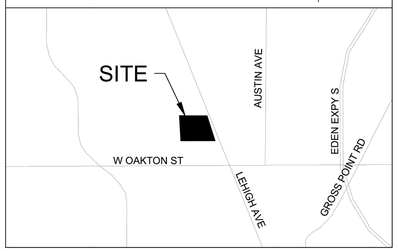
# TOPOGRAPHIC SURVEY

OF 8130 LEIGH AVENUE AND 8145 RIVER DRIVE
MORTON GROVE, ILLINOIS

## VICINITY MAP

N.T.S.




## HATCH LEGEND

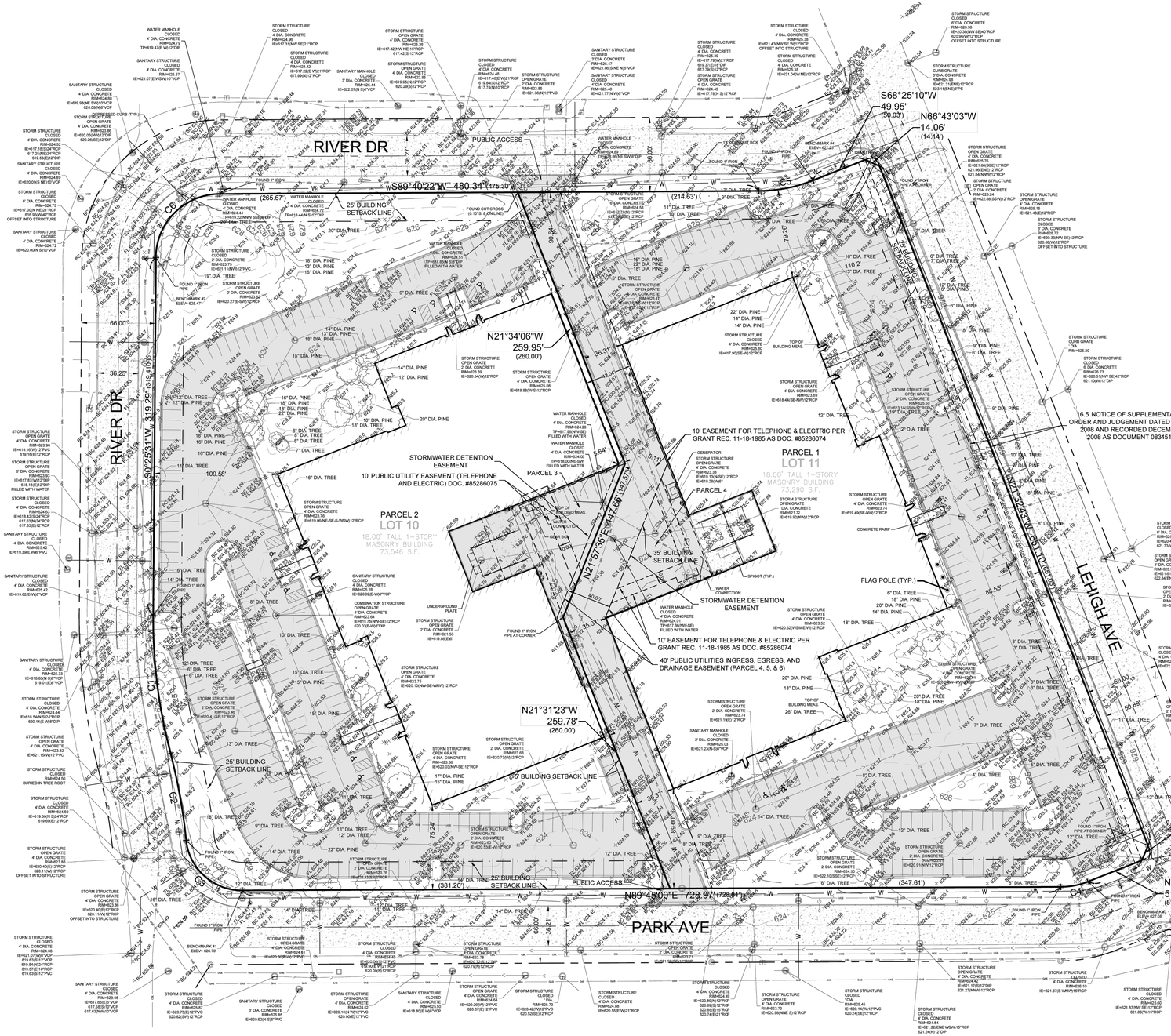
- BUILDING OUTLINE AREA
- CONCRETE AREA
- ASPHALT PAVEMENT AREA

## LINE TYPE LEGEND

- SANITARY SEWER LINE
- STORM SEWER LINE
- OVERHEAD UTILITY LINE
- UNDERGROUND ELECTRIC LINE
- WATER LINE
- GAS LINE
- COMM. LINE

## LEGEND

| | | | |
|---|---|---|---|
| | UTILITY POLE W/ LIGHT | | FIBER OPTIC HAND HOLE |
| | WATER VALVE | | TELECOM. PEDESTAL |
| | STORM CULVERT | | GAS UTILITY MARKER |
| | FOUND IRON ROD | | LIGHT POLE |
| | GUY WIRE ANCHOR | | FIRE HYDRANT |
| | SIGN POST | | CABLE TV PEDESTAL |
| | WATER UTILITY MARKER | | FOUND RAIL ROAD SPIKE |
| | SURVEY BENCHMARK | | FOUND IRON PIPE |
| | UTILITY POLE | | TREE (DECIDUOUS) |
| | TELECOM MANHOLE | | |




GRAPHIC SCALE IN FEET
50 0 25 50 100
1" =50' @ 24X36

| No. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 1 | | |

**BASIS OF BEARINGS**

All bearings shown are based on grid north of the Illinois Coordinate System of 1983, East Zone (1201), North American Datum of 1983.

**REFERENCE DATUM**

NORTH AMERICAN VERTICAL DATUM 1988

BENCHMARK #1 ELEVATION = 626.70'

NORTHWEST BOLT ON FIRE HYDRANT ON NORTHEAST SIDE OF INTERSECTION OF RIVER DRIVE AND PARK AVENUE.

BENCHMARK #4 ELEVATION = 627.23'

SOUTHWEST TAG BOLT OF FIRE HYDRANT ON SOUTHWEST SIDE OF RIVER DRIVE AND LEHIGH AVENUE INTERSECTION.

**SURVEY NOTES:**

Field work was completed on February 27, 2025.

| CURVE TABLE | | | | | |
|---|---|---|---|---|---|
| NO. | DELTA | RADIUS | LENGTH | CHORD BEARING | CHORD |
| C1 | 15°11'44" | 467.00' | 123.85' | S07°10'21"E | 123.49' |
| C2 | 8°28'25" | 533.00' | 78.83' | S10°04'33"E | 78.75' |
| C3 | 84°09'03" | 50.00' | 73.44' | S48°10'28"E | 67.01' |
| C4 | 21°16'47" | 67.00' | 24.88' | N79°06'37"E | 24.74' |
| C5 | 21°15'12" | 133.00' | 49.33' | S79°02'46"W | 49.05' |
| C6 | 89°14'51" | 57.00' | 88.79' | S45°02'57"W | 80.08' |

**SURVEYORS CERTIFICATION:**

To:

I hereby certify that this survey and the plat shown hereon meet the Illinois Minimum Standards for a Limited Topographic Survey/Boundary Survey.

Brad S. Strohl Date
Professional Land Surveyor No. 3686
Kimley-Horn and Associates, Inc.
4201 Winfield Road, Suite 600
Warrenville, IL 60555
Ph. 331-207-4823
Brad.Strohl@kimley-horn.com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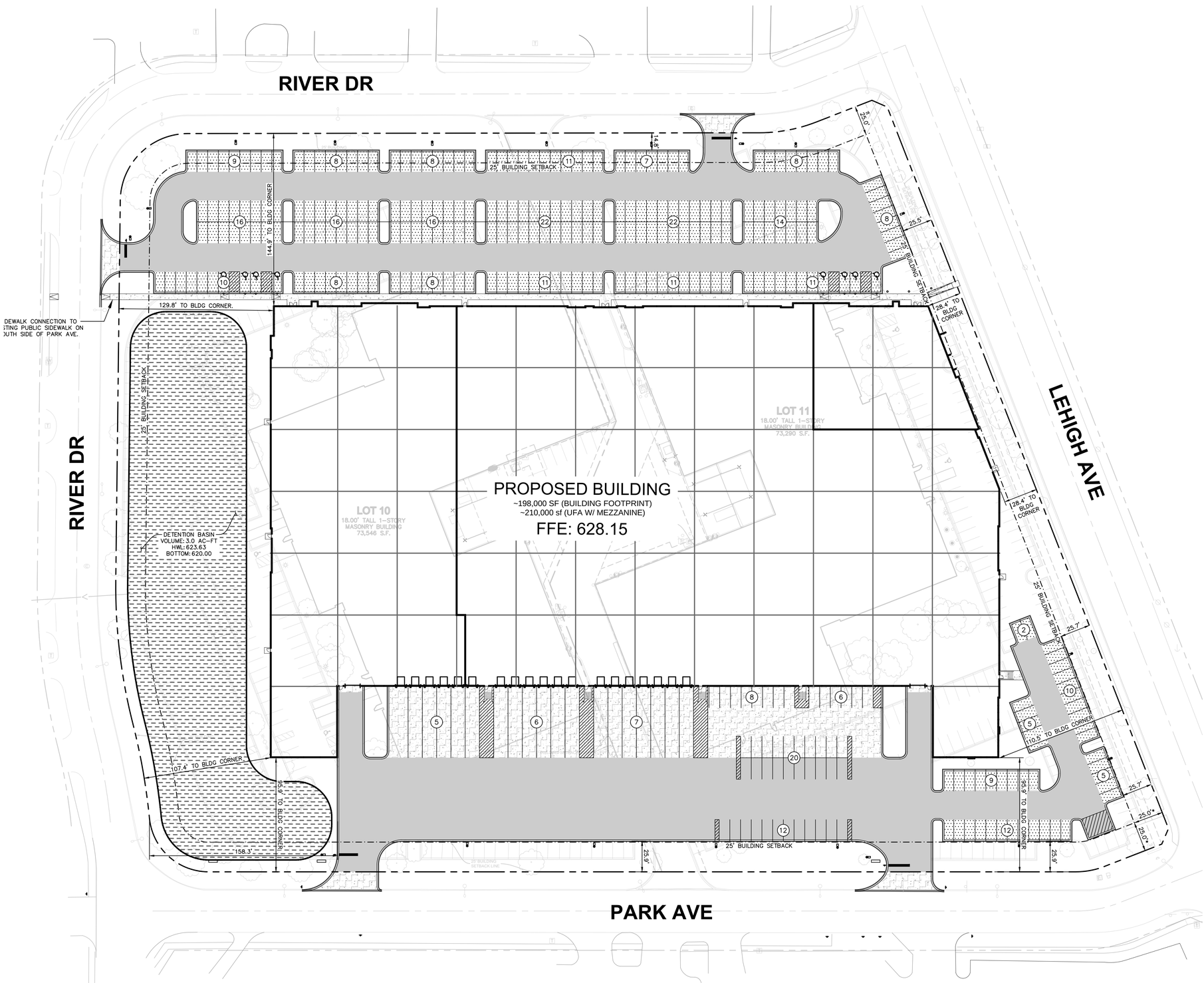
DESIGN FIRM # 184002012-0006
Tel. No. (630) 487-5550
Fax No. (630) 335-3779


| Scale | Drawn by | Checked by | Date | Project No. | Sheet No. |
|---|---|---|---|---|---|
| 1" = 50' | JI | MGJ | 03/26/25 | 268915000 | V0.1 |


