		Optics  General	
Input Voltage 120V only (TRIAC/ELV), 120/277V (0-10V)	Dimming TRIAC/ELV 5% 0-10V 1%	Emergency Lighting Optional Emergency LED Driver with integrated Test Switch for lighting up to 90 minutes in event of power failure	
Shape Round, Square		Finish White	Module Ratings  UL Closet Rating Compliant (750 lm only)  UL Listed for Wet Location
Housing Ratings  Code compliant for use in appropriate fire-rated assemblies up to a maximum of 2-hours  STC/IIC Sound Rated  ASTM E283 Certified Air Tight  IC (Insulation Contact) Rated			
Standards     		Guarantee 50,000 hrs 5 years	Additional Options  Non-Conductive Dead Front



DRD5S

Surface Mount LED Downlight
General New Construction
SurfaceFrame - Octagonal Junction Box

PRODUCT SELECTION GUIDE

FRAME-IN KIT (Product Code Example: DRDH + N + JO = DRDHNJO)

PRODUCT CODE	APPLICATION	APERTURE	DRIVER
DRDH Housing	N New Construction	JO Octagonal Junction Box	[Blank] Integrated TRIAC/ELV 120V Dimming

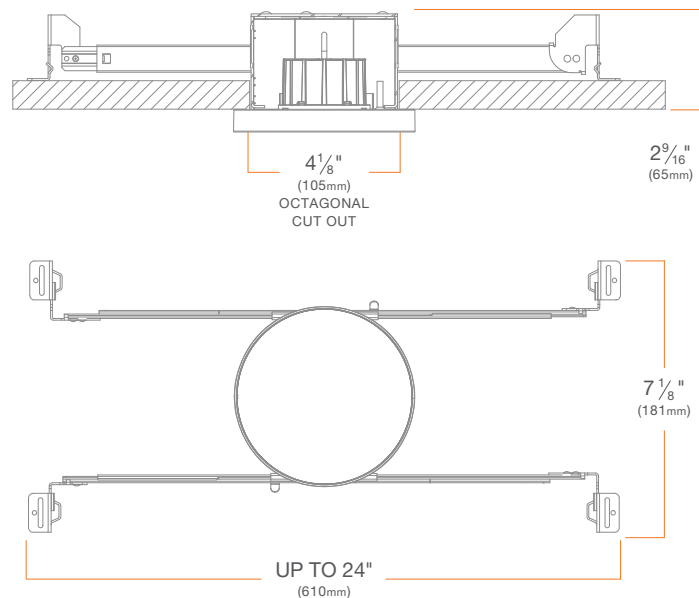
LIGHT ENGINE (Product Code Example: DRD5S + 4 + R + 07 + 9 + 30 = DRD5S4R07930)

PRODUCT CODE	APERTURE	SHAPE	LUMENS	CRI	CCT	DRIVER
DRD5S Module	4 4" Aperture	R Round	07 750 lm 10 1000 lm	9 90+ CRI	30 3000K	[Blank] TRIAC/ELV

DIMENSIONS

DRDHNJO
SurfaceFrame
Octagonal Junction Box

-0 0-10V dimming option
-EM Emergency option
Type L9E





DRD5S

Surface Mount LED Downlight
General New Construction
SurfaceFrame - Octagonal Junction Box

PRODUCT SELECTION GUIDE

FRAME-IN KIT (Product Code Example: DRDH+N+JO = DRDHNJO)

PRODUCT CODE	APPLICATION	APERTURE	DRIVER
DRDH Housing	N New Construction	JO Octagonal Junction Box	[Blank] Integrated TRIAC/ELV 120V Dimming

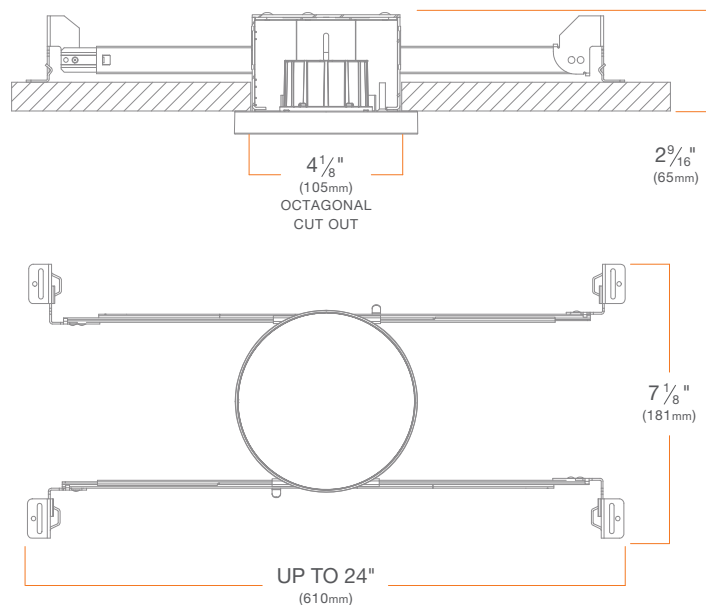
LIGHT ENGINE (Product Code Example: DRD5S+4+R+07+9+30 = DRD5S4R07930)

PRODUCT CODE	APERTURE	SHAPE	LUMENS	CRI	CCT	DRIVER
DRD5S Module	4 4" Aperture	R Round	07 750 lm 10 1000 lm	9 90+ CRI	30 3000K	[Blank] TRIAC/ELV

DIMENSIONS

DRDHNJO
SurfaceFrame
Octagonal Junction Box

-0 0-10V dimming option
-EM Emergency option
Type L9E

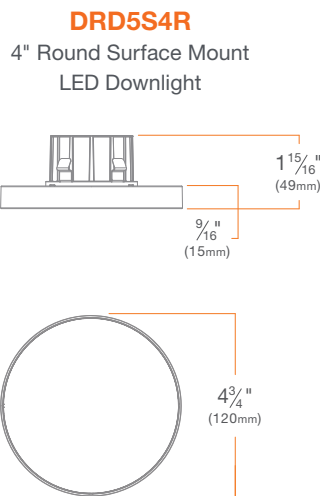




DRD5S

Surface Mount LED Downlight
General New Construction
SurfaceFrame - Octagonal Junction Box

LIGHT ENGINE OVERVIEW



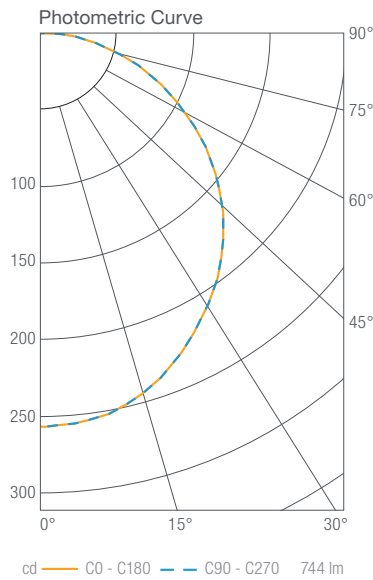
	DRD5S4R07	DRD5S4R10
Total Module Lumen Output (lm)	750	1000
Total Rated Power (W)	9.0	12.5
Efficacy (lm/W)	83	80
Color Rendering Index	90+	
CCT Options	3000K	
Optics	Flood	
Binning	< 3-step SDCM	
Lifetime (L70)	50,000 hours	
Max Ambient Operating Temperature	40°C	
Input Voltage (V)	120/277V, 50/60Hz	
Input Current at 120V (Max)	0.075	0.104
Input Current at 277V (Max)	0.034	0.047
Power Factor	>0.9	
Total Harmonic Distortion	<20%	
Dimming	100% - 5%	



Surface Mount LED Downlight General New Construction SurfaceFrame - Octagonal Junction Box

PHOTOMETRICS

Light Engine: **DRD5S4R07930** (DRD5S Luminaire, 750 lm, 90 CRI, 3000K)



Gamma	C 0°
0.0°	258
5.0°	256
10.0°	253
15.0°	247
20.0°	237
25.0°	226
30.0°	213
35.0°	200
40.0°	185
45.0°	169
50.0°	151
55.0°	132
60.0°	113
65.0°	93
70.0°	73
75.0°	54
80.0°	35
85.0°	18
90.0°	6

Values in candela

Zonal Lumen Summary

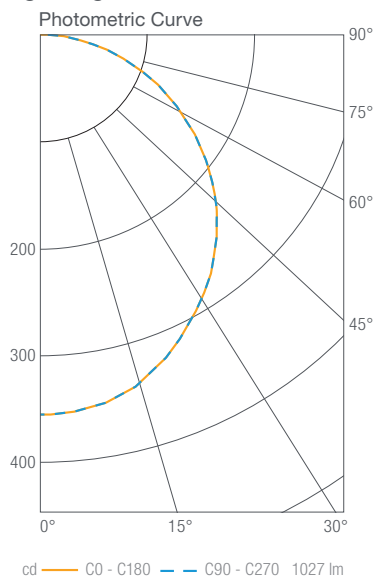
Zone	Lumens	Luminaire %
0-30	199	27
0-40	324	44
0-60	573	77
0-90	744	100
0-180	744	100

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3.0'	29	8.8'
6.0'	7	17.7'
9.0'	3	26.5'
12.0'	2	35.3'

Beam Angle: 112°

Light Engine: **DRD5S4R10930** (DRD5S Luminaire, 1000 lm, 90 CRI, 3000K)



Gamma	C 0°
0.0°	356
5.0°	354
10.0°	349
15.0°	340
20.0°	327
25.0°	312
30.0°	294
35.0°	276
40.0°	255
45.0°	233
50.0°	209
55.0°	183
60.0°	155
65.0°	128
70.0°	101
75.0°	74
80.0°	48
85.0°	25
90.0°	9

Values in candela

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	274	27
0-40	447	44
0-60	790	77
0-90	1027	100
0-180	1027	100

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3.0'	40	8.8'
6.0'	10	17.7'
9.0'	4	26.5'
12.0'	2	35.3'

Beam Angle: 112°



DRD5S

Surface Mount LED Downlight
General New Construction
SurfaceFrame - Octagonal Junction Box

DIMMER COMPATIBILITY

Recommended Phase-control Dimmers (Dims down to 5% nominal measured light output)

Brand	Series	Model Number	Max Load 750lm DRD5S4R07	Max Load 1000lm DRD5S4R10
Cooper	Aspire	9573	29	23
Leviton	Vizia	VPE06	64	48
Lutron	CL Series	AYCL-253, DVCL-253	26	20
	Grafik Eye 3000	QSGR-3P, QSGR-6P	31	24
	Grafik Sys / Homeworks	RPM-4U	44	35
	Maestro CL	MACL-153M, MSCL-OP153M, MSCL-VP153M	16	12

Compatible Phase-control Dimmers¹ (Dims down to 10% nominal measured light output)

Brand	Series	Model Number	Max Load 750lm DRD5S4R07	Max Load 1000lm DRD5S4R10
Cooper	Aspire	9573	29	23
	Decorator	DLC03P, DAL06P	29	23
Legrand	Adorne	ADTP703	48	38
	Digital Light Management	LMRC-221	250	195
Leviton	IllumaTech	IPE04	32	25
	Vizia	VPE04	42	32
	Vizia	VPE06	64	48
Lutron	CL Series	AYCL-153, CTCL-153, DVCL-153, LGCL-513, SCL-153, TGCL-513	15	11
	CL Series	AYCL-253, DVCL-253	26	20
	Grafik Eye 3000	QSGR-3P, QSGR-6P	31	24
	Grafik Sys / Homeworks	RPM-4U	44	35
	Maestro CL	MACL-153M, MSCL-OP153M, MSCL-VP153M	16	12
	Maestro Wireless	MRF2-6ELV, MRF2-6CL	15	12
	Radio RA	RRD-6NA, RRD-6CL, RRD-6D	15	12
	Skylark Contour CL	CTCL-153P	15	12

¹ Dimmer compatibility reflects performance compatibility only. Please reference your local codes for application.



AREA LIGHTING

FORM AND FUNCTION

- Sleek, low profile housing
- Spec grade performance
- Engineered for optimum thermal management
- Low depreciation rate
- Reduces energy consumption and costs up to 65%
- Exceeds IES foot candle levels utilizing the least number of poles and fixtures per project
- Optical system designed for:
 - Parking Lots
 - Auto Dealerships
 - General Area Lighting

CONSTRUCTION

- Die Cast Aluminum
- External cooling fins, Finite Element Analysis (FEA) designed
- Corrosion resistant external hardware
- One-piece silicone gasket ensures IP-65 seal for electronics compartment
- One-piece Optics Plate™ mounting silicone Micro Optics
- Two-piece silicone Micro Optic system ensures IP-67 level seal around each PCB
- Grade 2 Clear Anodized Optics Plate™ standard

FINISH

- 3-5 mils electrostatic powder coat.
- NLS' standard high-quality finishes prevent corrosion protects against and extreme environmental conditions

WARRANTY

Five-year limited warranty for drivers and LEDs.

NV-1-ASA



- Certified to UL 1598
- UL 8750
- CSA C22.2 No. 250.0
- DesignLights Consortium® (DLC)
- DesignLights Consortium Premium® (DLCP)
- IP65/ IP67 Rated
- 3G Vibration Rated per ANSI C136.31-2010



LED WATTAGE CHART

	16L	32L	48L	64L
350 milliamps	18w	-	-	-
530 milliamps	28w	-	-	-
700 milliamps	36w	71w	104w	136w
1050 milliamps	56w	106w	156w	205w

Dutch Bros Prototypical

Project Name: _____ or _____ Type: _____

Cat #	Light Dist.	No. of LEDs	Milliamps	Kelvin	Volts	Mounting	Color	Options
NV Size 1 (NV-1)	Type 2 (T2)	16 (16L) 32 (32L)	350 (35)	3000K (30K)	120-277 (UNV)	Architectural Sweep Arm (ASA)	Bronze (BRZ)	Bird Deterrent (BD) Marine Grade Finish (MGF) Optic Plate Painted to Match Fixture (OPP) Nema 7-Pin Receptacle (PE7) Photocell + Receptacle (PCR) Receptacle + Shorting Cap (PER) FSP-211 with Motion Sensor (UNV Voltage) (FSP-20) *9'-20" Heights (FSP-40) *21'-40" Heights Surge Protector (10K) Round Pole Adaptor 3"- 4" Pole (RPA4) Round Pole Adaptor 5"- 6" Pole (RPA5) Rotated Optic Left (ROL) Rotated Optic Right (ROR) Automotive House Side Shield (AHS) House Side Shield (HSS)
	Type 3 (T3)	48 (48L) 64 (64L)	530 (53)	4000K (40K)	347-480 (HV)		White (WHT)	
	Type 4 (T4)		700 (7)	5000K (50K)			Silver (SVR)	
	Type 5 (T5)		1050 (1)				Black (BLK)	
	Nema 2 24" Narrow Beam (N2)						Graphite (GPH)	
Nema 3 30" Narrow Beam (N3)					Grey (GRY)			
						Custom (CS)		

In California or where Motion Step-Dim is required under 24'

If Site Lighting Plan indicates to use

*HSS not applicable with N2 - NEMA 24" Optics
*HSS not applicable with N3 - NEMA 30" Optics



ELECTRICAL

- 120-277 Volts (UNV) or 347-480 Volts (HV)
- 0-10V dimming driver by Philips Advance
- Driver power factor at maximum load is $\geq .95$, THD maximum load is 15%
- All internal wiring UL certified for 600 VAC and 105°C
- All drivers, controls, and sensors housed in enclosed IP-65 compartment
- Lumileds Luxeon MX LED's
- CRI >70
- Color temperatures: 3000K, 4000K, 5000K

OPTIONS

- **BIRD DETERRANT (BD)**—offers effective and humane deterrent for larger bird species and provides cost-effective long-term solution to nuisance bird infestations and protect your property.
- **MARINE GRADE FINISH (MGF)**—A multi-step process creating protective finishing coat against harsh environments.
 - Chemically washed in a 5 stage cleaning system.
 - Pre-baked
 - Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer.
 - 1-2 feet inside pole coverage top and bottom.
 - Oven Baked.
 - Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.
- **SHIELDS (HSS, AHS)**—House Side Shield (HSS) is designed for full property line cut-off. Automotive House Side Shield (AHS) is a single-sided shield allowing partial cut-off on either side or front of luminaire.
- **ROUND POLE ADAPTER (RPA)**— When using round poles, specify Round Pole Adapter (RPA). Specify RPA4 when installing on 3"-4" round poles, and RPA5 when installing on 5"-6" round poles.

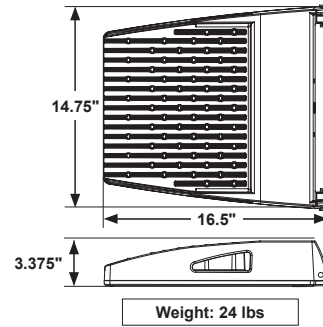
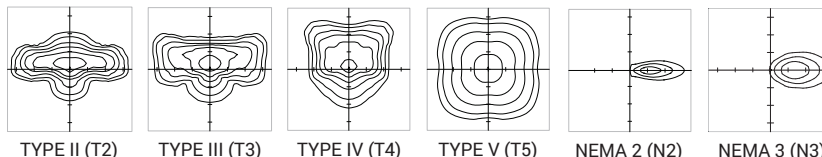
CONTROLS

- **FSP-211 (FSP-X)**—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
 - All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
 - FSP-20 mounting heights 9-20 feet
 - FSP-40 mounting heights 21-40 feet.
 - Includes 5 dimming event cycles, 0-10V dimming with motion sensing, reprogrammable in the field.
- **NEMA 7-PIN RECEPTACLE (PE7)**—An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.

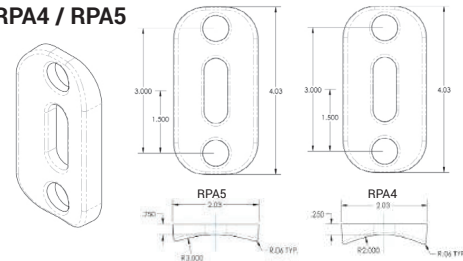
OPTICS

Silicone optics high photothermal stability and light output provides higher powered LEDs with minimized lumen depreciation LED life. UV and thermal stability with scratch resistance increases exterior application durability.

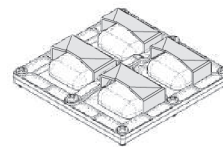
- IES Types



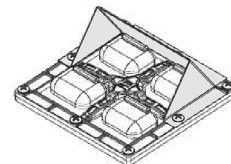
RPA4 / RPA5



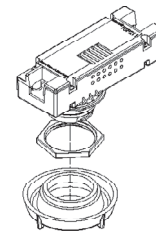
HOUSE SIDE SHIELD



AUTOMOTIVE HOUSE SIDE SHIELD



FSP-211



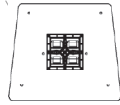


LIGHTING/ELECTRIC

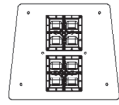
OPTICAL CONFIGURATIONS

Rotatable Optics (ROR) Rotated Right, (ROL) Rotated Left options available. Optics field and factory rotatable.

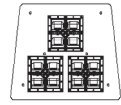
(OPP)



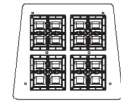
NV-1 / 16L



NV-1 / 32L



NV-1 / 48L



NV-1 / 64L

* OPTIC PLATE PAINTED TO MATCH FIXTURE FINISH (OPP)– Optic Plate standard clear anodized, Grade 2. When (OPP) specified, Optic Plate finish will match fixture finish.

LUMENS

PART NUMBER	N2	LM/W	BUG	N3	LM/W	T2	LM/W	DLC	BUG	T3	HSS	LM/W	BUG	T3	LM/W	DLC	BUG	T4	AHS	LM/W	HSS	LM/W	BUG	T4	LM/W	DLC	BUG	T5	LM/W	DLC	BUG	T5	LM/W	DLC	BUG	W
NV-1-16L-35-30K	1944	108	B2-U0-G0	2016	112	2209	117	P	B1-U0-G1	1134	63	B0-U0-G0	2106	117	P	B1-U0-G1	1296	72	1116	62	B0-U0-G0	2187	116	P	B1-U0-G1	2124	118	P	B2-U0-G0	18						
NV-1-16L-35-40K	2016	112	B2-U0-G0	2088	116	2268	126	P	B1-U0-G1	1206	67	B0-U0-G0	2286	127	P	B1-U0-G1	1368	76	1188	66	B0-U0-G0	2250	125	P	B1-U0-G1	2304	128	P	B2-U0-G0	18						
NV-1-16L-35-50K	2088	116	B2-U0-G0	2160	120	2376	132	P	B1-U0-G1	1278	71	B0-U0-G0	2394	133	P	B1-U0-G1	1440	80	1260	70	B0-U0-G0	2358	131	P	B1-U0-G1	2412	134	P	B2-U0-G2	18						
NV-1-16L-53-30K	3024	108	B3-U0-G1	3136	112	3192	114	P	B1-U0-G1	1764	63	B0-U0-G1	3220	115	P	B1-U0-G1	2016	72	1736	62	B0-U0-G1	3119	113	P	B1-U0-G1	3248	116	P	B2-U0-G1	28						
NV-1-16L-53-40K	3136	112	B3-U0-G1	3248	116	3472	124	P	B1-U0-G1	1876	67	B0-U0-G1	3472	124	P	B1-U0-G1	2128	76	1848	66	B0-U0-G1	3444	123	P	B1-U0-G1	3500	125	P	B2-U0-G1	28						
NV-1-16L-53-50K	3248	116	B3-U0-G1	3360	120	3612	129	P	B1-U0-G1	1988	71	B0-U0-G1	3640	130	P	B1-U0-G1	2240	80	1960	70	B0-U0-G1	3584	128	P	B1-U0-G1	3668	131	P	B2-U0-G1	28						
NV-1-16L-7-30K	3888	108	B3-U0-G1	4032	112	3960	110	P	B1-U0-G1	2268	63	B0-U0-G1	3960	110	P	B1-U0-G1	2592	72	2232	62	B0-U0-G1	3973	109	P	B1-U0-G1	3996	111	P	B3-U0-G1	36						
NV-1-16L-7-40K	4032	112	B3-U0-G1	4176	116	4428	123	P	B1-U0-G1	2412	67	B0-U0-G1	4284	119	P	B1-U0-G1	2736	76	2376	66	B0-U0-G1	4212	117	P	B1-U0-G1	4320	120	P	B3-U0-G1	36						
NV-1-16L-7-50K	4176	116	B3-U0-G1	4320	120	4644	129	P	B1-U0-G1	2556	71	B0-U0-G1	4500	125	P	B1-U0-G1	2880	80	2520	70	B0-U0-G1	4428	123	P	B1-U0-G1	4500	125	P	B3-U0-G1	36						
NV-1-16L-1-30K	6048	108	B3-U0-G1	6272	112	6160	110	S	B1-U0-G1	3528	63	B0-U0-G1	6384	114	P	B1-U0-G1	4032	72	3472	62	B0-U0-G1	6232	112	P	B1-U0-G1	6440	115	P	B3-U0-G1	56						
NV-1-16L-1-40K	6272	112	B3-U0-G1	6496	116	6832	122	P	B1-U0-G1	3752	67	B0-U0-G1	6888	123	P	B2-U0-G2	4256	76	3696	66	B0-U0-G1	6776	121	P	B2-U0-G2	6944	124	P	B3-U0-G2	56						
NV-1-16L-1-50K	6496	116	B4-U0-G1	6720	120	7168	128	P	B1-U0-G2	3976	71	B0-U0-G2	7224	129	P	B2-U0-G2	4480	80	3920	70	B0-U0-G1	7112	127	P	B2-U0-G2	7280	130	P	B3-U0-G2	56						
NV-1-32L-7-30K	7668	108	B4-U0-G1	7952	112	7810	110	S	B1-U0-G2	4473	63	B0-U0-G1	7810	110	S	B2-U0-G2	5112	72	4402	62	B0-U0-G1	7739	109	S	B2-U0-G2	7881	111	S	B3-U0-G2	71						
NV-1-32L-7-40K	7952	112	B4-U0-G1	8236	116	8017	127	P	B1-U0-G2	4757	67	B0-U0-G1	8449	119	P	B2-U0-G2	5396	76	4686	66	B0-U0-G2	8307	117	P	B2-U0-G2	8520	120	P	B3-U0-G2	71						
NV-1-32L-7-50K	8236	116	B4-U0-G1	8520	120	9159	129	P	B2-U0-G2	5041	71	B0-U0-G2	8875	125	P	B2-U0-G2	5680	80	4970	70	B0-U0-G2	8733	123	P	B2-U0-G2	8946	126	P	B3-U0-G2	71						
NV-1-32L-1-30K	11448	108	B4-U0-G1	11872	112	11660	110	S	B2-U0-G2	6678	63	B0-U0-G2	12084	114	S	B2-U0-G2	7632	72	6572	62	B0-U0-G2	11820	112	S	B2-U0-G2	12190	115	S	B4-U0-G2	106						
NV-1-32L-1-40K	11872	112	B4-U0-G1	12296	116	12932	122	P	B2-U0-G2	7102	67	B0-U0-G2	13038	123	P	B2-U0-G2	8056	76	6996	66	B0-U0-G2	12826	121	P	B2-U0-G2	13144	124	P	B4-U0-G2	106						
NV-1-32L-1-50K	12296	116	B4-U0-G1	12720	120	13568	128	P	B2-U0-G2	7526	71	B0-U0-G2	13674	129	P	B3-U0-G3	8480	80	7420	70	B0-U0-G2	13462	127	P	B3-U0-G3	13780	130	P	B4-U0-G2	106						
NV-1-48L-7-30K	11232	108	B4-U0-G1	11648	112	11440	110	S	B2-U0-G2	6552	63	B0-U0-G2	11440	110	S	B2-U0-G2	7488	72	6448	62	B0-U0-G2	11336	109	S	B2-U0-G2	11544	111	S	B4-U0-G2	104						
NV-1-48L-7-40K	11648	112	B4-U0-G1	12064	116	13208	127	P	B2-U0-G2	6968	67	B0-U0-G2	12376	119	P	B2-U0-G2	7904	76	6864	66	B0-U0-G2	12168	117	P	B2-U0-G2	12480	120	P	B4-U0-G2	104						
NV-1-48L-7-50K	12064	116	B4-U0-G1	12480	120	13520	130	P	B2-U0-G2	7384	71	B0-U0-G2	13000	125	P	B3-U0-G3	8320	80	7280	70	B0-U0-G2	12792	123	P	B2-U0-G2	13104	126	P	B4-U0-G2	104						
NV-1-48L-1-30K	16848	108	B5-U0-G1	17472	112	17160	110	S	B3-U0-G3	9828	63	B1-U0-G2	17224	114	S	B3-U0-G3	11232	72	9672	62	B1-U0-G2	17472	112	S	B3-U0-G3	17940	115	S	B4-U0-G2	156						
NV-1-48L-1-40K	17472	112	B5-U0-G1	18096	116	19032	122	P	B3-U0-G3	10452	67	B1-U0-G2	19188	123	P	B3-U0-G3	11856	76	10296	66	B1-U0-G2	18876	121	P	B3-U0-G3	19344	124	P	B5-U0-G3	156						
NV-1-48L-1-50K	18096	116	B5-U0-G1	18720	120	19968	128	P	B3-U0-G3	11076	71	B1-U0-G2	20124	129	P	B3-U0-G3	12590	80	10920	70	B1-U0-G2	19812	127	P	B3-U0-G3	20280	130	P	B5-U0-G3	156						
NV-1-64L-7-30K	14688	108	B5-U0-G1	15232	112	14960	110	S	B2-U0-G2	8568	63	B0-U0-G2	14960	110	S	B3-U0-G3	9792	72	8432	62	B1-U0-G2	14824	109	S	B3-U0-G3	15096	111	S	B4-U0-G2	136						
NV-1-64L-7-40K	15232	112	B5-U0-G1	15776	116	17272	127	P	B3-U0-G3	9112	67	B0-U0-G2	16184	119	P	B3-U0-G3	10336	76	8976	66	B1-U0-G2	15912	117	P	B3-U0-G3	16320	120	P	B4-U0-G2	136						
NV-1-64L-7-50K	15776	116	B5-U0-G1	16320	120	17680	130	P	B3-U0-G3	9656	71	B1-U0-G2	17000	125	P	B3-U0-G3	10880	80	9500	70	B1-U0-G2	16728	123	P	B3-U0-G3	17136	126	P	B4-U0-G2	136						
NV-1-64L-1-30K	22140	108	B5-U0-G1	22960	112	22550	110	S	B3-U0-G3	12915	63	B1-U0-G2	23370	114	S	B3-U0-G3	14760	72	12710	62	B1-U0-G3	22960	112	S	B3-U0-G3	23575	115	S	B5-U0-G3	205						
NV-1-64L-1-40K	22960	112	B5-U0-G1	23780	116	25010	122	P	B3-U0-G3	13735	67	B1-U0-G2	25215	123	P	B3-U0-G3	15580	76	13530	66	B1-U0-G3	24805	121	P	B3-U0-G4	25420	124	P	B5-U0-G3	205						
NV-1-64L-1-50K	23780	116	B5-U0-G1	24600	120	26240	128	P	B3-U0-G3	14555	71	B1-U0-G2	26445	129	P	B3-U0-G3	16395	80	14350	70	B1-U0-G3	26035	127	P	B3-U0-G4	26650	130	P	B5-U0-G3	205						

*DLC S= Standard P= Premium

Dutch Bros Prototypical

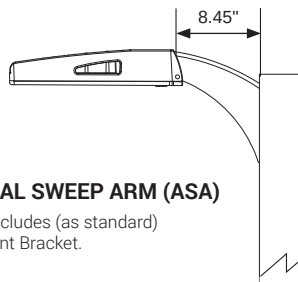
EPA

EPA	SGL	D90	D180	T90	T120	QD
NV-1-ASA	0.75	1.29	1.50	1.99	2.05	1.99

L70/L90 DATA

TEMP.	NV-1	
	L70 (64L-1050mA)	L90 (64L-1050mA)
25°C	483,000	160,000

MOUNTING OPTIONS



ARCHITECTURAL SWEEP ARM (ASA)

Cast Sweep Arm includes (as standard)
Internal Quick Mount Bracket.



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POLE

Shall be Straight Steel Grade B Extrusion with yield of 46,000 PSI. Conforms to ASTM A500 Standards. Poles have ground bolt welded inside hand-hole opposite side of the pole extrusion. Pole Extrusion is conjoined to Anchor Base by welding internal to pole shaft and external to pole shaft. Hand Hole reinforcement is Constructed of 3"x 5" rectangular steel tubing which is welded to pole shaft for added strength.

ANCHOR BASE

Manufactured from A36 Steel rated at 36,000 PSI, conforms the ASTM -A36 standards. Base Plate vary in size from 1" thick for poles 21 feet and over, 3/4" thick for poles 10 to 20 feet.

COATING

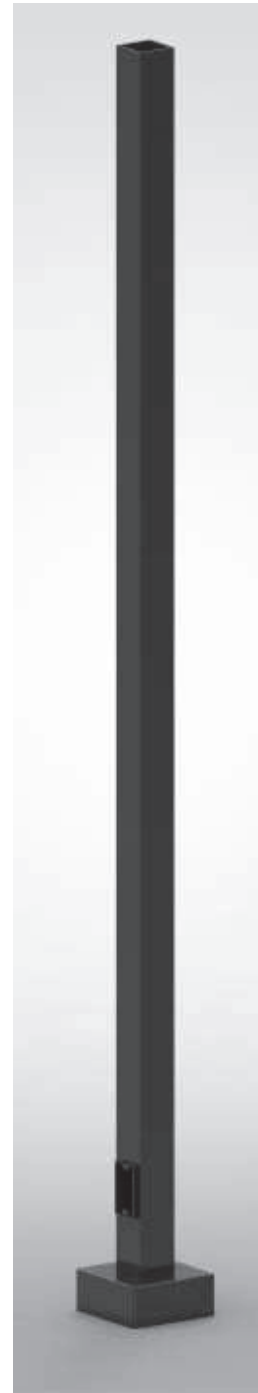
All poles have minimum 3mm powder coat finish. All poles are sandblasted prior to powder coat application.

ANCHORAGE

All anchor bolts are fully hot dipped galvanized and come with two galvanized nuts and washers per bolt.

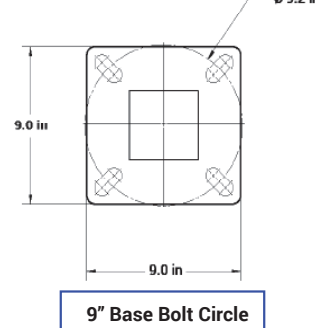
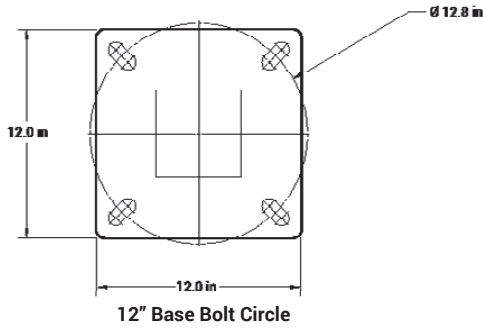
BASE COVER, HAND HOLE COVER AND POLE CAP

All poles come with removable polymer pole cap installed. All poles caps are black finish. All base covers are made of aluminum and powder coated to match the pole. The hand hole covers are provided with internal bridge support and also powder coated to match pole finish.



Project Name:						Type:		
Cat #	Height	Pole Dim.	Size	Base Pattern	Orient	Color	Bolts	Enhancements
Square Straight Steel Pole (SSSP)	10' (10)	4" Square (4S)	120 in (11G)	(10'-20') 3 3/16" - 10 3/16" Bolt Circle (9BC)	Single (SGL)	Bronze (BRZ)	3/4" x 30" (3430)	GFI Kit (GFI)
	12' (12)							GFI Provision Only (PROV)
	14' (14)	5" Square (5S)	180 in (7G)	(22'-35') 11 1/2" - 14" Bolt Circle (12BC)	Double (D-90) (D-180)	White (WHT)	1" x 36" (136)	Galvanized (GLV)
	16' (16)							Anti Corrosion (ACP)
	18' (18)	6" Square (6S)			Triple (T-90)	Silver (SVR)		Tenon
	20' (20)							2 3/8" Round (T2R)
	22' (22)							3" Round (T3R)
	24' (24)							3 1/2" Round (T312R)
	25' (25)							4 1/2" Round (T412R)
	26' (26)							3 1/2" Square (T312S)
	28' (28)							4 1/2" Square (T412S)
30' (30)	5 1/2" Square (T512S)							
35' (35)	Quad (QD)	(39") 15 in Bolt Circle (15BC)		Quad (QD)	Hunter Green (HGN)			
					Black (BLK)			
					Graphite (GPH)			
					Grey (GRY)			
					Custom (CS)			

Confirm Length



POLE EPA DATA								
Maximum EPA (ft) Allowable								
POLE HEIGHT	POLE DIA.	SIZE	BASE PLATE	BOLT CIRCLE BOLTS	BOLTS	80 Mph	90 Mph	100 Mph
10'	4" SQ	.120	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	26.8	18.7	15.5
12'	4" SQ	.120	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	20.5	15.5	9.7
14'	4" SQ	.120	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	16.5	11.4	9.7
15'	4" SQ	.180	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	18.2	12.2	10.4
16'	4" SQ	.120	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	13.5	9.8	8.6
17-1/2'	4" SQ	.120	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	12.4	9.0	7.2
18'	4" SQ	.120	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	9.8	7.2	5.4
20'	4" SQ	.120	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	8.2	5.5	4.0
20'	4" SQ	.180	9" Sq. x 3/4"	9 3/16"	3/4" x 30"	14.5	10.0	7.6
20'	5" SQ	.120	12" Sq. x 1"	9 3/16"	3/4" x 30"	16.2	11.3	7.9
20'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	26.2	21.2	15.4
22'	4" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	6.3	3.7	1.8
22'	4" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	11.8	7.9	5.3
22'	5" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	12.5	8.3	5.4
22'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	21.1	15.2	10.9
24'	4" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	5.3	2.7	1.5
24'	4" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	10.8	6.8	4.2
24'	5" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	5.3	2.7	1.5
24'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	19.8	13.7	9.1
25'	4" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	4.7	2.5	1.2
25'	4" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	10.9	7.4	5.2
25'	5" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	10.2	6.6	1.6
25'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	18.9	13.2	9.6
26'	4" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	4.7	2.5	1.2
26'	4" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	10.7	7.1	4.9
26'	5" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	9.8	6.3	1.3
26'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	18.5	12.9	9.4
28'	4" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	6.0	2.2	1.6
28'	5" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	5.8	3.2	1.5
28'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	12.2	7.8	4.6
28'	6" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	21.7	14.6	9.8
30'	5" SQ	.120	12" Sq. x 1"	12 3/4"	1"x 36"	5.2	2.3	-
30'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	11.6	6.9	4.1
30'	6" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	18.8	12.7	8.3
32'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	10.1	4.9	2.6
32'	6" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	16.6	8.4	5.2
35'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	6.8	2.4	1.9
35'	6" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	12.2	7.1	3.9
39'	5" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	3.1	-	-
39'	6" SQ	.180	12" Sq. x 1"	12 3/4"	1"x 36"	7.3	3.0	-



LIGHTING/ELECTRIC

Traffic Impact Study Proposed Dutch Bros

Buffalo Grove, Illinois



Prepared For:



DUTCH BROS
Coffee



October 15, 2025

1. Introduction

This report summarizes the methodologies, results, and findings of a traffic impact study conducted by Kenig, Lindgren, O’Hara, Aboona, Inc. (KLOA, Inc.) for a proposed coffee shop to be located in Buffalo Grove, Illinois. The site, which was previously occupied by Burger King, is located within The Clove mixed use development at the southwest corner of the signalized intersection of McHenry Road with the access drive. Plans call for an approximately 2,893 square-foot coffee shop with double drive-through lanes. Access to the coffee shop will be provided via the existing access system serving The Clove.

The purpose of this study was to examine background traffic conditions, assess the impact that the proposed coffee shop will have on traffic conditions in the area, determine if any roadway or access improvements are necessary to accommodate traffic generated by the proposed coffee shop. **Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site. The sections of this report present the following:

- Existing roadway conditions
- A description of the proposed coffee shop
- Directional distribution of the coffee shop traffic
- Vehicle trip generation for the coffee shop
- Future traffic conditions including access to the coffee shop
- Traffic analyses for the weekday morning, weekday evening, and Saturday midday peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system

Traffic capacity analyses were conducted for the weekday morning, weekday evening, and Saturday midday peak hours for the following conditions:

1. Existing Conditions – Analyzes the capacity of the existing roadway system using peak hour traffic volumes conducted in 2025.
2. Year 2031 No-Build Conditions – Analyzes the capacity of the existing roadway system using existing traffic volumes increased by an ambient area growth factor not attributable to any particular development.
3. Year 2031 Total Projected Conditions – Analyzes the capacity of the future roadway system using the projected traffic volumes that include the Year 2031 no-build volumes and the traffic estimated to be generated by the proposed development.



Site Location

Figure 1



Aerial View of Site

Figure 2

2. Existing Conditions

Existing transportation conditions in the vicinity of the site were documented based on field visits conducted by KLOA, Inc. in order to obtain a database for projecting future conditions. The following provides a description of the geographical location of the site, physical characteristics of the area roadway system including lane usage and traffic control devices, and existing peak hour traffic volumes.

Site Location

The site, which was previously occupied by Burger King, is located in the southwest corner of the signalized intersection of McHenry Road with The Clove development access drive. Land uses in the vicinity of the site are a mixture of commercial and residential uses and include Shell fuel center located to the south of the site and Walgreens and Buffalo Grove Shoppes Plaza to the west of the site.









Existing Roadway System Characteristics

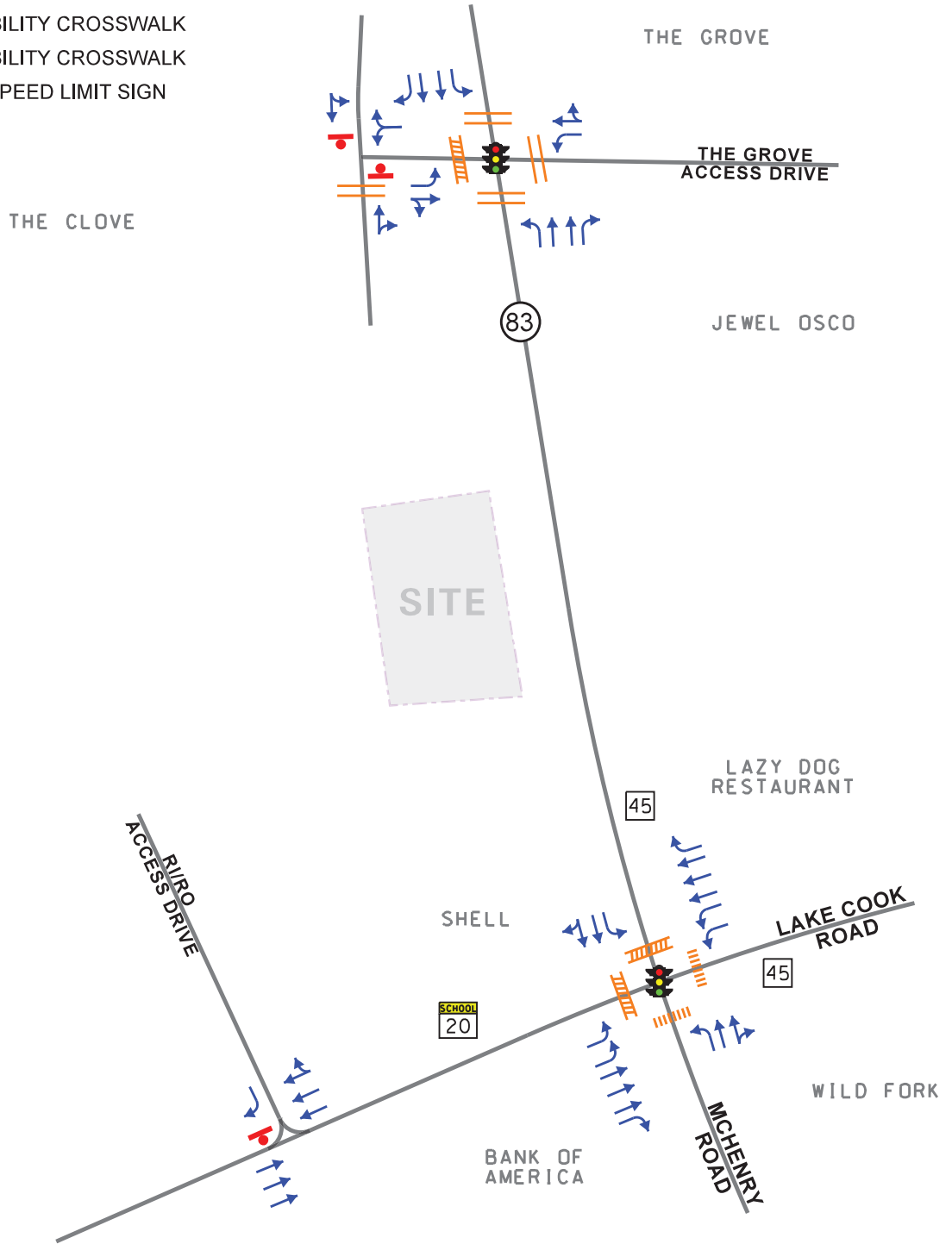
The characteristics of the existing roadways near the proposed coffee shop are described below and illustrated in **Figure 3**.