DWG NAME: K:\CHS_LDEV\268915000_BRIDGE - MORTON GROVE\2 DESIGN\CAD\REFERENCES\SURVEY\268915000_OSURVEY.DWG PLOTTED BY: INFANTE, JESSEE 3/26/2025 11:08 AM LAST SAVED: 3/26/2025 11:07 AM Copyright © 2025 Kimley-Horn and Associates, Inc. All rights reserved




NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

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## GENERAL NOTES

1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
4. RADII ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3-FEET, TYPICAL.
5. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

## PAVING AND CURB LEGEND

- STANDARD DUTY ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE PAVEMENT
- STANDARD PITCH CONCRETE CURB AND GUTTER
- CONCRETE DEPRESSED CURB AND GUTTER
- PROPERTY LINE
- BUILDING SETBACK

## SITE SUMMARY

| | | |
|---|---|---|
| LOT AREA | 477,960 SF<br>10.97 ACRES | |
| PERVIOUS AREA | 78,569 SF<br>1.81 ACRES | 16.5% |
| IMPERVIOUS AREA | 353,172 SF<br>8.10 ACRES | 83.5% |

| | REQUIRED | PROVIDED |
|---|---|---|
| NORTH BUILDING SETBACK | 25 FT | 155.6 FT |
| SOUTH BUILDING SETBACK | 25 FT | 141.2 FT |
| WEST BUILDING SETBACK | 25 FT | 121.7 FT |
| EAST BUILDING SETBACK | 25 FT | 25 FT |
| NORTH PARKING SETBACK | 25 FT | 14.1 FT* |
| SOUTH PARKING SETBACK | 25 FT | 25.4 FT* |
| WEST PARKING SETBACK | 25 FT | 37.8 FT* |
| EAST PARKING SETBACK | 25 FT | 25 FT* |
| FLOOR AREA RATIO (MAXIMUM) | 1.8 | 0.41 |
| LANDSCAPED OPEN SPACE (MINIMUM) | 15% | 27.5% |
| STANDARD AUTO PARKING SPACES | 204 | 305 |
| ACCESSIBLE PARKING SPACES | 8 | 8 |
| TOTAL AUTO PARKING SPACES | 211** | 313 |
| TOTAL TRUCK DOCK SPACES | – | 18 |

* DIMENSIONS REFER TO BACK OF CURB

** ±210,904 SF / 1000 = 211 (ROUNDING UP TO NEAREST WHOLE NUMBER)

| NO. | REVISIONS | DATE | BY |
|---|---|---|---|
| | SITE PLAN CHANGE | 02/20/26 | JRS |
| | STORM WATER UPDATE | 06/28/25 | JRS |

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SCALE: AS NOTED
DESIGNED BY: JRS
DRAWN BY: CG
CHECKED BY: TJS

BRIDGE

# OVERALL SITE PLAN

BRIDGE INDUSTRIAL
MORTON GROVE

SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE:
06/27/2025

KHA PROJECT NO.
268915000

SHEET NUMBER
C4.0

Drawing name: K:\CHS_LOE\268915000_Bridge - Morton Grove\2 Design\CAD\PlanSheets\PRELIM ENGINEERING\C4.0 - OVERALL SITE DIMENSION PLAN.dwg C4.0 Feb 19, 2026 3:03pm by: Chris Graf
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## KEY NOTES

1. B6.12 CONCRETE CURB AND GUTTER, TYP.
2. DEPRESSED CURB AND GUTTER
3. CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
4. CONCRETE SIDEWALK, TYP.
5. ACCESSIBLE RAMP
6. ACCESSIBLE PAVEMENT MARKINGS, TYP.
7. ACCESSIBLE PARKING SIGN, TYP.
8. 4" WIDE PAINTED SOLID LINE, TYP.
9. 24" WIDE STOP BAR, TYP.
10. 4" SOLID WHITE PAINT STRIPING AT 45° 2' O.C.
11. STOP SIGN, TYP.
12. ELEVATED PLATFORM WITH STAIRS (SEE ARCHITECTURAL PLANS FOR DETAILS)
13. BOLLARD, TYP.
14. LIGHT POLE (SEE SHEETS E1.0–E1.3 FOR DETAILS)
15. LIGHT BOLLARD
16. MONUMENT AND WAYFINDING SIGNS (SEE SIGNAGE PACKAGE FOR DETAILS)
17. TRUCK ROUTE SIGN WITH LEFT ARROW
18. TRUCK ROUTE SIGN WITH RIGHT ARROW
19. "NO TRUCKS BEYOND THIS POINT" SIGN
20. "NO PARKING BETWEEN SIGNS" SIGN

## PAVING AND CURB LEGEND

- CONCRETE SIDEWALK
- STANDARD PITCH CONCRETE CURB AND GUTTER
- CONCRETE DEPRESSED CURB AND GUTTER
- PROPERTY LINE
- BUILDING SETBACK

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4. RADII ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3–FEET, TYPICAL.
5. ALL PROPOSED ON–SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

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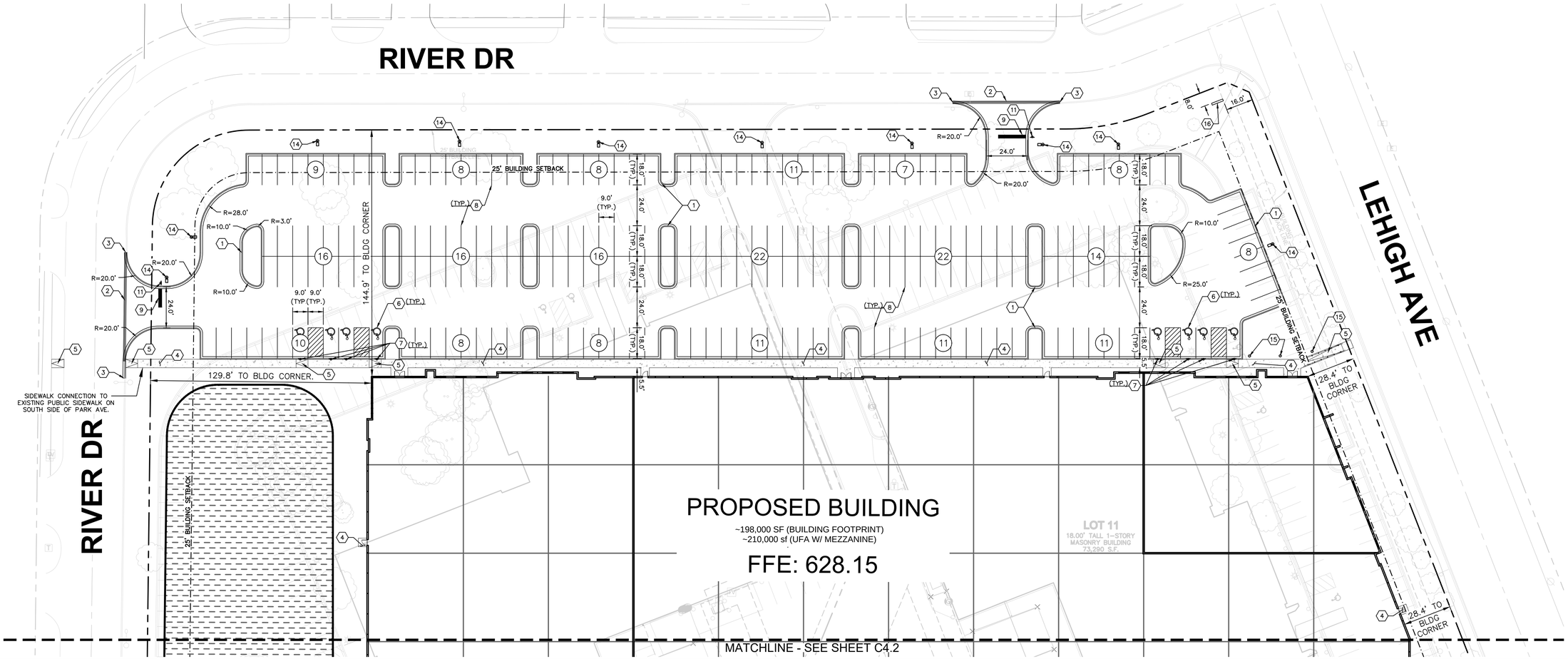


| NO. | REVISIONS | DATE | BY |
|---|---|---|---|
| 1 | SITE PLAN CHANGE | 02/20/26 | JRS |
| 2 | STORM WATER UPDATE | 06/28/25 | JRS |

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SCALE: AS NOTED
DESIGNED BY: JRS
DRAWN BY: CG
CHECKED BY: TJS

BRIDGE

# SITE PLAN (NORTH)

BRIDGE INDUSTRIAL
MORTON GROVE

SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
C4.1

Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\CAD\PlanSheets\PRELIM ENGINEERING\C4.0 - SITE DIMENSION PLAN.dwg C4.1 Feb 19, 2026 3:05pm by: ChrisGref
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## PAVING AND CURB LEGEND

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GRAPHIC SCALE IN FEET
0 15 30 60

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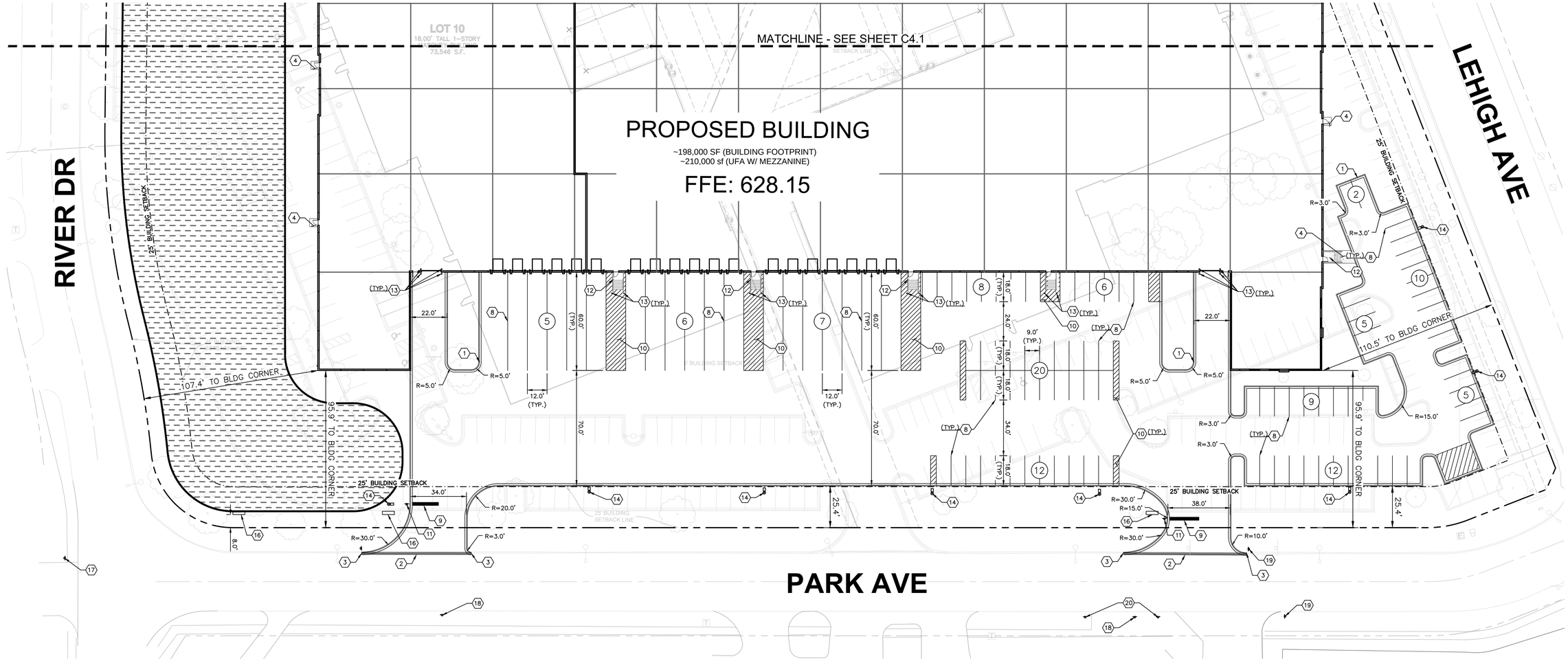


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| 2 | STORM WATER UPDATE | 06/28/25 | JRS |

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SCALE: AS NOTED
DESIGNED BY: JRS
DRAWN BY: CG
CHECKED BY: TJS

BRIDGE

# SITE PLAN (SOUTH)

BRIDGE INDUSTRIAL
MORTON GROVE

SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
C4.2

Drawing name: K:\CHS_LDEV\268915000_Bridge – Morton Grove\2 Design\CAD\PlanSheets\PRELIM ENGINEERING\C4.0 – SITE DIMENSION PLAN.dwg C4.2 Feb 19, 2026 3:08pm by: Chris.Graf
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# GRADING NOTES

1. CONTRACTOR TO VERIFY ALL EXISTING TOPOGRAPHY AND STRUCTURES ON THE SITE AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
2. ALL PAVEMENT SPOT GRADE ELEVATIONS AND RIM ELEVATIONS WITHIN OR ALONG CURB AND GUTTER REFER TO FLOW LINE ELEVATIONS UNLESS OTHERWISE NOTED.
3. ALL ELEVATIONS SHOWN DEPICT FINISHED GRADE UNLESS OTHERWISE NOTED. GENERAL CONTRACTOR TO COORDINATE WITH EXCAVATION, LANDSCAPE AND PAVING SUBCONTRACTORS REGARDING TOPSOIL THICKNESS FOR LANDSCAPE AREAS AND PAVEMENT SECTION THICKNESS FOR PAVED AREAS TO PROPERLY ENSURE ADEQUATE CUT TO ESTABLISH SUBGRADE ELEVATIONS.
4. NO EARTHEN SLOPE SHALL BE GREATER THAN 3:1, UNLESS OTHERWISE NOTED.
5. MAXIMUM SLOPE IN ACCESSIBLE PARKING SPACES AND LOADING ZONES SHALL NOT EXCEED 2.0% IN ALL DIRECTIONS.
6. MAXIMUM RUNNING SLOPE SHALL NOT EXCEED 5% AND CROSS SLOPE SHALL NOT EXCEED 2% ON ALL SIDEWALKS AND ACCESSIBLE ROUTES.
7. WHEN NATURAL FLOW OF DRAINAGE IS AWAY FROM CURB, CONTRACTOR TO INSTALL REVERSE GUTTER PITCH.
8. MATCH EXISTING ELEVATIONS AT THE PROPERTY LIMITS.

# UTILITY NOTES

1. ALL WATER LINES ≥ 3" SHALL BE DUCTILE IRON PIPE, CLASS 52.
2. ALL SANITARY SEWER LINES SHALL BE PVC MEETING, ASTM D-3034 SDR 26 EXCEPT FOR SANITARY SEWER THAT CROSSES ABOVE WATER MAIN, THIS PIPE SHALL BE AWWA C900 (UNLESS WATER MAIN CASING IS UTILIZED). PROVIDE 42" MINIMUM COVER.
3. CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
4. ALL ELECTRIC AND TELEPHONE EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
5. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.
6. CONTRACTOR TO CALL "JULIE" (1-800-892-0123) TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
7. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE ENGINEER AND THE OWNER/DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION. THE MUNICIPALITY SHALL BE NOTIFIED OF ANY AND ALL CHANGES TO THE DESIGN PLANS.
8. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
9. CONTRACTOR TO AVOID DISRUPTION OF ANY ADJACENT TENANT'S TRAFFIC OPERATIONS DURING INSTALLATION OF UTILITIES.
10. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE OR CENTER OF MANHOLE UNLESS NOTED OTHERWISE.
11. SEE ARCHITECTURAL AND MEP PLANS FOR EXACT UTILITY CONNECTION LOCATIONS AT BUILDING.
12. LIGHT POLES SHOWN FOR COORDINATION PURPOSES ONLY AND DO NOT REPRESENT ACTUAL SIZE. SEE SITE LIGHTING PLANS BY OTHERS FOR MORE INFORMATION.
13. SEE DETAILS FOR LOCATING STORM STRUCTURES WITHIN THE CURB LINE.
14. STORMWATER FACILITIES MUST BE FUNCTIONAL BEFORE BUILDING CONSTRUCTION BEGINS IF REQUIRED BY AUTHORITY HAVING JURISDICTION.

# GRADING LEGEND

TP = TOP OF PAVEMENT
EP = EDGE OF PAVEMENT
FL = FLOW LINE
TC = TOP OF CURB
TF = TOP OF FOUNDATION
R = RIM ELEVATION
TW = TOP OF WALL
FG = FINISHED GRADE
TS = TOP OF STAIRS
BS = BOTTOM OF STAIRS
ME = MATCH ELEVATION

(CONTRACTOR TO VERIFY ALL MATCH EXISTING SPOT GRADE ELEVATIONS AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.)

600 — PROPOSED CONTOUR
600 — EXISTING CONTOUR
RIDGE — RIDGE LINE
X.XX% — SLOPE AND FLOW DIRECTION
PROPOSED SWALE

# UTILITY LEGEND

PROPOSED STORM SEWER LINE
PROPOSED STORM STRUCTURES
PROPOSED SANITARY SEWER LINE
PROPOSED SANITARY MANHOLE
PROPOSED WATER LINE
PROPOSED VALVE VAULT
PROPOSED FIRE HYDRANT
PROPOSED LIGHT POLE

# STORMWATER SUMMARY

| | |
|---|---|
| TOTAL DEVELOPMENT AREA | 10.69 AC |
| DETENTION REQUIRED SUMMARY | |
| DETENTION REQUIRED | 3.0 AC-FT |
| DETENTION PROVIDED SUMMARY | |
| DETENTION PROVIDED | 3.0 AC-FT |

NOTE:

CALCULATIONS ARE BASED ON PRELIMINARY DATA. VOLUMES ARE SUBJECT TO CHANGE IF THE SITE PLAN CHANGES. ADDITIONAL MODELING WILL BE COMPLETED TO VERIFY THESE CALCULATIONS.

PLANS ASSUME MWRD WILL RECOGNIZE THE SHALLOW GROUNDWATER AS A CONSTRAINT WHICH WOULD PRECLUDE RETENTION BASED VOLUME CONTROL. THEREFORE, MECHANICAL BMP STRUCTURES ARE PROPOSED IN LIEU OF TRADITIONAL VOLUME CONTROL MEASURES.

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

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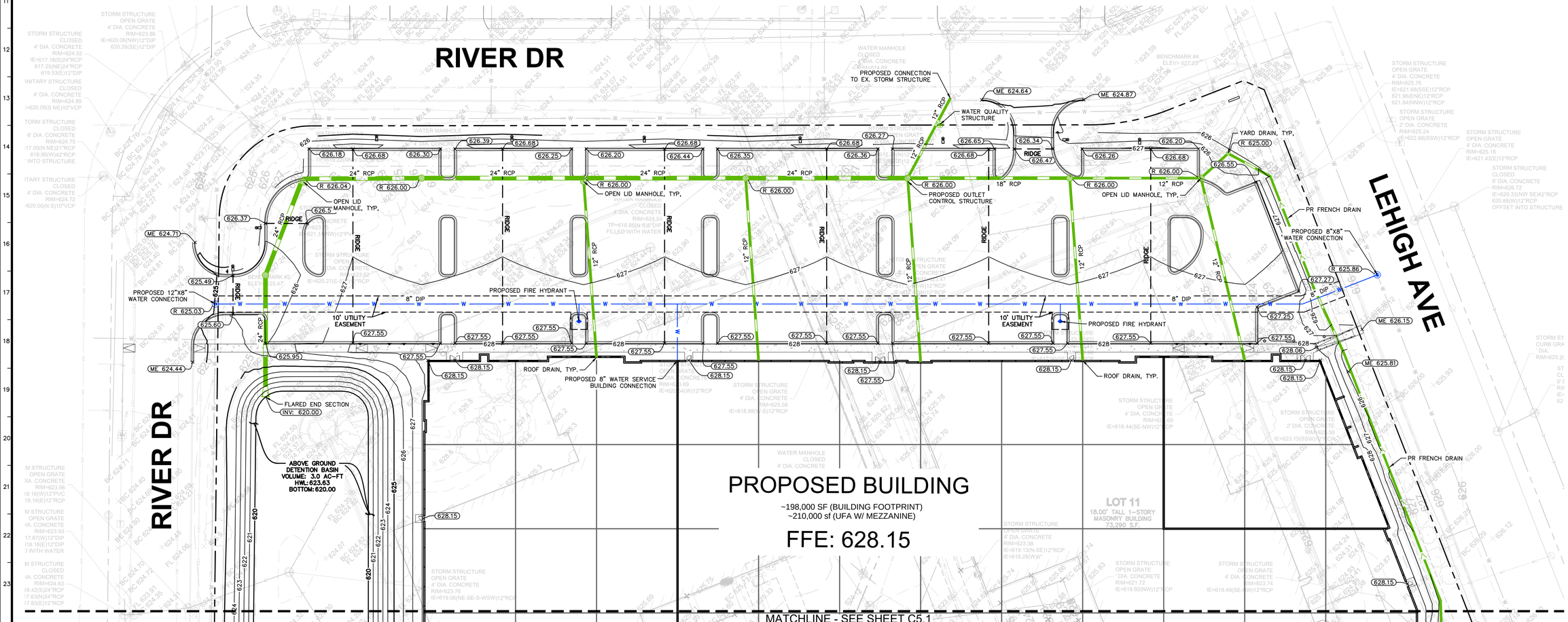


| NO. | REVISIONS | DATE | BY |
|---|---|---|---|
| 1 | SITE PLAN CHANGE | 02/20/26 | JRS |
| 2 | STORM WATER UPDATE | 06/28/25 | JRS |