McHenry Road is generally a north-south other principal arterial roadway that in the vicinity of the site provides two travel lanes in each direction. At its signalized intersection with The Clove access drive/The Grove access drive, McHenry Road provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on the northbound and southbound approaches. Standard style crosswalks are provided on the north, south, and east legs of this intersection and a high visibility crosswalk is provided on the west leg of it. Pedestrian signals are provided on all four legs of this intersection. Both access drives provide an exclusive left-turn lane and a shared through/right-turn lane on both approaches. McHenry Road is under the jurisdiction of the Illinois Department of Transportation (IDOT) and carries an annual average daily traffic (AADT) volume of 15,100 vehicles (IDOT 2023). McHenry Road is not classified as a Strategic Regional Arterial (SRA) north of Lake Cook Road and has a posted speed limit of 45 miles per hour north of Lake Cook Road and a posted speed limit of 40 miles per hour south of Lake Cook Road.

Lake Cook Road is an east-west other principal arterial roadway that provides two travel lanes in each direction. At its intersection with The Clove right-in/right-out access drive, Lake Cook Road provides three through lanes on the eastbound approach and two through lanes and a shared through/right-turn lane on the westbound approach. The access drive provides an exclusive right-turn lane on the southbound approach. Lake Cook Road is under the jurisdiction of the Cook County Department of Transportation and Highways (CCDOH), is classified as an SRA, carries an AADT volume of 29,400 vehicles (IDOT 2022), and has a posted speed limit of 45 miles per hour.

LEGEND

-  - TRAVEL LANE
-  - TRAFFIC SIGNAL
-  - STOP SIGN
-  - SPEED LIMIT SIGN
-  - STANDARD CROSSWALK
-  - HIGH VISIBILITY CROSSWALK
-  - HIGH VISIBILITY CROSSWALK
-  - SCHOOL SPEED LIMIT SIGN



Dutch Bros
Buffalo Grove, Illinois

Existing Roadway Characteristics



Job No: 25-220

Figure: 3

Existing Traffic Volumes

In order to determine current traffic conditions in the vicinity of the site, KLOA, Inc. conducted peak period traffic counts utilizing Miovision Scout Video Collection Units during the weekday morning (7:00 to 9:00 A.M.), weekday evening (4:00 to 6:00 P.M.), and Saturday midday (12:00 to 2:00 P.M.) peak periods at the following intersections:

- McHenry Road with The Grove Access Drive/The Clove Access Drive
- Lake Cook Road with The Clove Right-In/Right-Out Access Drive
- The Clove Internal Intersection

All counts were conducted on Saturday August 23rd and Tuesday August 26th, 2025. The results of the traffic counts showed that the weekday morning peak hour of traffic generally occurs from 7:00 A.M. to 8:00 A.M., the weekday evening peak hour of traffic generally occurs from 4:30 P.M. to 5:30 P.M., and the Saturday midday peak hour generally occurs from 12:00 P.M. to 1:00 P.M.

Figure 4 illustrates the existing traffic volumes. Copies of the traffic count summary sheets are included in the Appendix.

Crash Data Summary

KLOA, Inc. obtained accident data for the most recent available past five years (2019 to 2023) for the intersection of McHenry Road with The Grove access drive/The Clove access drive and the intersection of Lake Cook Road with The Clove right-in/right-out access drive. A review of the crash data revealed no crashes were reported at the signalized intersection of McHenry Road with The Grove access drive/The Clove access drive and no fatalities were reported at these intersections during the review period. A summary of the crash data is shown in **Table 1**.¹

¹ IDOT DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s).

Table 1

LAKE COOK ROAD WITH RIGHT-IN/RIGHT-OUT ACCESS DRIVE- CRASH SUMMARY

Year	Type of Crash								Severity		
	A	HO	O	RE	S	T	Other	Total	PD	I	F
2019	0	0	0	5	0	1	0	6	0	2	0
2020	0	0	0	4	0	1	0	5	0	0	0
2021	0	0	0	0	0	0	0	0	0	0	0
2022	0	0	1	1	1	2	0	5	0	0	0
2023	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	1	10	1	4	0	16	0	2	0
Avg	--	--	<1.0	2.0	<1.0	<1.0	--	3.2	--	<1.0	--

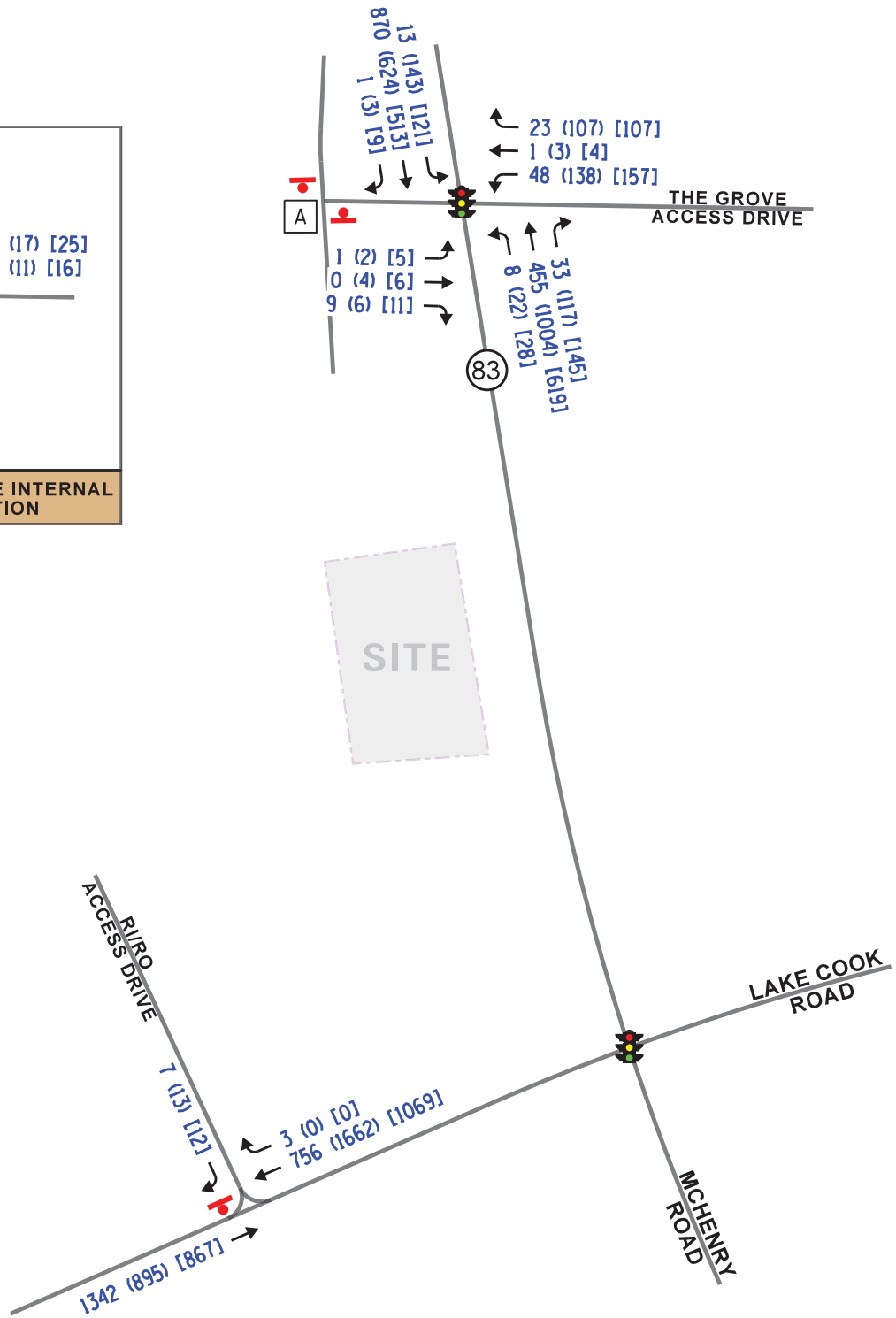
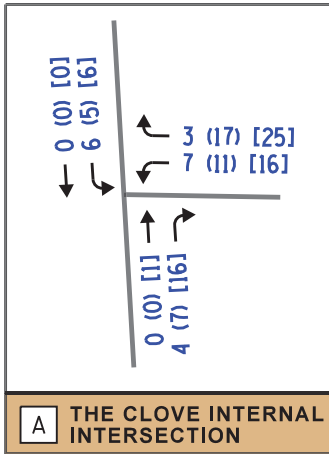
A – Angle; HO – Head On; O – Object; RE – Rear End; S – Sideswipe; T – Turning
 PD – Property Damage; I – Injury; F - Fatal

LEGEND

- 00 - WEEKDAY AM PEAK HOUR (7:00-8:00 AM)
- (00) - WEEKDAY PM PEAK HOUR (4:30-5:30 PM)
- [00] - SATURDAY MIDDAY PEAK HOUR (12:00-1:00 PM)



NOT TO SCALE



Dutch Bros
Buffalo Grove, Illinois

Existing Traffic Volumes



Job No: 25-220

Figure: 4

3. Traffic Characteristics of the Proposed Coffee Shop

In order to properly evaluate future traffic conditions in the surrounding area, it was necessary to determine the traffic characteristics of the proposed coffee shop, including the directional distribution and volumes of traffic that it will generate.

Proposed Site and Development Plan

As proposed, the site which was previously occupied by Burger King will be redeveloped with an approximately 2,893 square-foot Dutch Bros coffee shop with indoor seating, outdoor patio, and double drive-through facility. Access to the site will be provided via the existing access system serving The Clove business center as follows:

- A signalized full movement access drive off McHenry Road, located approximately 600 feet north of Lake Cook Road, aligned opposite the access drive serving The Grove shopping center. This access drive provides two outbound lanes providing an exclusive left-turn lane and a shared through/right-turn lane.
- A connection to Townplace Parkway which has a signalized intersection with McHenry Road, aligned opposite Pauline Avenue. As previously indicated, at its signalized intersection with McHenry Road, Townplace Parkway provides an exclusive left-turn lane and a shared through/right-turn lane.
- Multiple connections to Old Checker Road which has a full movement unsignalized intersection with McHenry Road and a signalized intersection with Buffalo Grove Road.
- A right-in/right-out access drive off Lake Cook Road, located approximately 300 feet west of McHenry Road. This access drive provides one inbound lane and one outbound lane with outbound movement under stop-sign control. Turning movements at this access drive are physically restricted to right-turns only via a raised triangular median on the access drive and via a barrier median along Lake Cook Road.

The internal access point that will serve the development is an existing cross-connection to the signalized access drive with McHenry Road. The cross connection is located approximately 125 feet west of McHenry Road.

A copy of the site plan is included in the Appendix.

Directional Distribution

The directions from which patrons and employees of the proposed coffee shop will approach and depart the site were estimated based on existing travel patterns, as determined from the traffic counts, and previous studies conducted in the area. **Figure 5** illustrates the directional distribution of the coffee shop-generated traffic.

Peak Hour Traffic Volumes

As proposed the site, which was previously occupied by Burger King, will be redeveloped with an approximately 2,893 square-foot Dutch Bros coffee shop. It should be noted that the following vacancies currently exist within The Clove:

- A proposed 43,000 square-foot grocery store
- A 34,710 square-foot commercial space
- A proposed 1,440 square-foot high-turnover restaurant
- A proposed 4,000 square-foot First Watch restaurant
- Approximately 212 residential units

The number of peak hour trips estimated to be generated by the proposed coffee shop and the existing vacancies within The Clove was based on vehicle trip generation rates contained in *Trip Generation Manual*, 12th Edition, published by the Institute of Transportation Engineers (ITE).

“Coffee-Donut Shop with Drive-Through” (Land Use Code 937) rates were used to estimate the traffic generated by the proposed coffee shop. **Table 2** summarizes the trips projected to be generated by the proposed coffee shop to be located within The Clove.

Table 3 summarizes the trips projected to be generated by the existing vacancies within The Clove using the following rates:

- “Supermarket” (Land Use Code 850) rates were used to estimate the traffic generated by the proposed supermarket.
- “Strip Retail Plaza” (Land Use Code 822) rates were used to estimate the traffic generated by the proposed commercial areas.
- “High Turn Over Restaurant” (Land Use Code 932) rates were used to estimate the traffic generated by the proposed restaurants.
- “Multi-Family Housing” (Land Use Code 221) rates were used to estimate the traffic generated by the vacant residential units.

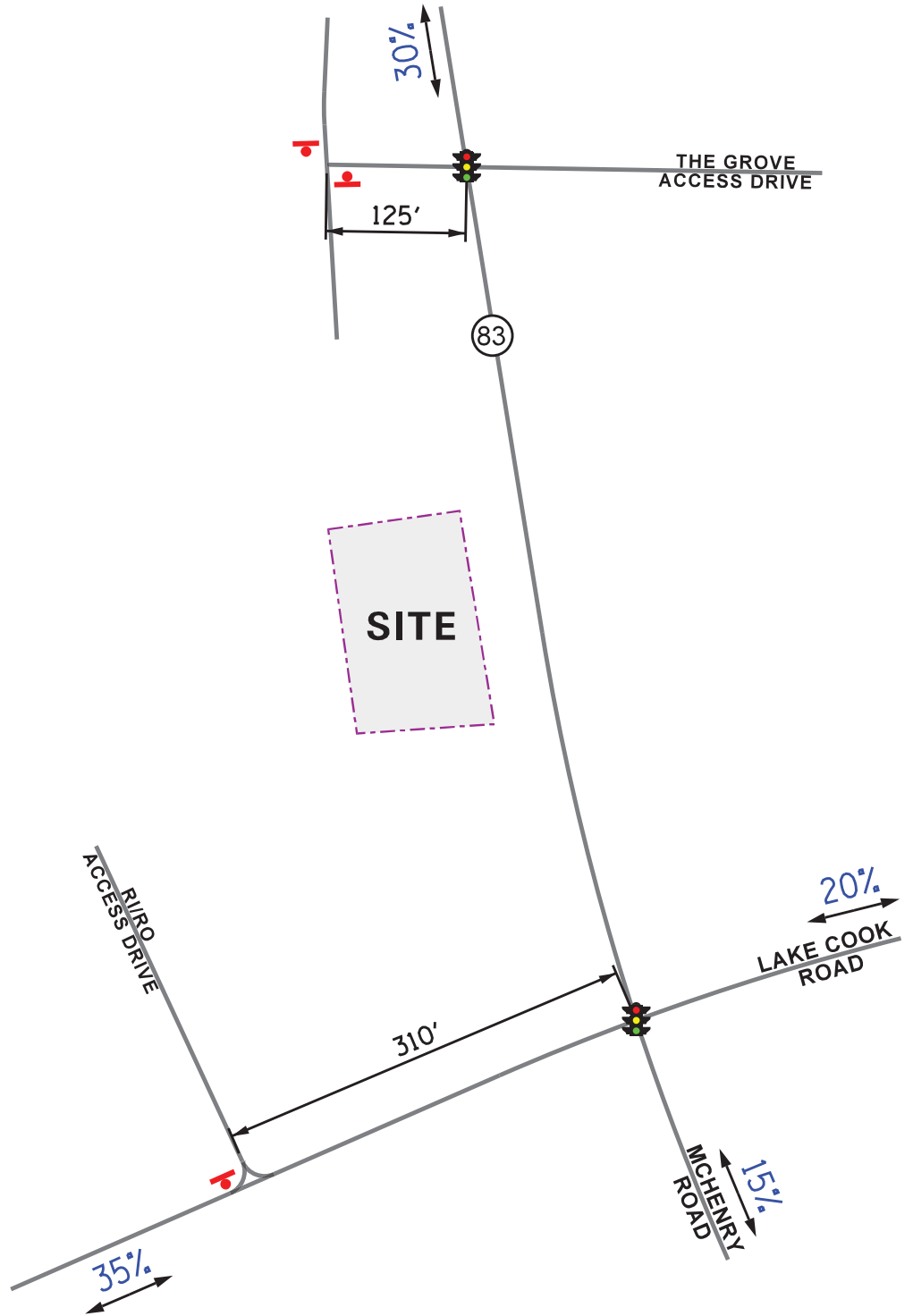
Copies of the ITE trip generation worksheets are included in the Appendix.

LEGEND

00% - PERCENT DISTRIBUTION



NOT TO SCALE



Dutch Bros
Buffalo Grove, Illinois

Directional Distribution



Job No: 25-220

Figure: 5

In addition, it is important to note that surveys conducted by ITE have shown that approximately 70 percent of trips made to coffee shops are diverted from the existing traffic on the roadway system. This is particularly true during the weekday morning and evening peak hours when traffic is diverted from the home-to-work and work-to-home trips. Additionally, 20 percent pass-by reduction is anticipated to trips estimated to be generated by the grocery store and commercial space and 40 percent pass-by reduction is anticipated to the trips estimated to be generated by the proposed restaurants. It should be noted, based on a Multi-Use Trip Generation calculation based on ITE procedures, approximately 25 percent of the trips generated by the proposed development will be internal trips given the mixed-use nature of the development. However, in order to provide a conservative analysis, no internal or pass-by trip reduction was applied to the trips estimated to be generated by the proposed land uses.

Trip Generation Comparison

It should be noted that the site was previously occupied by Burger King. The number of peak hour vehicle trips estimated to be generated by the previously land use was estimated based on vehicle trip generation rates contained in ITE *Trip Generation Manual* and are summarized in **Table 4**. As can be seen from Table 3, the proposed development is projected to generate approximately 1.6 times more trips during the weekday morning peak hour, approximately 25 percent more trips during the evening peak hour, and 45 percent more trips during the Saturday midday peak hour than the previous land use.

Table 2
PROJECTED COFFEE SHOP TRAFFIC VOLUMES

ITE Land -Use Code	Type/Size	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour				
		In	Out	Total	In	Out	Total			
937	Coffee Shop with Drive-Through (2,893 s.f.)	126	122	248	57	56	113	105	110	215

Table 3
PROJECTED VACANCY TRAFFIC VOLUMES

ITE Land -Use Code	Type/Size	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour				
		In	Out	Total	In	Out	Total			
850	Supermarket (43,000 s.f.)	75	52	127	193	192	385	228	227	455
822	Strip Retail Plaza (34,710 s.f.)	75	61	136	89	89	178	117	113	230
932	High Turn Over Restaurant (1,440 s.f.)	7	6	13	8	5	13	8	8	16
221	Multi-Family Housing Mid-Rise (212 Units)	19	62	81	51	28	79	39	37	76
932	First Watch (4,000 s.f.)	20	16	36	22	15	37	79	65	144
Total Trips		<u>196</u>	<u>197</u>	<u>393</u>	<u>363</u>	<u>329</u>	<u>692</u>	<u>471</u>	<u>450</u>	<u>921</u>

Table 4
TRIP GENERATION COMPARISON

ITE Land- Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
937	Coffee Shop with Drive-Through (2,893 s.f.)	126	122	248	57	56	113	105	110	215
934	Fast-Food with Drive-Through (2,893 s.f.)	49	47	96	48	44	92	75	72	147
	Difference	+77	+75	+152	+9	+12	+21	+30	+38	+68

4. Projected Traffic Conditions

The total projected traffic volumes include the existing traffic volumes, increase in background traffic due to growth, and the traffic estimated to be generated by the proposed subject coffee shop.

Coffee Shop Traffic Assignment

The estimated weekday morning, weekday evening, and Saturday midday peak hour traffic volumes that will be generated by the proposed coffee shop were assigned to the roadway system in accordance with the previously described directional distribution (Figure 5). The traffic assignment for the coffee shop is illustrated in **Figure 6**.

Background Traffic Conditions

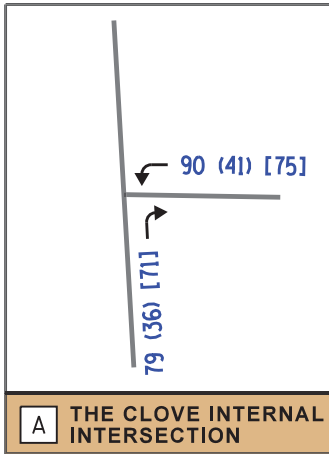
The existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on AADT projections provided by the Chicago Metropolitan Agency for Planning (CMAP) in a letter, the existing traffic volumes are projected to increase by a compound annual growth rate of 0.43 percent per year. As such, traffic volumes were increased by approximately three percent total to represent Year 2031 conditions (one-year buildout plus five years). A copy of the CMAP projections letter is included in the Appendix. The Year 2031 no-build traffic volumes, which include the existing traffic volumes increased by the regional growth factor and traffic volumes estimated to be generated by the existing vacancies within The Clove business center, are illustrated in **Figure 7**.

Total Projected Traffic Volumes

The development-generated traffic was added to the existing traffic volumes accounting for background growth to determine the Year 2031 total projected traffic volumes, as shown in **Figure 8**.

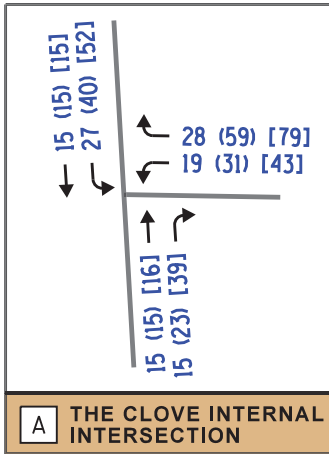
LEGEND

- 00 - WEEKDAY AM PEAK HOUR (7:00-8:00 AM)
- (00) - WEEKDAY PM PEAK HOUR (4:30-5:30 PM)
- [00] - SATURDAY MIDDAY PEAK HOUR (12:00-1:00 PM)



LEGEND

- 00 - WEEKDAY AM PEAK HOUR (7:00-8:00 AM)
- (00) - WEEKDAY PM PEAK HOUR (4:30-5:30 PM)
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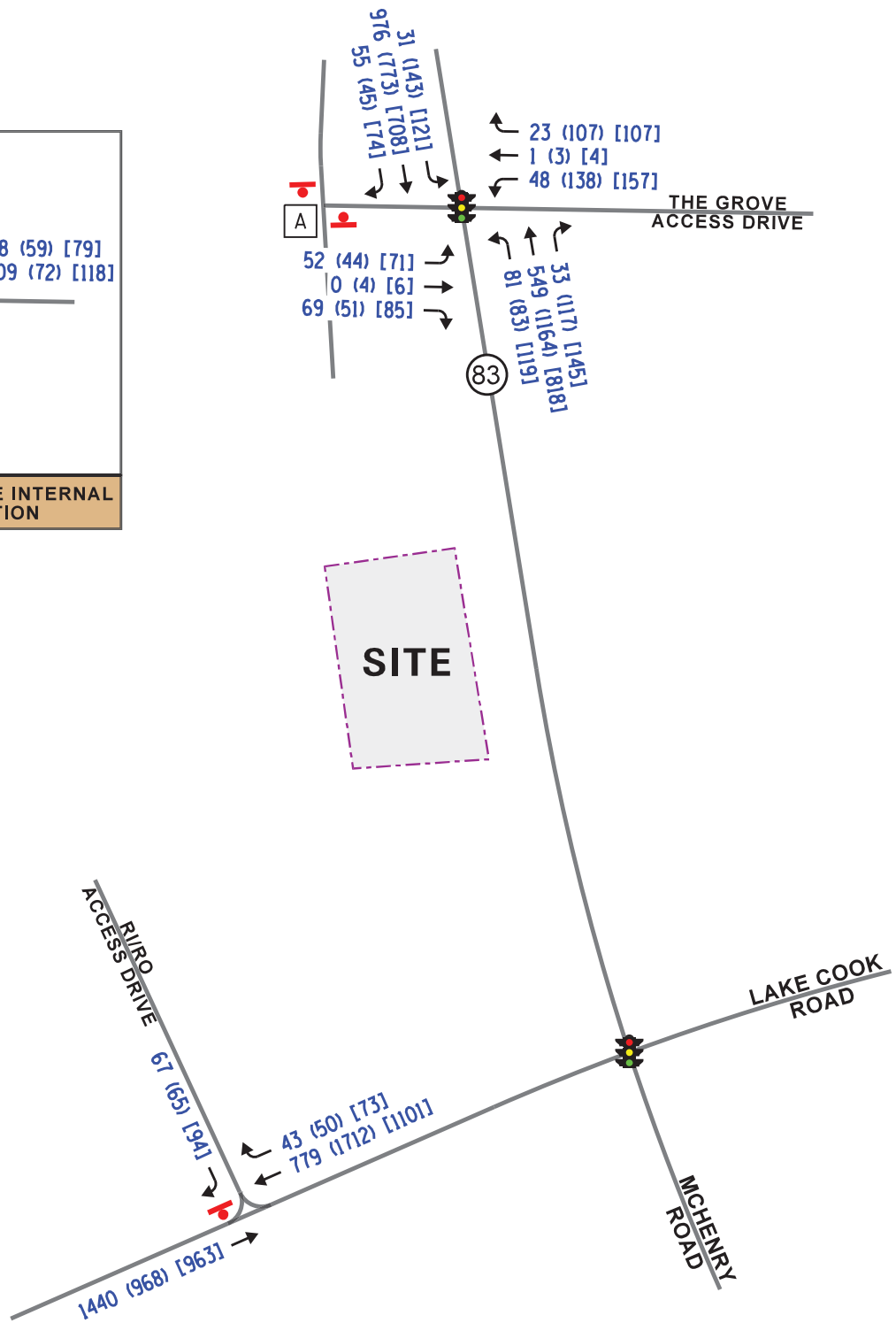
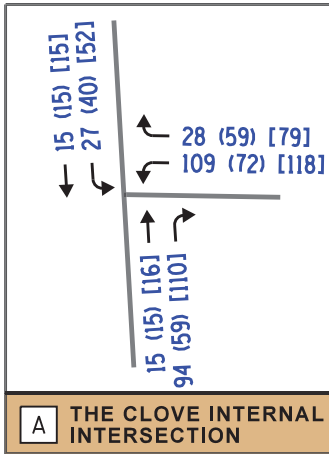


LEGEND

- 00 - WEEKDAY AM PEAK HOUR (7:00-8:00 AM)
- (00) - WEEKDAY PM PEAK HOUR (4:30-5:30 PM)
- [00] - SATURDAY MIDDAY PEAK HOUR (12:00-1:00 PM)



NOT TO SCALE



Dutch Bros
Buffalo Grove, Illinois

Year 2031 Total Traffic Volumes



Job No: 25-220

Figure: 8

5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning, weekday evening, and Saturday midday peak hours. The analysis includes conducting capacity analyses to determine how well the roadway system and access drives are projected to operate and whether any roadway improvements or modifications are required.

Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning, evening, and Saturday midday peak hours for the existing, Year 2031 no-build, and Year 2031 total projected traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM)*, 7th Edition and analyzed using Synchro/SimTraffic 12 software. The analysis for the traffic-signal controlled intersections were accomplished using actual cycle lengths and phasings to determine the average overall vehicle delay and levels of service.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for signalized intersections and unsignalized intersections are included in the Appendix of this report.

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the existing, Year 2031 no-build, and Year 2031 total projected conditions are presented in **Tables 5** through **7**. A discussion of each intersection follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 5
CAPACITY ANALYSIS RESULTS – MCHENRY ROAD WITH THE CLOVE/THE GROVE ACCESS DRIVES – SIGNALIZED

Peak Hour	Eastbound		Westbound		Northbound			Southbound			Overall	
	L	T/R	L	T/R	L	T	R	L	T	R		
Existing Conditions	Weekday Morning	D 54.0	A 0.1	E 64.5	E 67.7	A 2.8	A 4.8	A 1.6	A 2.1	A 3.9	A 1.0	A 7.1
		A – 5.0		E – 65.6		A – 4.6			A – 3.8			
	Weekday Evening	D 44.5	D 40.2	E 65.4	E 68.2	A 5.1	B 12.6	A 3.4	A 7.3	A 8.0	A 5.3	B 16.7
Existing Conditions		D – 40.9		E – 66.6		B – 11.5			A – 7.9			
	Saturday Midday	D 39.8	D 36.9	E 56.3	E 63.4	A 6.0	B 11.0	A 3.0	A 6.0	A 8.8	A 6.2	B 17.0
		D – 37.5		E – 59.2		A – 9.4			A – 8.3			
No-Build Conditions	Weekday Morning	D 50.4	A 0.6	E 57.5	E 66.8	A 4.1	A 6.8	A 2.7	A 2.6	A 6.0	A 1.8	A 8.6
		B – 18.3		E – 60.6		A – 6.5			A – 5.8			
	Weekday Evening	D 42.8	C 23.5	D 54.9	E 72.2	A 7.1	B 18.7	A 5.8	B 11.1	B 12.2	A 6.2	B 19.9
No-Build Conditions		C – 31.8		E – 62.6		B – 17.1			B – 11.9			
	Saturday Midday	D 39.4	C 22.1	D 50.9	E 66.0	A 7.1	B 14.5	A 5.0	A 7.8	B 12.5	A 6.4	B 18.2
		C – 29.4		E – 57.1		B – 12.6			B – 11.6			
Projected Conditions	Weekday Morning	D 51.6	A 1.8	D 54.9	E 68.6	A 5.9	A 8.4	A 3.4	A 3.3	A 9.1	A 2.1	B 11.2
		C – 23.1		E – 59.5		A – 7.9			A – 8.6			
	Weekday Evening	D 43.4	B 19.5	D 53.3	E 72.9	A 7.7	B 19.5	A 6.2	B 11.8	B 13.6	A 6.4	C 20.5
Projected Conditions		C – 31.2		E – 62.0		B – 17.6			B – 13.0			
	Saturday Midday	D 40.2	B 18.3	D 47.8	E 68.0	A 8.2	B 16.0	A 5.6	A 8.6	B 14.8	A 6.5	B 19.2
		C – 27.9		E – 56.1		B – 13.7			B – 13.3			

Letter denotes Level of Service L – Left Turn R – Right Turn
Delay is measured in seconds. T – Through



Table 6
CAPACITY ANALYSIS RESULTS – LAKE COOK ROAD WITH RIGHT-IN/RIGHT-OUT ACCESS DRIVE – UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
Existing Conditions						
• Southbound Approach	B	10.0	A	9.9	A	9.6
Year 2031 No-Build Conditions						
• Southbound Approach	B	10.0	B	10.3	B	10.3
Year 2031 Total Projected Conditions						
• Southbound Approach	B	10.5	B	10.4	B	10.8
LOS = Level of Service Delay is measured in seconds.						

Table 7
CAPACITY ANALYSIS RESULTS – INTERNAL INTERSECTION– UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Capacity Usage	LOS	Capacity Usage	LOS	Capacity Usage
Existing Conditions						
• ICU Level of Service	A	15.0%	A	14.2%	A	15.0%
Year 2031 No-Build Conditions						
• ICU Level of Service	A	19.0%	A	21.7%	A	24.2%
Year 2031 Total Projected Conditions						
• ICU Level of Service	A	23.4%	A	23.9%	A	32.7%
LOS = Level of Service Note: The operation of this intersection is based on a critical volume to saturation flow (v/s) evaluation also known as the Intersection Capacity Utilization (ICU) method.						

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identifies any roadway and traffic control improvements necessary to accommodate the coffee shop-generated traffic.

McHenry Road with The Clove Access Drive/The Grove Access Drive

The results of the capacity analysis indicate that overall, this signalized intersection currently operates at Level of Service (LOS) A during the weekday morning and LOS B during the weekday evening and Saturday midday peak hours. The northbound and southbound approaches operate at LOS B or better while the eastbound and westbound approaches operate at LOS E or better during the peak hours. The lower level of service E is due to the long cycle of the signal and the fact that most of the green time is allocated to McHenry Road (north-south approaches).

Under Year 2031 no-build conditions, the intersection is projected to continue operating at the same existing levels of service during all three peak hours. The eastbound and westbound approaches are projected to operate at LOS E or better while the northbound and southbound approaches are projected to continue operating at LOS B or better during the peak hours.

Under Year 2031 total projected conditions, overall this intersection is projected to operate at LOS B during the weekday morning and Saturday midday peak hour and LOS C during the weekday evening peak hours. The northbound and southbound approaches are projected to operate at LOS B or better during all three peak hours. The eastbound and westbound approaches are projected to continue operating at LOS E or better during the peak hours. The maximum 95th percentile queue for the northbound left-turn movement is projected to be approximately 55 feet during the Saturday midday peak hour which will be accommodated within the existing left-turn lane. The maximum 95th percentile queue for the eastbound left-turn movement is projected to be approximately 80 feet during the Saturday midday peak hour and will extend back to the location of the internal access drive. However, a review of the traffic simulation indicated that the queue would clear the intersection within the green phase of the signal. It is recommended to put up a “Do Not Block the Intersection” sign at this intersection. As such, this intersection has adequate reserve capacity to accommodate the traffic estimated to be generated by the proposed coffee shop and no roadway improvements or traffic control adjustments will be required.

Lake Cook Road with Right-In/Right-Out Access Drive

The results of the capacity analysis indicate that the southbound approach currently operates at LOS B during the weekday morning peak hour and LOS A during the weekday evening and Saturday midday peak hours.

Under Year 2031 no-build and total projected conditions, the southbound approach is projected to operate at LOS B during all three peak hours. As such, this intersection has sufficient reserve capacity to accommodate the traffic projected to be generated by the coffee shop and no roadway improvements or traffic control modifications are required.

Internal Intersection

Because of the traffic control configuration of this intersection where the westbound approach traffic is free flow and the other four approaches are under stop sign control, the intersection could not be analyzed using HCM procedures. Given this traffic control configuration and the limitations of the HCM procedures, the intersection was analyzed using the intersection capacity utilization (ICU) level of service. The ICU indicates how much reserve capacity is available or how much an intersection is over capacity.

Based on the ICU analysis, the intersection currently utilizes approximately 15 percent of the capacity of the intersection during all three peak hours.

Under future conditions it is projected that the intersection will utilize between 23 to 33 percent of the capacity of the intersection. As a result, the intersection will continue to operate efficiently and with minimal delays.

Overall Site Circulation and Drive-Through Operation

A review of the site plan indicated that the internal circulation of the proposed coffee shop will support efficient and safe movement for vehicles. The parking spaces located to the west of the site will be served via two-way north-south drive aisles. The entrance of the drive-through lane is located in the southwest corner of the site. After entering the drive-through lane, vehicles should continue east to the dual ordering boards and make a left-turn to drive north towards the pick-up window which will be located in the northeast corner of the building. Additionally, a bypass lane will be provided along the east side of the building.

It should be noted that the proposed coffee shop will have dual ordering boards and staff on site will be taking orders and delivering completed orders to customers in line before reaching the pick-up window. In addition, staff will ensure the proposed bypass lane is used to minimize service time and also direct traffic in and out of location, preventing vehicles from blocking critical drives or otherwise restricting traffic flow on site.

In order to provide efficient and orderly internal traffic flow, the following is recommended:

- Wayfinding signs should be provided within the site directing traffic to the entrance of the drive-through lane.
- A “Do Not Enter” sign facing east should be posted at the exit of the drive-through lane.

Based on the stacking layout, approximately 14 vehicles can stack within the drive-through lane. Additional stacking can happen on the parking lot east-west drive-aisle without blocking the diagonal parking spaces.

7. Conclusion

Based on the preceding analyses and recommendations, the following conclusions have been made:

- The traffic projected to be generated by the proposed coffee shop will be reduced due to the volume of pass-by trips.
- All intersections within the study area have sufficient reserve capacity to accommodate the coffee shop-generated traffic.
- The proposed coffee shop will replace a former Burger King drive through restaurant and as such not all trips generated will be new.
- The location of the coffee shop within The Clove will allow for internal capture and provide the site with flexible access.
- The access system will be adequate in accommodating the traffic projected to be generated by the proposed coffee shop as well as the full occupancy of The Clove with limited impact on the external roadway system.
- The proposed stacking of 14 vehicles within the drive-through lane along with the additional stacking out of the drive-through lane will be sufficient to meet the average and peak queue and will not impact the internal flow of traffic.