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SCALE: AS NOTED
DESIGNED BY: JRS
DRAWN BY: CG
CHECKED BY: TJS

BRIDGE

PRELIMINARY ENGINEERING PLAN (NORTH)

BRIDGE INDUSTRIAL MORTON GROVE

SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
C5.0


Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\C4D\PlanSheets\PRELIM ENGINEERING\C5.0 - ENGINEERING PLAN.dwg C5.0 Feb 19, 2026 3:07pm by Chris.Graf
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2. ALL SANITARY SEWER LINES SHALL BE PVC MEETING, ASTM D-3034 SDR 26 EXCEPT FOR SANITARY SEWER THAT CROSSES ABOVE WATER MAIN, THIS PIPE SHALL BE AWWA C900 (UNLESS WATER MAIN CASING IS UTILIZED). PROVIDE 42" MINIMUM COVER.
3. CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
4. ALL ELECTRIC AND TELEPHONE EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
5. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.
6. CONTRACTOR TO CALL "JULIE" (1-800-892-0123) TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
7. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE ENGINEER AND THE OWNER/DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION. THE MUNICIPALITY SHALL BE NOTIFIED OF ANY AND ALL CHANGES TO THE DESIGN PLANS.
8. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
9. CONTRACTOR TO AVOID DISRUPTION OF ANY ADJACENT TENANT'S TRAFFIC OPERATIONS DURING INSTALLATION OF UTILITIES.
10. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE OR CENTER OF MANHOLE UNLESS NOTED OTHERWISE.
11. SEE ARCHITECTURAL AND MEP PLANS FOR EXACT UTILITY CONNECTION LOCATIONS AT BUILDING.
12. LIGHT POLES SHOWN FOR COORDINATION PURPOSES ONLY AND DO NOT REPRESENT ACTUAL SIZE. SEE SITE LIGHTING PLANS BY OTHERS FOR MORE INFORMATION.
13. SEE DETAILS FOR LOCATING STORM STRUCTURES WITHIN THE CURB LINE.
14. STORMWATER FACILITIES MUST BE FUNCTIONAL BEFORE BUILDING CONSTRUCTION BEGINS IF REQUIRED BY AUTHORITY HAVING JURISDICTION.

# GRADING LEGEND

TP = TOP OF PAVEMENT
EP = EDGE OF PAVEMENT
FL = FLOW LINE
TC = TOP OF CURB
TF = TOP OF FOUNDATION
R = RIM ELEVATION
TW = TOP OF WALL
FG = FINISHED GRADE
TS = TOP OF STAIRS
BS = BOTTOM OF STAIRS
ME = MATCH ELEVATION

(CONTRACTOR TO VERIFY ALL MATCH EXISTING SPOT GRADE ELEVATIONS AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.)

600 — PROPOSED CONTOUR
600 — EXISTING CONTOUR
RIDGE — RIDGE LINE
X.XX% — SLOPE AND FLOW DIRECTION
PROPOSED SWALE

# UTILITY LEGEND

PROPOSED STORM SEWER LINE
PROPOSED STORM STRUCTURES
PROPOSED SANITARY SEWER LINE
PROPOSED SANITARY MANHOLE
PROPOSED WATER LINE
PROPOSED VALVE VAULT
PROPOSED FIRE HYDRANT
PROPOSED LIGHT POLE

# STORMWATER SUMMARY

| | |
|---|---|
| TOTAL DEVELOPMENT AREA | 10.69 AC |
| DETENTION REQUIRED SUMMARY | |
| DETENTION REQUIRED | 3.0 AC-FT |
| DETENTION PROVIDED SUMMARY | |
| DETENTION PROVIDED | 3.0 AC-FT |

NOTE:

CALCULATIONS ARE BASED ON PRELIMINARY DATA. VOLUMES ARE SUBJECT TO CHANGE IF THE SITE PLAN CHANGES. ADDITIONAL MODELING WILL BE COMPLETED TO VERIFY THESE CALCULATIONS.

PLANS ASSUME MWRD WILL RECOGNIZE THE SHALLOW GROUNDWATER AS A CONSTRAINT WHICH WOULD PRECLUDE RETENTION BASED VOLUME CONTROL. THEREFORE, MECHANICAL BMP STRUCTURES ARE PROPOSED IN LIEU OF TRADITIONAL VOLUME CONTROL MEASURES.

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

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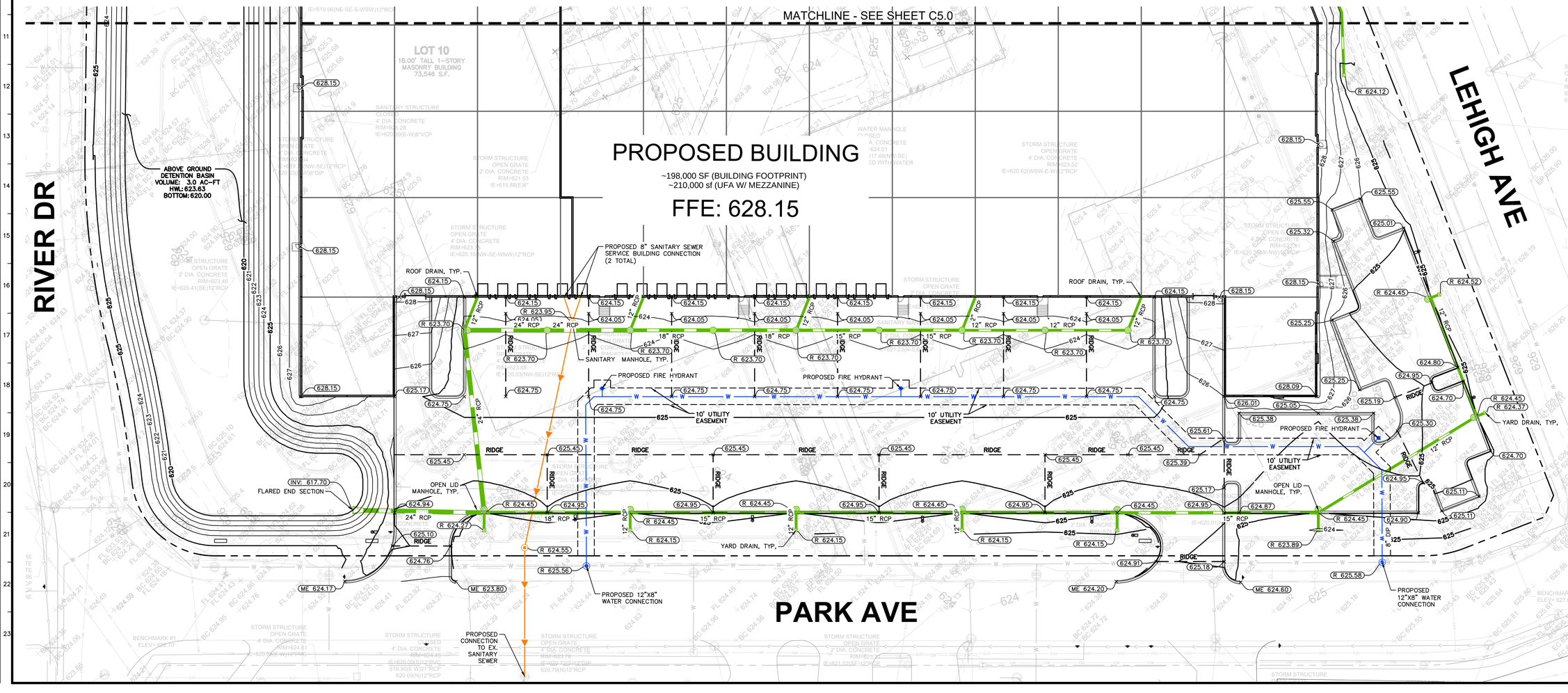
JULIE
1-800-892-0123

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| SCALE: | AS NOTED |
| DESIGNED BY: | JRS |
| DRAWN BY: | CG |
| CHECKED BY: | TJS |

| NO. | REVISIONS | DATE | BY |
|---|---|---|---|
| 1 | SITE PLAN CHANGE | 02/20/26 | JRS |
| 2 | STORM WATER UPDATE | 06/28/25 | JRS |


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WARRENVILLE, IL 60555
PHONE: 630-487-9500
WWW.KIMLEY-HORN.COM


BRIDGE

PRELIMINARY ENGINEERING PLAN (SOUTH)

BRIDGE INDUSTRIAL
MORTON GROVE
SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
C5.1


Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\C4D\PlanSheets\PRELIM ENGINEERING\C5.0 - ENGINEERING PLAN.dwg C5.1 Feb 19, 2026 3:07pm by: ChrisGraf
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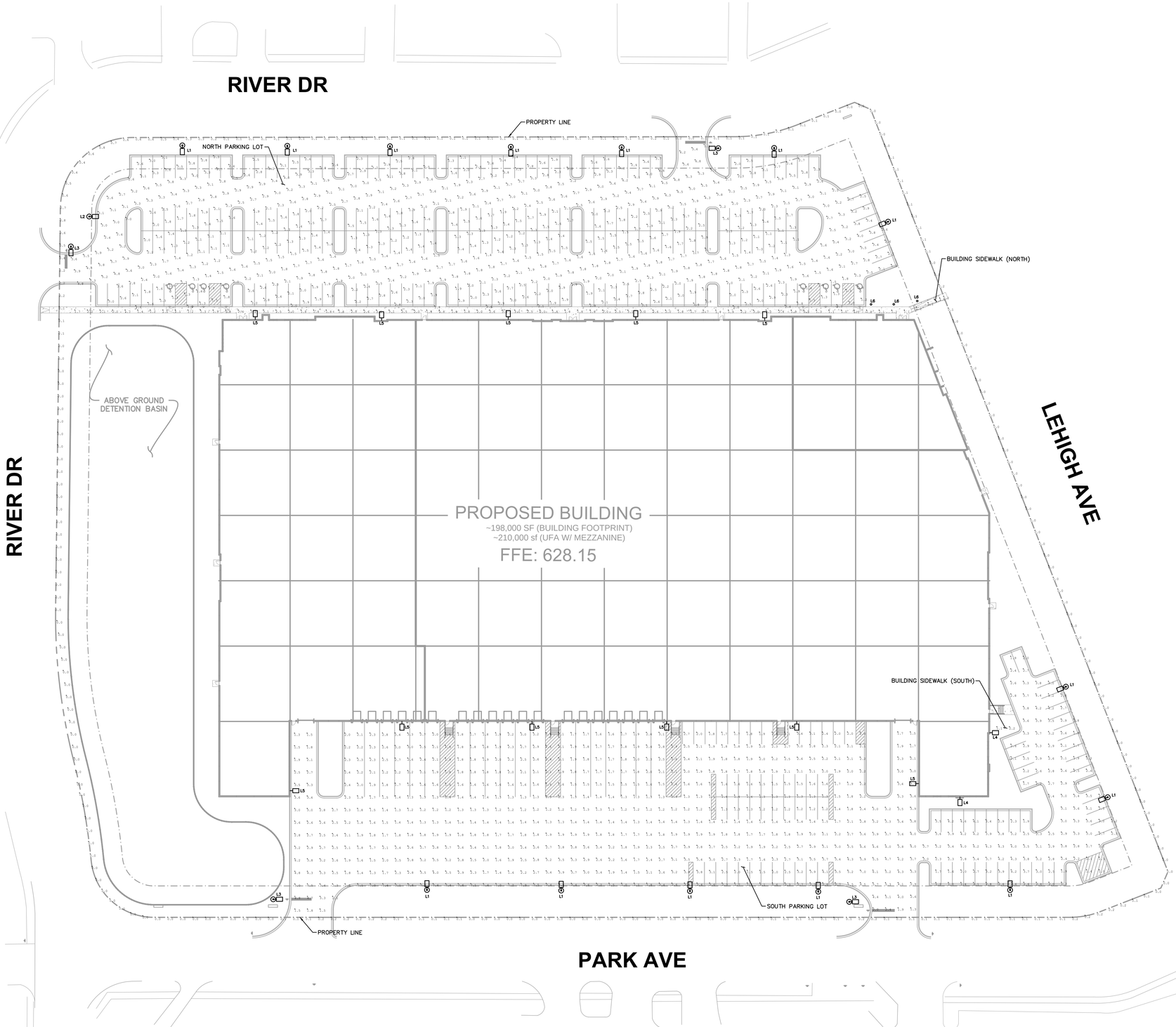


NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

Call Before You Dig
JULIE
1-800-892-0123

| NO. | REVISIONS | DATE | BY |
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| 1 | SITE PLAN CHANGE | 02/20/26 | JRS |
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SCALE: AS NOTED
DESIGNED BY: BJB
DRAWN BY: BJB
CHECKED BY: SK

STATE OF ILLINOIS
SARA KHAN
62062680
LICENSED
PROFESSIONAL ENGINEER
02/20/2026
EXP: 11/30/2027

BRIDGE

# OVERALL PHOTOMETRIC SITE PLAN

## BRIDGE INDUSTRIAL MORTON GROVE

SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE:
06/27/2025

KHA PROJECT NO.
268915000

SHEET NUMBER
E1.0

Drawing name: K:\CHS_IDEV\268915000_Bridge - Morton Grove\2 Design\CAD\PlanSheets\PRELIM ENGINEERING\E4.0 - OVERALL SITE PHOTOMETRIC PLAN.dwg E1.0 Feb 19, 2026 3:08pm by: ChrisGraf
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## PHOTOMETRICS LEGEND

- PROPOSED SINGLE LUMINAIRE - POLE MOUNTED
- PROPOSED SINGLE LUMINAIRE - BUILDING MOUNTED
- PROPOSED LUMINAIRE - LED BOLLARD
- X.X CALCULATION POINT

## TARGET ILLUMINATION LEVELS

| CALC TYPE | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
|---|---|---|---|---|---|
| PARKING LOTS AND LOADING AREAS | - | - | 1.0 | - | 20:1 |
| BUILDING SIDEWALK | - | - | 1.0 | - | - |

## CALCULATED ILLUMINATION LEVELS

| CALC TYPE | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
|---|---|---|---|---|---|
| NORTH PARKING LOT | 2.30 | 5.90 | 1.10 | 2.09 | 5.36 |
| SOUTH PARKING LOT | 2.34 | 7.00 | 1.00 | 2.34 | 7.00 |
| BUILDING SIDEWALK (NORTH) | 1.88 | 3.20 | 1.00 | 1.88 | 3.20 |
| BUILDING SIDEWALK (SOUTH) | 1.65 | 2.20 | 1.10 | 1.50 | 2.00 |
| PROPERTY LINE | 0.09 | 0.80 | 0.00 | - | - |

## PHOTOMETRICS NOTES

1. THE TARGET ILLUMINANCE VALUES AND MOUNTING HEIGHTS ARE BASED ON SECTION 12-12-3 OF THE MORTON GROVE CODES AND ORDINANCES OR THE IES RP-8-22 AND ALL APPLICABLE ADDENDUMS (THE MORE STRINGENT OF THE TWO SHALL BE OBSERVED). ALL CONSTRUCTION AND LIGHTING DESIGN SHALL BE IN ACCORDANCE WITH SECTION 12-12-3 AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL PHOTOMETRIC ILLUMINANCE VALUES SHOWN ON SITE PLAN IN TABLES ARE IN FOOTCANDLES (FC). 1 FC = 10.76 LUX.
3. CALCULATED VALUES ARE DERIVED THROUGH A COMPUTER BASED MODEL WITH LIGHT FIXTURE DATA AS SUPPLIED BY MANUFACTURERS THROUGH IES FILES.
4. ANY DEVIATION FROM SPECIFIED FIXTURE MODELS AND MOUNTING HEIGHTS IN THIS EXHIBIT WILL DISCOUNT THE VALIDITY OF THE CALCULATIONS.
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8. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND SETBACK OF LIGHT POLES.
9. FIXTURE SYMBOLS ARE DIAGRAMMATIC ONLY AND SHOULD BE USED AS REFERENCE.

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

### LIGHT FIXTURE SCHEDULE

| SYMBOL | TAG | DESCRIPTION | MODEL NUMBER | MANUFACTURER | LAMP | LLF | WATTS | LUMENS PER FIXTURE | COLOR TEMPERATURE | MOUNTING HEIGHT | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | L1 | SINGLE POLE MOUNTED LED OUTDOOR LUMINAIRE (TYPE III BACKLIGHT CONTROL DISTRIBUTION) | DSX2 LED P1 40K 70CRI BLC3 MVOLT SPA | LITHONIA | LED | 0.9 | 135 | 13,595 | 4000K | 25FT | MOUNT ON 22' POLE ATOP 3' CONCRETE BASE. EFFECTIVE MOUNTING HEIGHT = 25'-0". POLE MODEL: LITHONIA #SSS-22-5G-DM19AS. COORDINATE LUMINAIRE FINISH AND POLE FINISH WITH OWNER AND ARCHITECT PRIOR TO PURCHASE. REFER TO ELECTRICAL PLANS FOR LIGHTING CONTROLS. CONTRACTOR SHALL ORDER ACCESSORIES TO MEET THE INTENT OF THE DESIGN. REFER TO SHEET E1.3 FOR FIXTURE AND POLE DETAILS. |
| | L2 | SINGLE POLE MOUNTED LED OUTDOOR LUMINAIRE (TYPE IV DISTRIBUTION) | DSX2 LED P1 40K 70CRI T4M MVOLT SPA | LITHONIA | LED | 0.9 | 135 | 18,970 | 4000K | 25FT | MOUNT ON 22' POLE ATOP 3' CONCRETE BASE. EFFECTIVE MOUNTING HEIGHT = 25'-0". POLE MODEL: LITHONIA #SSS-22-5G-DM19AS. COORDINATE LUMINAIRE FINISH AND POLE FINISH WITH OWNER AND ARCHITECT PRIOR TO PURCHASE. REFER TO ELECTRICAL PLANS FOR LIGHTING CONTROLS. CONTRACTOR SHALL ORDER ACCESSORIES TO MEET THE INTENT OF THE DESIGN. REFER TO SHEET E1.3 FOR FIXTURE AND POLE DETAILS. |
| | L3 | SINGLE POLE MOUNTED LED OUTDOOR LUMINAIRE (RIGHT CORNER CUTOFF DISTRIBUTION) | DSX2 LED P1 40K 70CRI RCCO MVOLT SPA | LITHONIA | LED | 0.9 | 135 | 13,718 | 4000K | 25FT | MOUNT ON 22' POLE ATOP 3' CONCRETE BASE. EFFECTIVE MOUNTING HEIGHT = 25'-0". POLE MODEL: LITHONIA #SSS-22-5G-DM19AS. COORDINATE LUMINAIRE FINISH AND POLE FINISH WITH OWNER AND ARCHITECT PRIOR TO PURCHASE. REFER TO ELECTRICAL PLANS FOR LIGHTING CONTROLS. CONTRACTOR SHALL ORDER ACCESSORIES TO MEET THE INTENT OF THE DESIGN. REFER TO SHEET E1.3 FOR FIXTURE AND POLE DETAILS. |
| | L4 | SINGLE BUILDING MOUNTED LED OUTDOOR LUMINAIRE (TYPE III BACKLIGHT CONTROL DISTRIBUTION) | DSX2 LED P1 40K 70CRI BLC3 MVOLT WBA | LITHONIA | LED | 0.9 | 135 | 13,595 | 4000K | 25FT | MOUNT ON EXTERIOR OF BUILDING AT 25' AFG. COORDINATE LUMINAIRE FINISH WITH OWNER AND ARCHITECT PRIOR TO PURCHASE. REFER TO ELECTRICAL PLANS FOR LIGHTING CONTROLS. CONTRACTOR SHALL ORDER ACCESSORIES TO MEET THE INTENT OF THE DESIGN. REFER TO SHEET E1.3 FOR FIXTURE DETAILS. |
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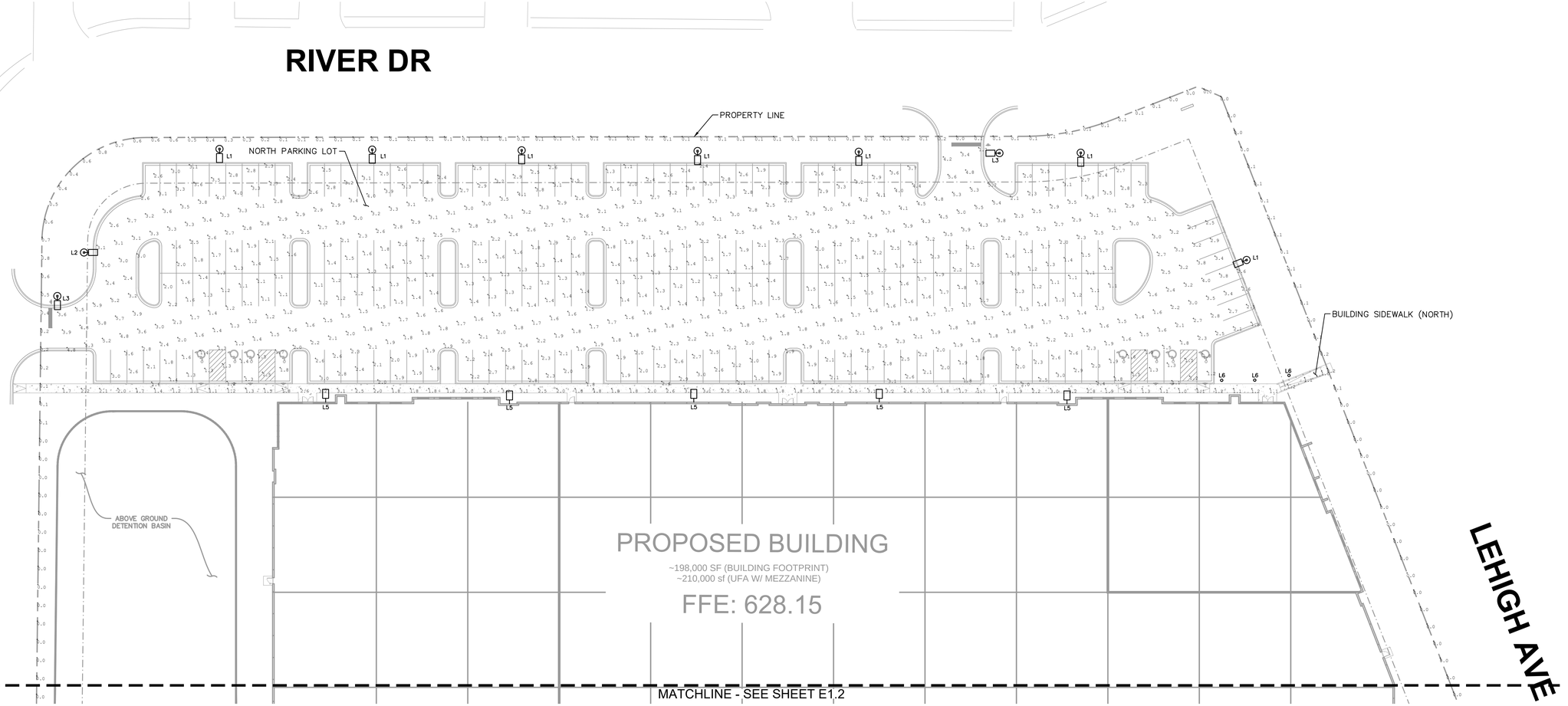