Appendix

Traffic Count Summary Sheets

Site Plan

ITE Trip Generation Summary Sheets

CMAP 2050 Projections Letter

Level of Service Criteria

Capacity Analysis Summary Sheets

Traffic Count Summary Sheets



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 sainkeshavarzi@kloainc.com

Count Name: Guzman y Gomez Internal Access
Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 1

Turning Movement Data

Start Time	Access to McHenry Road Westbound					Access Drive Northbound					Access Drive Southbound					Int. Total
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	
12:00 PM	1	3	3	2	7	0	1	5	0	6	0	0	0	1	0	13
12:15 PM	0	3	5	0	8	0	0	3	0	3	0	0	0	1	0	11
12:30 PM	0	3	6	0	9	0	0	2	0	2	0	1	0	1	1	12
12:45 PM	1	3	7	0	11	0	0	6	0	6	0	0	0	0	0	17
Hourly Total	2	12	21	2	35	0	1	16	0	17	0	1	0	3	1	53
1:00 PM	0	2	3	0	5	0	0	1	0	1	0	3	0	0	3	9
1:15 PM	0	1	4	1	5	0	0	3	0	3	0	0	0	0	0	8
1:30 PM	0	3	7	0	10	0	0	5	0	5	0	2	0	0	2	17
1:45 PM	0	2	4	1	6	0	0	8	0	8	0	1	0	0	1	15
Hourly Total	0	8	18	2	26	0	0	17	0	17	0	6	0	0	6	49
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	3
7:15 AM	0	4	0	0	4	0	0	1	0	1	0	3	0	0	3	8
7:30 AM	0	3	1	0	4	0	0	2	0	2	0	1	0	0	1	7
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	7	3	0	10	0	0	4	0	4	0	5	0	0	5	19
8:00 AM	0	2	0	1	2	0	0	3	0	3	0	2	0	0	2	7
8:15 AM	0	2	3	1	5	0	0	0	0	0	1	1	0	1	2	7
8:30 AM	0	1	0	0	1	0	0	1	0	1	0	2	0	0	2	4
8:45 AM	0	2	1	0	3	0	0	1	0	1	0	3	0	0	3	7
Hourly Total	0	7	4	2	11	0	0	5	0	5	1	8	0	1	9	25
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	1	0	2	0	0	5	0	5	0	3	0	0	3	10
4:15 PM	0	1	4	0	5	0	0	4	0	4	0	1	0	0	1	10
4:30 PM	0	3	4	1	7	0	0	1	1	1	0	0	0	0	0	8
4:45 PM	0	4	4	0	8	0	0	2	0	2	0	2	0	0	2	12
Hourly Total	0	9	13	1	22	0	0	12	1	12	0	6	0	0	6	40
5:00 PM	0	3	6	1	9	0	0	3	0	3	0	1	0	0	1	13
5:15 PM	1	0	3	0	4	0	0	1	0	1	0	0	0	0	0	5
5:30 PM	1	4	5	0	10	0	0	4	0	4	0	2	0	0	2	16
5:45 PM	0	1	4	0	5	0	0	3	0	3	0	2	0	0	2	10
Hourly Total	2	8	18	1	28	0	0	11	0	11	0	5	0	0	5	44
Grand Total	4	51	77	8	132	0	1	65	1	66	1	31	0	4	32	230
Approach %	3.0	38.6	58.3	-	-	0.0	1.5	98.5	-	-	3.1	96.9	0.0	-	-	-
Total %	1.7	22.2	33.5	-	57.4	0.0	0.4	28.3	-	28.7	0.4	13.5	0.0	-	13.9	-
Lights	4	50	71	-	125	0	1	64	-	65	0	28	0	-	28	218

% Lights	100.0	98.0	92.2	-	94.7	-	100.0	98.5	-	98.5	0.0	90.3	-	-	87.5	94.8
Buses	0	0	0	-	0	0	0	0	-	0	0	2	0	-	2	2
% Buses	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	6.5	-	-	6.3	0.9
Single-Unit Trucks	0	0	3	-	3	0	0	0	-	0	0	0	0	-	0	3
% Single-Unit Trucks	0.0	0.0	3.9	-	2.3	-	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	1.3
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	1	3	-	4	0	0	1	-	1	1	1	0	-	2	7
% Bicycles on Road	0.0	2.0	3.9	-	3.0	-	0.0	1.5	-	1.5	100.0	3.2	-	-	6.3	3.0
Pedestrians	-	-	-	8	-	-	-	-	1	-	-	-	-	4	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



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Count Name: Guzman y Gomez Internal Access
Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 3

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Access to McHenry Road Westbound					Access Drive Northbound					Access Drive Southbound					Int. Total
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	
12:00 PM	1	3	3	2	7	0	1	5	0	6	0	0	0	1	0	13
12:15 PM	0	3	5	0	8	0	0	3	0	3	0	0	0	1	0	11
12:30 PM	0	3	6	0	9	0	0	2	0	2	0	1	0	1	1	12
12:45 PM	1	3	7	0	11	0	0	6	0	6	0	0	0	0	0	17
Total	2	12	21	2	35	0	1	16	0	17	0	1	0	3	1	53
Approach %	5.7	34.3	60.0	-	-	0.0	5.9	94.1	-	-	0.0	100.0	0.0	-	-	-
Total %	3.8	22.6	39.6	-	66.0	0.0	1.9	30.2	-	32.1	0.0	1.9	0.0	-	1.9	-
PHF	0.500	1.000	0.750	-	0.795	0.000	0.250	0.667	-	0.708	0.000	0.250	0.000	-	0.250	0.779
Lights	2	12	20	-	34	0	1	16	-	17	0	1	0	-	1	52
% Lights	100.0	100.0	95.2	-	97.1	-	100.0	100.0	-	100.0	-	100.0	-	-	100.0	98.1
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	0	1	-	1	0	0	0	-	0	0	0	0	-	0	1
% Single-Unit Trucks	0.0	0.0	4.8	-	2.9	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	1.9
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	3	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: Guzman y Gomez Internal Access
Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 4

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Access to McHenry Road Westbound					Access Drive Northbound					Access Drive Southbound					Int. Total
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	
7:00 AM	0	0	1	0	1	0	0	1	0	1	0	1	0	0	1	3
7:15 AM	0	4	0	0	4	0	0	1	0	1	0	3	0	0	3	8
7:30 AM	0	3	1	0	4	0	0	2	0	2	0	1	0	0	1	7
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	7	3	0	10	0	0	4	0	4	0	5	0	0	5	19
Approach %	0.0	70.0	30.0	-	-	0.0	0.0	100.0	-	-	0.0	100.0	0.0	-	-	-
Total %	0.0	36.8	15.8	-	52.6	0.0	0.0	21.1	-	21.1	0.0	26.3	0.0	-	26.3	-
PHF	0.000	0.438	0.750	-	0.625	0.000	0.000	0.500	-	0.500	0.000	0.417	0.000	-	0.417	0.594
Lights	0	7	2	-	9	0	0	4	-	4	0	3	0	-	3	16
% Lights	-	100.0	66.7	-	90.0	-	-	100.0	-	100.0	-	60.0	-	-	60.0	84.2
Buses	0	0	0	-	0	0	0	0	-	0	0	2	0	-	2	2
% Buses	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	40.0	-	-	40.0	10.5
Single-Unit Trucks	0	0	1	-	1	0	0	0	-	0	0	0	0	-	0	1
% Single-Unit Trucks	-	0.0	33.3	-	10.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	5.3
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Guzman y Gomez Internal Access
Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 5

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Access to McHenry Road Westbound					Access Drive Northbound					Access Drive Southbound					Int. Total
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	
4:30 PM	0	3	4	1	7	0	0	1	1	1	0	0	0	0	0	8
4:45 PM	0	4	4	0	8	0	0	2	0	2	0	2	0	0	2	12
5:00 PM	0	3	6	1	9	0	0	3	0	3	0	1	0	0	1	13
5:15 PM	1	0	3	0	4	0	0	1	0	1	0	0	0	0	0	5
Total	1	10	17	2	28	0	0	7	1	7	0	3	0	0	3	38
Approach %	3.6	35.7	60.7	-	-	0.0	0.0	100.0	-	-	0.0	100.0	0.0	-	-	-
Total %	2.6	26.3	44.7	-	73.7	0.0	0.0	18.4	-	18.4	0.0	7.9	0.0	-	7.9	-
PHF	0.250	0.625	0.708	-	0.778	0.000	0.000	0.583	-	0.583	0.000	0.375	0.000	-	0.375	0.731
Lights	1	10	17	-	28	0	0	7	-	7	0	3	0	-	3	38
% Lights	100.0	100.0	100.0	-	100.0	-	-	100.0	-	100.0	-	100.0	-	-	100.0	100.0
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Single-Unit Trucks	0.0	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0
Pedestrians	-	-	-	2	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-



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Count Name: Lake Cook Road with Access
Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 1

Turning Movement Data

Start Time	Lake Cook Road Eastbound					Lake Cook Road Westbound					Access Drive Southbound					Int. Total
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
12:00 PM	0	0	227	0	227	0	291	7	0	298	0	0	2	1	2	527
12:15 PM	0	0	220	0	220	0	256	3	0	259	0	0	1	0	1	480
12:30 PM	0	0	201	0	201	0	272	2	0	274	0	0	5	0	5	480
12:45 PM	0	0	219	0	219	0	250	0	0	250	0	0	4	1	4	473
Hourly Total	0	0	867	0	867	0	1069	12	0	1081	0	0	12	2	12	1960
1:00 PM	0	0	222	0	222	0	260	3	0	263	0	0	4	0	4	489
1:15 PM	0	0	199	0	199	0	267	1	0	268	0	0	3	1	3	470
1:30 PM	0	0	202	0	202	0	286	5	0	291	0	0	4	0	4	497
1:45 PM	0	0	167	0	167	0	246	1	0	247	0	0	8	0	8	422
Hourly Total	0	0	790	0	790	0	1059	10	0	1069	0	0	19	1	19	1878
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	0	270	0	270	0	174	0	0	174	0	0	0	0	0	444
7:15 AM	0	0	328	0	328	0	188	2	0	190	0	0	2	0	2	520
7:30 AM	0	0	332	0	332	0	199	1	0	200	0	0	2	0	2	534
7:45 AM	0	0	412	0	412	0	195	0	0	195	0	0	3	0	3	610
Hourly Total	0	0	1342	0	1342	0	756	3	0	759	0	0	7	0	7	2108
8:00 AM	0	0	273	0	273	0	170	0	0	170	0	0	2	1	2	445
8:15 AM	0	0	247	0	247	0	207	0	0	207	0	0	4	0	4	458
8:30 AM	0	0	287	0	287	0	187	1	0	188	0	0	3	0	3	478
8:45 AM	0	0	226	0	226	0	200	1	0	201	0	0	4	1	4	431
Hourly Total	0	0	1033	0	1033	0	764	2	0	766	0	0	13	2	13	1812
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	211	0	211	0	366	0	0	366	0	0	3	2	3	580
4:15 PM	0	0	211	0	211	0	408	3	0	411	0	0	3	0	3	625
4:30 PM	0	0	234	0	234	0	423	0	0	423	0	0	3	0	3	660
4:45 PM	0	0	222	0	222	0	415	2	0	417	0	0	6	1	6	645
Hourly Total	0	0	878	0	878	0	1612	5	0	1617	0	0	15	3	15	2510
5:00 PM	0	0	211	0	211	0	371	2	0	373	0	0	2	1	2	586
5:15 PM	0	0	228	0	228	0	453	4	0	457	0	0	2	1	2	687
5:30 PM	0	0	216	0	216	0	387	3	0	390	0	0	1	0	1	607
5:45 PM	0	0	253	0	253	0	411	2	0	413	0	0	1	0	1	667
Hourly Total	0	0	908	0	908	0	1622	11	0	1633	0	0	6	2	6	2547
Grand Total	0	0	5818	0	5818	0	6882	43	0	6925	0	0	72	10	72	12815
Approach %	0.0	0.0	100.0	-	-	0.0	99.4	0.6	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	0.0	45.4	-	45.4	0.0	53.7	0.3	-	54.0	0.0	0.0	0.6	-	0.6	-
Lights	0	0	5689	-	5689	0	6730	43	-	6773	0	0	69	-	69	12531

% Lights	-	-	97.8	-	97.8	-	97.8	100.0	-	97.8	-	-	95.8	-	95.8	97.8
Buses	0	0	8	-	8	0	15	0	-	15	0	0	3	-	3	26
% Buses	-	-	0.1	-	0.1	-	0.2	0.0	-	0.2	-	-	4.2	-	4.2	0.2
Single-Unit Trucks	0	0	56	-	56	0	94	0	-	94	0	0	0	-	0	150
% Single-Unit Trucks	-	-	1.0	-	1.0	-	1.4	0.0	-	1.4	-	-	0.0	-	0.0	1.2
Articulated Trucks	0	0	65	-	65	0	43	0	-	43	0	0	0	-	0	108
% Articulated Trucks	-	-	1.1	-	1.1	-	0.6	0.0	-	0.6	-	-	0.0	-	0.0	0.8
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: Lake Cook Road with Access
Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 3

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Lake Cook Road Eastbound					Lake Cook Road Westbound					Access Drive Southbound					Int. Total
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
12:00 PM	0	0	227	0	227	0	291	7	0	298	0	0	2	1	2	527
12:15 PM	0	0	220	0	220	0	256	3	0	259	0	0	1	0	1	480
12:30 PM	0	0	201	0	201	0	272	2	0	274	0	0	5	0	5	480
12:45 PM	0	0	219	0	219	0	250	0	0	250	0	0	4	1	4	473
Total	0	0	867	0	867	0	1069	12	0	1081	0	0	12	2	12	1960
Approach %	0.0	0.0	100.0	-	-	0.0	98.9	1.1	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	0.0	44.2	-	44.2	0.0	54.5	0.6	-	55.2	0.0	0.0	0.6	-	0.6	-
PHF	0.000	0.000	0.955	-	0.955	0.000	0.918	0.429	-	0.907	0.000	0.000	0.600	-	0.600	0.930
Lights	0	0	851	-	851	0	1056	12	-	1068	0	0	12	-	12	1931
% Lights	-	-	98.2	-	98.2	-	98.8	100.0	-	98.8	-	-	100.0	-	100.0	98.5
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	-	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	0.0
Single-Unit Trucks	0	0	6	-	6	0	8	0	-	8	0	0	0	-	0	14
% Single-Unit Trucks	-	-	0.7	-	0.7	-	0.7	0.0	-	0.7	-	-	0.0	-	0.0	0.7
Articulated Trucks	0	0	10	-	10	0	5	0	-	5	0	0	0	-	0	15
% Articulated Trucks	-	-	1.2	-	1.2	-	0.5	0.0	-	0.5	-	-	0.0	-	0.0	0.8
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Drive TMC
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Page No: 4

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Lake Cook Road Eastbound					Lake Cook Road Westbound					Access Drive Southbound					Int. Total
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
7:00 AM	0	0	270	0	270	0	174	0	0	174	0	0	0	0	0	444
7:15 AM	0	0	328	0	328	0	188	2	0	190	0	0	2	0	2	520
7:30 AM	0	0	332	0	332	0	199	1	0	200	0	0	2	0	2	534
7:45 AM	0	0	412	0	412	0	195	0	0	195	0	0	3	0	3	610
Total	0	0	1342	0	1342	0	756	3	0	759	0	0	7	0	7	2108
Approach %	0.0	0.0	100.0	-	-	0.0	99.6	0.4	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	0.0	63.7	-	63.7	0.0	35.9	0.1	-	36.0	0.0	0.0	0.3	-	0.3	-
PHF	0.000	0.000	0.814	-	0.814	0.000	0.950	0.375	-	0.949	0.000	0.000	0.583	-	0.583	0.864
Lights	0	0	1303	-	1303	0	708	3	-	711	0	0	6	-	6	2020
% Lights	-	-	97.1	-	97.1	-	93.7	100.0	-	93.7	-	-	85.7	-	85.7	95.8
Buses	0	0	1	-	1	0	7	0	-	7	0	0	1	-	1	9
% Buses	-	-	0.1	-	0.1	-	0.9	0.0	-	0.9	-	-	14.3	-	14.3	0.4
Single-Unit Trucks	0	0	21	-	21	0	32	0	-	32	0	0	0	-	0	53
% Single-Unit Trucks	-	-	1.6	-	1.6	-	4.2	0.0	-	4.2	-	-	0.0	-	0.0	2.5
Articulated Trucks	0	0	17	-	17	0	9	0	-	9	0	0	0	-	0	26
% Articulated Trucks	-	-	1.3	-	1.3	-	1.2	0.0	-	1.2	-	-	0.0	-	0.0	1.2
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Lake Cook Road with Access
Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 5

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Lake Cook Road Eastbound					Lake Cook Road Westbound					Access Drive Southbound					Int. Total
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
4:30 PM	0	0	234	0	234	0	423	0	0	423	0	0	3	0	3	660
4:45 PM	0	0	222	0	222	0	415	2	0	417	0	0	6	1	6	645
5:00 PM	0	0	211	0	211	0	371	2	0	373	0	0	2	1	2	586
5:15 PM	0	0	228	0	228	0	453	4	0	457	0	0	2	1	2	687
Total	0	0	895	0	895	0	1662	8	0	1670	0	0	13	3	13	2578
Approach %	0.0	0.0	100.0	-	-	0.0	99.5	0.5	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	0.0	34.7	-	34.7	0.0	64.5	0.3	-	64.8	0.0	0.0	0.5	-	0.5	-
PHF	0.000	0.000	0.956	-	0.956	0.000	0.917	0.500	-	0.914	0.000	0.000	0.542	-	0.542	0.938
Lights	0	0	880	-	880	0	1633	8	-	1641	0	0	13	-	13	2534
% Lights	-	-	98.3	-	98.3	-	98.3	100.0	-	98.3	-	-	100.0	-	100.0	98.3
Buses	0	0	1	-	1	0	1	0	-	1	0	0	0	-	0	2
% Buses	-	-	0.1	-	0.1	-	0.1	0.0	-	0.1	-	-	0.0	-	0.0	0.1
Single-Unit Trucks	0	0	5	-	5	0	18	0	-	18	0	0	0	-	0	23
% Single-Unit Trucks	-	-	0.6	-	0.6	-	1.1	0.0	-	1.1	-	-	0.0	-	0.0	0.9
Articulated Trucks	0	0	9	-	9	0	10	0	-	10	0	0	0	-	0	19
% Articulated Trucks	-	-	1.0	-	1.0	-	0.6	0.0	-	0.6	-	-	0.0	-	0.0	0.7
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	0.0	-	0.0	-	0.0	0.0	-	0.0	-	-	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: McHenry Road with Jewel
Signalized Access Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 1

Turning Movement Data

Start Time	Access Drive Eastbound						Jewel Access Drive Westbound						McHenry Road Northbound						McHenry Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:00 PM	0	1	3	2	2	6	0	37	0	25	1	62	1	6	168	35	2	210	0	31	129	1	0	161	439
12:15 PM	0	1	1	1	0	3	0	45	0	27	0	72	0	4	158	34	0	196	0	35	133	4	0	172	443
12:30 PM	0	1	0	3	0	4	0	43	1	29	0	73	1	6	144	36	0	187	0	29	120	3	0	152	416
12:45 PM	0	2	2	5	0	9	0	32	3	26	3	61	1	9	149	40	0	199	0	26	131	1	0	158	427
Hourly Total	0	5	6	11	2	22	0	157	4	107	4	268	3	25	619	145	2	792	0	121	513	9	0	643	1725
1:00 PM	0	1	0	3	0	4	0	43	1	22	0	66	0	5	121	41	0	167	0	24	142	0	0	166	403
1:15 PM	0	0	2	1	1	3	0	42	1	28	1	71	2	5	128	24	0	159	0	26	149	0	0	175	408
1:30 PM	0	1	3	5	0	9	0	41	0	25	0	66	1	7	140	43	0	191	1	22	131	1	0	155	421
1:45 PM	0	2	1	6	0	9	0	40	0	29	0	69	1	5	140	46	1	192	0	34	147	1	0	182	452
Hourly Total	0	4	6	15	1	25	0	166	2	104	1	272	4	22	529	154	1	709	1	106	569	2	0	678	1684
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	0	0	2	0	2	0	13	0	4	0	17	0	1	91	3	0	95	0	6	201	0	0	207	321
7:15 AM	0	0	0	4	0	4	0	12	0	5	0	17	0	4	116	11	0	131	0	7	185	0	0	192	344
7:30 AM	0	1	0	3	0	4	0	12	1	5	0	18	0	2	125	13	0	140	0	11	254	1	0	266	428
7:45 AM	0	0	0	0	0	0	0	11	0	9	0	20	0	1	123	6	0	130	0	7	230	0	0	237	387
Hourly Total	0	1	0	9	0	10	0	48	1	23	0	72	0	8	455	33	0	496	0	31	870	1	0	902	1480
8:00 AM	0	1	1	3	1	5	0	13	0	4	0	17	0	1	108	13	1	122	0	13	138	1	0	152	296
8:15 AM	0	1	0	0	1	1	0	13	0	10	0	23	1	2	111	8	0	122	0	10	197	2	0	209	355
8:30 AM	0	0	0	1	0	1	0	17	0	7	0	24	0	0	124	16	0	140	0	12	149	0	0	161	326
8:45 AM	0	0	1	3	0	4	0	24	0	10	0	34	1	2	105	18	0	126	0	16	196	1	0	213	377
Hourly Total	0	2	2	7	2	11	0	67	0	31	0	98	2	5	448	55	1	510	0	51	680	4	0	735	1354
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	0	6	0	6	0	39	0	24	0	63	1	3	194	32	0	230	0	29	156	0	0	185	484
4:15 PM	0	1	1	2	1	4	0	33	0	26	0	59	4	3	240	29	0	276	0	27	139	1	0	167	506
4:30 PM	0	0	1	0	0	1	0	30	1	21	2	52	0	6	220	29	1	255	0	23	165	0	0	188	496
4:45 PM	0	1	0	3	0	4	0	35	2	28	3	65	1	4	239	39	0	283	0	38	137	0	0	175	527
Hourly Total	0	2	2	11	1	15	0	137	3	99	5	239	6	16	893	129	1	1044	0	117	597	1	0	715	2013
5:00 PM	0	0	3	1	1	4	0	37	0	26	0	63	0	6	270	34	0	310	0	38	170	3	0	211	588
5:15 PM	0	1	0	2	0	3	0	36	0	32	0	68	1	4	275	15	0	295	0	44	152	0	0	196	562
5:30 PM	0	3	1	3	0	7	0	45	0	29	2	74	2	7	221	26	0	256	0	27	158	2	0	187	524
5:45 PM	0	1	2	2	0	5	0	26	0	27	2	53	0	3	248	20	0	271	0	25	138	1	0	164	493
Hourly Total	0	5	6	8	1	19	0	144	0	114	4	258	3	20	1014	95	0	1132	0	134	618	6	0	758	2167
Grand Total	0	19	22	61	7	102	0	719	10	478	14	1207	18	96	3958	611	5	4683	1	560	3847	23	0	4431	10423
Approach %	0.0	18.6	21.6	59.8	-	-	0.0	59.6	0.8	39.6	-	-	0.4	2.0	84.5	13.0	-	-	0.0	12.6	86.8	0.5	-	-	-
Total %	0.0	0.2	0.2	0.6	-	1.0	0.0	6.9	0.1	4.6	-	11.6	0.2	0.9	38.0	5.9	-	44.9	0.0	5.4	36.9	0.2	-	42.5	-

Lights	0	19	22	59	-	100	0	709	8	477	-	1194	18	95	3885	605	-	4603	1	556	3747	22	-	4326	10223
% Lights	-	100.0	100.0	96.7	-	98.0	-	98.6	80.0	99.8	-	98.9	100.0	99.0	98.2	99.0	-	98.3	100.0	99.3	97.4	95.7	-	97.6	98.1
Buses	0	0	0	2	-	2	0	0	0	0	-	0	0	0	2	0	-	2	0	0	12	0	-	12	16
% Buses	-	0.0	0.0	3.3	-	2.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.0	0.0	0.0	0.3	0.0	-	0.3	0.2
Single-Unit Trucks	0	0	0	0	-	0	0	8	2	1	-	11	0	0	38	4	-	42	0	3	56	0	-	59	112
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	1.1	20.0	0.2	-	0.9	0.0	0.0	1.0	0.7	-	0.9	0.0	0.5	1.5	0.0	-	1.3	1.1
Articulated Trucks	0	0	0	0	-	0	0	2	0	0	-	2	0	1	31	2	-	34	0	1	32	0	-	33	69
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.3	0.0	0.0	-	0.2	0.0	1.0	0.8	0.3	-	0.7	0.0	0.2	0.8	0.0	-	0.7	0.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	0	1	-	1	3
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.0	0.0	0.0	0.0	4.3	-	0.0	0.0
Pedestrians	-	-	-	-	7	-	-	-	-	-	14	-	-	-	-	-	5	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



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Count Name: McHenry Road with Jewel
Signalized Access Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 3

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Access Drive Eastbound						Jewel Access Drive Westbound						McHenry Road Northbound						McHenry Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:00 PM	0	1	3	2	2	6	0	37	0	25	1	62	1	6	168	35	2	210	0	31	129	1	0	161	439
12:15 PM	0	1	1	1	0	3	0	45	0	27	0	72	0	4	158	34	0	196	0	35	133	4	0	172	443
12:30 PM	0	1	0	3	0	4	0	43	1	29	0	73	1	6	144	36	0	187	0	29	120	3	0	152	416
12:45 PM	0	2	2	5	0	9	0	32	3	26	3	61	1	9	149	40	0	199	0	26	131	1	0	158	427
Total	0	5	6	11	2	22	0	157	4	107	4	268	3	25	619	145	2	792	0	121	513	9	0	643	1725
Approach %	0.0	22.7	27.3	50.0	-	-	0.0	58.6	1.5	39.9	-	-	0.4	3.2	78.2	18.3	-	-	0.0	18.8	79.8	1.4	-	-	-
Total %	0.0	0.3	0.3	0.6	-	1.3	0.0	9.1	0.2	6.2	-	15.5	0.2	1.4	35.9	8.4	-	45.9	0.0	7.0	29.7	0.5	-	37.3	-
PHF	0.000	0.625	0.500	0.550	-	0.611	0.000	0.872	0.333	0.922	-	0.918	0.750	0.694	0.921	0.906	-	0.943	0.000	0.864	0.964	0.563	-	0.935	0.973
Lights	0	5	6	11	-	22	0	155	3	107	-	265	3	25	609	145	-	782	0	121	509	9	-	639	1708
% Lights	-	100.0	100.0	100.0	-	100.0	-	98.7	75.0	100.0	-	98.9	100.0	100.0	98.4	100.0	-	98.7	-	100.0	99.2	100.0	-	99.4	99.0
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Single-Unit Trucks	0	0	0	0	-	0	0	1	1	0	-	2	0	0	1	0	-	1	0	0	4	0	-	4	7
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.6	25.0	0.0	-	0.7	0.0	0.0	0.2	0.0	-	0.1	-	0.0	0.8	0.0	-	0.6	0.4
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	9	0	-	9	0	0	0	0	-	0	10
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.6	0.0	0.0	-	0.4	0.0	0.0	1.5	0.0	-	1.1	-	0.0	0.0	0.0	-	0.0	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



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Count Name: McHenry Road with Jewel
Signalized Access Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 4

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Access Drive Eastbound						Jewel Access Drive Westbound						McHenry Road Northbound						McHenry Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	0	0	2	0	2	0	13	0	4	0	17	0	1	91	3	0	95	0	6	201	0	0	207	321
7:15 AM	0	0	0	4	0	4	0	12	0	5	0	17	0	4	116	11	0	131	0	7	185	0	0	192	344
7:30 AM	0	1	0	3	0	4	0	12	1	5	0	18	0	2	125	13	0	140	0	11	254	1	0	266	428
7:45 AM	0	0	0	0	0	0	0	11	0	9	0	20	0	1	123	6	0	130	0	7	230	0	0	237	387
Total	0	1	0	9	0	10	0	48	1	23	0	72	0	8	455	33	0	496	0	31	870	1	0	902	1480
Approach %	0.0	10.0	0.0	90.0	-	-	0.0	66.7	1.4	31.9	-	-	0.0	1.6	91.7	6.7	-	-	0.0	3.4	96.5	0.1	-	-	-
Total %	0.0	0.1	0.0	0.6	-	0.7	0.0	3.2	0.1	1.6	-	4.9	0.0	0.5	30.7	2.2	-	33.5	0.0	2.1	58.8	0.1	-	60.9	-
PHF	0.000	0.250	0.000	0.563	-	0.625	0.000	0.923	0.250	0.639	-	0.900	0.000	0.500	0.910	0.635	-	0.886	0.000	0.705	0.856	0.250	-	0.848	0.864
Lights	0	1	0	7	-	8	0	45	0	22	-	67	0	8	434	30	-	472	0	31	844	1	-	876	1423
% Lights	-	100.0	-	77.8	-	80.0	-	93.8	0.0	95.7	-	93.1	-	100.0	95.4	90.9	-	95.2	-	100.0	97.0	100.0	-	97.1	96.1
Buses	0	0	0	2	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	6	0	-	6	8
% Buses	-	0.0	-	22.2	-	20.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.7	0.0	-	0.7	0.5
Single-Unit Trucks	0	0	0	0	-	0	0	2	1	1	-	4	0	0	14	2	-	16	0	0	14	0	-	14	34
% Single-Unit Trucks	-	0.0	-	0.0	-	0.0	-	4.2	100.0	4.3	-	5.6	-	0.0	3.1	6.1	-	3.2	-	0.0	1.6	0.0	-	1.6	2.3
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	7	1	-	8	0	0	6	0	-	6	15
% Articulated Trucks	-	0.0	-	0.0	-	0.0	-	2.1	0.0	0.0	-	1.4	-	0.0	1.5	3.0	-	1.6	-	0.0	0.7	0.0	-	0.7	1.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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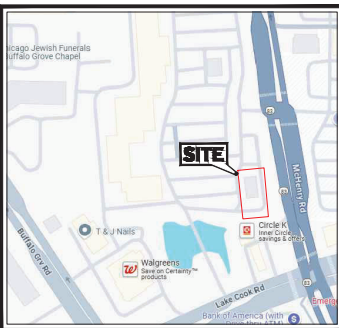
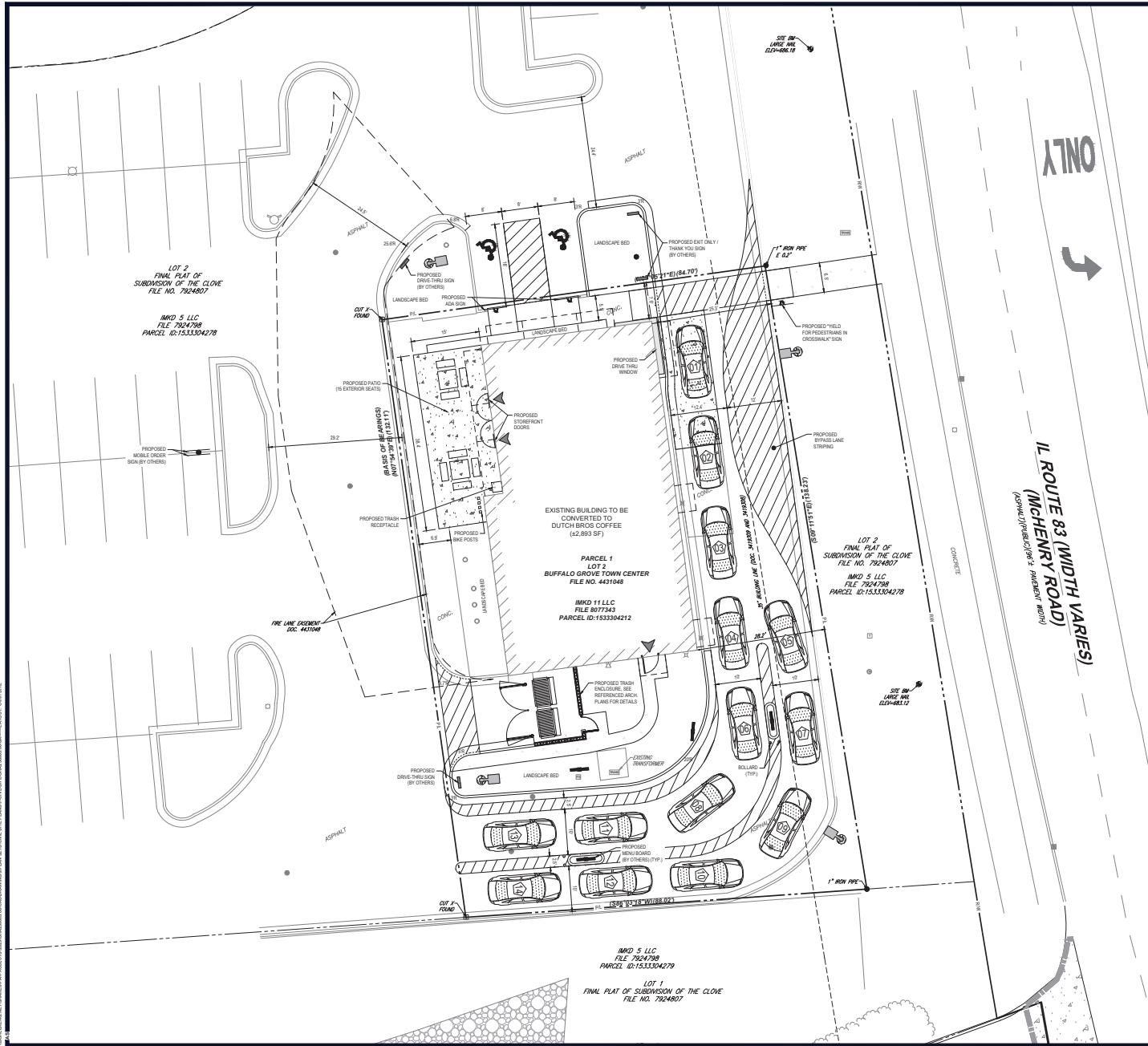
Rosemont, Illinois, United States 60018
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Count Name: McHenry Road with Jewel
Signalized Access Drive TMC
Site Code:
Start Date: 08/23/2025
Page No: 5

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Access Drive Eastbound						Jewel Access Drive Westbound						McHenry Road Northbound						McHenry Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:30 PM	0	0	1	0	0	1	0	30	1	21	2	52	0	6	220	29	1	255	0	23	165	0	0	188	496
4:45 PM	0	1	0	3	0	4	0	35	2	28	3	65	1	4	239	39	0	283	0	38	137	0	0	175	527
5:00 PM	0	0	3	1	1	4	0	37	0	26	0	63	0	6	270	34	0	310	0	38	170	3	0	211	588
5:15 PM	0	1	0	2	0	3	0	36	0	32	0	68	1	4	275	15	0	295	0	44	152	0	0	196	562
Total	0	2	4	6	1	12	0	138	3	107	5	248	2	20	1004	117	1	1143	0	143	624	3	0	770	2173
Approach %	0.0	16.7	33.3	50.0	-	-	0.0	55.6	1.2	43.1	-	-	0.2	1.7	87.8	10.2	-	-	0.0	18.6	81.0	0.4	-	-	-
Total %	0.0	0.1	0.2	0.3	-	0.6	0.0	6.4	0.1	4.9	-	11.4	0.1	0.9	46.2	5.4	-	52.6	0.0	6.6	28.7	0.1	-	35.4	-
PHF	0.000	0.500	0.333	0.500	-	0.750	0.000	0.932	0.375	0.836	-	0.912	0.500	0.833	0.913	0.750	-	0.922	0.000	0.813	0.918	0.250	-	0.912	0.924
Lights	0	2	4	6	-	12	0	138	3	107	-	248	2	20	997	117	-	1136	0	143	610	3	-	756	2152
% Lights	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	99.3	100.0	-	99.4	-	100.0	97.8	100.0	-	98.2	99.0
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	5	0	-	5	0	0	10	0	-	10	15
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.5	0.0	-	0.4	-	0.0	1.6	0.0	-	1.3	0.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	4	0	-	4	6
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.2	0.0	-	0.2	-	0.0	0.6	0.0	-	0.5	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Site Plan



VICINITY MAP
SCALE: 1" = 200'
SOURCE: 2025 GOOGLE MAPS

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
PLANNING
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DATE OF REVISION

7 Call Before You Dig
CALL 800-4-A-DIG
Before you start any excavation, whether it be for a driveway, foundation, or other project, you must call 800-4-A-DIG to locate underground utilities. This is a legal requirement in many states.

THIS DRAWING IS INTENDED FOR GENERAL REFERENCE ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION WITHOUT THE ASSISTANCE OF A PROFESSIONAL ENGINEER.

PROJECT NO.:	CH252005-00-0A
DRAWN BY:	ACCESS
CHECKED BY:	BAS
DATE:	06/20/2025
CAD ID:	PROVJ SITE

SITE PLAN
FOR
Dutch Bros
PROPOSED DEVELOPMENT
80 MCHENRY ROAD
BUFFALO GROVE, ILLINOIS 60089

BOHLER
4100 REGENT STREET, SUITE M
COLUMBUS, OH 43219
PHONE: (614) 804-8004
www.BohlerEngineering.com



THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY

SHEET TITLE:
SITE PLAN
SHEET NUMBER:
C-301
ORG. DATE - 03/03/2025

ITE Trip Generation Summary Sheets

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

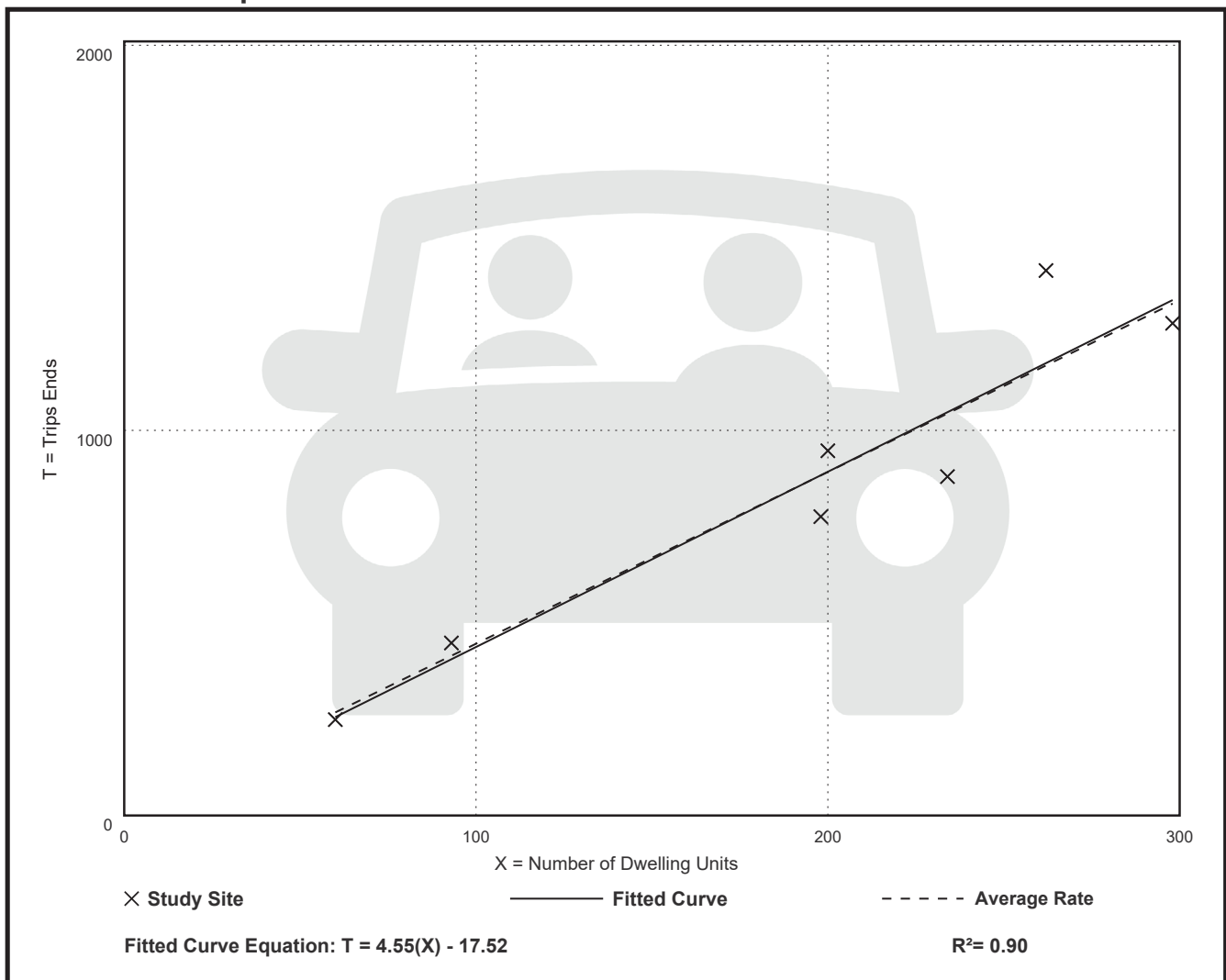
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 7
Avg. Num. of Dwelling Units: 192
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.46	3.76 - 5.40	0.62

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

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

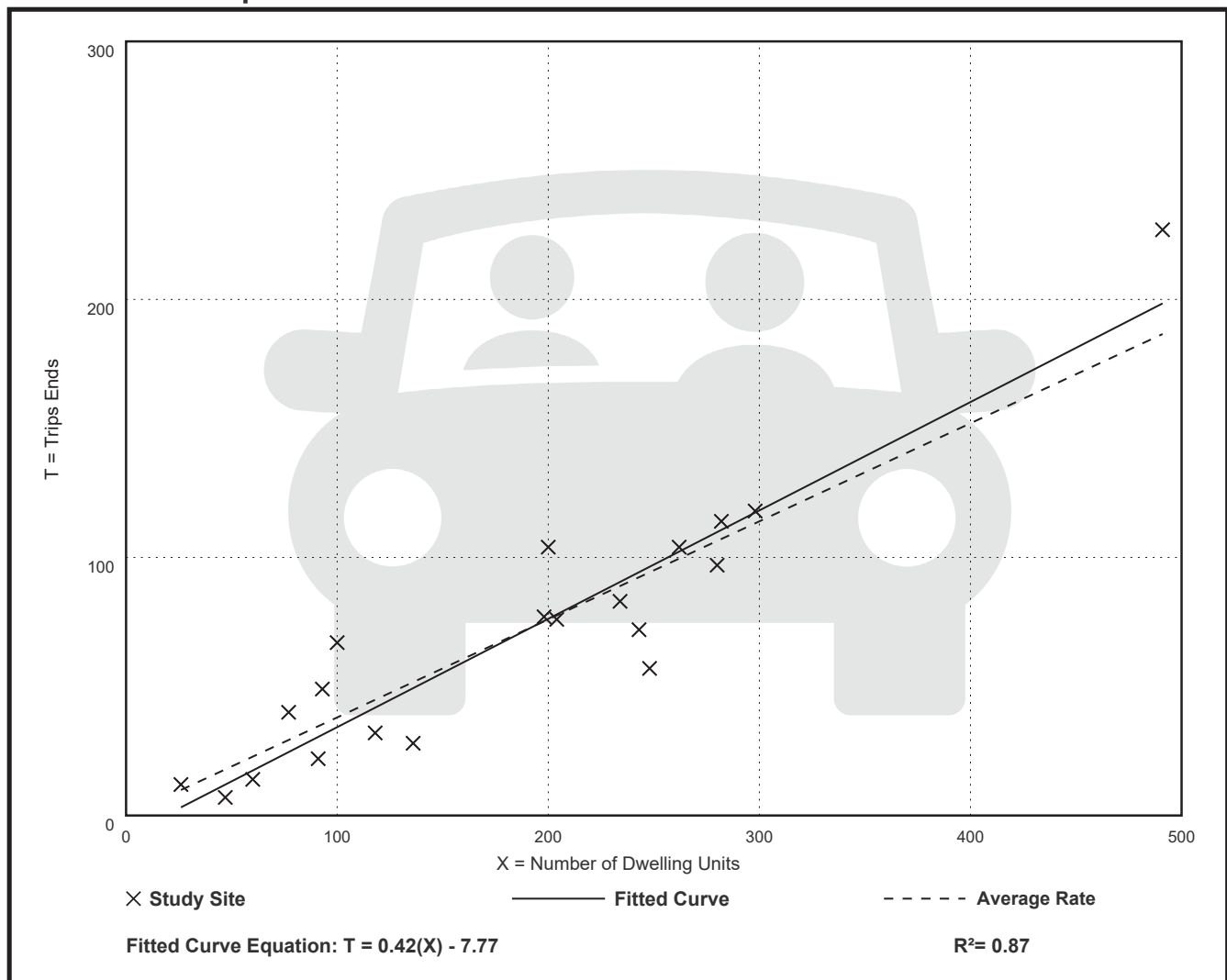
Avg. Num. of Dwelling Units: 184

Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.38	0.15 - 0.67	0.10

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

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

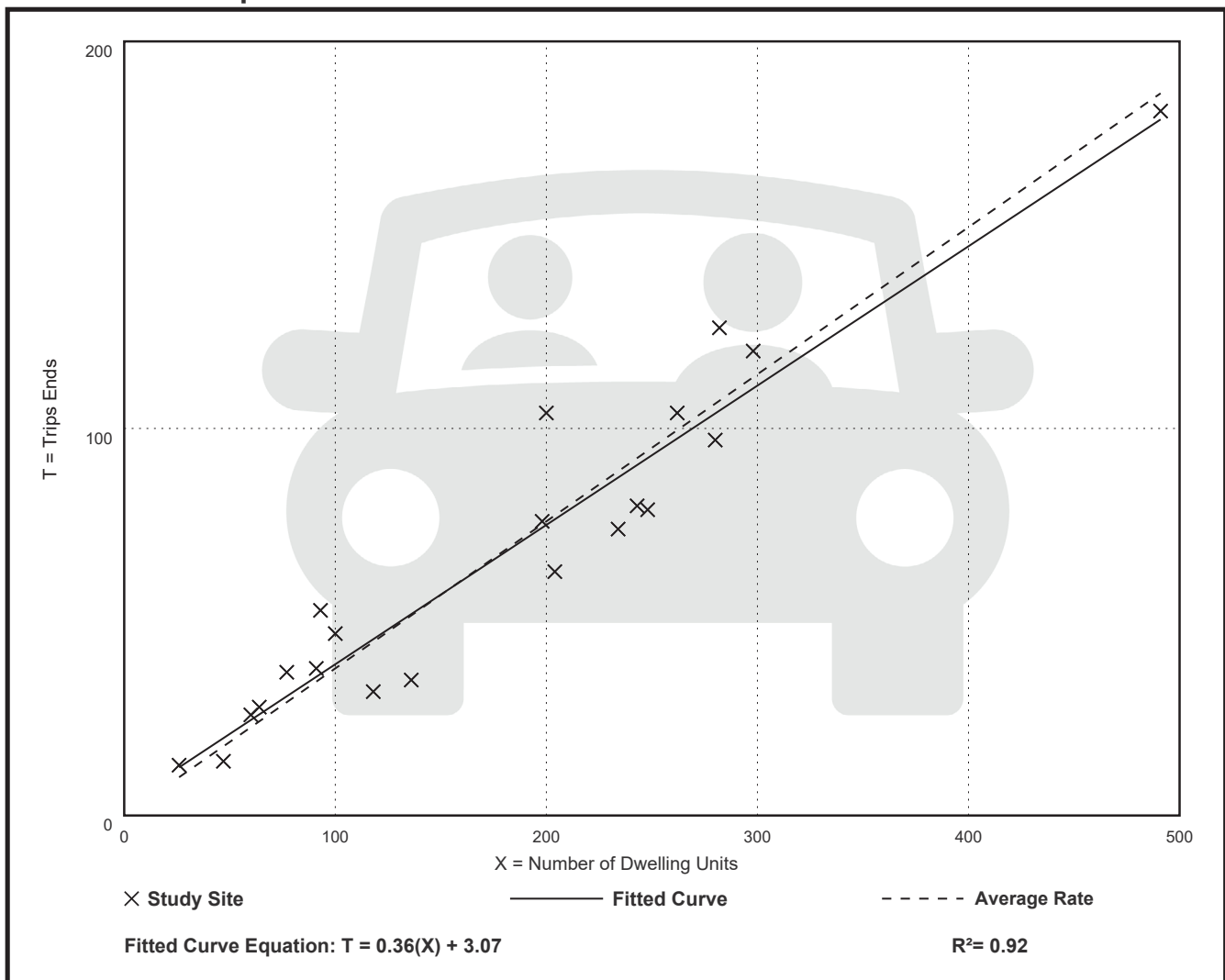
Avg. Num. of Dwelling Units: 179

Directional Distribution: 64% entering, 36% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.38	0.26 - 0.57	0.07

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 2

Avg. Num. of Dwelling Units: 266

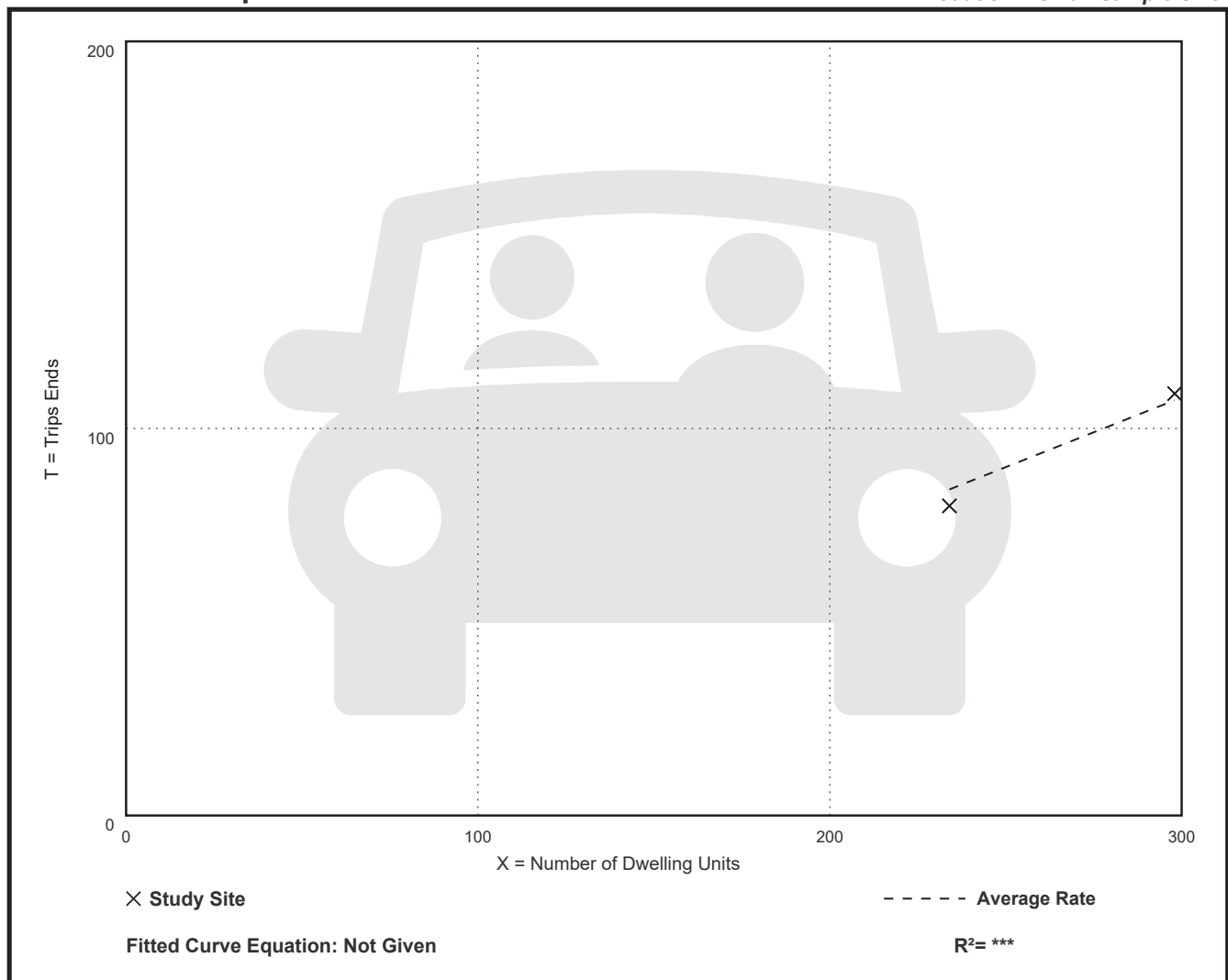
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.34 - 0.37	***

Data Plot and Equation

Caution – Small Sample Size



Strip Retail Plaza (<40k) (822)

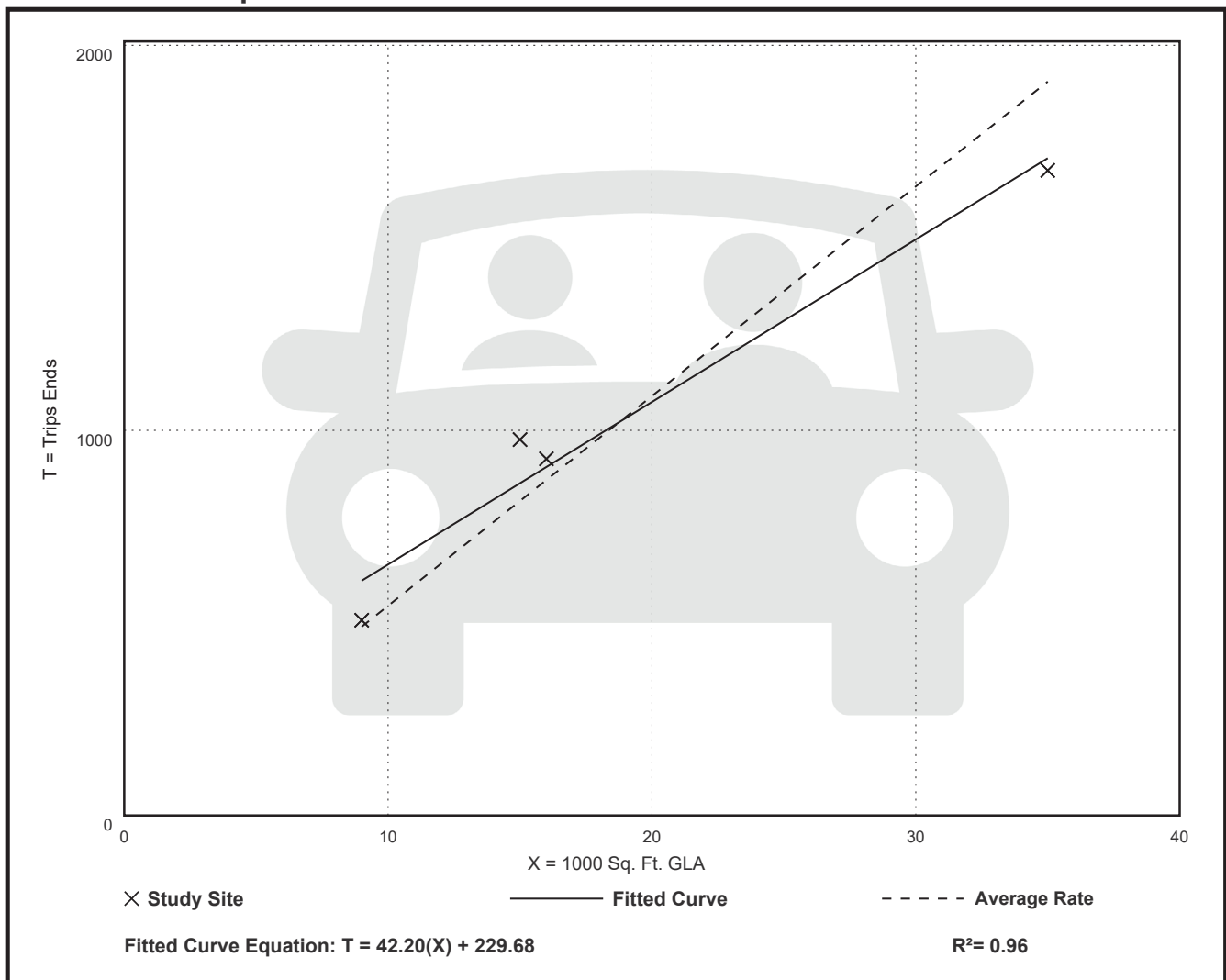
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: **Weekday**

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



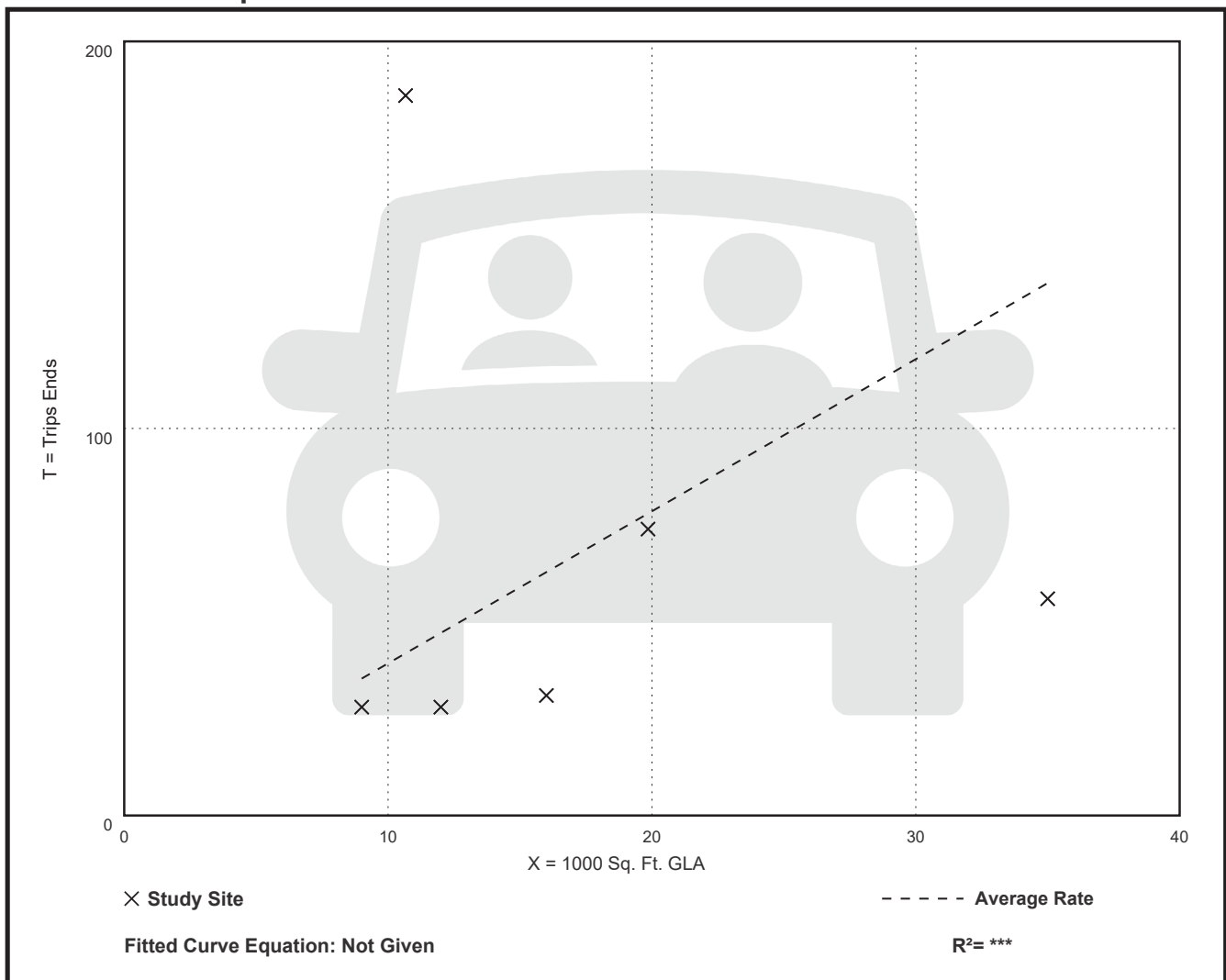
Strip Retail Plaza (<40k) (822)

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



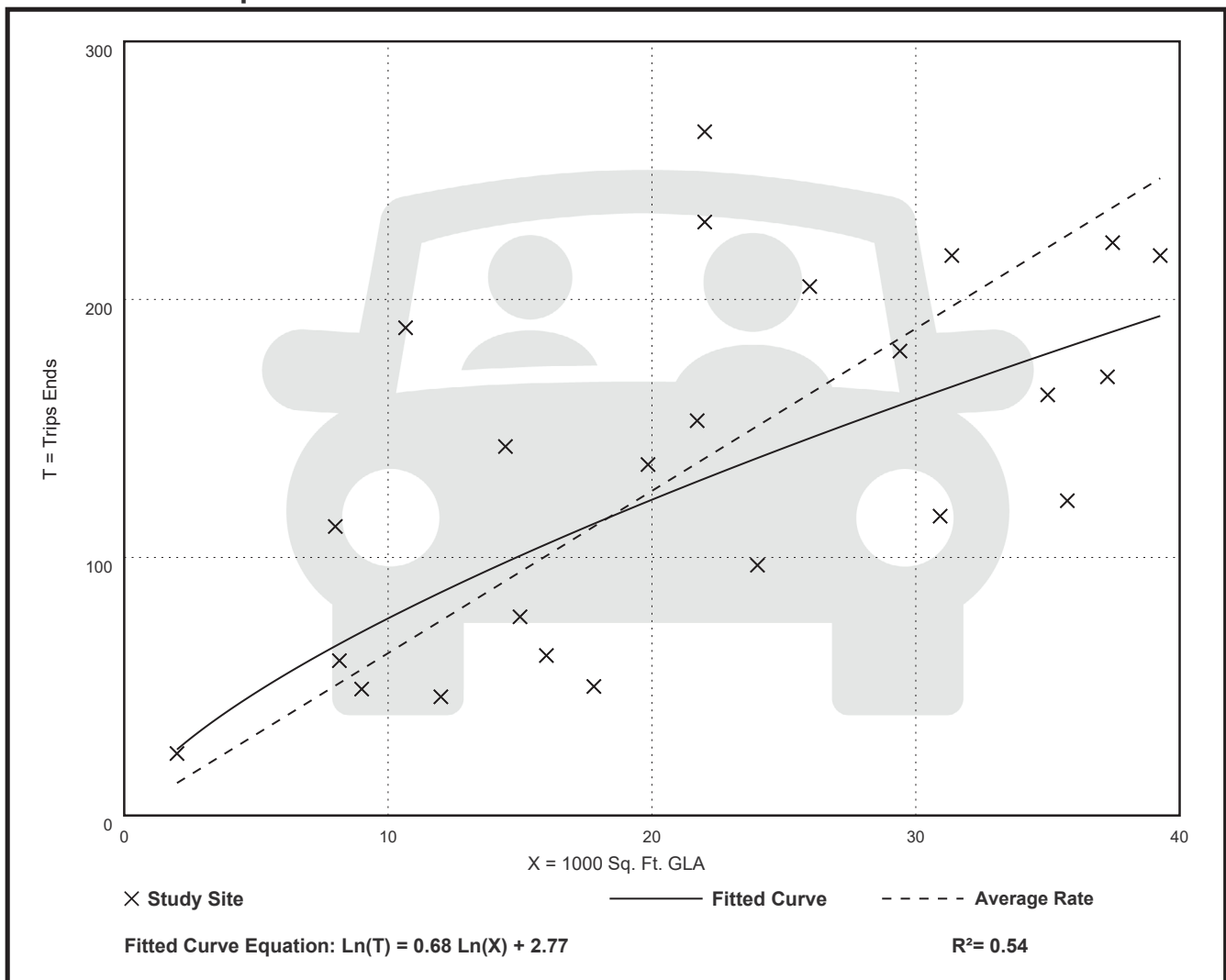
Strip Retail Plaza (<40k) (822)

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

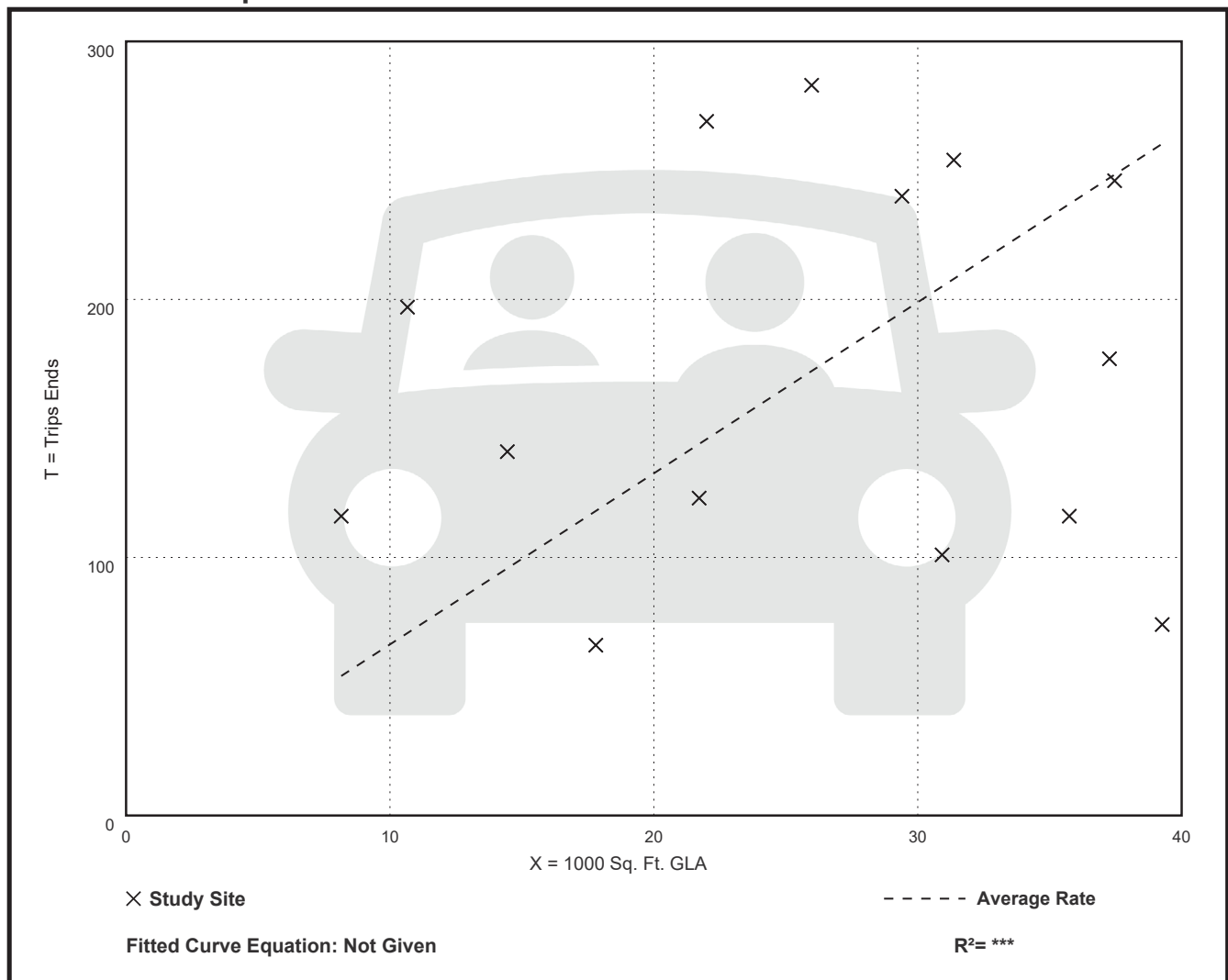
Avg. 1000 Sq. Ft. GLA: 26

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



Supermarket (850)

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

Setting/Location: General Urban/Suburban

Number of Studies: 21

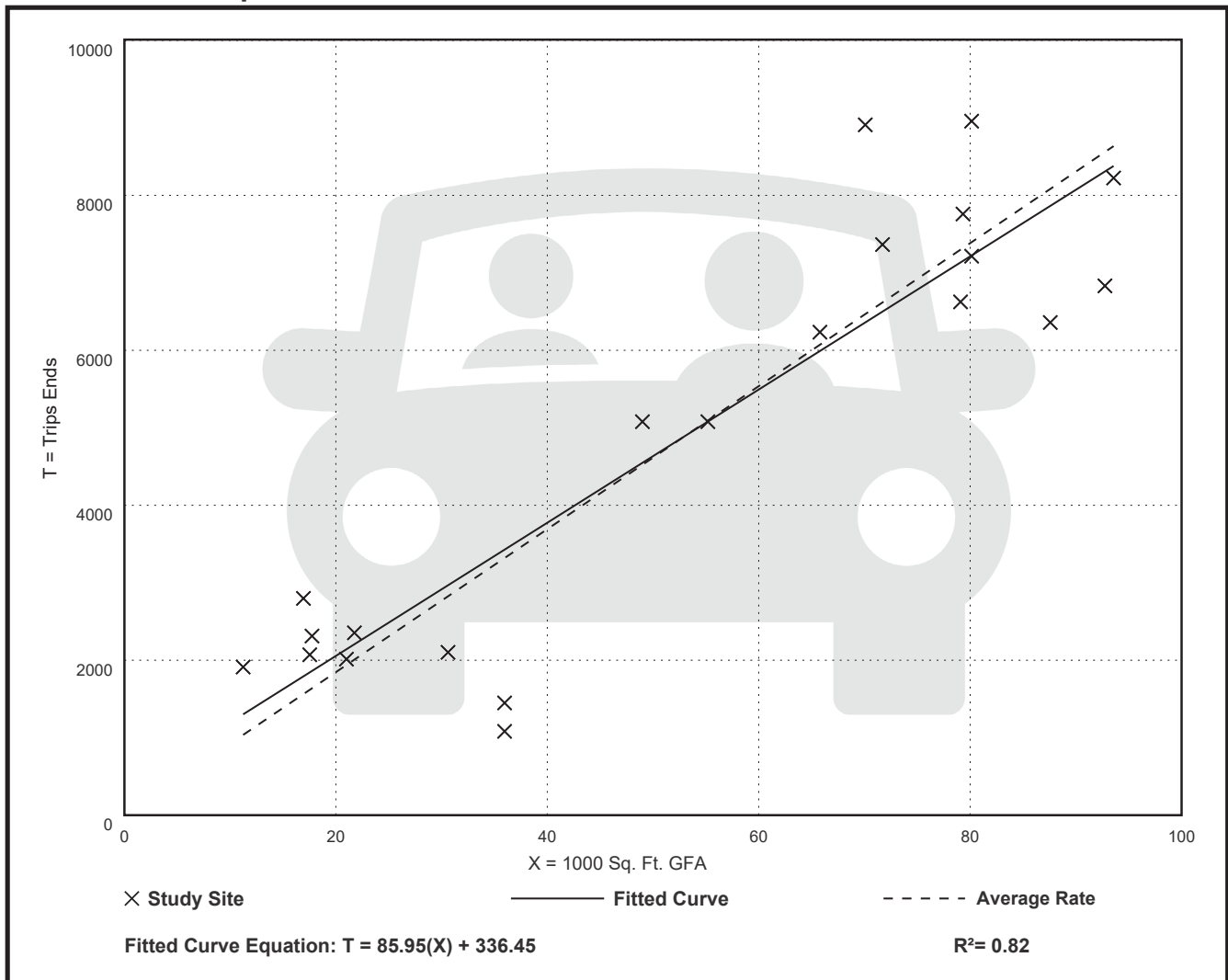
Avg. 1000 Sq. Ft. GFA: 53

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
92.29	30.09 - 170.24	24.98

Data Plot and Equation



Supermarket (850)

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: 29

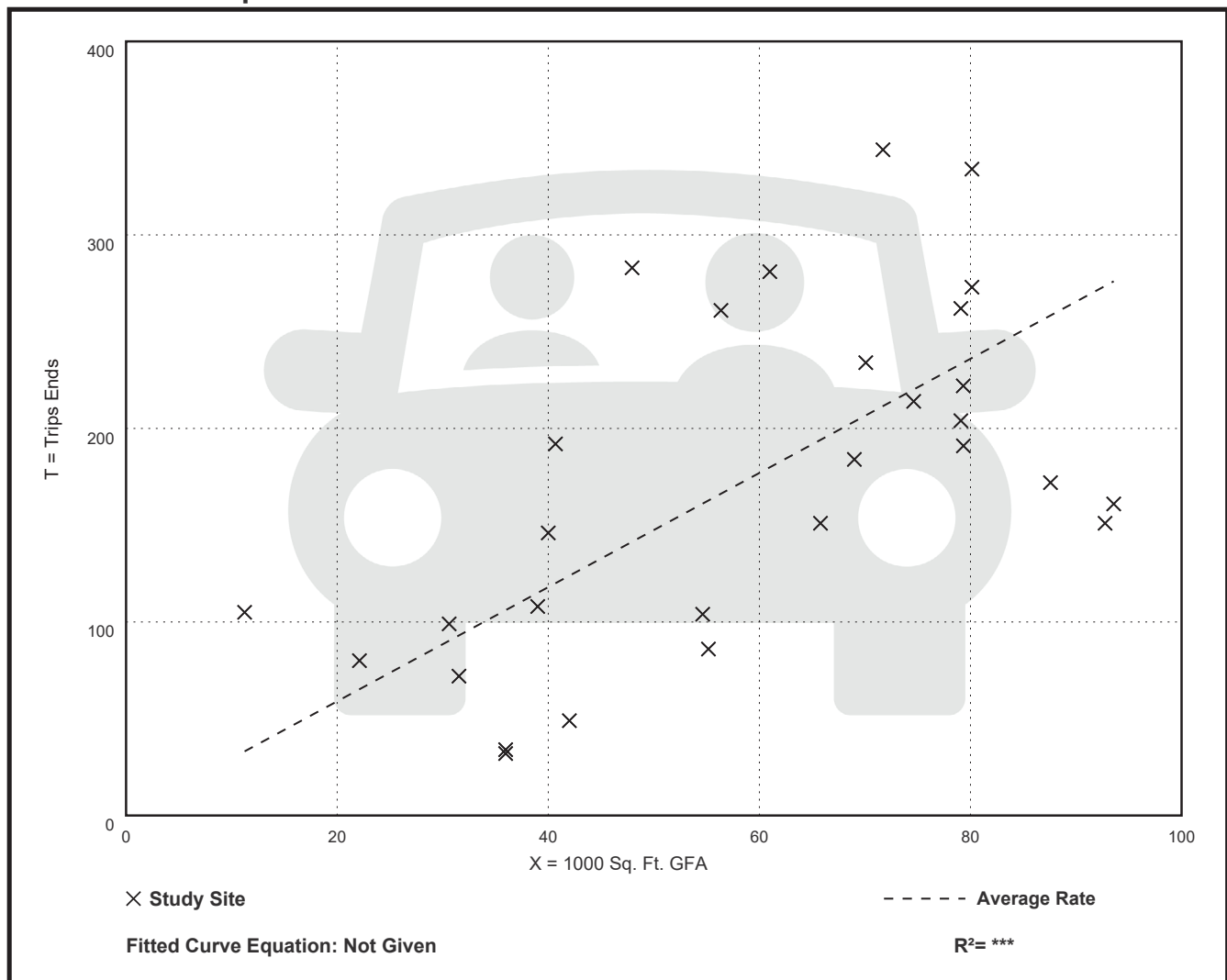
Avg. 1000 Sq. Ft. GFA: 59

Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.95	0.89 - 9.35	1.31

Data Plot and Equation



Supermarket (850)

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: 97

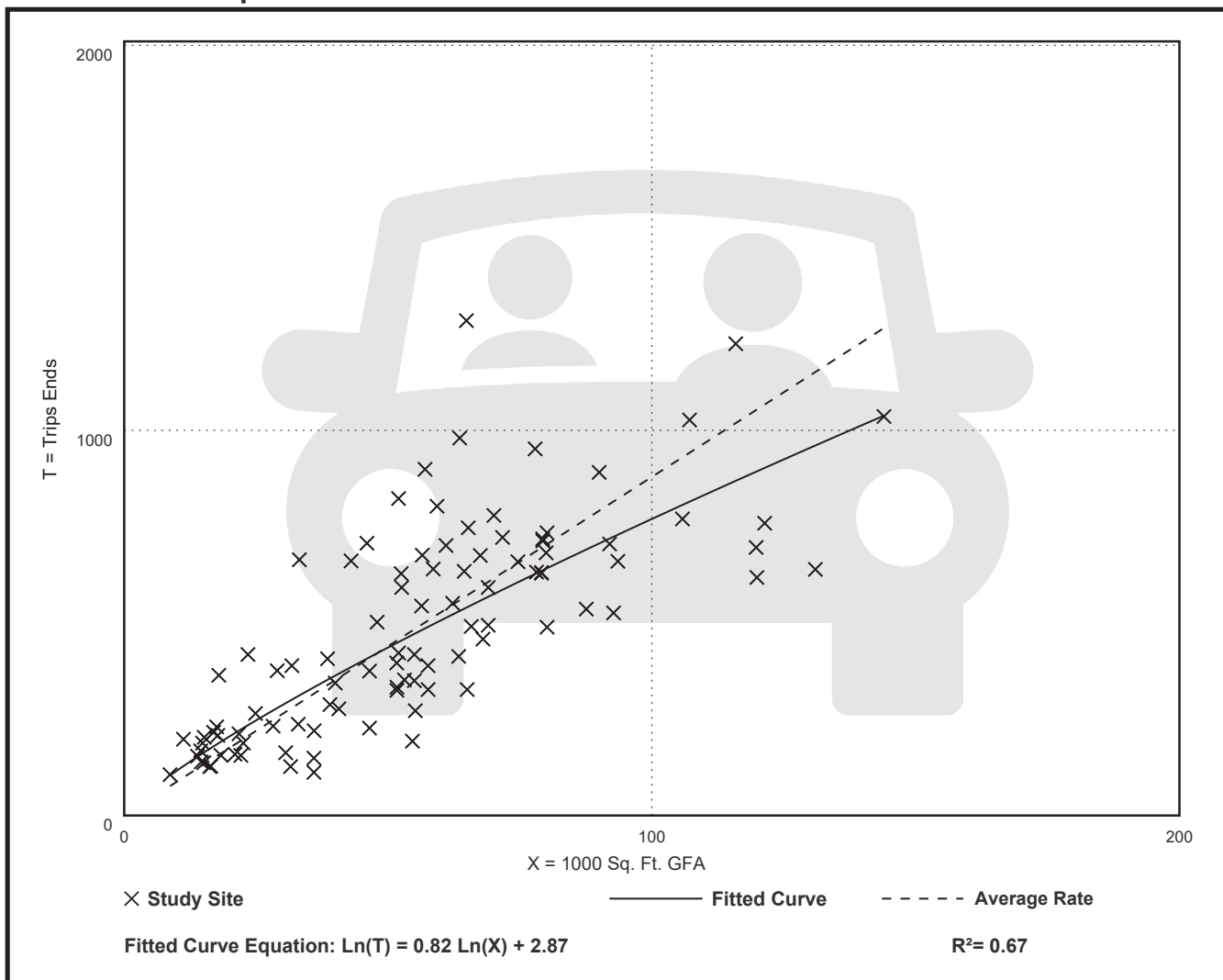
Avg. 1000 Sq. Ft. GFA: 55

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.79	3.11 - 20.30	3.31

Data Plot and Equation



Supermarket (850)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 60

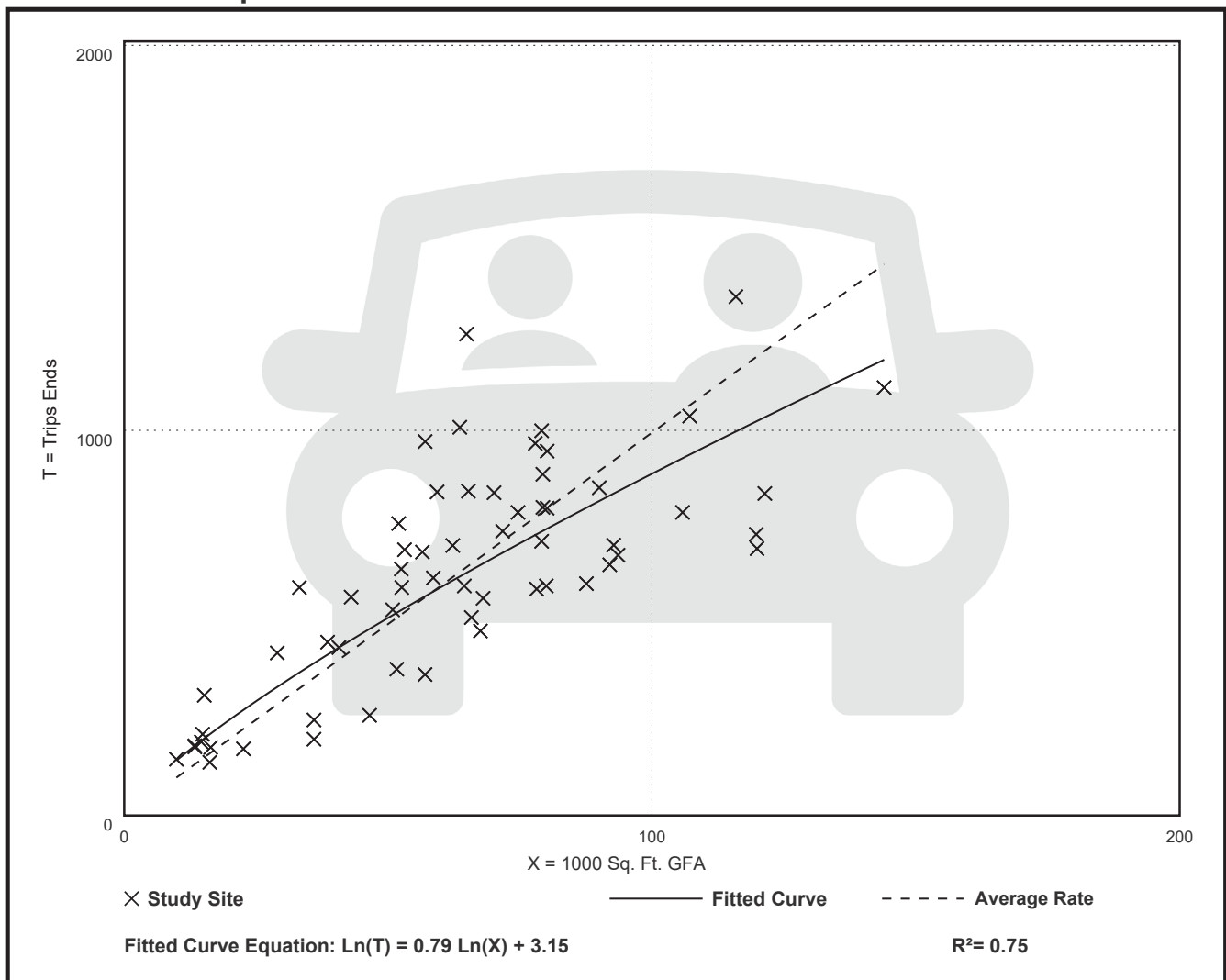
Avg. 1000 Sq. Ft. GFA: 63

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.94	5.51 - 20.55	3.16

Data Plot and Equation



Fine Dining Restaurant (931)

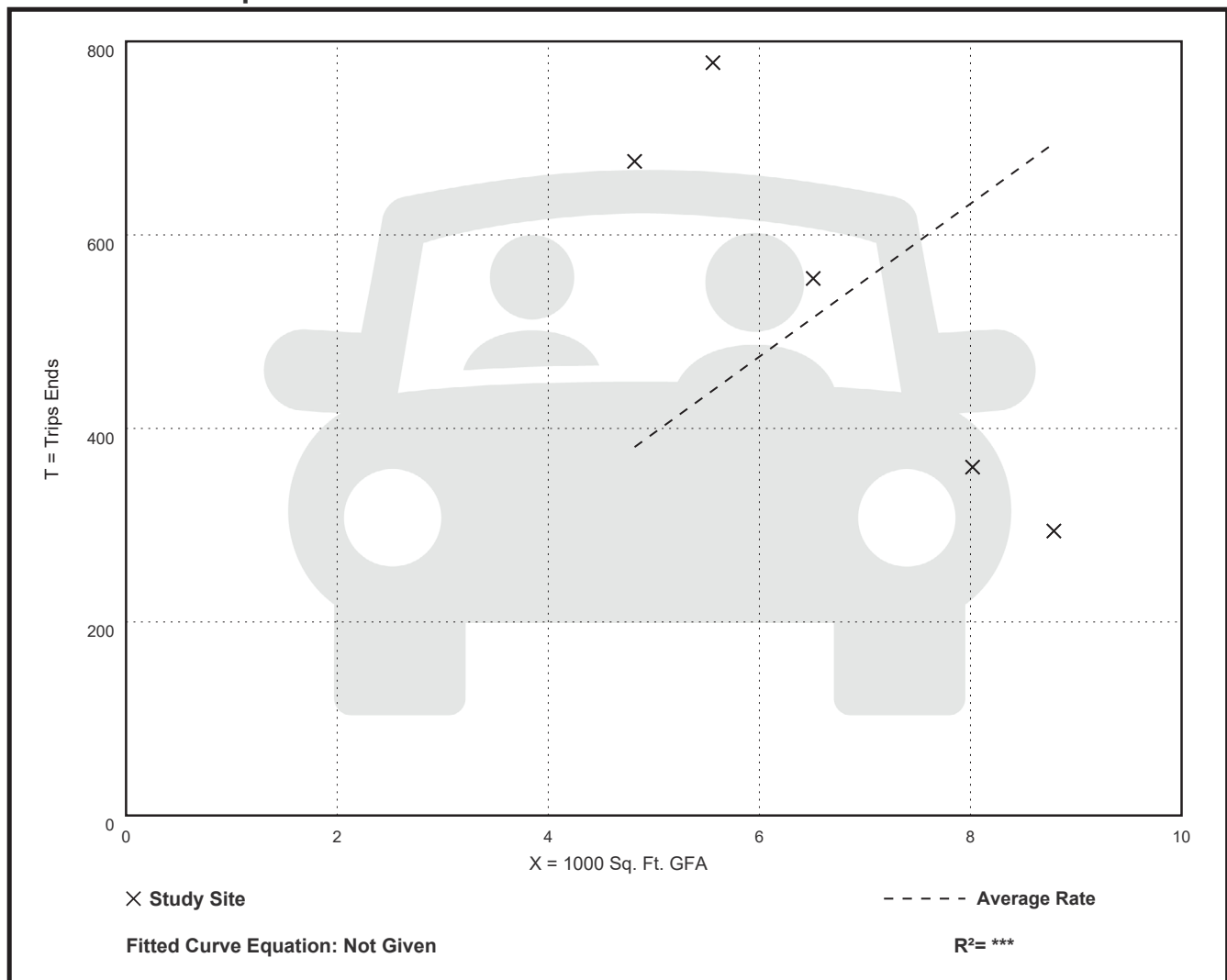
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: **Weekday**

Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 7
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
79.03	33.45 - 140.31	49.69

Data Plot and Equation



Fine Dining Restaurant (931)

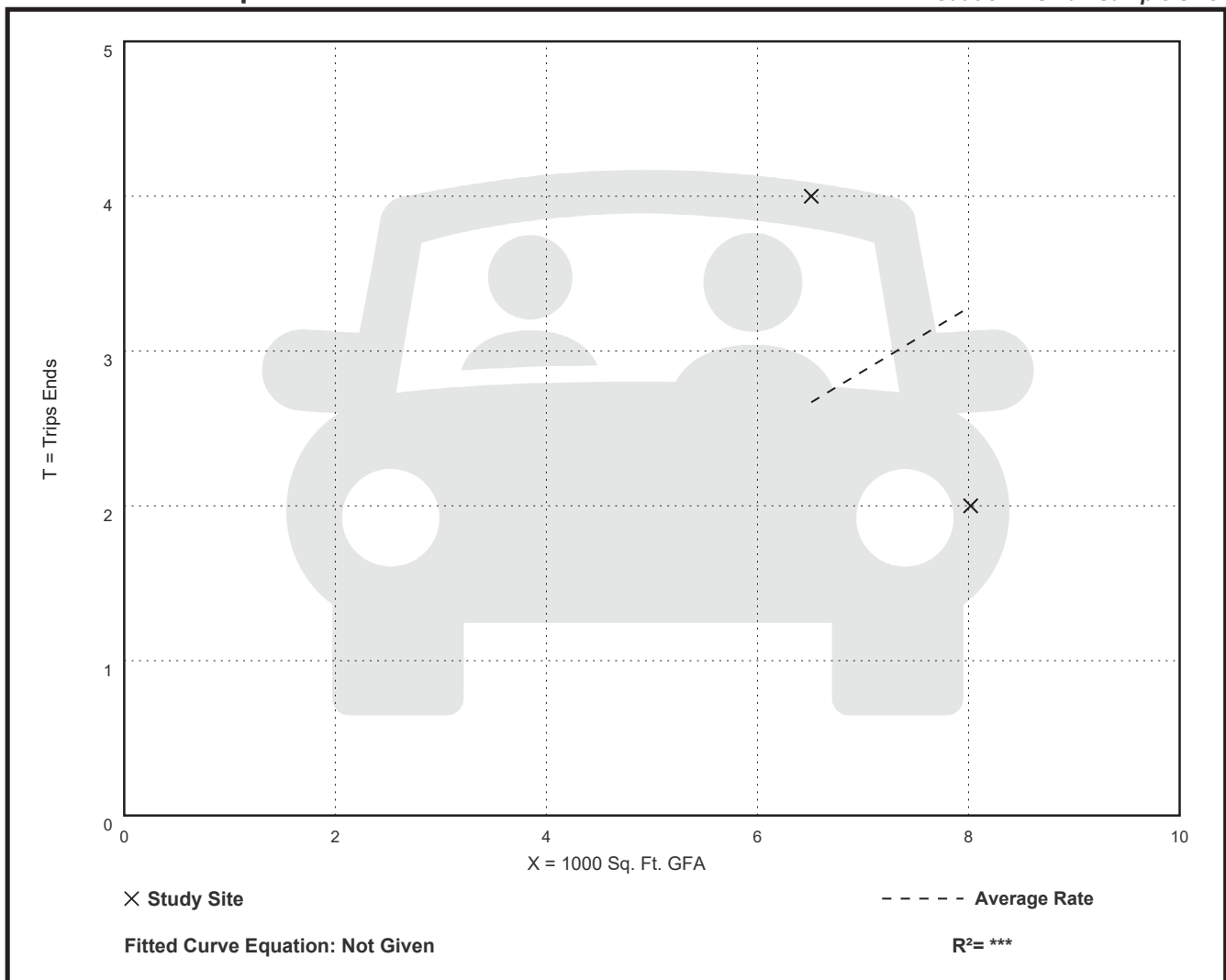
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 2
 Avg. 1000 Sq. Ft. GFA: 7
 Directional Distribution: Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.41	0.25 - 0.61	***