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| | 02/20/26 | JRS |

REVISIONS

SITE PLAN CHANGE
STORM WATER UPDATE

Kimley»Horn
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WARRENVILLE, IL 60555
PHONE: (847) 520-5500
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED
DESIGNED BY: BJB
DRAWN BY: BJB
CHECKED BY: SK

STATE OF ILLINOIS
SARA KHAN
62065680
LICENSED PROFESSIONAL ENGINEER
02/20/2026
EXP: 11/30/2027

BRIDGE

PHOTOMETRIC PLAN (NORTH)

BRIDGE INDUSTRIAL
MORTON GROVE
SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER E1.1

Drawing name: K:\CHS_LDEV\268915000_Bridge – Morton Grove\2. Design\CAD\PlanSheets\PRELIM ENGINEERING\E4.0 – SITE PHOTOMETRIC PLAN.dwg E1.1 Feb 19, 2026 3:10pm by: Chris.Graf
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NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

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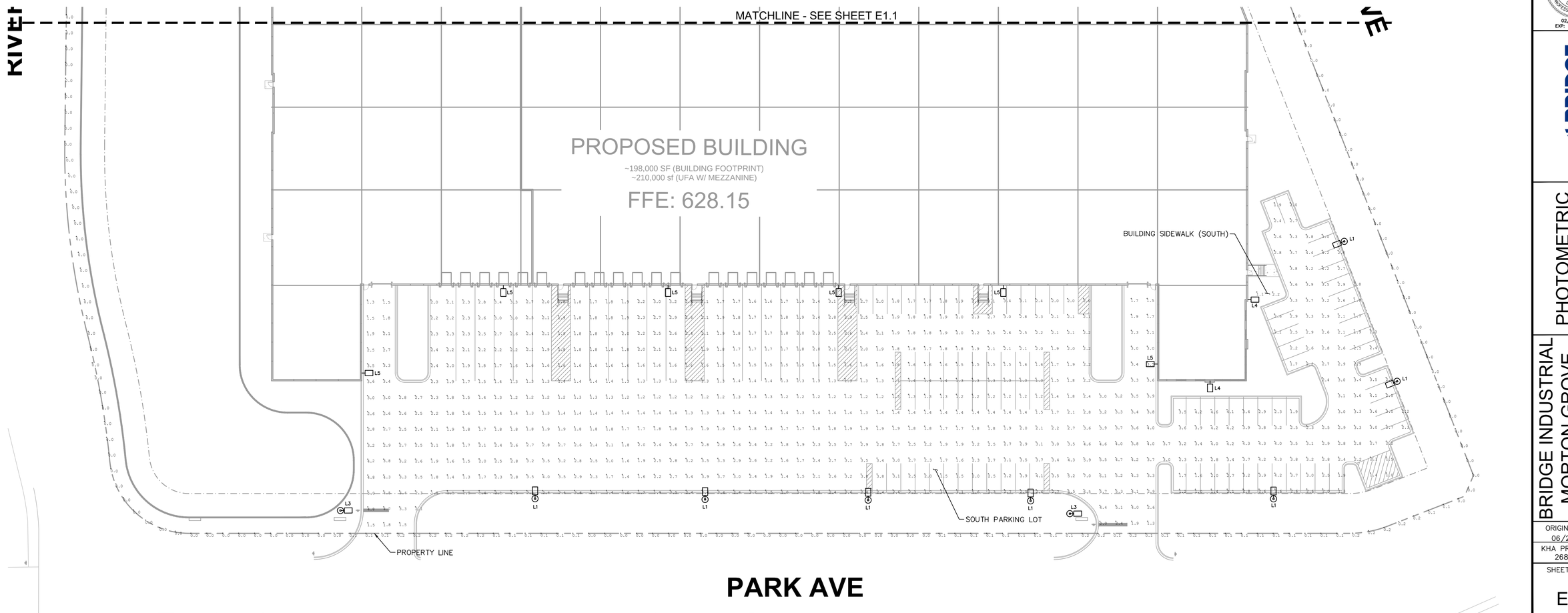


| No. | REVISIONS | DATE | BY |
|---|---|---|---|
| | SITE PLAN CHANGE | 02/20/26 | JRS |
| | STORM WATER UPDATE | 06/28/25 | JRS |


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WARRENVILLE, IL 60555
PHONE: (630) 487-6500
WWW.KIMLEY-HORN.COM


SCALE: AS NOTED | DESIGNED BY: BJB | DRAWN BY: BJB | CHECKED BY: SK

STATE OF ILLINOIS
SARA KHAN
62/065680
LICENSED PROFESSIONAL ENGINEER
02/20/2026
EXP: 11/30/2027

BRIDGE

PHOTOMETRIC PLAN (SOUTH)

BRIDGE INDUSTRIAL
MORTON GROVE
SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
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ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
E1.2


Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\CAD\PlanSheets\PRELIM ENGINEERING\E4.0 - SITE PHOTOMETRIC PLAN.dwg E1.2 Feb 19, 2026 3:10pm by: Chris.Graf
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# D-Series Size 2
LED Area Luminaire




ds BAA BABA

Catalog Number

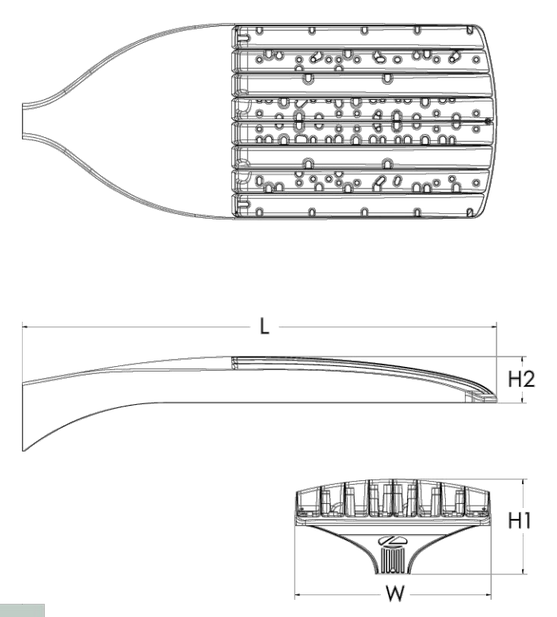
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

## Specifications

| | |
|---|---|
| EPA: | 1.06 ft² (0.10 m²) |
| Length: | 40.59" (103.1 cm) |
| Width: | 16.76" (42.6 cm) |
| Height H1: | 8.11" (20.6 cm) |
| Height H2: | 3.96" (10.1 cm) |
| Weight: | 46 lbs (20.9 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 outstanding 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 up to 80% vs. 1000W HID and expected service life of over 100,000 hours.

ds design select

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

ds Design Select options indicated by this color background.

## Ordering Information

**EXAMPLE:** DSX2 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX2 LED

| Series | LEDs | Color temperature[2] | Color Rendering Index[2] | Distribution | Voltage | Mounting |
|---|---|---|---|---|---|---|
| DSX2 LED | **Forward optics** P1 P2 P3 P4 P5 P6 P7 P8 **Rotated optics** P10[1] P11[1] P12[1] P13[1] P14[1] | (this section 70CRI only) 30K 3000K; 40K 4000K; 50K 5000K; 27K 2700K; 30K 3000K; 35K 3500K; 40K 4000K; 50K 5000K | 70CRI; 70CRI; 70CRI; 80CRI; 80CRI; 80CRI; 80CRI; 80CRI | AFR Automotive front row; T1S Type I short; T2M Type II medium; T3M Type III medium; T3LG Type III low glare[3]; T4M Type IV medium; T4LG Type IV low glare[3]; TFTM Forward throw medium; T5M Type V medium; T5LG Type V low glare; T5W Type V wide; BLC3 Type III backlight control[3]; BLC4 Type IV backlight control[3]; LCCO Left corner cutoff[3]; RCCO Right corner cutoff[3] | MVOLT (120V-277V)[4]; HVOLT (347V-480V)[5,6]; XVOLT (277V - 480V)[7,8]; 120[16,26]; 208[16,26]; 240[16,26]; 277[16,26]; 347[16,26]; 480[16,26] | **Shipped included** SPA Square pole mounting (#8 drilling); RPA Round pole mounting (#8 drilling); SPA5 Square pole mounting #5 drilling[9]; RPA5 Round pole mounting #5 drilling[9]; SPA8N Square narrow pole mounting #8 drilling; WBA Wall bracket[10]; MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon) |

| Control options | | Other options | | Finish *(required)* |
|---|---|---|---|---|
| **Shipped installed** NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc.[11, 12, 20, 21]; PIR High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc[13,20,21]; PER NEMA twist-lock receptacle only (controls ordered separate)[14]; PER5 Five-pin receptacle only (controls ordered separate)[14,21] | PER7 Seven-pin receptacle only (controls ordered separate)[14,21]; FAO Field adjustable output[15,21]; BL30 Bi-level switched dimming, 30%[16,21]; BL50 Bi-level switched dimming, 50%[16,21]; DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17]; DS Dual switching[18,19,21] | **Shipped installed** SPD20KV 20KV surge protection; HS Houseside shield (black finish standard)[22]; L90 Left rotated optics[1]; R90 Right rotated optics[1]; CCE Coastal Construction[23]; HA 50°C ambient operation[24]; BAA Buy America(n) Act and/or Build America Buy America Qualified; SF Single fuse (120, 277, 347V)[26]; DF Double fuse (208, 240, 480V)[26]; 3G Vibration rated for 3G[27] | **Shipped separately** EGSR External Glare Shield (reversible, field install required, matches housing finish); BSDB Bird Spikes (field install required) | DDBXD Dark Bronze; DBLXD Black; DNAXD Natural Aluminum; DWHXD White; DDBTXD Textured dark bronze; DBLBXD Textured black; DNATXD Textured natural aluminum; DWHGXD Textured white |