Data Plot and Equation

Caution – Small Sample Size



Fine Dining Restaurant (931)

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: 12

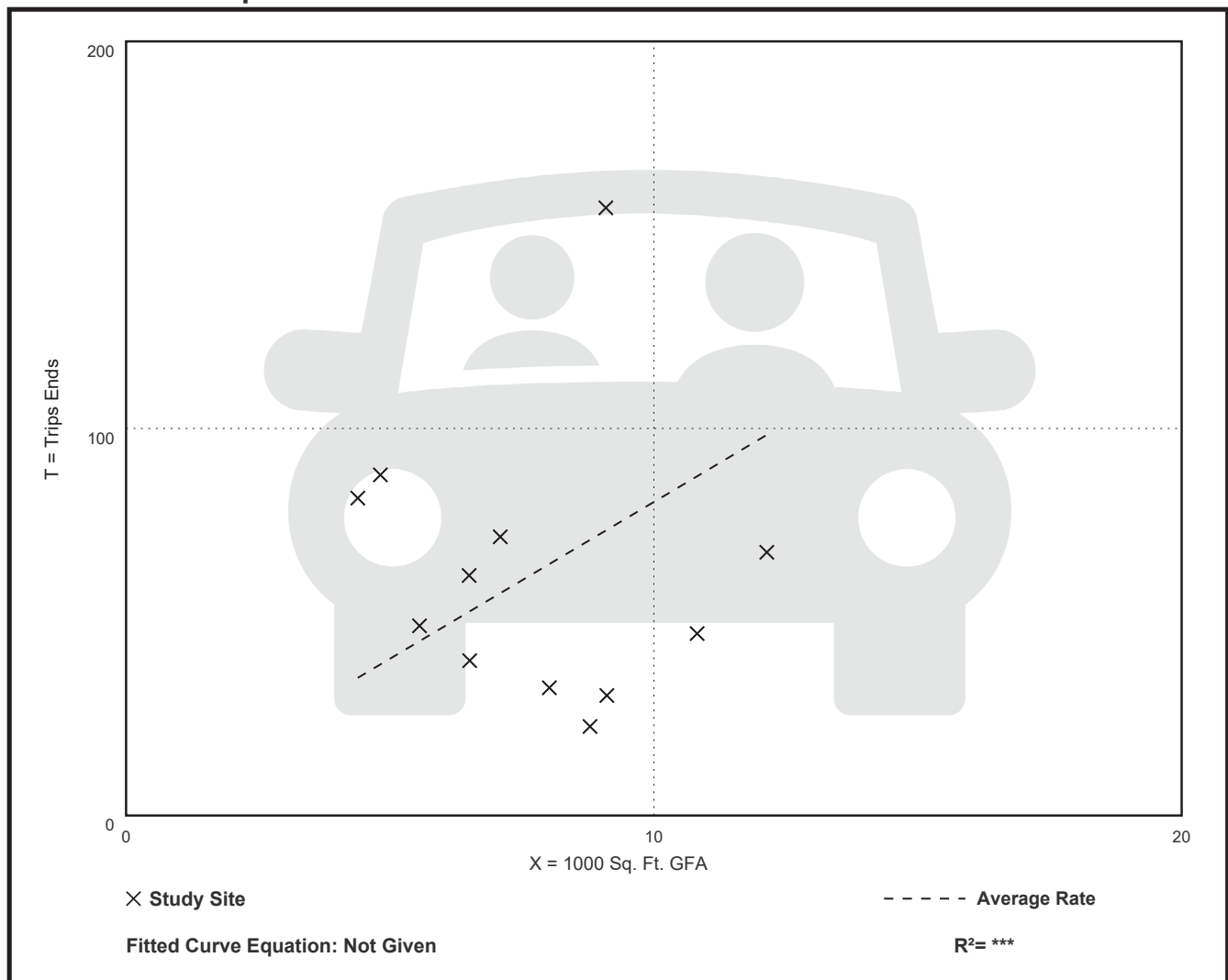
Avg. 1000 Sq. Ft. GFA: 8

Directional Distribution: 69% entering, 31% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.10	2.62 - 18.68	5.58

Data Plot and Equation



Fine Dining Restaurant (931)

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: 11

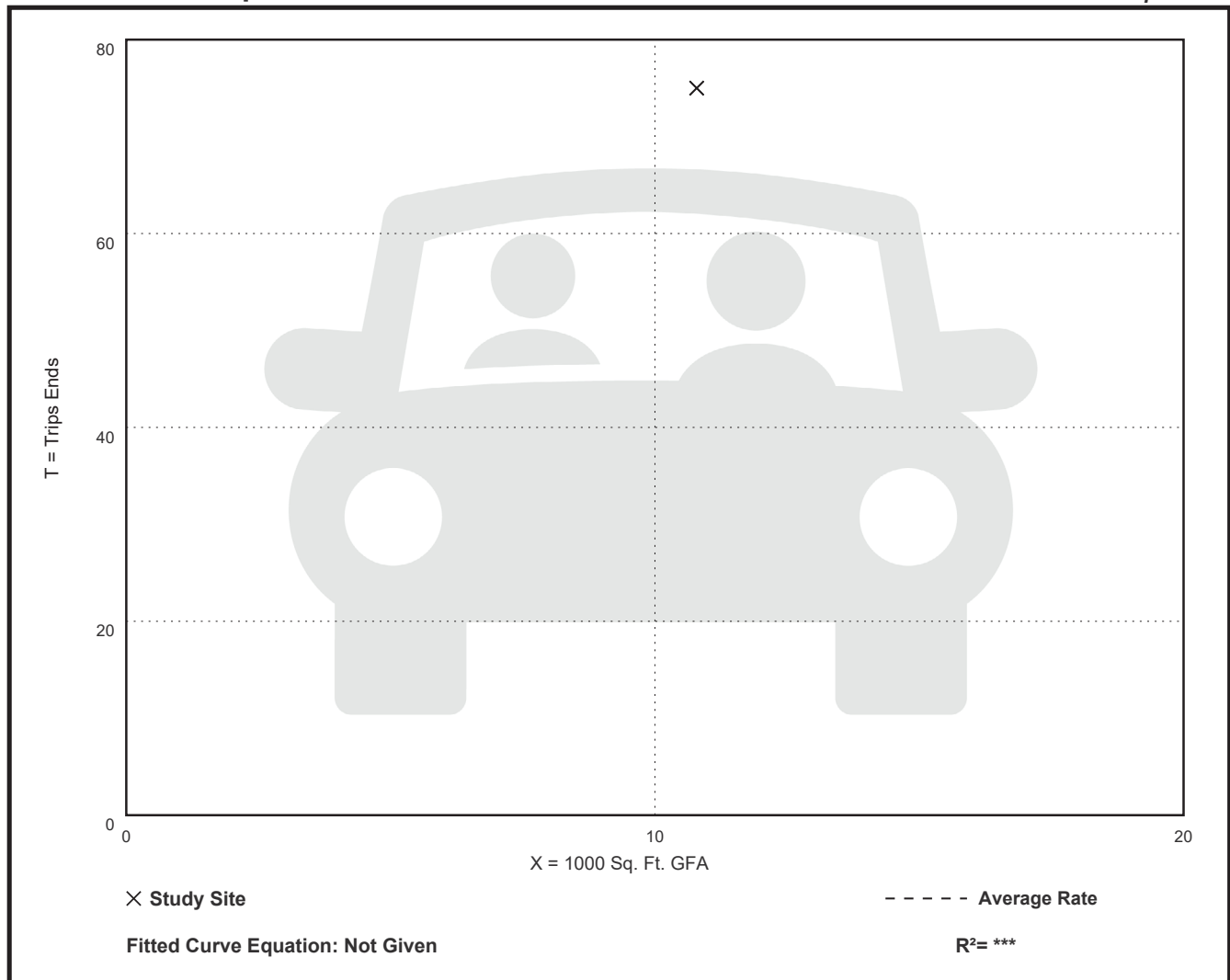
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.95	6.95 - 6.95	***

Data Plot and Equation

Caution – Small Sample Size



High-Turnover (Sit-Down) Restaurant (932)

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

Setting/Location: General Urban/Suburban

Number of Studies: 50

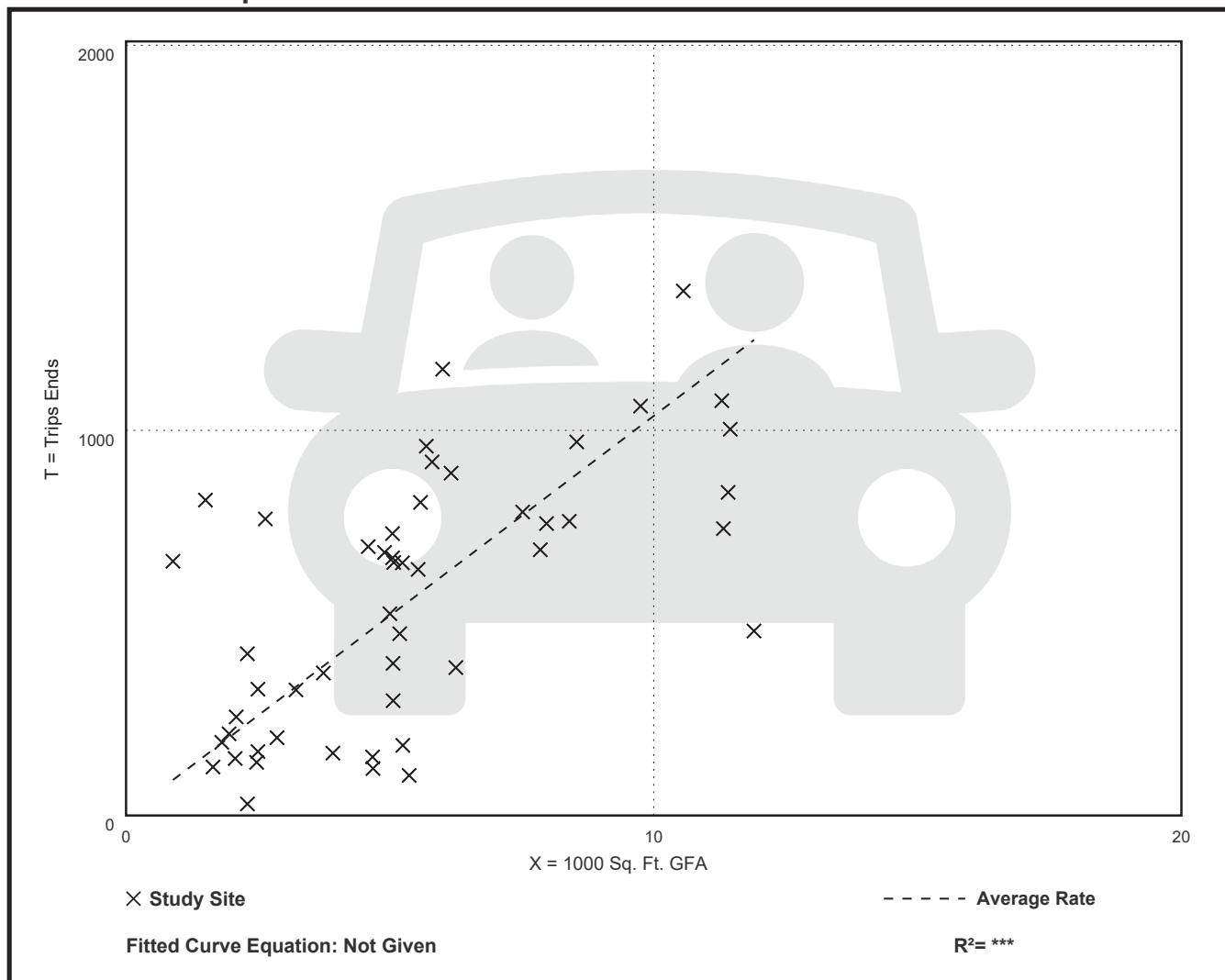
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
103.75	13.04 - 742.41	67.15

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

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: 32

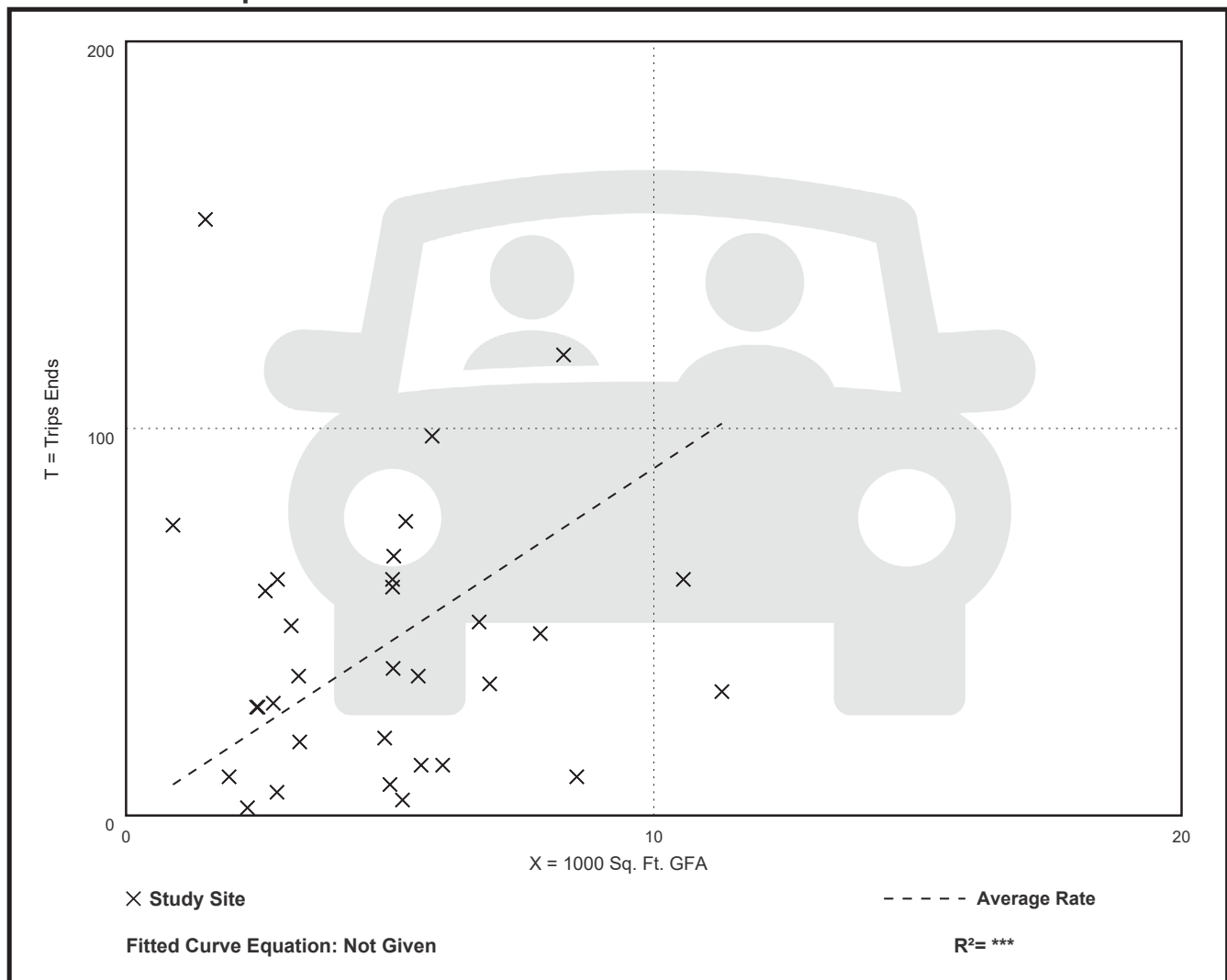
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.97	0.76 - 102.39	12.35

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

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: 100

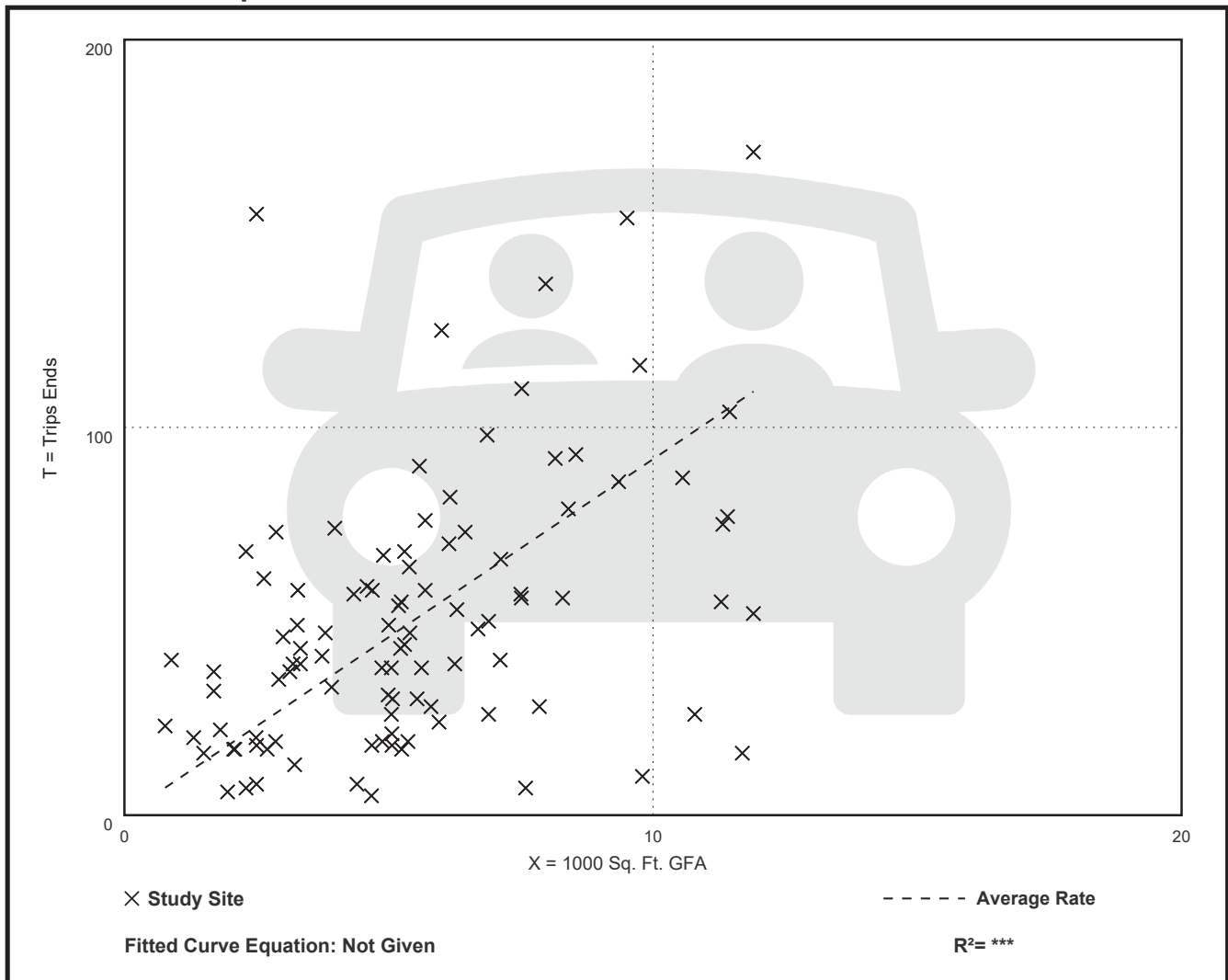
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.18	0.92 - 62.00	6.36

Data Plot and Equation



High-Turnover (Sit-Down) Restaurant (932)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 22

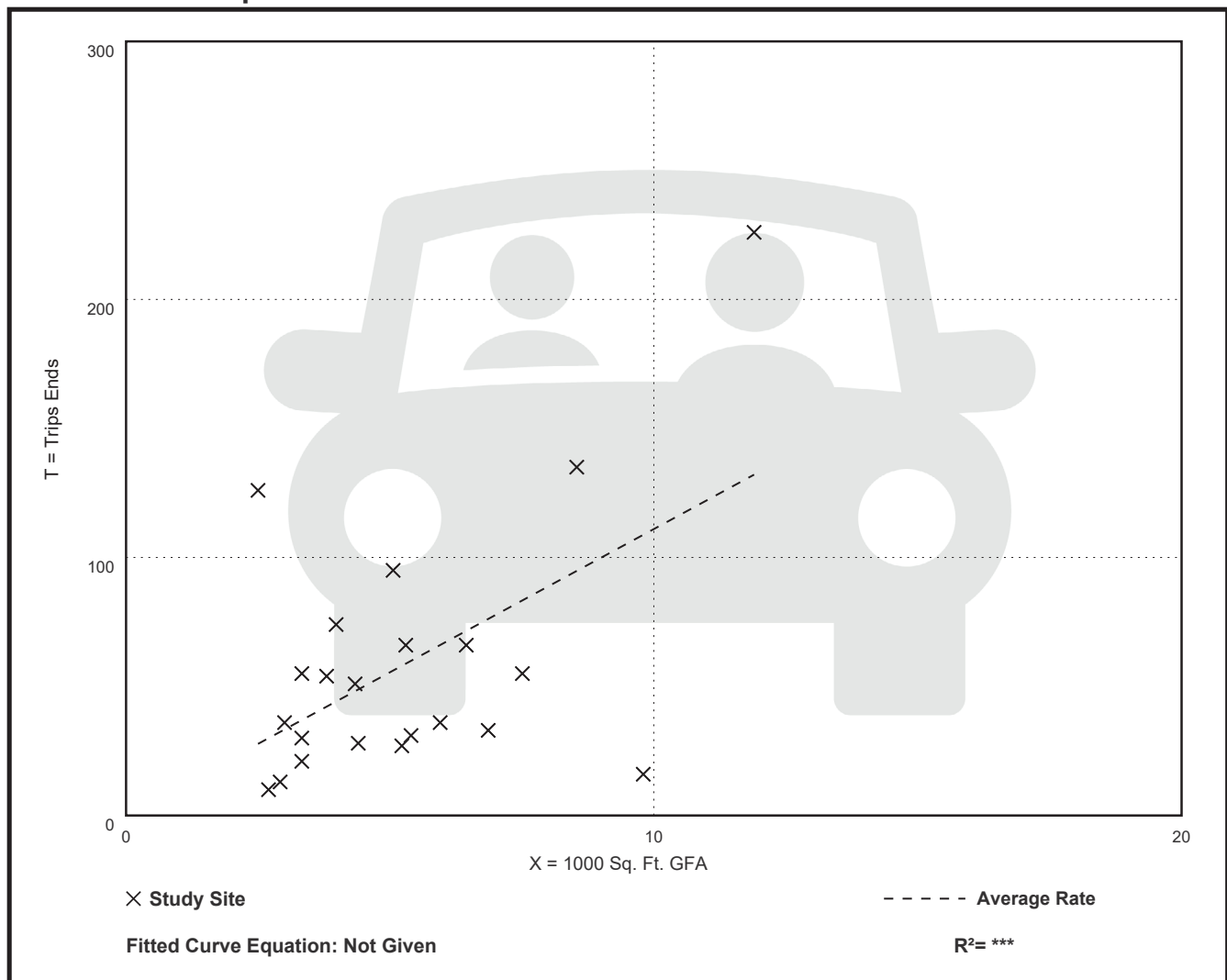
Avg. 1000 Sq. Ft. GFA: 5

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.10	1.63 - 50.40	8.34

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

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

Setting/Location: General Urban/Suburban

Number of Studies: 8

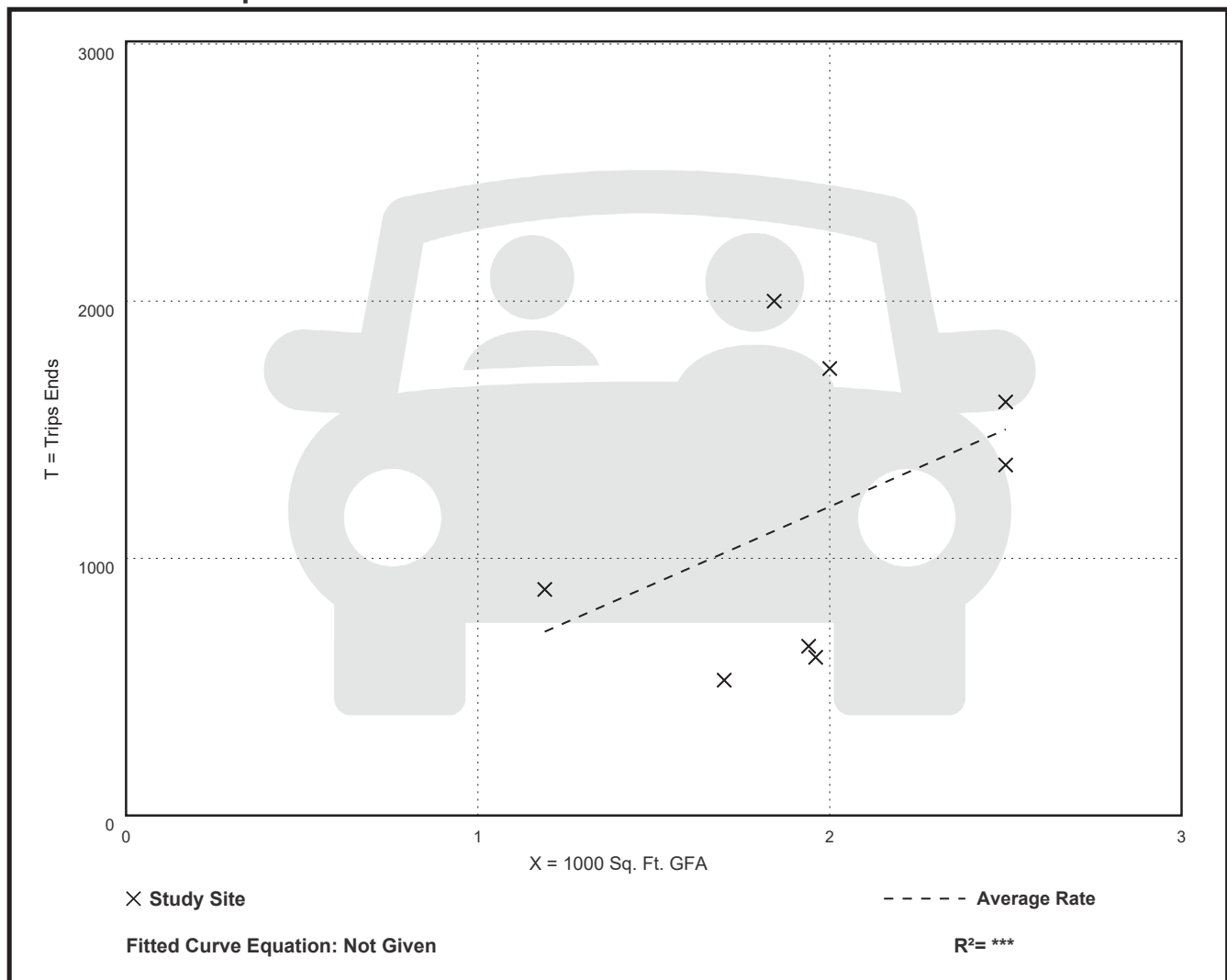
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
600.50	309.41 - 1085.78	277.14

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

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: 84

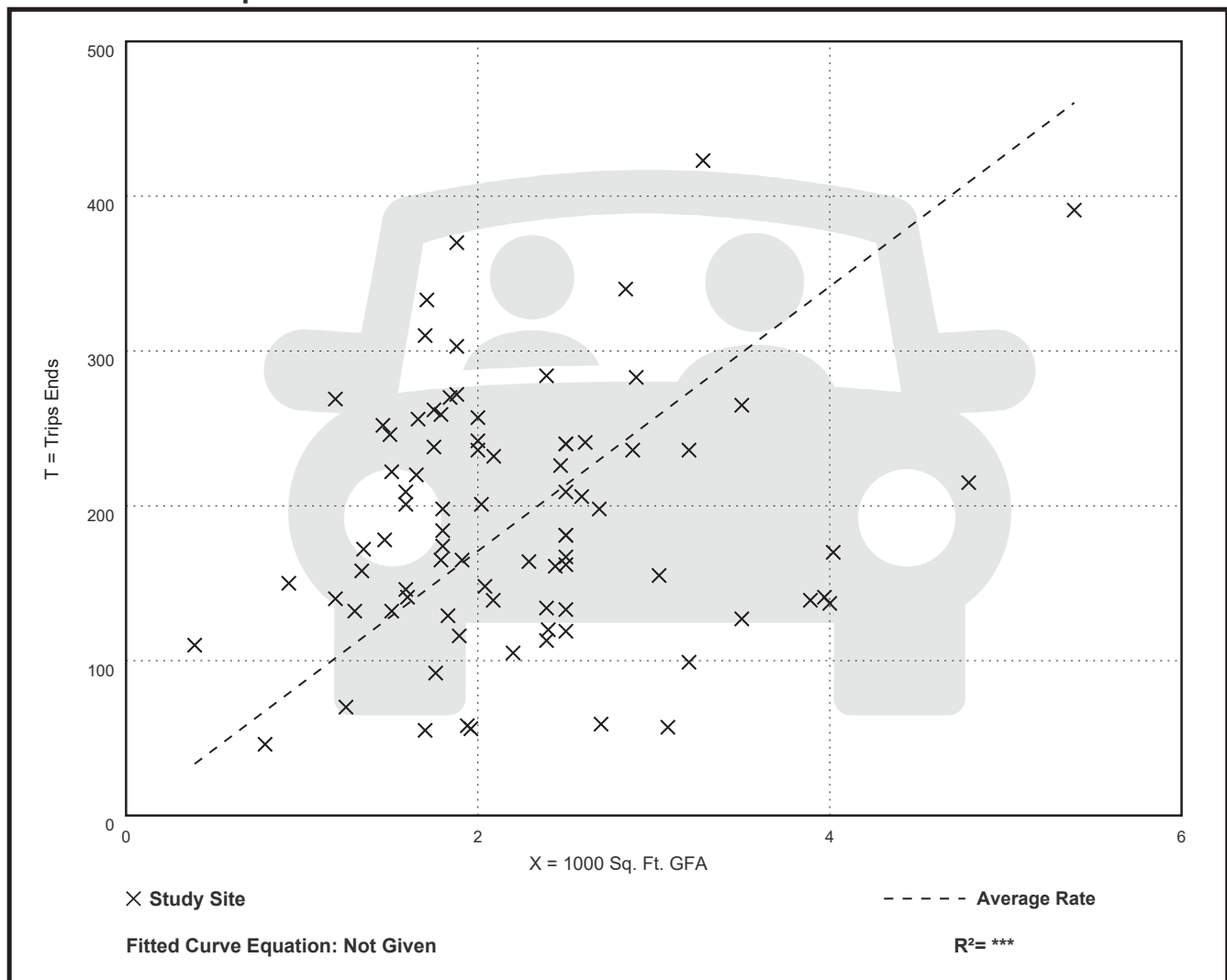
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
85.41	18.51 - 282.05	44.24

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

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: 41

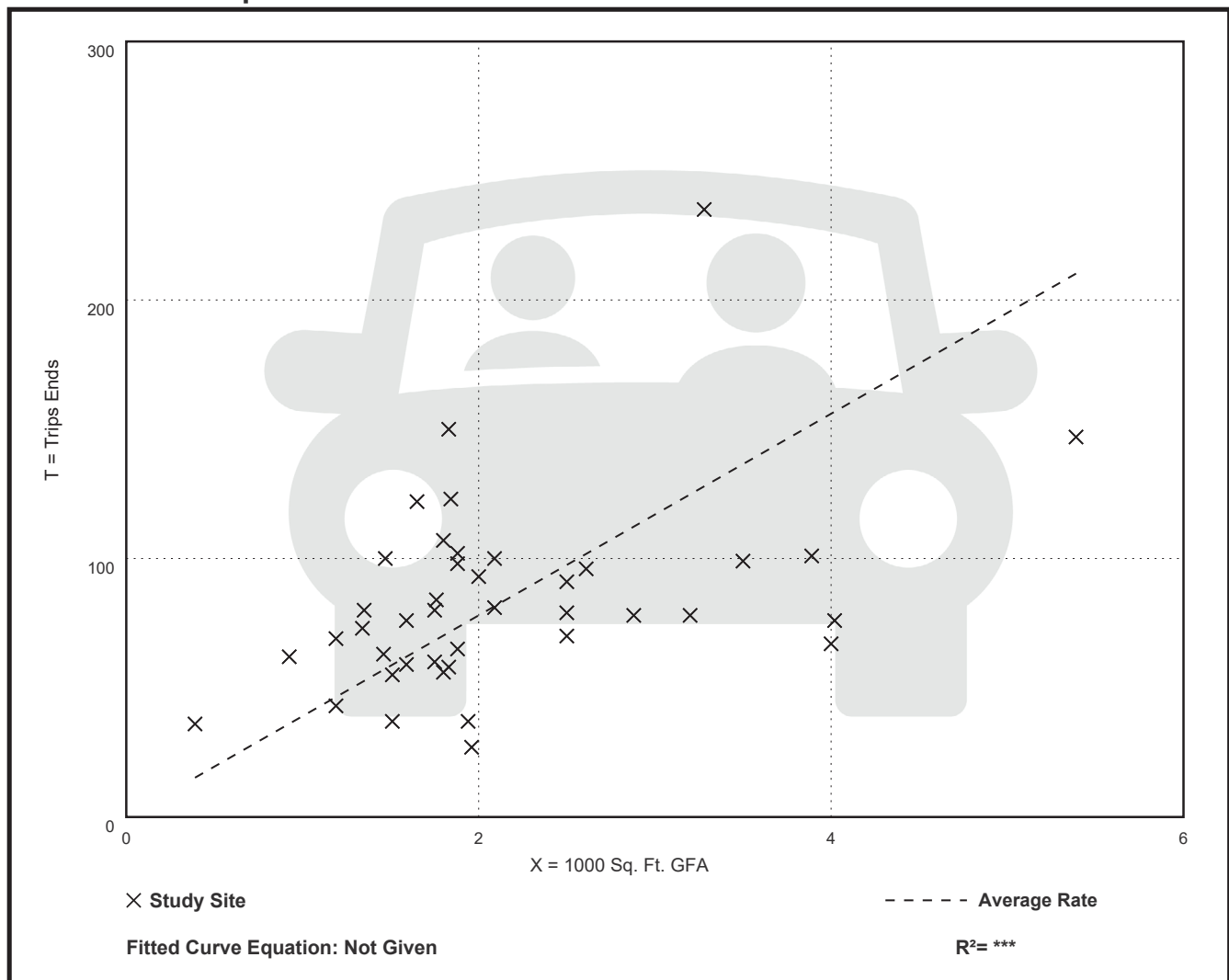
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
39.00	13.78 - 92.31	17.60

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 13

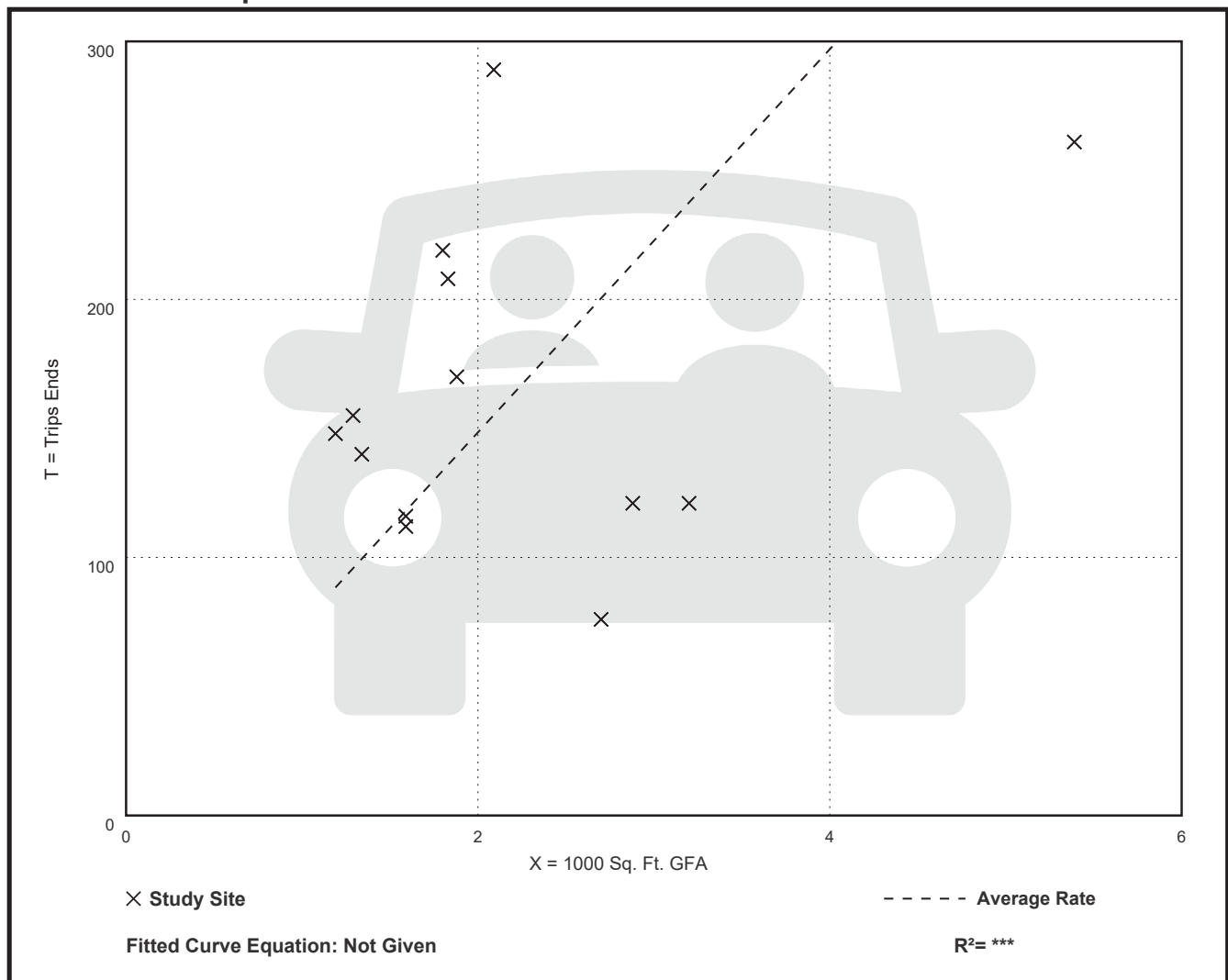
Avg. 1000 Sq. Ft. GFA: 2

Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
74.24	28.15 - 138.28	38.56

Data Plot and Equation



CMAP 2050 Projections Letter



August 29, 2025

Ryan May
Project Coordinator
Kenig, Lindgren, O'Hara and Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, IL 60018

**Subject: McHenry Road and Lake Cook Road
IDOT**

Dear Ms. May:

In response to a request made on your behalf and dated August 28, 2025, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2050 ADT
McHenry Road between Old Checker Road & Lake Cook Road	15,100 (2023)	17,000
Lake Cook Road between Buffalo Grove Road & McHenry Road/IL83	29,400 (2022)	33,000

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

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

cc: Rios (IDOT)
S:\AdminGroups\ResearchAnalysis\2025_trafficForecasts\BuffaloGrove\la-36-25\la-36-25.docx

Level of Service Criteria

LEVEL OF SERVICE CRITERIA

Signalized Intersections		
Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	> 10 - 20
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	> 20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	> 35 - 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	> 55 - 80
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	> 80
Unsignalized Intersections		
Level of Service	Average Total Delay (sec/veh)	
A	0 - 10	
B	> 10 - 15	
C	> 15 - 25	
D	> 25 - 35	
E	> 35 - 50	
F	> 50	
Source: <i>Highway Capacity Manual</i> , 7 th Edition.		

Capacity Analysis Summary Sheets
Existing Weekday Morning Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

09/03/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	9	48	1	23	8	455	33	31	870	1
Future Volume (vph)	1	0	9	48	1	23	8	455	33	31	870	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.850			0.855				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1280	0	1589	1462	0	1805	3619	1482	1805	3689	1615
Flt Permitted				0.784			0.274			0.439		
Satd. Flow (perm)	1837	1280	0	1312	1462	0	521	3619	1482	834	3689	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		281										
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		228			433			577			803	
Travel Time (s)		5.2			9.8			8.7			12.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	22%	6%	100%	4%	0%	5%	9%	0%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	10	0	56	28	0	9	529	38	36	1012	1
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	15.0	22.0		15.0	22.0		14.0	89.0	15.0	14.0	89.0	15.0
Total Split (%)	10.7%	15.7%		10.7%	15.7%		10.0%	63.6%	10.7%	10.0%	63.6%	10.7%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	7.8	8.0		13.3	9.8		118.5	112.6	126.7	121.1	118.4	127.8
Actuated g/C Ratio	0.06	0.06		0.10	0.07		0.85	0.80	0.91	0.87	0.85	0.91
v/c Ratio	0.01	0.03		0.39	0.27		0.02	0.18	0.03	0.05	0.32	0.00
Control Delay (s/veh)	54.0	0.1		64.5	67.7		2.8	4.8	1.6	2.1	3.9	1.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.0	0.1		64.5	67.7		2.8	4.8	1.6	2.1	3.9	1.0
LOS	D	A		E	E		A	A	A	A	A	A
Approach Delay (s/veh)		5.0			65.6			4.6			3.8	
Approach LOS		A			E			A			A	
Queue Length 50th (ft)	1	0		49	25		1	55	2	7	153	0

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

09/03/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	6	0		81	54		5	107	12	7	86	m0
Internal Link Dist (ft)		148			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	171	395		160	167		549	2911	1343	797	3120	1527
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.03		0.35	0.17		0.02	0.18	0.03	0.05	0.32	0.00

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 98 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.39
 Intersection Signal Delay (s/veh): 7.1 Intersection LOS: A
 Intersection Capacity Utilization 45.1% ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road

Ø1	Ø2 (R)	Ø5	Ø6 (R)	Ø3	Ø4
14 s	89 s	14 s	89 s	15 s	22 s

Lanes, Volumes, Timings

4: Buffalo Grove Road & Old Checker Road/Town Center Access Road

09/03/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	29	30	40	15	24	20	326	58	25	387	15
Future Volume (vph)	25	29	30	40	15	24	20	326	58	25	387	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12	11	12	12	11	12	12
Storage Length (ft)	125		0	80		0	400		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	110			120			80			165		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.924			0.909			0.977			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1680	0	1711	1630	0	1662	3458	0	1678	3521	0
Flt Permitted	0.889			0.889			0.481			0.473		
Satd. Flow (perm)	1633	1680	0	1601	1630	0	841	3458	0	835	3521	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			35			30			40	
Link Distance (ft)		3889			431			1565			2287	
Travel Time (s)		88.4			8.4			35.6			39.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	2%	2%	0%	4%	5%	2%	2%	4%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	69	0	47	46	0	24	452	0	29	473	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		6.5	21.0		6.5	21.0	
Total Split (s)	20.0	20.0		20.0	20.0		10.0	40.0		10.0	40.0	
Total Split (%)	28.6%	28.6%		28.6%	28.6%		14.3%	57.1%		14.3%	57.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		3.5	6.0		3.5	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)	10.6	10.6		10.6	10.6		28.3	28.1		28.8	29.5	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.69	0.69		0.70	0.72	
v/c Ratio	0.07	0.16		0.11	0.11		0.03	0.19		0.04	0.19	
Control Delay (s/veh)	20.5	20.2		20.3	20.3		3.8	7.1		3.7	5.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	20.5	20.2		20.3	20.3		3.8	7.1		3.7	5.7	
LOS	C	C		C	C		A	A		A	A	
Approach Delay (s/veh)		20.3			20.3			6.9			5.6	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	5	12		8	8		2	26		2	27	

AMEX Existing Weekday Morning Peak Hour
SA

Synchro 12 Report
Page 3

Lanes, Volumes, Timings

4: Buffalo Grove Road & Old Checker Road/Town Center Access Road

09/03/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	29	54		41	40		8	74		9	77	
Internal Link Dist (ft)		3809			351			1485			2207	
Turn Bay Length (ft)	125			80			400			110		
Base Capacity (vph)	691	711		677	689		742	2759		752	2812	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.04	0.10		0.07	0.07		0.03	0.16		0.04	0.17	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	41
Natural Cycle:	45
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.19
Intersection Signal Delay (s/veh):	8.6
Intersection LOS:	A
Intersection Capacity Utilization:	38.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 4: Buffalo Grove Road & Old Checker Road/Town Center Access Road



Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Volume (vph)	7	3	0	4	6	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	10	0	4	0	0	6
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.92	0.85	0.85	0.85	0.95	0.95
Saturated Flow (vph)	1751	0	1615	0	0	1805
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	117		1615		0	120
Reference Time A (s)	10.3		0.3		0.0	6.0
Adj Saturation B (vph)	NA		1615		0	0
Reference Time B (s)	NA		0.3		8.4	8.4
Reference Time (s)			0.3			6.0
Adj Reference Time (s)			8.0			10.0
Split Option						
Ref Time Combined (s)	0.7		0.3		0.0	0.4
Ref Time Seperate (s)	0.5		0.0		0.4	0.0
Reference Time (s)	0.7		0.3		0.4	0.4
Adj Reference Time (s)	8.0		8.0		8.0	8.0
Summary	WB		NB SB		Combined	
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		10.0			
Split Option (s)	8.0		16.0			
Minimum (s)	8.0		10.0		18.0	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization		15.0%		ICU Level of Service		A
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	1342	756	3	0	7
Future Vol, veh/h	0	1342	756	3	0	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	86	86	86	86	86	86
Heavy Vehicles, %	0	3	6	0	0	14
Mvmt Flow	0	1560	879	3	0	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	10.02
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	726
HCM Lane V/C Ratio	-	-	-	0.011
HCM Ctrl Dly (s/v)	-	-	-	10
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Capacity Analysis Summary Sheets
Existing Weekday Evening Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

09/03/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	4	6	138	3	107	22	1004	117	143	624	3
Future Volume (vph)	2	4	6	138	3	107	22	1004	117	143	624	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.905			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1662	0	1685	1569	0	1805	3762	1615	1805	3725	1615
Flt Permitted	0.889			0.500			0.394			0.208		
Satd. Flow (perm)	1633	1662	0	887	1569	0	749	3762	1615	395	3725	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		7										
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		211			433			577			803	
Travel Time (s)		4.8			9.8			8.7			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	11	0	150	119	0	24	1091	127	155	678	3
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	18.0	30.0		18.0	30.0		15.0	74.0	18.0	18.0	77.0	18.0
Total Split (%)	12.9%	21.4%		12.9%	21.4%		10.7%	52.9%	12.9%	12.9%	55.0%	12.9%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	11.2	9.3		22.6	18.1		104.3	95.9	117.5	110.1	102.1	113.8
Actuated g/C Ratio	0.08	0.07		0.16	0.13		0.75	0.69	0.84	0.79	0.73	0.81
v/c Ratio	0.01	0.09		0.65	0.59		0.04	0.42	0.09	0.39	0.25	0.00
Control Delay (s/veh)	44.5	40.2		65.4	68.2		5.1	11.8	3.4	7.3	8.0	5.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.8	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.5	40.2		65.4	68.2		5.1	12.6	3.4	7.3	8.0	5.3
LOS	D	D		E	E		A	B	A	A	A	A
Approach Delay (s/veh)		40.9			66.6			11.5			7.9	
Approach LOS		D			E			B			A	
Queue Length 50th (ft)	2	4		131	105		3	192	9	24	97	1

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

09/03/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	9	24		180	166		15	361	53	67	184	4
Internal Link Dist (ft)		131			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	245	290		235	273		671	2575	1358	457	2716	1414
Starvation Cap Reductn	0	0		0	0		0	1061	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.04		0.64	0.44		0.04	0.72	0.09	0.34	0.25	0.00

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	131 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay (s/veh):	16.7
Intersection LOS:	B
Intersection Capacity Utilization:	61.9%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road

Ø1 18 s	Ø2 (R) 74 s	Ø3 18 s	Ø4 30 s
Ø5 15 s	Ø6 (R) 77 s	Ø7 18 s	Ø8 30 s

Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	11	17	0	7	5	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	28	0	7	0	0	5
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.89	0.85	0.85	0.85	0.95	0.95
Saturated Flow (vph)	1693	0	1615	0	0	1805
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	113		1615		0	120
Reference Time A (s)	29.8		0.5		0.0	5.0
Adj Saturation B (vph)	NA		1615		0	0
Reference Time B (s)	NA		0.5		8.3	8.3
Reference Time (s)			0.5			5.0
Adj Reference Time (s)			8.0			9.0
Split Option						
Ref Time Combined (s)	2.0		0.5		0.0	0.3
Ref Time Seperate (s)	0.8		0.0		0.3	0.0
Reference Time (s)	2.0		0.5		0.3	0.3
Adj Reference Time (s)	8.0		8.0		8.0	8.0
Summary						
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		9.0			
Split Option (s)	8.0		16.0			
Minimum (s)	8.0		9.0		17.0	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization			14.2%		ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	895	1662	0	0	13
Future Vol, veh/h	0	895	1662	0	0	13
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	94	94	94	94	94	94
Heavy Vehicles, %	20	2	2	0	0	0
Mvmt Flow	0	952	1768	0	0	14

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	884
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	*741
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %		-	-	-	0
Mov Cap-1 Maneuver	-	-	-	-	*741
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.95
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	741
HCM Lane V/C Ratio	-	-	-	0.019
HCM Ctrl Dly (s/v)	-	-	-	9.9
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Capacity Analysis Summary Sheets
Existing Saturday Midday Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

09/03/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	6	11	157	4	107	28	619	145	121	513	9
Future Volume (vph)	5	6	11	157	4	107	28	619	145	121	513	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.903			0.855				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1659	0	1668	1557	0	1805	3725	1615	1805	3762	1615
Flt Permitted				0.580			0.456			0.369		
Satd. Flow (perm)	1837	1659	0	1018	1557	0	866	3725	1615	701	3762	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		11										
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		257			433			577			803	
Travel Time (s)		5.8			9.8			8.7			12.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	25%	0%	0%	2%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	17	0	162	114	0	29	638	149	125	529	9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	17.0	25.0		17.0	25.0		17.0	71.0	17.0	17.0	71.0	17.0
Total Split (%)	13.1%	19.2%		13.1%	19.2%		13.1%	54.6%	13.1%	13.1%	54.6%	13.1%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	10.3	8.2		23.1	16.7		94.5	85.9	109.2	99.3	91.4	103.3
Actuated g/C Ratio	0.08	0.06		0.18	0.13		0.73	0.66	0.84	0.76	0.70	0.79
v/c Ratio	0.04	0.15		0.61	0.57		0.04	0.26	0.11	0.21	0.20	0.01
Control Delay (s/veh)	39.8	36.9		56.3	63.4		6.0	11.0	3.0	6.0	8.8	6.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.8	36.9		56.3	63.4		6.0	11.0	3.0	6.0	8.8	6.2
LOS	D	D		E	E		A	B	A	A	A	A
Approach Delay (s/veh)		37.5			59.2			9.4			8.3	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)	4	5		132	93		4	91	10	18	70	1

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

09/03/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	14	30		174	146		19	194	50	59	147	9
Internal Link Dist (ft)		177			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	243	251		270	243		761	2460	1359	653	2644	1377
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.07		0.60	0.47		0.04	0.26	0.11	0.19	0.20	0.01

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 11 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay (s/veh): 17.0 Intersection LOS: B
 Intersection Capacity Utilization 51.7% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road



Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Volume (vph)	16	25	1	16	6	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	41	0	17	0	0	6
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.89	0.85	0.86	0.85	0.95	0.95
Saturated Flow (vph)	1693	0	1632	0	0	1805
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	113		1632		0	120
Reference Time A (s)	43.6		1.3		0.0	6.0
Adj Saturation B (vph)	NA		1632		0	0
Reference Time B (s)	NA		1.3		8.4	8.4
Reference Time (s)			1.3			6.0
Adj Reference Time (s)			8.0			10.0
Split Option						
Ref Time Combined (s)	2.9		1.3		0.0	0.4
Ref Time Seperate (s)	1.1		0.1		0.4	0.0
Reference Time (s)	2.9		1.3		0.4	0.4
Adj Reference Time (s)	8.0		8.0		8.0	8.0
Summary	WB		NB SB		Combined	
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		10.0			
Split Option (s)	8.0		16.0			
Minimum (s)	8.0		10.0		18.0	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization		15.0%		ICU Level of Service		A
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	867	1069	0	0	12
Future Vol, veh/h	0	867	1069	0	0	12
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	93	93	93	93	93	93
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	0	932	1149	0	0	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 575
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	- 7.1
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	- 3.9
Pot Cap-1 Maneuver	0	-	-	-	0 794
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %		-	-	-	0
Mov Cap-1 Maneuver	-	-	-	-	- 794
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.61
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	794
HCM Lane V/C Ratio	-	-	-	0.016
HCM Ctrl Dly (s/v)	-	-	-	9.6
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Capacity Analysis Summary Sheets
Year 2031 No-Build Weekday Morning Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	27	48	1	23	29	549	33	31	976	17
Future Volume (vph)	15	0	27	48	1	23	29	549	33	31	976	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.850			0.855				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1280	0	1589	1462	0	1805	3619	1482	1805	3689	1615
Flt Permitted	0.800			0.471			0.224			0.395		
Satd. Flow (perm)	1469	1280	0	788	1462	0	426	3619	1482	750	3689	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		250										
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		218			433			577			803	
Travel Time (s)		5.0			9.8			8.7			12.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	22%	6%	100%	4%	0%	5%	9%	0%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	31	0	56	28	0	34	638	38	36	1135	20
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	15.0	22.0		15.0	22.0		14.0	89.0	15.0	14.0	89.0	15.0
Total Split (%)	10.7%	15.7%		10.7%	15.7%		10.0%	63.6%	10.7%	10.0%	63.6%	10.7%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	13.3	8.2		18.2	10.2		113.7	107.4	120.8	114.5	109.3	119.7
Actuated g/C Ratio	0.10	0.06		0.13	0.07		0.81	0.77	0.86	0.82	0.78	0.86
v/c Ratio	0.11	0.10		0.35	0.26		0.08	0.23	0.03	0.05	0.39	0.01
Control Delay (s/veh)	50.4	0.6		57.5	66.8		4.1	6.8	2.7	2.6	6.0	1.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	50.4	0.6		57.5	66.8		4.1	6.8	2.7	2.6	6.0	1.8
LOS	D	A		E	E		A	A	A	A	A	A
Approach Delay (s/veh)		18.3			60.6			6.5			5.8	
Approach LOS		B			E			A			A	
Queue Length 50th (ft)	13	0		45	24		6	103	6	5	237	2

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	34	0		80	55		14	135	13	8	114	4
Internal Link Dist (ft)		138			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	211	367		176	167		458	2777	1285	703	2880	1422
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08		0.32	0.17		0.07	0.23	0.03	0.05	0.39	0.01

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	98 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.39
Intersection Signal Delay (s/veh):	8.6
Intersection LOS:	A
Intersection Capacity Utilization:	45.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road

Ø1	Ø2 (R)	Ø3	Ø4
14 s	89 s	15 s	22 s
Ø5	Ø6 (R)	Ø7	Ø8
14 s	89 s	15 s	22 s

Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	R	R	T
Volume (vph)	19	28	15	15	27	15
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	47	0	30	0	0	42
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.89	0.85	0.93	0.85	0.95	0.97
Saturated Flow (vph)	1695	0	1758	0	0	1839
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	113		1758		0	170
Reference Time A (s)	49.9		2.0		0.0	29.6
Adj Saturation B (vph)	NA		1758		0	0
Reference Time B (s)	NA		2.0		9.8	10.7
Reference Time (s)			2.0			10.7
Adj Reference Time (s)			8.0			14.7
Split Option						
Ref Time Combined (s)	3.3		2.0		0.0	2.7
Ref Time Seperate (s)	1.3		1.0		1.8	0.9
Reference Time (s)	3.3		2.0		2.7	2.7
Adj Reference Time (s)	8.0		8.0		8.0	8.0
Summary	WB		NB SB		Combined	
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		14.7			
Split Option (s)	8.0		16.0			
Minimum (s)	8.0		14.7		22.7	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization		19.0%		ICU Level of Service		A
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	1396	779	15	0	24
Future Vol, veh/h	0	1396	779	15	0	24
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	3	6	0	0	14
Mvmt Flow	0	1623	906	17	0	28

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	462
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.38
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.04
Pot Cap-1 Maneuver	0	-	-	-	752
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %	-	-	-	-	0
Mov Cap-1 Maneuver	-	-	-	-	752
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.97
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	752
HCM Lane V/C Ratio	-	-	-	0.037
HCM Ctrl Dly (s/v)	-	-	-	10
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.1

Capacity Analysis Summary Sheets
Year 2031 No-Build Weekday Evening Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	4	32	138	3	107	59	1164	117	143	773	28
Future Volume (vph)	27	4	32	138	3	107	59	1164	117	143	773	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.865			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1589	0	1685	1569	0	1805	3762	1615	1805	3725	1615
Flt Permitted	0.681			0.538			0.316			0.150		
Satd. Flow (perm)	1251	1589	0	954	1569	0	600	3762	1615	285	3725	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		35										
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		238			433			577			803	
Travel Time (s)		5.4			9.8			8.7			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	39	0	150	119	0	64	1265	127	155	840	30
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	18.0	30.0		18.0	30.0		15.0	74.0	18.0	18.0	77.0	18.0
Total Split (%)	12.9%	21.4%		12.9%	21.4%		10.7%	52.9%	12.9%	12.9%	55.0%	12.9%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	19.2	11.3		28.6	17.0		97.4	88.0	108.1	103.9	93.2	106.6
Actuated g/C Ratio	0.14	0.08		0.20	0.12		0.70	0.63	0.77	0.74	0.67	0.76
v/c Ratio	0.15	0.24		0.56	0.63		0.13	0.54	0.10	0.48	0.34	0.02
Control Delay (s/veh)	42.8	23.5		54.9	72.2		7.1	17.5	5.8	11.1	12.2	6.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	1.2	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.8	23.5		54.9	72.2		7.1	18.7	5.8	11.1	12.2	6.2
LOS	D	C		D	E		A	B	A	B	B	A
Approach Delay (s/veh)		31.8			62.6			17.1			11.9	
Approach LOS		C			E			B			B	
Queue Length 50th (ft)	21	3		119	105		14	326	25	37	174	6

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	46	39		174	166		35	502	64	73	260	19
Internal Link Dist (ft)		158			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	285	301		272	268		534	2363	1251	372	2480	1311
Starvation Cap Reductn	0	0		0	0		0	800	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.13		0.55	0.44		0.12	0.81	0.10	0.42	0.34	0.02

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	131 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay (s/veh):	19.9
Intersection LOS:	B
Intersection Capacity Utilization	66.1%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road

Ø1 18 s	Ø2 (R) 74 s	Ø3 18 s	Ø4 30 s
Ø5 15 s	Ø6 (R) 77 s	Ø7 18 s	Ø8 30 s

Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Volume (vph)	31	59	15	23	40	15
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	90	0	38	0	0	55
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.89	0.85	0.91	0.85	0.95	0.96
Saturated Flow (vph)	1684	0	1728	0	0	1831
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	112		1728		0	153
Reference Time A (s)	96.2		2.6		0.0	43.0
Adj Saturation B (vph)	NA		1728		0	0
Reference Time B (s)	NA		2.6		10.7	11.6
Reference Time (s)			2.6			11.6
Adj Reference Time (s)			8.0			15.6
Split Option						
Ref Time Combined (s)	6.4		2.6		0.0	3.6
Ref Time Seperate (s)	2.2		1.0		2.7	0.9
Reference Time (s)	6.4		2.6		3.6	3.6
Adj Reference Time (s)	10.4		8.0		8.0	8.0
Summary	WB		NB SB		Combined	
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		15.6			
Split Option (s)	10.4		16.0			
Minimum (s)	10.4		15.6		26.0	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization			21.7%		ICU Level of Service	A
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	948	1712	37	0	45
Future Vol, veh/h	0	948	1712	37	0	45
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	94	94	94	94	94	94
Heavy Vehicles, %	20	2	2	0	0	0
Mvmt Flow	0	1009	1821	39	0	48

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	930
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	*731
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %		-	-	-	0
Mov Cap-1 Maneuver	-	-	-	-	*731
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	10.27
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	731
HCM Lane V/C Ratio	-	-	-	0.066
HCM Ctrl Dly (s/v)	-	-	-	10.3
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

Capacity Analysis Summary Sheets
Year 2031 No-Build Saturday Midday Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	6	47	157	4	107	76	818	145	121	708	42
Future Volume (vph)	38	6	47	157	4	107	76	818	145	121	708	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.867			0.855				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1592	0	1668	1557	0	1805	3725	1615	1805	3762	1615
Flt Permitted	0.684			0.513			0.351			0.282		
Satd. Flow (perm)	1256	1592	0	901	1557	0	667	3725	1615	536	3762	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		48										
Link Speed (mph)		30			30			45				45
Link Distance (ft)		237			433			577				803
Travel Time (s)		5.4			9.8			8.7				12.2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	25%	0%	0%	2%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	54	0	162	114	0	78	843	149	125	730	43
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	17.0	25.0		17.0	25.0		17.0	71.0	17.0	17.0	71.0	17.0
Total Split (%)	13.1%	19.2%		13.1%	19.2%		13.1%	54.6%	13.1%	13.1%	54.6%	13.1%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	18.4	10.2		28.0	16.1		90.3	80.6	101.3	93.2	83.5	97.3
Actuated g/C Ratio	0.14	0.08		0.22	0.12		0.69	0.62	0.78	0.72	0.64	0.75
v/c Ratio	0.19	0.32		0.58	0.59		0.15	0.37	0.12	0.27	0.30	0.04
Control Delay (s/veh)	39.4	22.1		50.9	66.0		7.1	14.1	5.0	7.8	12.5	6.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.4	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.4	22.1		50.9	66.0		7.1	14.5	5.0	7.8	12.5	6.4
LOS	D	C		D	E		A	B	A	A	B	A
Approach Delay (s/veh)		29.4			57.1			12.6			11.6	
Approach LOS		C			E			B			B	
Queue Length 50th (ft)	26	5		117	92		17	179	26	29	145	9

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	53	44		172	150		41	273	68	61	222	25
Internal Link Dist (ft)		157			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	283	273		283	233		604	2308	1260	523	2416	1279
Starvation Cap Reductn	0	0		0	0		0	842	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.20		0.57	0.49		0.13	0.58	0.12	0.24	0.30	0.03

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	11 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.59
Intersection Signal Delay (s/veh):	18.2
Intersection LOS:	B
Intersection Capacity Utilization	56.9%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road

Ø1 17 s	Ø2 (R) 71 s	Ø3 17 s	Ø4 25 s
Ø5 17 s	Ø6 (R) 71 s	Ø7 17 s	Ø8 25 s

Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	R
Volume (vph)	43	79	16	39	52	15
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	122	0	55	0	0	67
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.89	0.85	0.89	0.85	0.95	0.96
Saturated Flow (vph)	1685	0	1698	0	0	1826
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	112		1698		0	146
Reference Time A (s)	130.3		3.9		0.0	55.2
Adj Saturation B (vph)	NA		1698		0	0
Reference Time B (s)	NA		3.9		11.5	12.4
Reference Time (s)			3.9			12.4
Adj Reference Time (s)			8.0			16.4
Split Option						
Ref Time Combined (s)	8.7		3.9		0.0	4.4
Ref Time Seperate (s)	3.1		1.1		3.5	0.9
Reference Time (s)	8.7		3.9		4.4	4.4
Adj Reference Time (s)	12.7		8.0		8.4	8.4
Summary	WB		NB SB		Combined	
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		16.4			
Split Option (s)	12.7		16.4			
Minimum (s)	12.7		16.4		29.1	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization		24.2%		ICU Level of Service		A
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	926	1101	49	0	55
Future Vol, veh/h	0	926	1101	49	0	55
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	93	93	93	93	93	93
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	0	996	1184	53	0	59

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	618
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	740
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %	-	-	-	-	0
Mov Cap-1 Maneuver	-	-	-	-	740
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	10.29
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	740
HCM Lane V/C Ratio	-	-	-	0.08
HCM Ctrl Dly (s/v)	-	-	-	10.3
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Capacity Analysis Summary Sheets
Year 2031 Total Projected Weekday Morning Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	0	69	48	1	23	81	549	33	31	976	55
Future Volume (vph)	52	0	69	48	1	23	81	549	33	31	976	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.850			0.855				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1280	0	1589	1462	0	1805	3619	1482	1805	3689	1615
Flt Permitted	0.475			0.705			0.202			0.402		
Satd. Flow (perm)	872	1280	0	1179	1462	0	384	3619	1482	764	3689	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		257										
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		218			433			577			803	
Travel Time (s)		5.0			9.8			8.7			12.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	22%	6%	100%	4%	0%	5%	9%	0%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	80	0	56	28	0	94	638	38	36	1135	64
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	15.0	22.0		15.0	22.0		14.0	89.0	15.0	14.0	89.0	15.0
Total Split (%)	10.7%	15.7%		10.7%	15.7%		10.0%	63.6%	10.7%	10.0%	63.6%	10.7%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	20.9	9.5		17.2	9.5		108.3	99.6	115.0	105.4	96.7	115.8
Actuated g/C Ratio	0.15	0.07		0.12	0.07		0.77	0.71	0.82	0.75	0.69	0.83
v/c Ratio	0.28	0.25		0.33	0.28		0.25	0.25	0.03	0.06	0.45	0.05
Control Delay (s/veh)	51.6	1.8		54.9	68.6		5.9	8.4	3.4	3.3	9.1	2.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.6	1.8		54.9	68.6		5.9	8.4	3.4	3.3	9.1	2.1
LOS	D	A		D	E		A	A	A	A	A	A
Approach Delay (s/veh)		23.1			59.5			7.9			8.6	
Approach LOS		C			E			A			A	
Queue Length 50th (ft)	47	0		44	25		18	106	6	5	250	7

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	83	0		78	55		35	146	15	9	303	10
Internal Link Dist (ft)		138			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	219	373		196	167		408	2575	1240	675	2549	1343
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.21		0.29	0.17		0.23	0.25	0.03	0.05	0.45	0.05

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	98 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.45
Intersection Signal Delay (s/veh):	11.2
Intersection LOS:	B
Intersection Capacity Utilization	53.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road

Ø1	Ø2 (R)	Ø3	Ø4
14 s	89 s	15 s	22 s
Ø5	Ø6 (R)	Ø7	Ø8
14 s	89 s	15 s	22 s

Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	R
Volume (vph)	94	28	15	82	27	15
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	122	0	97	0	0	42
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.93	0.85	0.87	0.85	0.95	0.97
Saturated Flow (vph)	1764	0	1659	0	0	1839
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	118		1659		0	170
Reference Time A (s)	124.5		7.0		0.0	29.6
Adj Saturation B (vph)	0		1659		0	0
Reference Time B (s)	16.3		7.0		9.8	10.7
Reference Time (s)			7.0			10.7
Adj Reference Time (s)			11.0			14.7
Split Option						
Ref Time Combined (s)	8.3		7.0		0.0	2.7
Ref Time Seperate (s)	6.4		1.1		1.8	0.9
Reference Time (s)	8.3		7.0		2.7	2.7
Adj Reference Time (s)	12.3		11.0		8.0	8.0
Summary						
	WB		NB SB		Combined	
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		14.7			
Split Option (s)	12.3		19.0			
Minimum (s)	12.3		14.7		27.0	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization		22.5%		ICU Level of Service		A
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	1440	779	43	0	67
Future Vol, veh/h	0	1440	779	43	0	67
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	3	6	0	0	14
Mvmt Flow	0	1674	906	50	0	78

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	478
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.38
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.04
Pot Cap-1 Maneuver	0	-	-	-	732
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %	-	-	-	-	0
Mov Cap-1 Maneuver	-	-	-	-	732
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	732
HCM Lane V/C Ratio	-	-	-	0.106
HCM Ctrl Dly (s/v)	-	-	-	10.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Capacity Analysis Summary Sheets
Year 2031 Total Projected Weekday Evening Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	4	51	138	3	107	83	1164	117	143	773	45
Future Volume (vph)	44	4	51	138	3	107	83	1164	117	143	773	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.860			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1580	0	1685	1569	0	1805	3762	1615	1805	3725	1615
Flt Permitted	0.681			0.541			0.305			0.149		
Satd. Flow (perm)	1251	1580	0	959	1569	0	580	3762	1615	283	3725	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		55										
Link Speed (mph)		30			30			45				45
Link Distance (ft)		238			433			577				803
Travel Time (s)		5.4			9.8			8.7				12.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	59	0	150	119	0	90	1265	127	155	840	49
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	18.0	30.0		18.0	30.0		15.0	74.0	18.0	18.0	77.0	18.0
Total Split (%)	12.9%	21.4%		12.9%	21.4%		10.7%	52.9%	12.9%	12.9%	55.0%	12.9%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	21.3	12.3		29.5	16.8		97.1	87.0	107.1	102.1	89.8	104.4
Actuated g/C Ratio	0.15	0.09		0.21	0.12		0.69	0.62	0.77	0.73	0.64	0.75
v/c Ratio	0.22	0.31		0.55	0.63		0.19	0.54	0.10	0.49	0.35	0.04
Control Delay (s/veh)	43.4	19.5		53.3	72.9		7.7	18.3	6.2	11.8	13.6	6.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	1.2	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.4	19.5		53.3	72.9		7.7	19.5	6.2	11.8	13.6	6.4
LOS	D	B		D	E		A	B	A	B	B	A
Approach Delay (s/veh)		30.2			62.0			17.6			13.0	
Approach LOS		C			E			B			B	
Queue Length 50th (ft)	35	3		117	105		21	335	26	38	182	11

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	65	46		170	166		48	519	68	77	276	28
Internal Link Dist (ft)		158			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	294	316		279	268		517	2337	1240	369	2388	1271
Starvation Cap Reductn	0	0		0	0		0	773	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.19		0.54	0.44		0.17	0.81	0.10	0.42	0.35	0.04

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	131 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay (s/veh):	20.5
Intersection LOS:	C
Intersection Capacity Utilization	66.1%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road

Ø1	Ø2 (R)	Ø3	Ø4
18 s	74 s	18 s	30 s
Ø5	Ø6 (R)	Ø7	Ø8
15 s	77 s	18 s	30 s

Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Volume (vph)	62	59	15	51	40	15
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	121	0	66	0	0	55
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.90	0.85	0.88	0.85	0.95	0.96
Saturated Flow (vph)	1716	0	1680	0	0	1831
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	114		1680		0	153
Reference Time A (s)	126.9		4.7		0.0	43.0
Adj Saturation B (vph)	NA		1680		0	0
Reference Time B (s)	NA		4.7		10.7	11.6
Reference Time (s)			4.7			11.6
Adj Reference Time (s)			8.7			15.6
Split Option						
Ref Time Combined (s)	8.5		4.7		0.0	3.6
Ref Time Seperate (s)	4.3		1.1		2.7	0.9
Reference Time (s)	8.5		4.7		3.6	3.6
Adj Reference Time (s)	12.5		8.7		8.0	8.0
Summary	WB		NB SB		Combined	
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		15.6			
Split Option (s)	12.5		16.7			
Minimum (s)	12.5		15.6		28.1	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization			23.4%		ICU Level of Service	A
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	968	1712	50	0	65
Future Vol, veh/h	0	968	1712	50	0	65
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	94	94	94	94	94	94
Heavy Vehicles, %	20	2	2	0	0	0
Mvmt Flow	0	1030	1821	53	0	69

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	937
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	*731
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %		-	-	-	0
Mov Cap-1 Maneuver	-	-	-	-	*731
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	10.44
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	731
HCM Lane V/C Ratio	-	-	-	0.095
HCM Ctrl Dly (s/v)	-	-	-	10.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

Capacity Analysis Summary Sheets
Year 2031 Total Projected Saturday Midday Peak Hour

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	6	85	157	4	107	119	818	145	121	708	74
Future Volume (vph)	71	6	85	157	4	107	119	818	145	121	708	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	11	11	11	10	11	11	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	200		180	215		215
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			220			220		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.860			0.855				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1580	0	1668	1557	0	1805	3725	1615	1805	3762	1615
Flt Permitted	0.684			0.506			0.334			0.286		
Satd. Flow (perm)	1256	1580	0	888	1557	0	635	3725	1615	543	3762	1615
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)		88										
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		237			433			577			803	
Travel Time (s)		5.4			9.8			8.7			12.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	25%	0%	0%	2%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	94	0	162	114	0	123	843	149	125	730	76
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	6.5	14.0		6.5	14.0		6.5	21.0	6.5	6.5	21.0	6.5
Total Split (s)	17.0	25.0		17.0	25.0		17.0	71.0	17.0	17.0	71.0	17.0
Total Split (%)	13.1%	19.2%		13.1%	19.2%		13.1%	54.6%	13.1%	13.1%	54.6%	13.1%
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5	0.0	0.0	1.5	0.0
Lost Time Adjust (s)	0.0	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	3.5	6.0	3.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Act Effct Green (s)	23.6	11.3		30.8	15.6		88.0	77.0	97.2	88.0	77.0	92.9
Actuated g/C Ratio	0.18	0.09		0.24	0.12		0.68	0.59	0.75	0.68	0.59	0.71
v/c Ratio	0.28	0.43		0.55	0.61		0.24	0.38	0.12	0.28	0.33	0.07
Control Delay (s/veh)	40.2	18.3		47.8	68.0		8.2	15.5	5.6	8.6	14.8	6.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.4	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.2	18.3		47.8	68.0		8.2	16.0	5.6	8.6	14.8	6.5
LOS	D	B		D	E		A	B	A	A	B	A
Approach Delay (s/veh)		27.9			56.1			13.7			13.3	
Approach LOS		C			E			B			B	
Queue Length 50th (ft)	49	5		115	93		30	186	29	30	155	17

SATPR Year 2031 Total Projected Saturday Midday Peak Hour
SA

Synchro 12 Report
Page 1

Lanes, Volumes, Timings

2: McHenry Road & The Clove Access Drive/The Grove Access Road

10/13/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	85	55		171	153		61	277	69	62	233	38
Internal Link Dist (ft)		157			353			497			723	
Turn Bay Length (ft)							200		180	215		215
Base Capacity (vph)	314	306		299	227		567	2206	1215	512	2229	1199
Starvation Cap Reductn	0	0		0	0		0	810	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.31		0.54	0.50		0.22	0.60	0.12	0.24	0.33	0.06

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	11 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.61
Intersection Signal Delay (s/veh):	19.2
Intersection LOS:	B
Intersection Capacity Utilization	56.9%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 2: McHenry Road & The Clove Access Drive/The Grove Access Road

Ø1 17 s	Ø2 (R) 71 s	Ø3 17 s	Ø4 25 s
Ø5 17 s	Ø6 (R) 71 s	Ø7 17 s	Ø8 25 s

Intersection Capacity Utilization
 13: Internal N-S Access & The Clove Access Drive

09/03/2025



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Volume (vph)	98	79	16	93	52	15
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No		No		
Ideal Flow	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	177	0	109	0	0	67
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.91	0.85	0.87	0.85	0.95	0.96
Saturated Flow (vph)	1724	0	1657	0	0	1826
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00
Protected Option Allowed	No		No			No
Reference Time (s)		0.0		0.0		
Adj Reference Time (s)		0.0		0.0		
Permitted Option						
Adj Saturation A (vph)	115		1657		0	146
Reference Time A (s)	184.8		7.9		0.0	55.2
Adj Saturation B (vph)	NA		1657		0	0
Reference Time B (s)	NA		7.9		11.5	12.4
Reference Time (s)			7.9			12.4
Adj Reference Time (s)			11.9			16.4
Split Option						
Ref Time Combined (s)	12.3		7.9		0.0	4.4
Ref Time Seperate (s)	6.8		1.2		3.5	0.9
Reference Time (s)	12.3		7.9		4.4	4.4
Adj Reference Time (s)	16.3		11.9		8.4	8.4
Summary	WB		NB SB		Combined	
Protected Option (s)	NA		NA			
Permitted Option (s)	Err		16.4			
Split Option (s)	16.3		20.3			
Minimum (s)	16.3		16.4		32.7	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary
 Intersection Capacity Utilization 27.3% ICU Level of Service A
 Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↑
Traffic Vol, veh/h	0	963	1101	73	0	94
Future Vol, veh/h	0	963	1101	73	0	94
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	93	93	93	93	93	93
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	0	1035	1184	78	0	101

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	631
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	724
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %		-	-	-	0
Mov Cap-1 Maneuver	-	-	-	-	724
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	10.78
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	724
HCM Lane V/C Ratio	-	-	-	0.14
HCM Ctrl Dly (s/v)	-	-	-	10.8
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5



PLANNED UNIT DEVELOPMENT STANDARDS

In addition to the special use standards, all planned unit developments shall meet the following general standards:

1. Have the minimum areas as set forth in [Section 17.16.060](#).

Response: The proposed use is believed to be in conformance with the B-5 Zoning District and the amendment to the Planned Unit Development Ordinance for the subject property (Ordinance 98-77).

2. The uses permitted in such development are not of such a nature or so located as to exercise an undue detrimental influence or effect upon the surrounding neighborhood;

Response: The uses of other properties in the immediate vicinity of the subject property are commercial in nature, and inasmuch, the proposed use will further improve and benefit the existing retail center. The proposed use will not be injurious to the uses and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish or impair property values within the neighborhood in which the property is located.

3. The plan effectively treats the developmental possibilities of the subject property, making appropriate provisions for the preservation of streams, wooded areas, scenic views, floodplain areas, and similar physical features;

Response: Given the redevelopment nature of the property and the surrounding developed shopping center, existing environmental features, such as the nearby retention pond will be preserved. Onsite landscaping improvements are proposed and will benefit the aesthetics of the property.

4. All requirements pertaining to commercial, residential, institutional or other uses established in the planned unit development conform to the requirements for each individual classification as established elsewhere in this Title, except as may be specifically varied for the proper planning of the planned unit development;

Response: The proposed use is believed to comply with Chapter 17.44.060.D. of the Buffalo Grove Code of Ordinances.

5. The Planning and Zoning Commission shall determine that the area and width of the lot shall be sufficient for the proposed use, and that the development of the property in the proposed manner creates no outlots which will be difficult to develop in an appropriate manner.



Response: The proposed use will be developed within the existing lot.

Special Use Standards

During the Public Hearing, you will need to present your case for the Special Use being requested. In doing so, please address the six (6) Special Use Standards listed below:

1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;

Response: A drive-thru use would serve the public convenience as opposed to a fully walk-in facility. Directional and traffic control signage as well as Dutch Bros employees assisting with traffic management and drive-thru ordering will benefit the customer experience. The approval of the special use will be compatible with existing (drive-thru) restaurant uses within the Buffalo Grove Town Center, and will not be detrimental to, nor endanger the public health, safety, morals, comfort or general welfare.

2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;

Response: The proposed drive-thru complements a modern-day coffee & beverage establishment to serve customers in search of a quick and convenient experience. A drive-thru facility will also allow customers with pre-orders the option to receive their orders without leaving their vehicle. And given the redevelopment nature, it is believed the proposed use generally reflects the previous use and will continue to complement surrounding restaurant & commuter-centric uses by offering products that are unlike others in the existing shopping center. Per conclusions of the project traffic study, the proposed facility is not expected to be a detriment to public roadways.

3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations with the neighborhood;

Response: Other drive-thru establishments exist within the shopping center and are not located in such close proximity to create conflicts with the proposed use. The proposed use will not be injurious to the surrounding uses and enjoyment of other properties in the immediate vicinity for the purposes already permitted, nor substantially diminish or impair property values within the neighborhood in which the property is located.

4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;

Response: The proposed development is to re-use the existing building and is not believed to hinder or discourage development of the adjacent land use. The proposed use will not be injurious to the surrounding uses and enjoyment of other properties in the immediate vicinity for the purposes already permitted, nor substantially diminish or impair property values within the neighborhood in which the property is located.

5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;

Response: Adequate utilities, access roads, drainage and other necessary facilities have been provided to service the drive-thru facility and are expected to be re-used to the extent possible. Improvements to the existing building, landscaping and lighting improvements, proposed public sidewalk connection, and proposed outdoor dining are all believed to benefit the property and are appropriate for the district.

6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.

Response: Off-site parking will be provided in the adjacent Buffalo Grove Town Center parking lot. Proposed vehicular access points and drive aisles are believed to be sufficient to serve the subject property. Wayfinding signage will be included to accommodate the drive-thru area. The subject property is removed from public streets and does not connect directly to any public rights-of-way; and therefore, congestion is not expected to occur within the rights-of-way as a result of the proposed drive-thru facility. A traffic study has concluded that the proposed use will not adversely impact the cross-traffic of the shopping center.



During your testimony at the Public Hearing, you need to testify and present your case for the variance by addressing the three (3) Variation Standards listed below:

Criteria for Zoning Variation.

- A. The regulations of this Title shall not be varied unless findings of fact are made based upon evidence presented at the hearing that:
1. The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations of the zoning district in which it is located except in the case of residential zoning districts;

Response:

The subject property currently contains no parking spaces and is generally suited for land lease deals such as the proposed use. Per Kensington (landlord), parking in the adjacent shopping center parcel is shared amongst tenants. The proposed use is expected to be less parking intensive than the previous use. A traffic study has been provided that concludes the proposed drive-thru use will not impact the internal flow of cross-traffic.

2. The plight of the owner is due to unique circumstances;

Response:

The subject property currently contains no parking spaces and is generally suited for land lease deals such as the proposed use. The subject property is physically not large enough to accommodate 29 parking spaces as required by code.

3. The proposed variation will not alter the essential character of the neighborhood

Response:

The proposed variation allowing off-site parking to serve the subject property and proposed use will be similar in character to other restaurant uses in the shopping center. Parking in the shopping center is shared parking and can accommodate the expected parking of the proposed use.

to allow more than two wall signs on the building;

VILLAGE OF BUFFALO GROVE

Community Development Department

50 Raupp Boulevard, Buffalo Grove, IL 60089

Phone: 847-459-2530 | www.vbg.org



Sign Variation Standards

During your testimony at the Public Hearing you need to testify and present your case for the variance by addressing the six (6) standards listed below:

The Planning & Zoning Commission is authorized to grant variations to the regulations of the Sign Code (Chapter 14.40) based upon findings of fact which are made based upon evidence presented at the hearing that:

1. The literal interpretation and strict application of the provisions and requirements of this Title would cause undue and unnecessary hardships to the sign user because of unique or unusual conditions pertaining to the specific building, parcel or property in question; and
Response: *The request for two wall signs on the building directly supports the Dutch Bros business model. Similar to the menu boards for the drive-thru, the wall-mounted signs are key to ensuring safe, efficient, and proactive operations, which benefit both Dutch Bros and its customers. These signs help inform customers about current promotions and product availability. Without this additional signage, Dutch Bros customers may not be fully aware of all the products offered at the time of their order.*
2. The granting of the requested variance would not be materially detrimental to the property owners in the vicinity; and
Response: *The request for two wall signs would not be materially detrimental to property owners in the vicinity for several reasons. First, the addition of these wall signs supports an efficient and organized drive-thru process, which reduces traffic congestion, idling times, and confusion within the site. This efficiency minimizes the potential for traffic backup onto surrounding streets or adjacent properties. Second, the wall signs are modest in scale, thoughtfully placed on the exterior of the building in the drive-thru lane, and designed to match the overall architecture and aesthetics of the Dutch Bros building. As such, they do not introduce visual clutter or detract from the character of the surrounding area. Finally, by improving site functionality and maintaining a clean, consistent design, the proposed wall signs help preserve property values and protect the overall experience for neighboring businesses and residents. No excessive noise, lighting, or visual impacts are expected as a result of their installation.*
3. The unusual conditions applying to the specific property do not apply generally to other properties in the Village; and
Response: *The existing building, prior to its conversion, was already equipped with two drive-thru windows and a dual-lane drive-thru configuration. Integrating the Dutch Bros ordering system within this already-established layout allows for a smooth, efficient flow of traffic, minimizes patron wait times, and prevents potential traffic*

to allow more than two wall signs on the building;

bottlenecks. Additionally, adapting the site to the Dutch Bros model ensures cohesive branding and a consistent customer experience.