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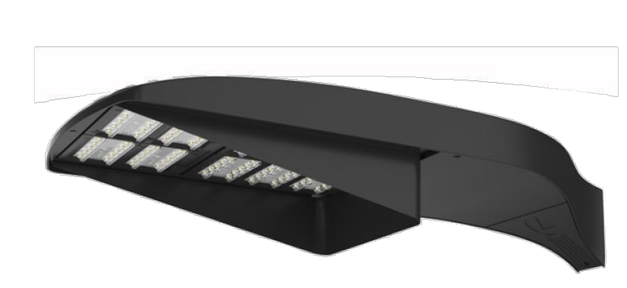
## Ordering Information

### Accessories
*Ordered and shipped separately.*

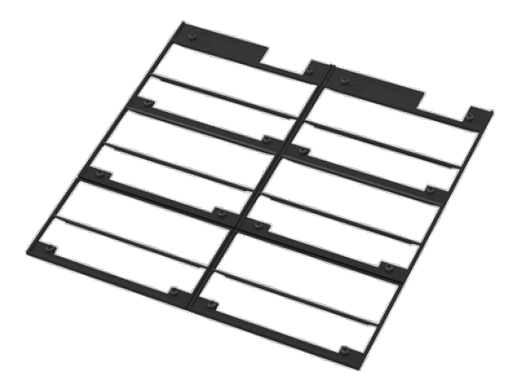
| | |
|---|---|
| DLL127F 1.5 JU | Photocell - SSL twist-lock (120-277V)[25] |
| DLL347F 1.5 CUL JU | Photocell - SSL twist-lock (347V)[25] |
| DLL480F 1.5 CUL JU | Photocell - SSL twist-lock (480V)[25] |
| DSHORT SBK | Shorting cap[25] |
| DSX2HS P# | House-side shield (enter package number 1-13 in place of #) |
| DSXRPA (FINISH) | Round pole adapter (#8 drilling, specify finish) |
| DSXSPA5 (FINISH) | Square pole adapter #5 drilling (specify finish) |
| DSXRPA5 (FINISH) | Round pole adapter #5 drilling (specify finish) |
| DSX2EGSR (FINISH) | External glare shield (specify finish) |
| DSX2BSDB (FINISH) | Bird spike deterrent bracket (specify finish) |

NOTES
1. Rotated optics available with packages P10, P11, P12, P13 and P14. Must be combined with option L90 or R90.
2. 30K, 40K, and 50K available in 70CRI and 80CRI. 27K and 35K only available with 80CRI. Contact Technical Support for other possible combinations.
3. T3LG, T4LG, BLC3, BLC4, LCCO, RCCO not available with option HS.
4. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
5. HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
6. HVOLT not available with package P10 when combined with option NLTAIR2 PIRHN or option PIR.
7. XVOLT operates with any voltage between 277V and 480V (50/60 Hz).
8. XVOLT not available in package P10. XVOLT not available with fusing (SF or DF).
9. SPA5 and RPA5 for use with #5 drilling only (Not for use with #8 drilling).
10. WBA cannot be combined with Type 5 distributions plus photocell (PER).
11. NLTAIR2 and PIRHN must be ordered together. For more information on nLight AIR2 visit this link
12. NLTAIR2 PIRHN not available with other controls including PIR, PER, PER5, PER7, BL30, BL50, DMG and DS. NLTAIR2 PIRHN not available with P10 using HVOLT. NLTAIR2 PIRHN not available with P10 using XVOLT.
13. PIR not available with NLTAIR2 PIRHN, PER, PER5, PER7, FAO BL30, BL50, DMG and DS. PIR not available with P10 using HVOLT. PIR not available with P10 using XVOLT.
14. 14) PER/PER5/PER7 not available with NLTAIR2 PIRHN, PIR, BL30, BL50, FAO, DMG and DS. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
15. FAO not available with other dimming control options NLTAIR2 PIRHN, PIR, PER5, PER7, BL30, BL50, DMG and DS.
16. BL30 and BL50 are not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, FAO, DMG and DS. BL30 or BL50 must specify 120 or 277V.
17. DMG not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50, FAO and DS.
18. DS not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50, FAO and DMG.
19. DS requires (2) separately switched circuits. DS provides 50/50 fixture operation via (2) different sets of leads on P1, P2, P3, P4, P5 (2 drivers). Note: Provides 60/40 operation using (2) different sets of leads on P6, P7, P8, P9, P10, P11, P12, P13, P14 (3 drivers).
20. Reference Motion Sensor Default Settings table on page 4 to see functionality.
21. Reference Controls Options table on page 4.
22. HS not available with T3LG, T4LG, BLC3, BLC4, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
23. CCE option not available with option BS and EGSR. Contact Technical Support for availability.
24. Option HA not available with performance packages P5, P6, P7, P8, P13 and P14.
25. Requires luminaire to be specified with PER, PER5 or PER7 option. See Controls Table on page 4.
26. Single fuse (SF) requires 120V, 277V, or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF).
27. Option 3G for use with (MA) mast arm mount only when 3G vibration is required.

## Shield Accessories



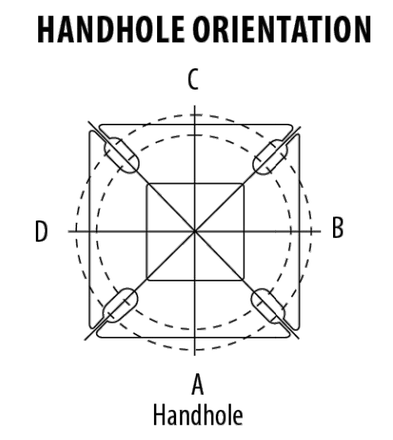
External Glare Shield (EGSR)



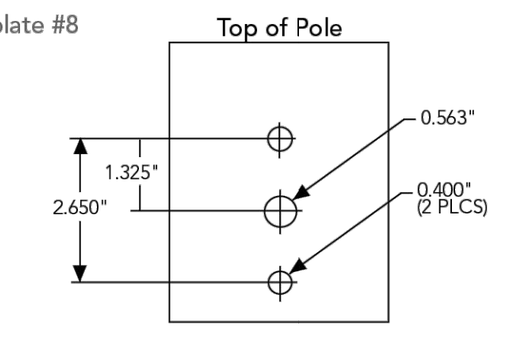
House Side Shield (HS)

## Drilling

HANDHOLE ORIENTATION




Template #8




### Tenon Mounting Slipfitter

| Tenon O.D. | Mounting | Single Unit | 2 @ 180 | 2 @ 90 | 3 @ 90 | 3 @120 | 4 @ 90 |
|---|---|---|---|---|---|---|---|
| 2-3/8" | RPA | AS3-5 190 | AS3-5 280 | AS3-5 290 | AS3-5 390 | AS3-5 320 | AS3-5 490 |
| 2-7/8" | RPA | AST25-190 | AST25-280 | AST25-290 | AST25-390 | AST25-320 | AST25-490 |
| 4" | RPA | AST35-190 | AST35-280 | AST35-290 | AST35-390 | AST35-320 | AST35-490 |

| 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 | #8 | DM19AS | DM28AS | DM29AS | DM39AS | DM32AS | DM49AS |
| **Minimum Acceptable Outside Pole Dimension** | | | | | | | |
| SPA | #8 | 3.5" | 3.5" | 3.5" | 3.5" | | 3.5" |
| RPA | #8 | 3" | 3" | 3" | 3" | 3" | 3" |
| SPA5 | #5 | 3" | 3" | 3" | 3" | | 3" |
| RPA5 | #5 | 3" | 3" | 3" | 3" | 3" | 3" |
| SPA8N | #8 | 3" | 3" | 3" | 3" | | 3" |

### DSX2 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 DM19 | 2 @ 180 DM28 | 2 @ 90 DM29 | 3 @ 90 DM39 | 3 @ 120 DM32 | 4 @ 90 DM49 |
|---|---|---|---|---|---|---|
| Mounting Type | | | | | | |
| DSX2 with SPA | 1.06 | 2.12 | 1.84 | 2.32 | --- | 2.33 |
| DSX2 with SPA5, SPA8N | 1.07 | 2.14 | 1.90 | 2.43 | --- | 2.44 |
| DSX2 with RPA, RPA5 | 1.07 | 2.14 | 1.90 | 2.43 | 2.31 | 2.44 |
| DSX2 with MA | 1.20 | 2.40 | 2.12 | 3.00 | 2.92 | 3.00 |

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LUMINAIRE - DSX2 LED SERIES (FIXTURES L1, L2, L3, L4, & L5)

# KBR8 LED
LED Specification Bollard



BAA BABA

*Catalog Number*

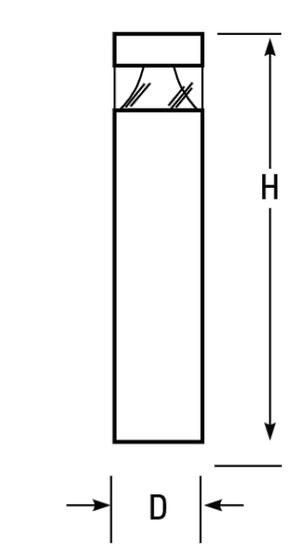
*Notes*

*Type*

*Hit the Tab key or mouse over the page to see all interactive elements.*

## Specifications

| | |
|---|---|
| | 8" Round (20.3 cm) |
| Height: | 40" (101.6 cm) |
| Weight (max): | 27 lbs (12.25 kg) |




## Introduction

The KBR8 Bollard is a stylish, fully integrated LED solution for walkways. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 70% in energy savings over comparable 100W metal halide luminaires, the KBR8 Bollard is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

## Ordering Information

**EXAMPLE:** KBR8 LED 16C 700 40K SYM MVOLT DDBXD

KBR8 LED

| Series | LEDs | Drive current | Color temperature | Distribution | Voltage | Control options | Other options | Finish *(required)* |
|---|---|---|---|---|---|---|---|---|
| KBR8 LED | **Asymmetric** 12C 12 LEDs[1]; **Symmetric** 16C 16 LEDs[2] | 350 350 mA; 450 450 mA[3,4]; 530 530 mA; 700 700 mA | 30K 3000 K; 40K 4000 K; 50K 5000 K; AMBPC Amber phosphor converted; AMBLW Amber limited wavelength[3,4] | ASY Asymmetric[1]; SYM Symmetric[2] | MVOLT[5]; 120[5]; 208[5]; 240[5]; 277[5]; 347[4] | **Shipped installed** PE Photoelectric cell, button type; DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately); ELCW Emergency battery backup, CA Title 20 Noncompliant[6] | **Shipped installed** SF Single fuse (120, 277, 347V)[4,7]; DF Double fuse (208, 240V)[4,7]; H24 24" overall height; H30 30" overall height; H36 36" overall height; FG Ground-fault festoon outlet; L/AB Without anchor bolts (3 bolt base); L/AB4 4 bolt retrofit base without anchor bolts[8] | DWHXD White; DNAXD Natural aluminum; DDBXD Dark bronze; DBLXD Black; DDBTXD Textured dark bronze; DBLBXD Textured black; DNATXD Textured natural aluminum; DWHGXD Textured white |

### Accessories
*Ordered and shipped separately.*

MRAB U — Anchor bolts for KBR8 LED[8]

NOTES
1. Only available in the 12C, ASY version.
2. Only available in the 16C, SYM version.
3. Only available with 450 AMBLW version.
4. Not available with ELCW.
5. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options), or photocontrol (PE option).
6. Not available with 347V. Not available with fusing. Not available with 450 AMBLW.
7. Single fuse (SF) requires 120, 277, or 347 voltage option. Double fuse (DF) requires 208 or 240 voltage option.
8. MRAB U not available with L/AB4 option.