4. The granting of the variance will not be contrary to the purpose of this Title pursuant to Section 14.04.020.

Response: *The proposed plan does not pose any risk to the health, safety, or general welfare of the community. The addition of the requested walls signs will not impact traffic visibility or sightlines for vehicles entering or exiting adjacent communal areas.*

Each wall sign is under 12 square feet in visual area and will be constructed of durable metal materials. They will feature the Dutch Bros signature blue color scheme, ensuring visual consistency with the building's design. Importantly, all proposed wall signs are static and do not include any speaker or audio components, further minimizing any potential disturbance to the surrounding area.

B. Where there is insufficient evidence, in the opinion of the Planning & Zoning Commission, to support a finding under subsection (A), but some hardship does exist, the Planning & Zoning Commission may consider the requirement fulfilled if:

1. The proposed signage is of particularly good design and in particularly good taste; and

Response: *The proposed signage reflects a particularly good design and is in exceptionally good taste, contributing to both the visual appeal and functional efficiency of the site. The addition of the wall signs will not only support the successful launch of a new business in the area but will also help create a safe, organized, and welcoming environment for Dutch Bros patrons.*

Each wall sign is thoughtfully designed to complement the architecture and color scheme of the Dutch Bros building, ensuring a cohesive and professional brand presentation throughout the site. The signage supports a streamlined customer experience by providing current menu information earlier in the drive-thru queue, allowing patrons to make informed selections in advance. This results in a faster, more efficient ordering process that benefits both customers and surrounding traffic flow.

Overall, the signage enhances the site with tasteful, functional elements that support a positive and efficient customer experience while maintaining harmony with the surrounding community.

2. The entire site has been or will be particularly well landscaped.

Response: *Dutch Bros is a nationally recognized, publicly traded company with a proven record of exceptional year-over-year growth. This success is rooted in the company's unwavering commitment to delivering a high-quality experience at every location—an experience that begins with the appearance and upkeep of each site.*

Dutch Bros takes great pride in the presentation and maintenance of its properties, which includes well-planned, attractive landscaping designed to enhance both the customer experience and the surrounding environment. This attention to detail is a consistent standard across all Dutch Bros locations nationwide and will be reflected in the proposed site. The landscaping will be thoughtfully designed to complement the building architecture, soften site lines, and create a welcoming atmosphere for patrons and the community alike.

to allow more than one Menu Board Sign



Community Development Department

50 Raupp Boulevard, Buffalo Grove, IL 60089

Phone: 847-459-2530 | www.vbg.org

Sign Variation Standards

During your testimony at the Public Hearing you need to testify and present your case for the variance by addressing the six (6) standards listed below:

The Planning & Zoning Commission is authorized to grant variations to the regulations of the Sign Code (Chapter 14.40) based upon findings of fact which are made based upon evidence presented at the hearing that:

1. The literal interpretation and strict application of the provisions and requirements of this Title would cause undue and unnecessary hardships to the sign user because of unique or unusual conditions pertaining to the specific building, parcel or property in question; and
Response: *The request for four (4) drive-thru menu boards aligns directly with the Dutch Bros business model. Safe, efficient, and proactive drive-thru operations are essential to both Dutch Bros and its customers. Without early access to the menu while in the drive-thru queue, patrons are unable to make ordering decisions in advance, which slows down the ordering process at the window or with an Dutch Bros employee. This leads to longer wait times, increased vehicle idling, and backup in the drive-thru lanes. Such delays create a hardship not only for Dutch Bros, by reducing throughput and customer satisfaction, but also for nearby businesses and the surrounding village infrastructure. Congested traffic patterns can obstruct access to adjacent properties, increase the risk of accidents, and contribute to frustration among local drivers and pedestrians. Providing multiple menu boards early in the queue helps mitigate these issues by streamlining the ordering process and maintaining consistent traffic flow throughout the site.*
2. The granting of the requested variance would not be materially detrimental to the property owners in the vicinity; and
Response: *The request for four (4) drive-thru menu boards would not be materially detrimental to property owners in the vicinity for several reasons. First, the addition of these menu boards supports an efficient and organized drive-thru process, which reduces traffic congestion, idling times, and confusion within the site. This efficiency minimizes the potential for traffic backup onto surrounding streets or adjacent properties. Second, the menu boards are modest in scale, thoughtfully placed within the interior of the site, and designed to match the overall architecture and aesthetics of the Dutch Bros building. As such, they do not introduce visual clutter or detract from the character of the surrounding area. Finally, by improving site functionality and maintaining a clean, consistent design, the proposed menu boards help preserve property values and protect the overall experience for neighboring businesses and residents. No excessive noise, lighting, or visual impacts are expected as a result of their installation.*

to allow more than one Menu Board Sign

3. The unusual conditions applying to the specific property do not apply generally to other properties in the Village; and

Response: *The existing building, prior to its conversion, was already equipped with two drive-thru windows and a dual-lane drive-thru configuration. Integrating the Dutch Bros ordering system within this already-established layout allows for a smooth, efficient flow of traffic, minimizes patron wait times, and prevents potential traffic bottlenecks. Additionally, adapting the site to the Dutch Bros model ensures cohesive branding and a consistent customer experience.*

4. The granting of the variance will not be contrary to the purpose of this Title pursuant to Section 14.04.020.

Response: *The proposed plan does not pose any risk to the health, safety, or general welfare of the community. The addition of the requested menu boards will not impact traffic visibility or sightlines for vehicles entering or exiting adjacent communal areas. Each menu board is under 12 square feet per side in visual area and will be constructed of durable metal materials. They will feature the Dutch Bros signature blue color scheme, ensuring visual consistency with the building's design. Importantly, all proposed menu boards are static and do not include any speaker or audio components, further minimizing any potential disturbance to the surrounding area.*

B. Where there is insufficient evidence, in the opinion of the Planning & Zoning Commission, to support a finding under subsection (A), but some hardship does exist, the Planning & Zoning Commission may consider the requirement fulfilled if:

1. The proposed signage is of particularly good design and in particularly good taste; and

Response: *The proposed signage reflects a particularly good design and is in exceptionally good taste, contributing to both the visual appeal and functional efficiency of the site. The addition of four (4) well-designed menu boards will not only support the successful launch of a new business in the area but will also help create a safe, organized, and welcoming environment for Dutch Bros patrons.*

Each menu board is thoughtfully designed to complement the architecture and color scheme of the Dutch Bros building, ensuring a cohesive and professional brand presentation throughout the site. The signage supports a streamlined customer experience by providing current menu information earlier in the drive-thru queue, allowing patrons to make informed selections in advance. This results in a faster, more efficient ordering process that benefits both customers and surrounding traffic flow.

Overall, the signage enhances the site with tasteful, functional elements that support a positive and efficient customer experience while maintaining harmony with the surrounding community.

2. The entire site has been or will be particularly well landscaped.

Response: *Dutch Bros is a nationally recognized, publicly traded company with a proven record of exceptional year-over-year growth. This success is rooted in the company's unwavering commitment to delivering a high-quality experience at every location—an experience that begins with the appearance and upkeep of each site.*

Dutch Bros takes great pride in the presentation and maintenance of its properties, which includes well-planned, attractive landscaping designed to enhance both the customer

experience and the surrounding environment. This attention to detail is a consistent standard across all Dutch Bros locations nationwide and will be reflected in the proposed site. The landscaping will be thoughtfully designed to complement the building architecture, soften site lines, and create a welcoming atmosphere for patrons and the community alike.

to allow more than one Menu Board Sign



VILLAGE OF BUFFALO GROVE

Community Development Department

50 Raupp Boulevard, Buffalo Grove, IL 60089

Phone: 847-459-2530 | www.vbg.org



Sign Variation Standards

During your testimony at the Public Hearing you need to testify and present your case for the variance by addressing the six (6) standards listed below:

The Planning & Zoning Commission is authorized to grant variations to the regulations of the Sign Code (Chapter 14.40) based upon findings of fact which are made based upon evidence presented at the hearing that:

1. The literal interpretation and strict application of the provisions and requirements of this Title would cause undue and unnecessary hardships to the sign user because of unique or unusual conditions pertaining to the specific building, parcel or property in question; and
Response: *The request for the official Dutch Bros signage package on the building's exterior directly supports the company's business model, ensures brand consistency across all locations, and reinforces the brand recognition that Dutch Bros customers expect when they see, pass by, or visit a Dutch Bros location. The signage—its color, size, graphics, and placement—is consistent with the established design used at Dutch Bros sites nationwide.*
2. The granting of the requested variance would not be materially detrimental to the property owners in the vicinity; and
Response: *The request for approval of the building signage will have no materially detrimental impact on surrounding property owners. All exterior signage on Dutch Bros locations is thoughtfully designed and positioned to complement the surrounding environment and nearby properties while maintaining consistency with the company's established national branding. Adequate business signage not only supports the success of this new location but also benefits patrons by providing clear visual cues that facilitate safe and efficient entry and exit from the property.*
3. The unusual conditions applying to the specific property do not apply generally to other properties in the Village; and
Response: *A review of the surrounding businesses near the proposed Dutch Bros site indicates that several nearby establishments display signage on multiple sides of their buildings, many of which are visually comparable to or larger than what is permitted by code. Although this review is based on available mapping data, the proposed signage remains consistent with the character and scale of nearby businesses. The signage will effectively guide patrons approaching from multiple directions and provide sufficient visibility to allow for safe and efficient entry and exit from the shopping area.*
4. The granting of the variance will not be contrary to the purpose of this Title pursuant to Section 14.04.020.
Response: *The proposed plan presents no risk to the health, safety, or general welfare of the community. The addition of Dutch Bros exterior signage will not obstruct traffic visibility or*

to allow wall signage that exceeds the maximum height permitted;

sightlines for vehicles entering or exiting adjacent areas. The signage will feature Dutch Bros' signature blue color palette, ensuring visual harmony with the building's architectural design. Its size, color scheme, and placement have been thoughtfully selected to maintain consistency with Dutch Bros' national branding while complementing the surrounding businesses and overall aesthetic of the site.

B. Where there is insufficient evidence, in the opinion of the Planning & Zoning Commission, to support a finding under subsection (A), but some hardship does exist, the Planning & Zoning Commission may consider the requirement fulfilled if:

1. The proposed signage is of particularly good design and in particularly good taste; and
Response: *The proposed signage demonstrates a high level of design quality and aesthetic consideration, enhancing both the visual appeal and functional efficiency of the site. Approval of the building signage will not only contribute to the successful establishment of a new business in the area but will also promote a safe, organized, and welcoming environment for Dutch Bros patrons.*

Each sign has been thoughtfully designed to complement the architecture and color palette of the Dutch Bros building, ensuring a cohesive and professional brand presentation across the site. The signage layout supports a streamlined customer experience, providing clear visual guidance for safe and efficient access to the business.

Overall, the proposed signage enhances the property with tasteful, well-integrated design elements that improve functionality and maintain harmony with the surrounding community.

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to allow wall signage that exceeds the maximum length permitted;

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To allow a wall sign on the North, South and West Elevations that does not face a public right-of-way;



Community Development Department

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To allow a wall sign on the North, South and West Elevations that does not face a public right-of-way;

Go

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Filed for Record in:
LAKE COUNTY, IL
MARY ELLEN VANDERVENTER - RECORDER
On Nov 23 1998
At 9:20am
Receipt #: 141164
Doc/Type : ORD
Deputy - Cashier #1

11/12/98

ORDINANCE 98- 77

**FOURTEENTH AMENDMENT TO THE TOWN CENTER
PLANNED UNIT DEVELOPMENT ORDINANCE**

**Burger King restaurant site
Buffalo Grove Town Center shopping center
(Phase 1 area of shopping center)
West side of McHenry Road (Illinois Route 83),**

**Ordinance approving an amendment to the
Planned Unit Development,
Approving a Preliminary Plan and
Approving a Special Use for a restaurant
with a drive-through service facility
in the Commercial/Recreational Sub-district
of the B-5 Town Center District**

WITNESSETH:

WHEREAS, the Village of Buffalo Grove is a Home Rule Unit by virtue of the provisions of the Constitution of the State of Illinois of 1970; and,

WHEREAS, Buffalo Grove Joint Venture, an Indiana General Partnership, (hereinafter referred to as the "Owner") is the owner of a certain tract of property (hereinafter referred to as the "Property") comprising 17.35 acres known as the Phase 1 Area (Lot 1) of the Buffalo Grove Town Center shopping center and legally described and identified in the legal description, which is attached hereto as

EXHIBIT A, which exhibit is made a part hereof and which real estate is within the corporate limits of the Village; and,

WHEREAS, said Property was zoned in the B-5 District Commercial/Recreational Sub-district by Ordinance 86-61, dated November 3, 1986, as part of a Planned Unit Development and approval of a Preliminary Plan dated November 1, 1986 and later approved with revisions on April 27, 1987; and,

WHEREAS, the Village passed Ordinance 95-75 dated July 24, 1995 approving various changes to the approved Preliminary Plan of the Town Center shopping center, including conceptual approval for a restaurant building at the southeast area of the Phase 1 Area; and,

WHEREAS, the Village has received a petition from Shelly Friedman, BNB Land Venture, Inc., (hereinafter referred to as the "Developer," requesting approval of an amendment to the Planned Unit Development, a Special Use for a restaurant with a drive-through service facility in the Commercial/Recreational Sub-district of the B-5 District and approval of a Preliminary Plan for the Phase 1 portion of Town Center designated for a restaurant building on the Preliminary Plan approved by Ordinance 95-75; and,

WHEREAS, said site for the proposed restaurant is hereinafter referred to as the "Burger King Parcel;" and,

WHEREAS, Developer proposes to purchase said Burger King Parcel and construct a restaurant with a floor area of 2,900 square feet with a drive-through service facility in accordance with and pursuant to a certain Conceptual Site Plan

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(Preliminary Plan) as prepared by Thomas V. Scesniak Associates dated as last revised November 3, 1998 and attached hereto as EXHIBIT C and incorporated herein, and also a Site Utilities Plan (Preliminary Engineering Plan) prepared by a JAS Associates, Inc. dated October 29, 1998 and attached hereto as EXHIBIT D and incorporated herein, and subject to all other exhibits attached hereto or incorporated by reference herein.

WHEREAS, pursuant to due notice and advertisement, the Plan Commission of the Village has held a public hearing and made their recommendations pursuant to the requested amendment of the Planned Unit Development, including a variation of the Village's parking requirement for a mixed use shopping center, approval of a Special Use in the Commercial/Recreational Sub-district of the B-5 District and approval of a Preliminary Plan; and,

WHEREAS, the President and Board of Trustees of the Village (sometimes hereafter referred to as the "Corporate Authorities") after due and careful consideration have determined that the development of the Property on the terms and conditions herein set forth would enable the Village to control development of the area and would serve the best interests of the Village.

NOW, THEREFORE, BE IT ORDAINED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF BUFFALO GROVE, COOK AND LAKE COUNTIES, ILLINOIS:

1. Applicable Law. This Ordinance is made pursuant to and in accordance with the Village's Zoning Ordinance, Development Ordinance and the Village's Home Rule powers. The preceding whereas clauses are hereby made a

part of this Ordinance.

2. Enactment of Zoning Ordinance. The Corporate Authorities hereby adopt a proper, valid and binding ordinance, approving an amendment of the Planned Unit Development approved by Ordinance 86-61 and Ordinance 95-75, approving a Special Use for a restaurant with a drive-through service facility in the Commercial/Recreational Sub-district of the B-5 District for the Burger King Parcel and approving a Preliminary Plan subject to the conditions contained herein and in compliance with all applicable ordinances of the Village of Buffalo Grove as amended from time to time. Said zoning shall be further conditioned on the development of the Property in accordance with the Conceptual Site Plan attached hereto as EXHIBIT C and other exhibits attached hereto or incorporated by reference herein.

3. Approval of Plans. The Corporate Authorities hereby approve the Preliminary Plan (EXHIBITS C and D) pursuant to the provisions of the Development Ordinance. The Corporate Authorities agree to approve a Development Plan (including a plat of subdivision) based on final versions of the plans and drawings of the development of the Burger King Parcel and the Phase 1 Area as submitted by the Owner and Developer provided that the Development Plan shall:

- (A) conform to the approved Preliminary Plan (EXHIBITS C and D), and
- (B) conform to the terms of this Ordinance and all applicable Village Ordinances as amended from time to time; and
- (C) conform to the approved Development Improvement Agreement (EXHIBIT B) as amended from time to time.

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4. Compliance with Applicable Ordinances. Owner and Developer will comply with all ordinances of the Village of Buffalo Grove as amended from time to time in the development of the Property, provided that all new ordinances, amendments, rules and regulations relating to zoning, building and subdivision of land adopted after the date of this Ordinance shall not be arbitrarily or discriminatorily applied to the Property but shall be equally applicable to all property similarly zoned and situated to the extent possible. Owner and Developer, in the development of the Burger King parcel and Phase 1 Area, shall comply with the standards set forth in the Village of Buffalo Grove Development Ordinance as amended from time to time.

Notwithstanding the foregoing, the Village shall not apply new ordinances or regulations to the Burger King Parcel and Phase 1 area to the extent that such ordinances or regulations would prevent development of the Preliminary Plan approved herein.

5. Amendment of Plan. If the Owner or Developer desires to make changes in the Preliminary Plan, as herein approved, the parties agree that such changes in the Preliminary Plan will require, if the Village so determines, the submission of amended plats or plans, together with proper supporting documentation, to the Plan Commission and/or the Corporate Authorities to consider such changes to this Ordinance. The Corporate Authorities may, at their sole discretion, require additional public hearings and may review the commitments of record contained in this Ordinance, including, but not limited to fees, prior to

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final consideration of any change in the Preliminary Plan. The Village Manager is hereby authorized to approve such minor changes as he deems appropriate, provided that no such change increases the total ground area covered by buildings by more than two percent (2%).

6. Building Permit Fees. The building permit fees may be increased from time to time so long as said permit fees are applied consistently to all other developments in the Village to the extent possible. In the event a conflict arises between the Owner or Developer and the Village on any engineering and technical matters subject to this Ordinance, the Village reserves the right to pass along any and all additional expenses incurred by the use of consultants in the review and inspection of the development from time to time. Owner or Developer shall pay any non-discriminatory new or additional fees hereinafter charged by the Village to properties within the Village.

7. Water Provision. The Developer shall be permitted and agrees to tap on to the Village water system at points recommended by the Village Engineer which points to be extent shown on EXHIBIT D are hereby approved by the Village. It is understood, however, that changes to the Preliminary Engineering Plan may be required at the time of Final Engineering. The Developer further agrees to pay to the Village such fees in accordance with the applicable Village Ordinances at the time of the issuance of the water and sewer permits. The Developer agrees to accept any increase in water rates and tap on fees provided such rates and fees apply consistently to all other similar users in the Village to the extent possible. Following such tap on, the Village agrees to provide to the best of its ability and in

a non-discriminatory manner water service to all users on the Property in accordance with the Preliminary Plan. Watermains serving the Property and those approved as part of the development shall be installed by the Developer and, except for service connections to the building shall, upon installation and acceptance by the Village through formal acceptance action by the Corporate Authorities, be dedicated to the Village and become a part of the Village water system maintained by the Village.

8. Storm and Sanitary Sewer Provisions.

A. The Corporate Authorities agree to cooperate with the Owner and Developer and to use their best efforts to aid Developer in obtaining such permits from governmental agencies having jurisdiction as may be necessary to authorize connection from the proposed development to the Lake County Department of Public Works for the collection of sewage and to the Illinois Department of Transportation as may be appropriate. The Developer shall construct sanitary sewers as necessary to service the Burger King Parcel, pursuant to EXHIBIT D. It is understood, however, that changes to the Preliminary Engineering Plan may be required at the time of Final Engineering. Upon installation and acceptance by the Village through formal acceptance action by the Corporate Authorities, the Corporate Authorities agree to operate and maintain such systems, except for sanitary sewer service connections. The Developer agrees to accept any increase in sewer rates and tap on fees, provided that such fees and rates are applied consistently to all similar users in the Village to the extent possible.

B. The Developer shall also construct storm sewers which may be necessary to service the Burger King Parcel and Phase 1 Area pursuant to EXHIBIT D. It is understood, however, that changes to the Preliminary Engineering Plan may be required at the time of Final Engineering. The Owner and Developer agree to operate and maintain that portion of the storm sewer system located on the Burger King Parcel and Phase 1 Area and not dedicated.

9. Drainage Provisions. The Owner and Developer shall fully comply with any request of the Village Engineer related to the placement of buildings on lots, to preserve drainage standards. The Owner or Developer shall install any storm sewers and/or inlets which are required to eliminate standing water or conditions of excess sogginess which may, in the opinion of the Village Engineer, be detrimental to the growth and maintenance of lawn grasses.

10. Security for Public and Private Site Improvements. Security for public and private site improvements shall be provided in accordance with the Development Ordinance, and the Development Improvement Agreement (EXHIBIT B) as amended from time to time. Any letter of credit issued for such improvements shall be drawn on a financial institution of net worth reasonably satisfactory to the Village Attorney. The issuer may have an equitable or lending interest in the Burger King Parcel and Phase 1 Area provided that the letter of credit, either by its own terms or by separate written assurances of the issuer, shall be honored irrespective of that interest. The Village shall have the right to draw up to the full amount of the letter of credit in order to complete, and have formal acceptance of, all improvements secured by the letter of credit.

11. Exhibits. The following EXHIBITS, some of which were presented in testimony given by the Developer or the witnesses during the hearings held before the Plan Commission and the Corporate Authorities prior to the execution of this Ordinance, are hereby incorporated by reference herein, made a part hereof and designated as shown below. This Ordinance, together with copies of all EXHIBITS, shall be kept on file with the Village Clerk and be available for inspection to the parties hereto.

- | | |
|-----------|---|
| EXHIBIT A | Legal Description - Buffalo Grove Town Center shopping center, Phase 1 (Lot 1) |
| EXHIBIT B | Development Improvement Agreement |
| EXHIBIT C | Conceptual Site Plan (Preliminary Plan), Sheet AS-1, dated as last revised November 3, 1998 by Thomas V. Scesniak Associates |
| EXHIBIT D | Site Utilities Plan (Sheet 1 of 2) and Retaining Wall "X" Sections (Sheet 2 of 2) dated October 29, 1998 (Preliminary Engineering Plan) by JAS Associates, Inc. |
| EXHIBIT E | Conceptual Landscape Plan (Sheet L-1) dated October 28, 1998 by Thomas V. Scesniak Associates |
| EXHIBIT F | Exterior Elevations of Burger King building (Sheet A-2) dated June 18, 1998 by Thomas V. Scesniak Associates |
| EXHIBIT G | Equipment and Seating Plan of Burger King building (Sheet EQ-1) dated June 18, 1998 by Thomas V. Scesniak Associates |
| EXHIBIT H | Letter dated October 28, 1998 from Bill Ranek, Civil Engineer, Simon Property Group concerning parking at Buffalo Grove Town Center |
| EXHIBIT I | Site Plan and Leasing Plan dated October 27, 1998 of Buffalo Grove Town Center by Simon Property Group |

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12. Building, Landscaping and Aesthetics Plans. Owner and Developer will submit building and landscaping plans (which landscaping plans shall conform to the requirements of Village Ordinances) for approval by the Appearance Commission and the Corporate Authorities before commencing construction of buildings. Lighting, signage, building materials and appearance, and the retaining wall and guardrail adjacent to the stormwater facility shall be compatible with surrounding areas and are subject to approval by the Appearance Commission and the Corporate Authorities. Areas not under construction or completed shall be maintained in a neat and orderly fashion as determined by the Village Manager.

13. Facilitation of Development. Time is of the essence of this Ordinance, and all parties will make every reasonable effort to expedite the subject matters hereof. It is further understood and agreed that the successful consummation of this Ordinance and the development of the Burger King Parcel is in the best interests of all the parties and requires their continued cooperation. The Owner and Developer do hereby evidence their intention to fully comply with all Village requirements, their willingness to discuss any matters of mutual interest that may arise, and their willingness to assist the Village to the fullest extent possible. The Village does hereby evidence its intent to always cooperate in the resolution of mutual problems and its willingness to facilitate the development of the Property, as contemplated by the provisions of this Ordinance.

14. Enforceability of the Ordinance. This Ordinance shall be enforceable in any court of competent jurisdiction by any of the parties or by an appropriate action at law or in equity to secure the performance of the covenants herein described. If any provision of this Ordinance is held invalid, such provisions shall be deemed to

be excised herefrom and the invalidity thereof shall not affect any of the provisions contained herein.

15. Binding Effect of Ordinance. This Ordinance shall be binding upon the Property, including the Burger King Parcel, the parties hereto and their respective grantees, successors and assigns.

16. Corporate Capacities. The parties acknowledge and agree that the individuals that are members of the group constituting the Corporate Authorities are enacting this Ordinance in their official capacities as members of such group and shall have no personal liability in their individual capacities.

17. Notices. Any notice required pursuant to the provisions of this Ordinance shall be in writing and be sent by certified mail to the following addresses until notice of change of address is given and shall be deemed received on the fifth business day following deposit in the U.S. Mail.

If to Owner: Buffalo Grove Joint Venture
115 W. Washington Street
Indianapolis, IN 46204

If to Developer: Shelly Friedman
BNB Land Venture, Inc.
1020 Milwaukee Avenue
Deerfield, IL 60015

Copy to: Marc K. Schwartz
Marc K. Schwartz and Associates
314 N. McHenry Road
Buffalo Grove, IL 60089

If to Village: Village Clerk
Village of Buffalo Grove
50 Raupp Boulevard
Buffalo Grove, IL 60089

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Copy to: William G. Raysa, Esq.
Raysa & Skelton
1140 Lake Street, Suite 400
Oak Park, IL 60301

18. Special Conditions.

- A. A variation of Section 17.36.040 of the Buffalo Grove Zoning Ordinance is hereby granted to allow 1,170 parking spaces for the Buffalo Grove Town Center shopping center, including Phase 1 and Phase 2, pursuant to EXHIBITS H and I attached hereto. In the event that the theater use in the Phase 1 Area is terminated, the shopping center shall comply with the standards of the Zoning Ordinance concerning required parking. In the event that any new uses are proposed for the shopping center that would not comply with the Village's parking standards, then such uses are subject to approval by the Village.
- B. Signs depicted on the attached EXHIBITS are not approved by this Ordinance. Said signage, lighting, final landscaping plans and building appearance and materials for the proposed Burger King restaurant, related improvements to the parking areas on the Property, and the appearance and materials of the retaining wall and guardrail adjacent to the stormwater facility on the Phase 1 Area of the Property are subject to review by the Village Appearance Commission and approval by the Village Board.

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C. The provisions of Ordinance 86-61 and Ordinance 95-75 remain in full force and effect for the Property unless specifically modified by this Ordinance.

19. Effect. This Ordinance shall be in full force and effect from and after its passage and approval. This Ordinance shall not be codified.

AYES: 4 - Marienthal, Rubin, Braiman, Glover

NAYES: 0 - None

ABSENT: 2 - Reid, Hendricks


PASSED: November 16, 1998

APPROVED: November 16, 1998

ATTEST:

Jane Olson
Village Clerk, Deputy

APPROVED:


SIDNEY H. MATHIAS
Village President

4244877

EXHIBIT A

Legal Description

**FOURTEENTH AMENDMENT TO THE TOWN CENTER
PLANNED UNIT DEVELOPMENT ORDINANCE**

**Burger King restaurant site
Buffalo Grove Town Center shopping center
(Phase 1 area of shopping center)
West side of McHenry Road (Illinois Route 83),**

Lot 1 in the Buffalo Grove Town Center Unit 1 being a subdivision of part of the southwest quarter of Section 33, Township 43 North, Range 11 East of the Third Principal Meridian in Lake County, Illinois.

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AGENDA ITEM SUMMARY

PLANNING AND ZONING COMMISSION

Regular Meeting: November 19, 2025

AGENDA ITEM 2.C.

Consideration of approval of a Special Use for outdoor storage in the Industrial District at 1051 Commerce Ct.

Contacts

Liaison: Trustee Ottenheimer

Staff: Andrew Binder

Staff Recommendation

Staff recommends approval.

Recommended Motion

The PZC moves to make a positive recommendation to the Village Board to allow a Special Use in the Industrial District (I) for outdoor storage at 1051 Commerce Court, subject to the following conditions:

1. The outdoor storage for Heritage Pool Supply, Inc. shall be operated in substantial compliance with the business description and plans provided as part of this petition.
2. The Special Use is granted to Heritage Pool Supply, Inc. to allow outdoor storage at 1051 Commerce Court, which shall not run with the land.
3. The Special Use for outside storage granted to Heritage Pool Supply, Inc. is assignable to subsequent petitioners seeking assignment of this Special Use as follows:
 - a. Upon application of a petitioner seeking assignment of this Special Use, the Corporate Authorities, in their sole discretion, may refer said application of assignment to the appropriate commission(s) for a public hearing or may hold a public hearing at the Village Board.
 - b. Such assignment shall be valid only upon the adoption of a proper, valid and binding ordinance by the Corporate Authorities granting said assignment, which may be granted or denied for any reason.
4. The outdoor storage will be located within the enclosed area south of the building, the exact location of which will require coordination with Lake Zurich. The final location will be approved by the Village of Buffalo Grove prior to issuance of a racking permit for the outside storage.
5. An access easement agreement shall be made between the petitioner/property owner and the Village of Lake Zurich prior to the issuance of a racking permit for the outside storage.

6. Any incidental or directional signage for the site will be reviewed and administratively approved by Village staff.
7. The fence and parking lot screening shall be maintained by the property owner or tenant in perpetuity.

Summary

SRS Distribution - Heritage Pool Supply is seeking a Special Use approval for outdoor storage in the Industrial District at 1051 Commerce Court. The business intends to occupy the vacant building to operate as a wholesale distributor of pool supplies and equipment.

File Attachments

1. 1051 Commerce Ct - Staff Report
2. 1051 Commerce Ct - Plan Set



Meeting Date:	November 19, 2025
Subject Property Location:	1051 Commerce Ct, Buffalo Grove, IL 60089
Petitioner:	Craig Manquardt, SRS Distribution Heritage Pool Supply
Prepared By:	Andrew Binder, Associate Planner
Request:	The petitioner seeks approval of a Special Use for outdoor storage in the Industrial District at 1051 Commerce Ct.
Existing Lane Use and Zoning:	The subject property is located within a stand-alone industrial building and is zoned I: Industrial District.
Comprehensive Plan:	The Village Comprehensive Plan calls for this property to be Industrial.

PROJECT BACKGROUND

Craig Manquardt from SRS Distribution - Heritage Pool Supply is requesting a Special Use for outdoor storage in the Industrial District at 1051 Commerce Ct, *as shown in Figure 1*. The business plans to occupy the vacant building to operate as a wholesale distributor of pool supplies and equipment.

Site History

- The building was constructed in 1993 and occupied by Movers International from 1993 to 2015.
- In 2015, Illinois Masonry Corp., a commercial masonry company occupied the building. By 2024, they relocated outside Buffalo Grove, and the building has been vacant since.



Figure 1: Subject Property

PLANNING & ZONING ANALYSIS

Proposed Use & Operation

- SRS Distribution – Heritage Pool Supply is a wholesale distributor of pool products, specializing in supplies for professionals in the pool industry, serving exclusively to licensed pool contractors; they do not sell directly to the public. Their business includes general office use and the wholesale distribution of products, including pool construction materials, maintenance supplies, equipment, and pool chemicals.
- The business will operate daily from Monday to Friday, from 6:30 am to 4 pm, and Saturday, from 8 am to 11 am. There will be 12 employees at this location.

Existing and Surrounding Uses

- The subject property is a stand-alone industrial building that is zoned I: Industrial. The 2009 Comprehensive Plan calls for the site to be an Industrial Use.
- The properties situated to the north, east, and southwest of the site are also zoned for industrial use, with an industrial business (Nemera) located to the north, the Pace/Metra station to the east, and a ComEd right-of-way to the south. To the west of the site, the property is zoned R-9 and consists of a small, vacant triangular parcel.
- The Zoning Ordinance defines the proposed use as 'Building Material Sales' use, which is a permitted use in the Industrial District. However, the proposed outdoor storage of materials is a Special Use in the Industrial District.

Parking

- The Zoning Ordinance mandates 2 parking stalls per 3 employees for industrial use and 1 stall per 300 sqft of office space. The proposed business must provide 22 stalls: 8 for 12 employees (8 stalls) and approximately 4,200 sqft of office space (14 stalls). The existing parking lot has 32 stalls, which exceeds the minimum requirement.

Outdoor Storage

- As shown in Figure 2. below, the outside storage would be located somewhere within the enclosed area highlighted in red. Staff will work with the petitioner to determine the best spot for storage within this area, taking into consideration easement locations and any sightline or access issues.

- The proposed outdoor storage will accommodate larger items for their business, such as PVC pipes, tiles, rebar, pallets of bagged sand, and other bulk-packaged products that are difficult to store indoors. Pool chemicals will only be stored indoors.

- Per the Village's Zoning Ordinance, outdoor storage is permitted with a Special Use provided the following additional requirements are met:



Figure 2: Proposed Outdoor Storage Areas

- The outdoor storage must be located at least 150 feet from a residential district boundary; and
 - The Storage must be enclosed by a solid wall or fence, including solid doors or gates that are at least 6 feet high, but in no case lower in height than the enclosed storage.
- The proposed outdoor storage will meet the Zoning Code requirements. The nearest residential zoning district is located to the west of the site, and the proposed storage area will be approximately 275 feet away from the residentially zoned property (R-9). Additionally, the

storage area is currently enclosed by an 8-foot-tall chain link fence. The petitioner plans to add fence slats to screen the storage area. Products stored outside will be placed on existing pavement, or the parking lot will be expanded within the fenced-in area to accommodate items on the pavement, ensuring they do not exceed the height of the surrounding 8-foot-high slatted fence. Staff has no objections to the request since the storage area will be fully screened and will meet Code requirements.

Engineering/Easement

- There is a 35-foot public utility easement located on the southern part of the site that lies within the proposed outdoor storage area. This easement involves a sanitary sewer line with manhole covers, owned and maintained by the Village of Lake Zurich. As per the existing easement agreement, Lake Zurich agrees not to disrupt the property owner’s use of the land. The agreement also requires the owner to get written approval from Lake Zurich for any activities that could block or interfere with the Village's easement rights.
- Village Staff and the Petitioner have contacted Lake Zurich about the proposed outdoor storage area. Lake Zurich is generally ok with allowing some outside storage on a portion of the easement, but wants to ensure access to the sanitary line and manhole cover in the parking lot. Additionally, Lake Zurich wants to establish an agreement with the business detailing what items will be stored within the easement, limiting areas that need to be accessed in case of emergency or general maintenance, and holding the Village harmless if any loss or damage should occur to the items in the storage area due to Village operations.
- Staff supports the request, considering the easement and emergency/maintenance access needs, and recommends that the agreement be finalized prior to issuance of a racking permit for the outside storage.

Departmental Reviews

Village Department	Comments
Building	The Building Division has reviewed the plans and has no concerns.
Engineering	The Engineering Division has reviewed the plans and has no concerns, provided the business works with the Village of Lake Zurich to finalize an agreement related to the easement area.

STANDARDS

Special Use Criteria

Pursuant to the Zoning Ordinance, all special uses shall meet the following criteria:

1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;
2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;

3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations with the neighborhood;
4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;
5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;
6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.

The petitioner's response to the standards is attached.

SURROUNDING PROPERTY OWNERS

Pursuant to Village Code, the property owners within 350 feet were notified by mail and a public hearing sign was posted on the subject property. The posting of the public hearing sign and the mailing of the notifications were both completed within the required timeframes. As of the date of this Staff Report, no inquiries have been received regarding the requested Special Use.

STAFF RECOMMENDATION

Staff recommends **approval** of a Special Use in the Industrial District (I) for outdoor storage at 1051 Commerce Court, subject to the conditions listed in the PZC motion, as the outdoor storage will comply with Code requirements related to screening and proximity to residential districts.

ACTION REQUESTED

The Planning & Zoning Commission (PZC) shall open the public hearing and take public testimony concerning the Special Use in the Industrial District (I) for outdoor storage at 1051 Commerce Court. The PZC shall make a recommendation to the Village Board regarding the requested Special Use.

Suggested PZC Motion

The PZC moves to make a positive recommendation to the Village Board to allow a Special Use in the Industrial District (I) for outdoor storage at 1051 Commerce Court, subject to the following conditions:

1. *The outdoor storage for Heritage Pool Supply, Inc. shall be operated in substantial compliance with the business description and plans provided as part of this petition.*
2. *The Special Use is granted to Heritage Pool Supply, Inc. to allow outdoor storage at 1051 Commerce Court, which shall not run with the land.*
3. *The Special Use for outside storage granted to Heritage Pool Supply, Inc. is assignable to subsequent petitioners seeking assignment of this Special Use as follows:*
 - a. *Upon application of a petitioner seeking assignment of this Special Use, the Corporate Authorities, in their sole discretion, may refer said application of assignment to the appropriate commission(s) for a public hearing or may hold a public hearing at the Village Board.*
 - b. *Such assignment shall be valid only upon the adoption of a proper, valid and binding ordinance*

by the Corporate Authorities granting said assignment, which may be granted or denied for any reason.

4. *The outdoor storage will be located within the enclosed area south of the building, the exact location of which will require coordination with Lake Zurich. The final location will be approved by the Village of Buffalo Grove prior to issuance of a racking permit for the outside storage.*
5. *An access easement agreement shall be made between the petitioner/property owner and the Village of Lake Zurich prior to the issuance of a racking permit for the outside storage.*
6. *Any incidental or directional signage for the site will be reviewed and administratively approved by Village staff.*
7. *The fence and parking lot screening shall be maintained by the property owner or tenant in perpetuity.*

ATTACHMENTS

- Petitioner's Narrative
- Petitioner's Response to the Special Use Standards
- Location Map & Tenant Space Floor Plan



1777 SENTRY PARKWAY WEST, BUILDING 12, SUITE 103
BLUE BELL, PENNSYLVANIA 19422
(215) 798-4450

October 23, 2025

Community Development Department
Village of Buffalo Grove
50 Raupp Blvd.
Buffalo Grove, IL 60089

**Re: Special Use
Project Narrative
1051 Commerce Court
Buffalo Grove, IL 60089
IE# 030-419**

Dear Community Development Department,

On behalf of our client SRS Distribution – Heritage Pool Supply, we would like to submit a request for review of the attached site plan for proposed outdoor storage at the location listed above. We understand this use is considered a Special Use within the Industrial Zoning District. We are committed to operating in compliance with all Village Regulations.

General Business Description:

SRS Distribution is a wholesale distributor of pool products, exclusively serving licensed pool contractors. Their business model focuses on providing specialized supplies to professionals in the pool industry, and do not engage in retail sales to the general public. Nationally, their operations reflect a delivery-to pick-up ratio of 82% delivery and 18% pickup, demonstrating that the majority of the transactions are fulfilled through direct deliveries to clients, minimizing on-site customer traffic.

Operations include the wholesale sale of products such as pool construction materials, maintenance supplies, equipment and pool chemicals. Outdoor storage is essential to this business for large products, such as PVC pipes, tiles, rebar, pallets of bagged sand and other packaged bulk products that cannot be practically stored inside. These products will be stored on existing pavement and no higher than the existing surrounding 8-foot-high slatted fence. Products stored in these 2 locations will not interfere with parking, truck maneuvering or access to the building. Pool chemicals will not be stored outside.

Hours of Operation:

Operating hours are from Monday to Friday from 6:30 am to 4:00 PM and on Saturday, from 8:00 AM to 11 AM.

Total Number of Employees:

A typical branch location would have about 12 total employees.

Parking Spaces Provided:

Existing 32 parking spaces would exceed the needs of this business. 2 Accessible spaces are provided.

Expected Improvements:

The intended improvements to be made upon leasing the property and obtaining a business license would be interior painting and cleaning. We have attached a site plan illustrating the intended area of products to be stored outside. The outside storage of these products will be stored within the existing surrounding 8-foot-high fenced area. The existing fencing slats to be replaced with black HDPE winged fence slats for a higher level of screening than the existing slats and security purposes.

Special Use Standards

During the Public Hearing, you will need to present your case for the Special Use being requested. In doing so, please address the six (6) Special Use Standards listed below:

1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;

Response:

SRS Distribution-Heritage Pool Supply is a wholesale distributor of pool supplies. Inventory includes but is not limited to pool construction materials, maintenance supplies and equipment and pool chemicals. Outdoor storage is an essential part of the operation, accommodating large products that cannot be practically stored inside. The will be used during business hours: Monday - Friday, 6:30 AM – 4 PM and Saturday, 8 AM - 11 AM.

The outdoor storage area will be screened from view on all sides, providing visual relief from passers-by. Products will be below the eight-foot fence. Operations will be conducted on a dust-free surface, minimizing airborne particles. The design of the outdoor storage will not be detrimental to public health, safety, morals, comfort, or general welfare of Buffalo Grove.

2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;

Response:

The subject property is part of the Covington Corporate Center Unit 2 Subdivision, at the intersection of Deerfield Parkway and Commerce Court, and is zoned for industrial use. Access to the parking and outdoor storage area is via a paved driveway on Commerce Court, which serves multiple industrial warehouses and the Buffalo Grove Metra station.

The main warehouse fronts Commerce Court with the parking and fenced area to the side. The outdoor storage area occupies approximately five percent of the lot (7,769 square feet) and is situated within the existing truck court. Stored materials would include pallets of bagged sand, PVC piping, and rebar, all placed on a dust-free surface.

3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations with the neighborhood;

Response:

The outdoor storage operations will not negatively impact the abutting properties, which include an electric utility service station and a vacant, residentially zoned forested area. Use of the area will be limited to business hours, and all materials stored will be screened from view by being stored below the height of the fence. The air quality remains unaffected due to the dust-free paved surface. The design minimizes the impact on the surrounding properties.

4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;

Response:

The outdoor storage will not impede surrounding uses, as it is fully contained within a screened, fenced area and remains below the fence height. Any impact on adjacent industrial properties would be minimal.

5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;

Response:

The design, maintenance, and operation of the storage area will not interfere with utilities, access roads, drainage, or other necessary facilities.

The storage area is confined to the edges of the existing truck court and does not interfere with drive aisles or parking circulation. Deliveries and pick-up will be able to be conducted entirely within the fenced area preserving access to the parking lot. Emergency access maintained through a 24-foot-wide paved driveway and a locking gate equipped with an emergency override.

The site's drainage will also remain unaffected. The storm drains will not be obstructed by the storage layout. All products stored outdoors are self-contained and non-eroding, ensuring that no runoff or contamination enters the drainage system.

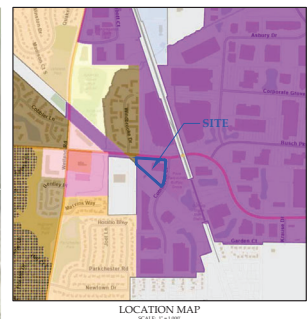
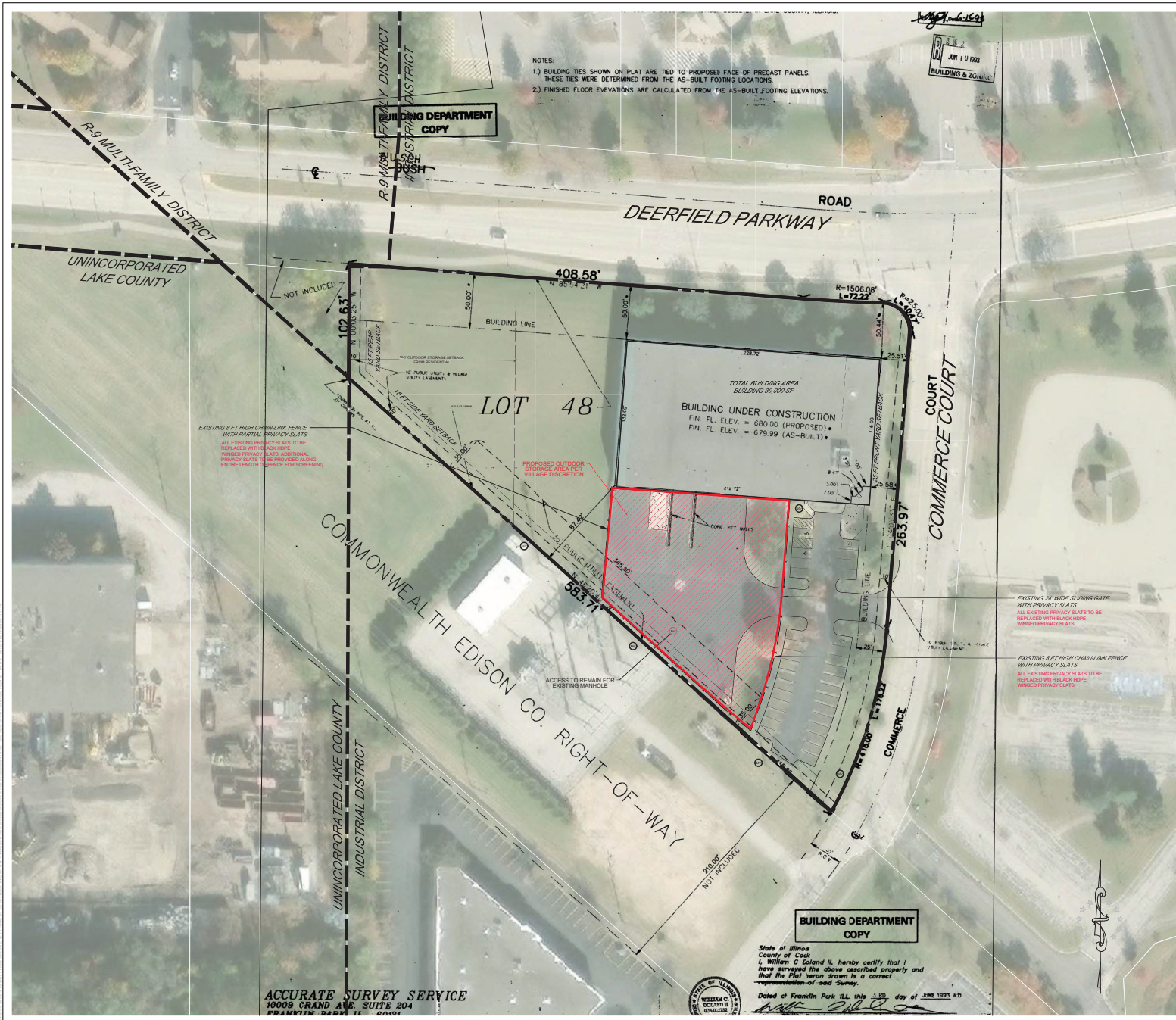
Utilities unaffected. Fire hydrants will remain unaffected due to them being located outside the fenced area, they will remain accessible. The utility easement on site has been approved to be covered by the products by the appropriate title holders.

The outdoor storage area will be enclosed by an eight-foot fence with integrated screening and a rolling gate. This allows for the secure storage of products, prevents unauthorized access, and limits the visibility from outside the property. The fence height and screening also deter climbing and conceal the nature of the stored products.

6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.

Response:

Access to the primary building and fenced storage area is provided via a twenty-four-foot-wide paved driveway, sufficient for all vehicular traffic, including emergency vehicles. The parking area exceeds requirements, with thirty-two spaces available for an expected twelve employees, in compliance with the code of ordinances. Parking, loading, and storage areas are screened from Commerce Court by on-site landscaping and a slatted screening system, minimizing visual impact and maintaining compatibility with adjacent uses.



PROPERTY DATA:

PARCEL ID: 15-27-306-001

ADDRESS: 1051 COMMERCE COURT
 BUFFALO GROVE, ILLINOIS 60089

LEGAL: COVINGTON CORPORATE CENTER
 UNIT 2; LOT 48

OWNER: BUFFALO GROVE COMMERCE COURT LLC
 5960 RIVER ROAD
 SCHILLER PARK, ILLINOIS 60176

APPLICANT: SRS DISTRIBUTION
 HERITAGE POOL SUPPLY
 7440 STATE HIGHWAY 121
 MCKINNEY, TEXAS 75070

ENGINEER: INDEPENDENCE ENGINEERING LLC
 1777 SENTRY PARKWAY WEST
 BUILDING 12, SUITE 103
 BLUE BELL, PENNSYLVANIA 19422

TOTAL LOT AREA: 3.3 ACRES

ZONING DISTRICT: I - INDUSTRIAL DISTRICT

PROPOSED PRIMARY USE: WAREHOUSE 25,432 SF
 PROPOSED ACCESSORY USE: OFFICE 3,765 SF
 PROPOSED ACCESSORY USE: OUTDOOR STORAGE

NARRATIVE: SRS DISTRIBUTION IS A WHOLESALE DISTRIBUTOR OF POOL SUPPLIES. OPERATIONS INCLUDE THE WHOLESALE SALE OF PRODUCTS SUCH AS POOL CONSTRUCTION MATERIALS, MAINTENANCE SUPPLIES AND EQUIPMENT AND POOL CHEMICALS. OUTSIDE STORAGE FOR LARGER PRODUCTS IS ESSENTIAL TO THE BUSINESS. PRIMARY CUSTOMER BASE IS CONTRACTORS. PRODUCTS ARE BOTH DELIVERED TO CONSTRUCTION SITES AS WELL AS PICKED-UP ONSITE BY CONTRACTORS. OPERATING HOURS ARE MONDAY THROUGH FRIDAY 6:30 AM TO 4:50 PM AND SATURDAY FROM 8:00 AM-11 AM. A TYPICAL BRANCH HAS APPROXIMATELY 12 EMPLOYEES.

THE APPLICANT IS APPLYING FOR SPECIAL USE PERMIT TO UTILIZE A PORTION OF THE EXISTING PAVED AREA LOCATED WITHIN THE EXISTING FENCED AREA FOR OUTDOOR STORAGE. ITEMS TO BE STORED OUTSIDE ARE NEW PRODUCTS THAT CANNOT BE PRACTICALLY STORED INSIDE THE BUILDING. SUCH ITEMS INCLUDE: PALETTES OF BAGGED SAND, PVC PIPING AND REBAR. EXISTING FENCE IS SLATTED AND WILL BE REPLACED WITH A BLACK HOPE SLATS TO PROVIDE BETTER SCREENING OF THE STORAGE AREA. PRODUCTS WILL NOT BE STORED HIGHER THAN THE HEIGHT OF EXISTING FENCE. ITEMS WILL NOT BLOCK ANY REQUIRED PARKING, ACCESS TO BUILDING OR TRUCK MANEUVERING. IN ADDITION, A 20 FT WIDE ACCESS WAY SHALL REMAIN OPEN FOR ACCESS TO EXISTING MANHOLE.

REV	DATE	DESCRIPTION
1		EXISTING MANHOLE ACCESS
2		UPDATED OUTDOOR STORAGE AREA

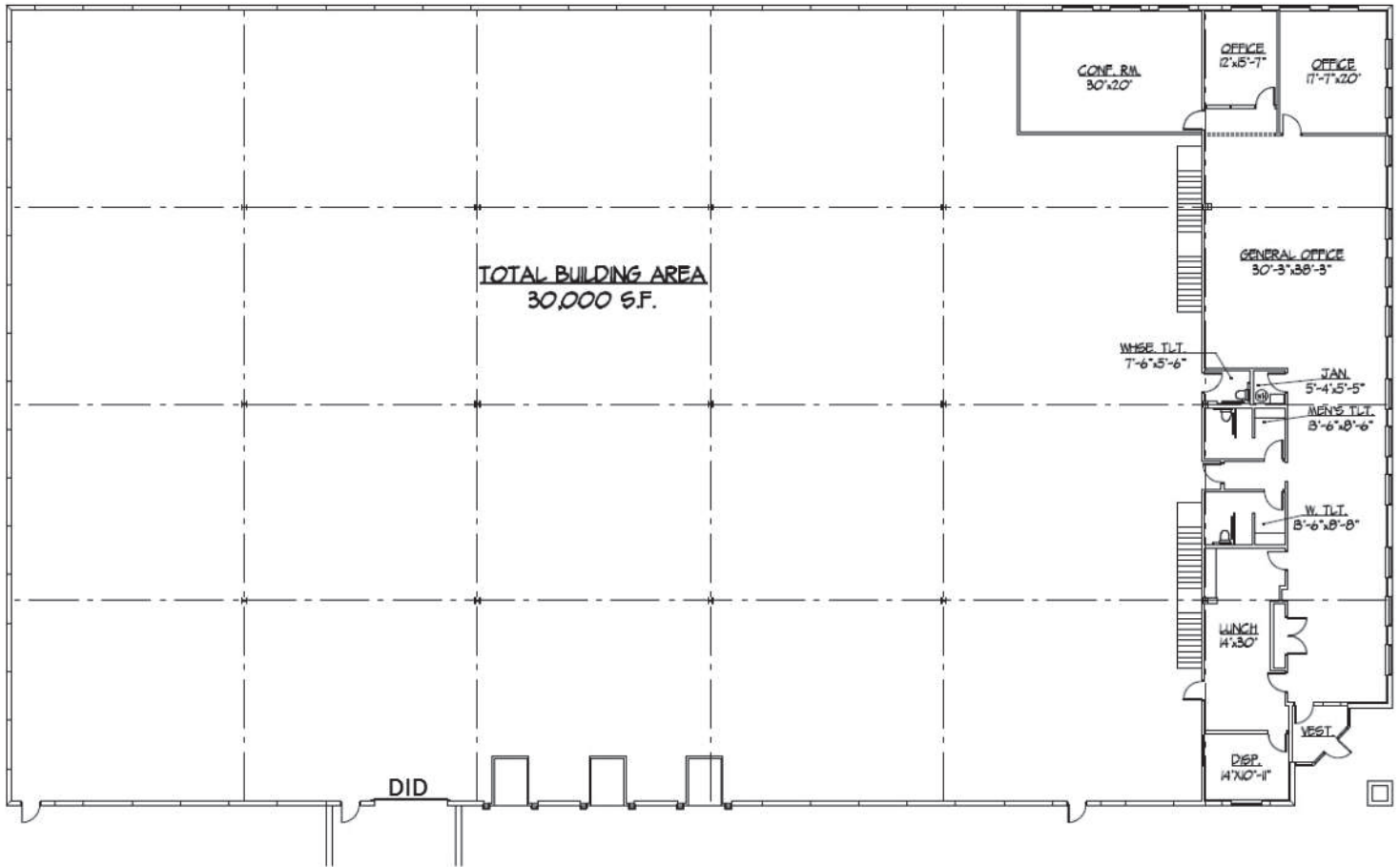
Independence
 ENGINEERING LLC
 1777 SENTRY PARKWAY WEST
 BUILDING 12, SUITE 103
 BLUE BELL, PENNSYLVANIA 19422
 INDEPENDENCE ENGINEERING LLC
 NEW HEBERY, PENNSYLVANIA, MASSACHUSETTS

SITE PLAN
 FOR
 OUTDOOR STORAGE
 1051 COMMERCE COURT, VILLAGE OF BUFFALO GROVE
 LAKE COUNTY, ILLINOIS

SRS DISTRIBUTION	
PROJECT	030-419
DATE	10/23/2025
SCALE	DRAWN
1" = 40'	EES
DESIGNED	CHECKED
EES	NES

SP-1
 SHEET 1 OF 1

Building Plan



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Brendan Green
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Colliers



AGENDA ITEM SUMMARY

PLANNING AND ZONING COMMISSION

Regular Meeting: November 19, 2025

AGENDA ITEM 3.B.1.

October 22, 2025 - Draft Planning and Zoning Commission Meeting

Contacts

Liaison: Trustee Ottenheimer

Staff: Kelly Purvis

Staff Recommendation

Staff recommends approval.

Recommended Motion

I move to approve the minutes from the October 22, 2025 Planning and Zoning Commission meeting.

Summary

File Attachments

1. 25-1022 - Draft PZC Minutes



**MINUTES OF THE REGULAR MEETING OF THE PLANNING AND ZONING COMMISSION HELD
AT JEFFREY S. BRAIMAN COUNCIL CHAMBERS
FIFTY RAUPP BLVD, BUFFALO GROVE, IL 60089, WEDNESDAY, OCTOBER 22, 2025**

CALL TO ORDER

Chairperson Weinstein called the meeting to order at 7:30 PM. Roll call indicated the following were present: PZC Chairperson Weinstein, PZC Commissioner Moodhe, PZC Commissioner Spunt, PZC Commissioner Davis, PZC Commissioner Schwartz, PZC Commissioner Gregory.

Also present were: Trustee Liaison Lester Ottenheimer, Village Attorney Patrick Brankin, Community Development Director Nicole Woods, Deputy Community Development Director Kelly Purvis, Associate Planner Andrew Binder, Village Engineer Briget Schwab, and Consulting Engineer Amy McKenna.

PUBLIC HEARINGS/ITEMS FOR CONSIDERATION

- A. **Consideration of a petition for approval of a Special Use for a Planned Unit Development, R-9 Rezoning, Plat of Subdivision, Preliminary Plan, and Variations to the Development, Zoning and Sign Codes to construct a 90-unit townhome development on the properties located at 16606-16704 Rt. 22, 23008-23025 Main St. and 23023 First St.**

Community Development Director Woods and Deputy Director Purvis provided an overview of the request and indicated staff's support for the project.

Russ Whitaker, from Rosanova & Whitaker, Ltd, the attorney representing Pulte Home Company, was sworn in. Whitaker provided background information on the contract purchaser of the site, Pulte Home Development, for a 90-unit townhome project. He gave an overview of Pulte's portfolio of work, the existing conditions on the Fiore site (the subject property), and provided context of the surrounding area. He noted that neighbors expressed concerns at the neighborhood meeting about the site's past use and potential contamination from the landscape business. He explained that the Fiore site was a wholesale landscape nursery property where no plants were grown, as all materials were brought in. He stated there were no environmental issues.

Whitaker continued by citing data from the 2023 Lake County Housing Analysis, conducted by Lake County Partners. He highlighted that supply constraints are driving rising prices and noted the 37% increase from 2019 to 2022 mentioned in the report does not fully capture the market's recent changes. The analysis shows that, based on permit data from 2018 to 2022, there has been a long-term housing shortage. By 2027, this shortage of market-rate units is expected to reach 11,400 units. Witaker noted this supply issue affects the entire Lake County market, not just Buffalo Grove, and should be considered as important context when discussing new projects. He said this key point ties to economic development, noting that due to aging population and housing shortages, Lake County faces challenges in attracting and retaining businesses. The lack of sufficient housing and working-age population hinders economic growth, but new housing development could help address these issues.

Whitaker stated that the Prairie View Metra Station, across from the property, is the second-busiest on the NCS line, with about 20% of commuters walking to it. As commuter rates increase, traffic decreases because more people walk instead of driving to the station.

Whitaker mentioned they've been working with staff on this project for about 9 months, with multiple iterations sometimes reverting to a previous version. He noted setbacks at 20 or 18 feet, emphasizing the extensive time and detail invested in this plan and considering variable setbacks across planning areas based on building context and their relation to housing in the surrounding area.

Whitaker continued, discussing on-street parking, noting that it is more than double the required parking per the code and more than sufficient for the site. He also stated that they will be adding a sidewalk around the site that connects to the surrounding area to create a more walkable environment. He mentioned the traffic report, stating that the study shows sufficient reserve capacity in surrounding roads to handle the traffic, although backups unrelated to the development may still occur with Stevenson High School down the road and next to the Metra tracks.

Whitaker stated that the wetland on the property's westernmost part is a 2.22-acre isolated wetland in Lake County. He noted the development will impact some areas of the wetland, specifically where the sidewalk will be added along Route 22 and the north westernmost building. He stated that they will be working with Lake County on meeting requirements related to the wetlands.

Whitaker mentioned neighbor concerns about Stormwater, noting properties north and west drain into the site and that this has been factored into the development. They propose a modern storm sewer system with a vault and storm trap, draining through the site and under Route 22. They will also help drain part of the site to the wetland to prevent starvation of the wetland area.

Whitaker provided an overview of the design of the proposed townhomes, including rear and front-loaded designs. All plans feature a 3-bedroom base, with flex space convertible into an extra bedroom. About 95% will have 3 bedrooms, 5% might have 4, and a 5-bedroom layout is possible but unlikely. Lastly, he provided an overview of the elevations and the proposed exterior materials. He noted that there is an option to add a habitable attic rooftop deck, and that this feature could be added to each townhome if desired.

Commissioner Gregory asked why they are doubling the required number of parking spaces according to the code? He understands that the Board might ask for additional parking spaces.

Purvis stated that most of the parking spaces are located in the garages and the driveways. The proposed on-street and off-street parking is meant for situations when people have guests, such as during parties and similar events, to accommodate extra visitors. She mentioned that providing guest parking is something the Board has noted is important for townhome developments.

Whitaker mentioned that the parking code requirements are generally lower in Buffalo Grove than those in other communities, and the parking count they have is fairly standard for their townhome developments. A two-car garage is essential for

marketability, with all properties having additional space for a driveway. Only three buildings lack driveways, and they have a nearby parking lot meant to serve them. The remaining parking needs are met by on-street parking, which will not be striped.

Commissioner Gregory mentioned that the two-car garage is important for the price point. However, is the additional parking in the driveway also something you consider a need?

Whitaker responded that, usually, yes. He mentioned that this development will be a bit different since it's next to the Metra station, and we will see more people walking to the train. He noted that the previous Mariano's down the street would have been a great walkable asset that is no longer there. He indicated that this community will rely on vehicles, and in a suburban setting, a driveway behind a unit is preferred.

Commissioner Gregory mentioned that he loves the plan for this area, its walkability, its location right by the Metra station, its pedestrian-friendliness, and its on-street parking. He asked if the 27 feet for the road includes the space for the parking.

Purvis stated that the Village's typical street width is 24 feet, and the 27 feet provides space for cars to park on the side of the road and drivers to pass by more easily. She noted this is especially important for emergency vehicles.

Woods also pointed out that, based on past lessons, these developments need additional parking spaces in driveways or off-street parking for handymen or cleaning professionals that do not cause conflicts with other units. She mentioned that they ask for as much guest parking as possible to help alleviate any future disputes.

Commissioner Gregory asked if there are any plans for EV setups within the community.

Whitaker stated that all the units will have the infrastructure in the garage for it to be installed, so the home will effectively be ready for EV if the homeowner chooses to install that system. However, it is not something they install themselves; a third-party installer would be required.

Commissioner Gregory asked if there are any plans to install bike racks within the community.

Whitaker said they have no plans to install bike racks. He noted that the garages should be large enough to hold any bikes.

Commissioner Spunt expressed concern that the main street through the development could serve as a cut-through to Route 22. Since the southern section of Main Street is a two-lane road, he asked whether their scope includes adding a right-turn lane at the intersection of Main Street and Route 22.

Whitaker stated that the property at the corner of Main Street and Route 22 is unincorporated and not under village jurisdiction, and therefore cannot have a dedicated right-of-way for that right-turn lane, but this is something they can take a second look at.

Commissioner Davis stated that he lives in Ridgewood Townhomes, where there is no street parking and signs prohibiting it, yet people still park there. He stated that

this makes his street one-way when people park there, potentially blocking emergency vehicles from passing. He expressed appreciation for the extra space on the roadway provided by on-street parking. He asked for the reasoning for the 0.6% grading of the streets instead of the 1.0% grading.

Jon Cerbus, Civil Engineer at Pearson, Brown & Associates, confirmed he was sworn in. He explained that grading the 0.6% is necessary because adjusting the site to ensure effective stormwater management and proper cover on the vaults requires raising and leveling the site. This creates a gradual rise and fall between high and low points, facilitating smooth grading. He added that the slope meets IDOT standards and is typically acceptable.

Commissioner Moodhe asked about the fire lane along the east side of building 15 and 12, and asked how wide it is.

Whitaker explained that the alleyway functions as a fire lane to accommodate large fire trucks and prevent a dead end. He stated the fire lane is 18 feet wide.

Commissioner Moodhe asked about the setback on buildings 9,10,11, and if the setback variation is for the setback along Route 22 or between the buildings. And asked the distance that is being requested.

Purvis stated that the setback variation is from the property line along Route 22. She stated that the townhomes will be approx. setback 20 feet from the property line.

Commissioner Moodhe asked about the 'Active Edge' of the development along Route 22 and wondered whether the buildings are more of a wall than an inviting active area.

Woods mentioned that it could be called a street wall, which is part of the element. She still finds it inviting, with the access point next to the buildings, creating an active edge that visually draws from Route 22.

Commissioner Moodhe asked where the balconies will be for the townhomes along Route 22.

Whitaker explained that the balconies will be positioned behind the buildings along Route 22, with the usable outdoor space located at the rear. He mentioned that the front entrance facing Route 22 will serve as the welcoming entry for guests, while the back entrance will serve as the main entrance.

Commissioner Moodhe asked for confirmation of the building height.

Whitaker stated that the townhomes will be 42.2 feet tall.

Purvis stated that the height is compliant because the buildings are below the 45-foot limit.

Commissioner Moodhe asked how tall the buildings are at the Easton Development.

Purvis stated that she would have to look up that information.

Commissioner Moodhe asked the Petitioner what the plan is for the Prairie View Green.

Whiteaker said the area will be a large lawn with a defined edge, surrounded by a path that wraps around the back. Other open spaces on the plan are passive, with walkways, seating, and gardens—good for walking and dogs, but lacking play areas for kids. The prairie view green area is about a third of an acre, similar to a residential lot, and will be wide open. The walkway creates a western boundary, with landscape inside to serve as a barrier between the green space and wetland, and along Route 22 to define the space. The goal is to create an open, usable space in a logical location, using landscape elements for protection and viability.

Commissioner Moodhe asked Cerbus if the flow under Route 22 is underground.

Cerbus explained that the main outfall beneath Route 22 is a large elliptical pipe that currently exists. It runs underground under Route 22 and serves as the outfall for the existing wetland. He stated that the same pipe will also be used for stormwater management in the development.

Commissioner Moodhe asked what the pipe drains to on the other side of Route 22 within the Woodlands Subdivision.

Cerbus explained that once it enters the Woodlands, it flows into a 36-inch sewer, then moves southeast and further south towards Aptakisic.

Commissioner Moodhe asked if the water would drain to the Aptakisic watershed.

Cerbus stated that he believes so. He reiterated the importance of the 0.6% slope for the site's roadways, which aligns with the driveway slope requirement of 2% to 8%. He said that a 0.6% slope is helpful because a 1% slope would make it hard to stay within limits and match the driveway with the roadway. The 0.6% slope allows for a flatter grade, easing grading and keeping slopes within range.

Commissioner Moodhe asked if the west underground vault will be metered.

Cerbus confirmed and stated that there will be three control structures for this development and the vaults.

Commissioner Moodhe asked if the area ties into the Des Plaines River Meter Plan for downflow along downstream.

Cerbus stated that they will be following the Lake County Watershed Development Ordinance, noting he is not familiar with the Des Plaines River Plan specifically. He also mentioned that they have to adhere to the Village and County watershed ordinances.

Commissioner Moodhe asked if there are going to be any HOA restrictions on parking not within the garage and also with garbage cans.

Whitaker mentioned that they usually do not limit outside parking or require cars to be parked in the garage. However, they might consider such restrictions if the Village expresses concerns.

Commissioner Moodhe mentioned that such a restriction would be counterproductive and inquired about the trash collection plan for residents.

Matt Brolley from Pulte Home Company was sworn in. He explained that everyone receives the same trash container, which must be kept in the garage and not

outside. On garbage day, residents are required to roll the container out to their driveway or behind their unit.

Commissioner Moodhe asked whether the garbage trucks would be using the fire lane/alleyway along the east side of the site.

Brolley confirmed. Also stated that they do not require residents to park in their garage, and that they can also park in their driveway.

Commissioner Moodhe asked if there is an estimated cost or listing price for these units.

Brolley stated that they will start at the mid-\$500,000 range and close in the low-\$600,000 range.

Commissioner Moodhe inquired about the mixed-use areas in the Prairie View Station Area Plan (PVSAP), noting that part of this development occupies a small section of the mixed-use zone. The majority of the zone remains undeveloped and questions how this development fits with the PVSAP.

Woods explained that the initial plan focused on residential and mixed uses, which are still part of the PVSAP. She stated that as we move forward, market realities and the definition of mixed use will be considered. Originally, the idea was for mixed use to be along Main Street or Easton Avenue, serving as the main corridor. Currently, the focus is more on the interior of the area to create necessary density and develop a neighborhood center. She acknowledged that some properties are missing, which creates a uniquely shaped, irregular boundary. This area represents an important entry point into the central subarea, where annexation faces challenges such as property owners' resistance and infrastructure costs. Infrastructure planning and development can help build momentum and interest. This project offers an opportunity to initiate that progress, with future infrastructure improvements planned. She stated that the project will be built, and the surrounding properties, especially those to the north, can be developed in a way that aligns with the vision, goals, and principles of the PVSAP.

Commissioner Moodhe inquired whether we are satisfied with the walkability of the other assets in the area, especially considering that the Mariano's location is closed.

Woods emphasized that increased walkability is important, as the community has expressed the need for it. She mentioned that, especially in our post-COVID world where more people work from home, residents value pedestrian paths and connectivity. This has been a long-standing goal of ours. She pointed out that improving accessibility for bicycles and pedestrians is essential. The report, as the petitioner highlighted, does an excellent job of enhancing walkability within the area by strengthening connections and closing gaps. We have prioritized this effort, especially focusing on the need for a walkable path along Route 22 for students, which is critical. We also see the importance of extending this path to the other side of the property. Overall, this development effectively closes necessary gaps, improves interior pedestrian circulation, and prepares the area for future growth or annexation. She stated that it sets the tone for walkability throughout.

Commissioner Moodhe asked if future developments will continue to prioritize walkability in the plan.

Woods stated that is the plan.

Commissioner Moodhe asked if the Village is snowplowing Main Street.

Schwab stated that the Village does plow Main Street and has a maintenance agreement with Vernon Township.

Commissioner Moodhe stated that he had some questions regarding the traffic report and asked when the traffic counts were performed.

Andrew Bowen from KLOA, Inc., was sworn in.

Bowen stated that the counts were conducted in April 2024 on a school day.

Commissioner Moodhe asked if they had noticed any students in the Metra Station parking lot during the traffic counts.

Bowen stated that is not something they look for during count collection.

Woods stated that students do park in the Metra parking lot.

Commissioner Schwartz asked if the Village has a requirement for the amount of brick on the front façade facing main roads and inquired how much of the brick will be on the buildings facing Route 22.

Whitaker confirmed the rendering on the screen will show the building facing Route 22 and stated that they don't have the calculations of the brick percentage on facades.

Commissioner Schwartz inquired about the recycling center, which is not included within the scope, to partner with them for cleaning up their site for these new townhomes.

Whitaker mentioned that they haven't discussed with the property owner at the corner yet and plan to coordinate with the neighbors regarding the construction development in the spring.

Commissioner Schwartz brought up land clearance at the other corner of this development, at Route 22 and Prairie Road, for the Prairie Point townhomes project. He questioned whether builders have strong relationships with schools and other government agencies involved in road widening, especially with more residential developments on the way. He stated that it is crucial for traffic safety and for access to schools like Stevenson and others in the D103 District. He stressed the importance of ongoing discussions on infrastructure improvements and widening existing roads to support the growing student population.

Whitaker said during development, traffic studies are done, and school impacts are considered, but he can't speak on road metrics around the schools and that likely falls under the jurisdiction of the villages involved around the schools and the roadways.

Commissioner Spunt said he saw the Lake County 2050 plan, which lists roads to be redone over 25 years.

Commissioner Schwartz stated that Lincolnshire won't widen the roads as we continue to build housing here, which is problematic.

Woods explained that we work very closely with the school districts and have completed several projects involving their parking lots, entrances, and traffic flow to improve safety and circulation. She stated that the Village maintains a strong relationship with them, and whenever issues like problems with turning signals or traffic conflicts arise, they can raise concerns during our roundtable discussions. She stated that these meetings include representatives from engineering, police, and schools, allowing us to address and enhance access points. Regarding Stevenson, we have a good relationship and ongoing communication, even though they are located in Lincolnshire.

Chairperson Weinstein asked staff about the proposal, noting that the staff report says it is significantly less than the May 19th presentation to the Village board. He inquired about the specific changes regarding the reduced number of buildings, housing units, or setback changes.

Woods said the units stay the same, but the design and orientation has changed. She stated for instance, in the northern corner, all units now face the street, either a private street or First Street, improving the design. Circulation and guest parking were also enhanced. The Route 22 setback, originally 10 feet, was maximized for priority. Other updates include protecting wetlands, preserving natural areas, adding green space, improving architecture and landscaping, adding sidewalks along Route 22 and Easton, and boosting fire truck access. She mentioned that the Fire Chief confirmed all buildings are now well serviced.

Chairperson Weinstein asked for confirmation if we will be snow plowing any of the private roads within the development.

Purvis confirmed that the HOA would be responsible for snow plowing private roads.

Chairperson Weinstein asked if there will be street parking on the private roads.

Purvis confirmed there would be.

Chairperson Weinstein asked if overnight parking will be allowed on the private road since it's not the Village's Road.

Brankin stated it would be subject to the HOA requirements and that it would need to be determined by the petitioner.

Chairperson Weinstein mentioned that he is examining the southeast buildings, specifically numbers 10, 11, 12, and 13. He pointed out that there is limited on-street parking available for these units. He added that practically, if a visitor arrives, they would likely need to park in the driveway. He expressed concern that the fire lane might end up being used as a parking area. He also questioned how parking enforcement will be managed in the fire lane, since it is not a street and won't be monitored by the village.

Whitaker stated that parking in the fire lane is clearly not allowed. He stated that if you're visiting someone, the available parking spots are behind the garage. Otherwise, you'll need to walk, which isn't far from the street parking to Building 12. But reiterated that they would definitely prohibit parking in the fire lane.

Chairperson Weinstein mentioned that people are generally lazy and will choose to drive up to their friends' houses if they are able.

Chairperson Weinstein mentioned there are many variation requests, but he's not worried about the modest roadway slope variance, trusting engineers' judgment. He discussed setbacks, questioning if this change affects the number of buildings or units. To reduce setback variances, fewer units or buildings could be used, which is an economic decision to aim for 90 units.

Whitaker explained that the need for variations is partly due to economic reasons, but they also own property in the PVSAP sub-area that requires higher density. He mentioned that much of the discussion focused on how to accommodate more people closer to the train station. He noted that removing buildings could create more space, but it might harm the character they and the Village are trying to create. He said that the development aims to be more urban, with three stories, but large setbacks don't align with this vision. Variances are driven by efforts to balance plan iterations, building size, and the village's goals, not just density desires. He stated that they also have obligations like extending the sidewalk along Route 22 and installing the water main under the railroad with the project, which are major construction tasks. The developer is laying a foundation for future growth, but meeting current setback requirements outside the annexation process may be challenging.

Chairperson Weinstein inquired about the attic roof deck and whether selecting it for one of the units out of the 5 or 4 units could result in an asymmetrical appearance. He also asked if these attic roof decks will face Route 22 or other streets.

Whitaker confirmed that the attic roof decks will not face Route 22 or any other streets.

Chairperson Weinstein expressed concern about the asymmetrical appearance of the attic roofs, as they lack visual appeal.

Commissioner Gregory asked if there were any adjustments to the plans after the neighborhood meeting.

Whitaker mentioned that most changes were made in the northern part of the plan, including relocating the parking lot and adjusting the orientation of buildings 18 through 21. He also noted that the neighborhood meeting was pleasant and not characterized by widespread objections. One of the main concerns from residents was the connection to First Street, which is a priority for the village. He believes it makes sense to establish roadway connections when possible, in line with the PVSAP framework. He stated that many questions were addressed during the meeting, and he doesn't recall any major issues emerging from it.

Commissioner Spunt asked whether the garages would be two-car or two-and-a-half-car garages to accommodate the garbage cans.

Whitaker stated that the garage will be a two-car garage, and the standard policy is that the garbage cans should be stored inside the garage.

Commissioner Spunt asked about the wall insulation between the units.

Brolley stated that the walls between the units will have a certain fire rating to help block noise.

Commissioner Spunt asked about timing of the development and the construction schedule.

Whitaker explained that the process would take a couple of years to complete all units. The plan is for the site's infrastructure to be developed in a single phase, including site grading, utilities, and roadway improvements, followed by the construction of the model home. After a grand opening, sales would begin, and homes would be built as they are purchased. Pulte tends to customize units more than other builders, so they avoid building multiple units ahead of time. Some structural modifications, like rooftop decks, are considered, and the goal is to secure as many contracts as possible.

Commissioner Moodhe asked if every unit could have the habitable attic space.

Whitaker confirmed.

Commissioner Moodhe asked if, when the corner lot becomes available, do you have a plan for that site.

Brolley said that if the village is interested in adding more townhomes, we would be interested in that site.

Commissioner Moodhe mentioned that staff should investigate the leading pedestrian interval at the intersection of Route 22 and Main Street in relation to this development.

The Village Staff report was entered into the record as Exhibit 1.

Ronald Salway, a resident at 16636 W Easton Ave, asked if anyone from the development team has spoken with the Army Corps of Engineers regarding the wetlands on the site.

Scott Brejcha, VS Companies, was sworn in. He explained that, following the Lake County watershed ordinance, after an evaluation, a preliminary jurisdictional determination is made on-site with Lake County wetlands staff. Previously, this process involved the U.S. Army Corps of Engineers, but due to staff and funding issues, Lake County staff now make these jurisdictional calls. They determined that the wetland is not under the Army Corps' jurisdiction and is an isolated wetland under SMC regulation.

Randy Sinker, a resident at 5712 Gentry Ct, Long Grove, asked that if this project gets approved, the construction would start sometime in 2026. If so, are there plans to clean up the old Fiore site now?

Whitaker responded that they don't control the property today and that construction is planned to begin in the spring. He noted they would be cleaning up that site at that time.

Dean Norlin, a resident at 16738 Easton Ave, said they've lived there for 40 years and enjoyed it. As Buffalo Grove expanded, the neighborhood changed, with more residential developments and the shopping center, leading to increased traffic along Easton Avenue. The plans to build an access road to Easton Ave will add more traffic. She expressed concerns about cars going off the curb and poor snowplowing, describing the service as terrible, with only one side of the road plowed. She stated that she feels their concerns about street traffic are ignored. She also mentioned that there used to be no left turns from behind the fire station to reduce cut-through traffic, but Buffalo Grove used to ticket for these turns, though that is no longer the case, leading to more congestion and traffic from students and commuters.

Malcom Holcombe, resident at 16690 Easton Ave, asked several questions about local traffic and development. He questions why First Street is being opened for a community that already has adequate ingress and egress, fearing it will cause traffic jams and speeding, especially near Prairie View Station. He also questions the need for parking on First Street, noting that no parking is currently allowed in Vernon Township, and questions how this benefits the new project or local access. Lastly, he inquires about plans for sidewalks on Easton Avenue, noting this is the first he's heard about such plans.

Purvis explained that parking is allowed throughout the development because the village does not prohibit it. First Street will be part of the development, with some of it falling under village jurisdiction. Connecting neighborhoods via multiple access points is best practice for emergency services, police, fire, and water main access, preventing dead-end roads and ensuring multiple routes for emergencies.

Holcombe asked if the new subdivision lacks the necessary egress and ingress for fire ambulance service.

Purvis stated the traffic study shows the access is efficient and will meet subdivision needs when including First Street. Purvis noted that the street will be widened to 27 feet to accommodate on-street parking. She further indicated that no sidewalks will be added along Easton Avenue, but a sidewalk will be installed along the project's western border on Easton Court.

Holcombe asked about the future development interest for the adjacent sites.

Woods explained that the plan aims to project future growth around the Prairie View Station area, guiding development to align with the area's principles. It considers how streets, access points, and buildings could be laid out to ensure current and future projects are coordinated and implement the plan cohesively.

Holcombe asked about the existing houses.

Woods stated that if and when the properties were to be annexed and become part of the village, we would look at the PVSAP.

TJ May, resident of 1221 Johnson Drive, stated that he expressed a desire to live near family in Buffalo Grove, but the affordable options are limited to Huntley, Lakewood, and Marengo, which he finds ridiculous. He stated that Chicago's growth as a safe market, with the proposed development being next to the second-busiest station along the NCS line. He stated that he values maintaining green spaces and is concerned about over development, especially regarding wetlands and parks. He advocates for connecting streets thoughtfully and hopes the community will appreciate and properly develop these areas from the start.

Salway questioned why train stoppages decreased at Prairie View station, despite it being the second busiest on the NCS Metra line. He noted that the people parking in the station lot are from the high school.

Chairperson Weinstein stated that the PZC has nothing to do with Metra's train schedule determination or ridership.

Chairperson Weinstein closed the public hearing at 9:47 PM.

Com. Davis moved to make a positive recommendation to the Village Board for approval of a Special Use for a Planned Unit Development, R-9 Rezoning, Plat of Subdivision, Preliminary Plan, and Variations to the Development, Zoning and Sign Codes to allow construction of a 90-unit townhome development at 16606-16704 Rt. 22, 23008-23025 Main St. and 23023 First St., subject to the following conditions in the staff report.

Seconded by Com. Moodhe.

Commissioner Moodhe supported the project, noting that this is likely the second or third proposal they have seen, given the site's challenges, influenced by its surrounding makeup. He acknowledged previous discussions for this area, highlighting Prairie View's charm and past efforts that didn't fully succeed. He preferred the developer quickly remove buses and semis from the lot once purchased. He expressed his appreciation of the thought behind the current plan and indicated personal support.

Commissioner Gregory expressed support for the project, saying there are many aspects he likes. Although it's not exactly what he'd hoped, he emphasized the goal of developing the Prairie View area around the Metra station. He mentioned the importance of enhancing walkability, bikeability, and pedestrian use to boost train station activity and create a new community hub. He expressed disappointment over the doubling of parking requirements but praised the project as a valuable first step toward transforming the area.

Moved by Jason Davis, seconded by Adam Moodhe to recommend approval. Upon roll call, Commissioners voted as follows:

AYES: 6 Mitchell Weinstein, Adam Moodhe, Marc Spunt, Jason Davis, Don Schwartz, Chad Gregory

NAYS: 0 None

ABSENT: 3 Amy Au, Neil Worlikar, Sujat Saxena

Motion declared Passed.

REGULAR MEETING

A. Other Matters for Discussion

None

B. Approval of Minutes from the September 30, 2025 Planning and Zoning Commission Meeting

Moved by Adam Moodhe, seconded by Marc Spunt to approve. Upon roll call, Commissioners voted as follows:

AYES: 6 Mitchell Weinstein, Adam Moodhe, Marc Spunt, Jason Davis, Don Schwartz, Chad Gregory

NAYS: 0 None

ABSENT: 3 Amy Au, Neil Worlikar, Sujat Saxena

Motion declared Passed.

C. Chairperson's Report

None

D. Committee and Liaison Reports

Com. Moodhe provided an overview of the projects that were approved by the Village Board at the October 20th Meeting, which included the Kilmer Trash Enclosure, In2Great Playground, and also the name change within the Ordinance for Metro Storage.

E. Staff Report/Future Agenda Schedule

Deputy Director Purvis indicated that the meeting scheduled for November 5th will be canceled, but the Commission can expect a full agenda on the 19th of November.

F. Public Comments and Questions

All comments will be limited to 5 minutes and should be limited to concerns or comments regarding issues that are relevant to Planning and Zoning Commission business and not on the regular agenda for discussion.

TJ May suggested future townhome projects should consider side window placement since they face each other. He also noted a Grayslake townhome with a curved extension directs traffic, accommodating an ambulance and garbage truck, helping prevent shortcut use.

ADJOURNMENT

Moved by Adam Moodhe, seconded by Don Schwartz to adjourn. Upon roll call, Commissioners voted as follows:

AYES: 6 Mitchell Weinstein, Adam Moodhe, Marc Spunt, Jason Davis, Don Schwartz, Chad Gregory

NAYS: 0 None

ABSENT: 3 Amy Au, Neil Worlikar, Sujat Saxena

Motion declared Passed.

The meeting was adjourned at 9:56.