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## Performance Data

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Actual wattage may differ by +/- 8% when operating between 120-480V +/- 10%.

| Light Engines | Drive Current | System Watts | 3000 K Lumens | LPW | B | U | G | 4000 K Lumens | LPW | B | U | G | 5000 K Lumens | LPW | B | U | G | Limited Wavelength Amber Lumens | LPW | B | U | G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Asymmetric 3 Engines (12 LEDs) | 350 | 16 | 641 | 40 | 1 | 1 | 1 | 809 | 51 | 1 | 1 | 1 | 870 | 54 | 1 | 1 | 1 | | | | | |
| | 530 | 22 | 947 | 43 | 1 | 1 | 1 | 1,191 | 54 | 1 | 1 | 1 | 1,282 | 58 | 1 | 1 | 1 | | | | | |
| | 700 | 31 | 1,214 | 40 | 1 | 1 | 1 | 1,527 | 51 | 1 | 1 | 1 | 1,646 | 55 | 1 | 1 | 1 | | | | | |
| | Amber 450 | 16 | | | | | | | | | | | | | | | | 324 | 20 | 0 | 1 | 0 |
| Symmetric 4 Engines (16 LEDs) | 350 | 20 | 888 | 44 | 1 | 0 | 0 | 1,116 | 56 | 1 | 0 | 0 | 1,203 | 60 | 1 | 0 | 0 | | | | | |
| | 530 | 28 | 1,254 | 45 | 1 | 0 | 0 | 1,598 | 57 | 1 | 0 | 1 | 1,719 | 61 | 1 | 0 | 1 | | | | | |
| | 700 | 39 | 1,608 | 41 | 1 | 0 | 1 | 2,022 | 52 | 1 | 0 | 1 | 2,180 | 56 | 2 | 0 | 1 | | | | | |
| | Amber 450 | 20 | | | | | | | | | | | | | | | | 374 | 19 | 0 | 0 | 0 |

**Note:** Available with phosphor-converted amber LED's (nomenclature AMBPC). These LED's produce light with 97+% >530 nm. Output can be calculated by applying a 0.7 factor to 4000 K lumen values and photometric files.

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

| Operating Hours | 0 | 25,000 | 50,000 | 100,000 |
|---|---|---|---|---|
| Lumen Maintenance Factor | 1.00 | 0.98 | 0.97 | 0.95 |

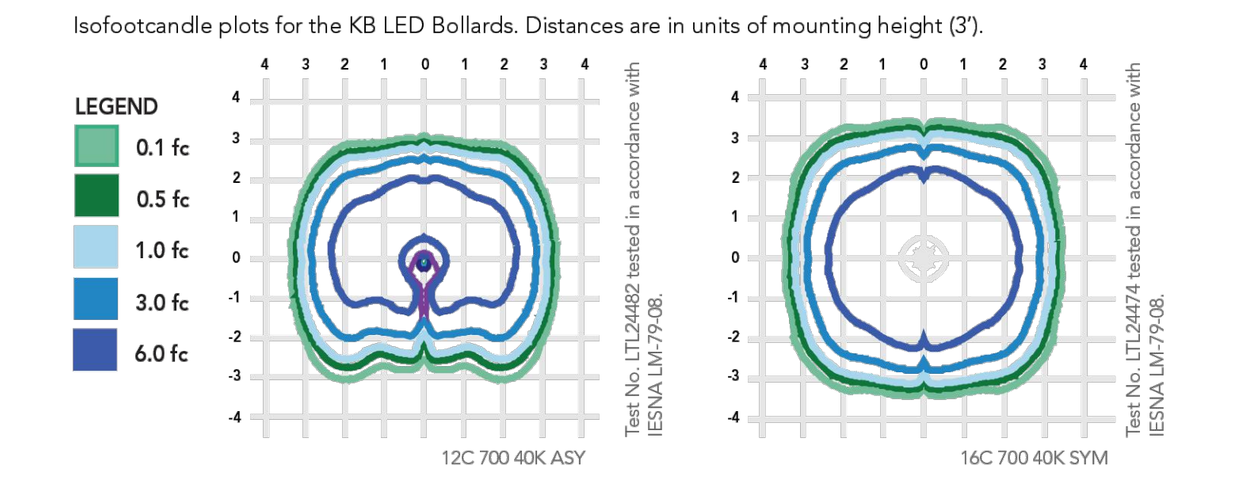
### Electrical Load

| Light Engines | Drive Current (mA) | System Watts | Current (A) 120 | 208 | 240 | 277 | 347 |
|---|---|---|---|---|---|---|---|
| 12C | 350 | 16W | 0.158 | 0.118 | 0.114 | 0.109 | 0.105 |
| | 530 | 22W | 0.217 | 0.146 | 0.136 | 0.128 | 0.118 |
| | 700 | 31W | 0.296 | 0.185 | 0.168 | 0.153 | 0.139 |
| | Amber 450 | 16W | 0.161 | 0.120 | 0.115 | 0.110 | 0.106 |
| 16C | 350 | 20W | 0.197 | 0.137 | 0.128 | 0.121 | 0.114 |
| | 530 | 28W | 0.282 | 0.178 | 0.162 | 0.148 | 0.135 |
| | 700 | 39W | 0.385 | 0.231 | 0.207 | 0.185 | 0.163 |
| | Amber 450 | 20W | 0.199 | 0.139 | 0.130 | 0.123 | 0.116 |

## Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's KBR8 Bollard homepage.

Isofootcandle plots for the KB LED Bollards. Distances are in units of mounting height (3').




## FEATURES & SPECIFICATIONS

**INTENDED USE**
The rugged construction and clean lines of the KBA bollard is ideal for illuminating building entryways, walking paths, and pedestrian plazas, as well as any other location requiring a low mounting height light source with fully cutoff illumination.

**CONSTRUCTION**
One-piece 8-inch round extruded aluminum shaft with thick side walls for extreme durability, a high-impact clear acrylic lens and welded top cap. Die-cast aluminum mounting ring allows for easy leveling even in sloped locations and a full 360-degree rotation for precise alignment during installation. Three ½" x 11" anchor bolts with double nuts and washers and 3 ¾" bolt circle template ensure stability. Overall height is 42" standard.

**FINISH**
Exterior parts are protected by a zinc-infused super durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering for maximum retention of gloss and luster. A tightly controlled multi-stage process ensures a minimum 3-mil thickness for a finish that can withstand the elements without cracking or peeling. Available in both textured and non-textured finishes.

**OPTICS**
Two fully cutoff optical distributions are available: symmetrical and asymmetrical. IP66 sealed LED light engine provides smoothly graduated illumination without any uplight. Light engines are available in standard 4000 K (>70 CRI) or optional 3000 K (>80 CRI) or 5000 K (67 CRI). Limited-wavelength amber LEDs are also available.

**ELECTRICAL**
Light engines consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (L95/100,000 hours at 700mA at 25°C). Class 2 electronic drivers are designed for an expected life of 100,000 hours with < 1% failure rate. Electrical components are mounted on a removable power tray.

**LISTINGS**
CSA certified to U.S. and Canadian standards. Light engines are IP66 rated. Rated for -40°C minimum ambient. Cold-weather emergency battery backup rated for -20°C minimum ambient.

**GOVERNMENT PROCUREMENT**
BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

**WARRANTY**
Five-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/CustomerResources/Terms_and_conditions.aspx.

**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.

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LUMINAIRE - KBR8 LED SERIES (FIXTURE L6)

LITHONIA LIGHTING®

Catalog Number

Notes

Type

## FEATURES & SPECIFICATIONS

**INTENDED USE — These specifications are for USA standards only.** Square Straight Steel is a general purpose light pole for up to 39-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 uniform dimension and wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 55 KSI (11-gauge, 0.120"), or 50 KSI (7-gauge, 0.179"). Shaft is one-piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

**Pole Top:** Options include 4" tenon top, drilled for side mount fixture, tenon with drilling (includes extra handhole) and open top. Side drilled and open top poles include a removable top cap.

**Handhole:** A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 2.5" x 5".

**Base Cover:** A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

**Anchor Base/Bolts:** Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F1554 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

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

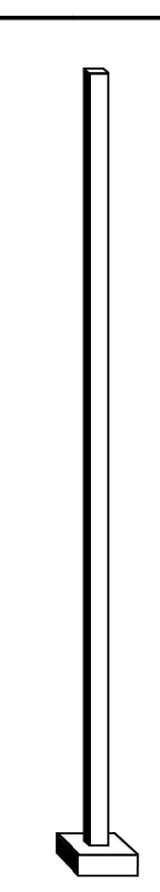
**FINISH** — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets 5A and 5B classifications of ASTM D3359. Powder-coat finishes include Dark Bronze, White, Black, and Natural Aluminum colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes.

**GOVERNEMENT PROCUREMENT** —
BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

**INSTALLATION** — **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 anchorage placement due to failure to use Lithonia Lighting factory templates. 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.

**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**

# SSS

**SQUARE STRAIGHT STEEL**

BAA BABA

OUTDOOR — POLE-SSS

## SSS Square Straight Steel Poles

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

**Example:** SSS 20 5C DM19 DDBXD

SSS

| Series | Nominal fixture mounting height | Nominal shaft base size/wall thickness[1] | Mounting[2] | Options | Finish |
|---|---|---|---|---|---|
| SSS | 10'-39' (for 1/2 ft increments, add -6 to the pole height. **Ex:** 20-6 equals 20ft 6in.) (See technical information table for complete ordering information.) | 4C 4" 11g (0.120"); 4G 4" 7g (0.179"); 5C 5" 11g (0.120"); 5G 5" 7g (0.179"); 6G 6" 7g (0.179") (See technical information table for complete ordering information.) | Tenon mounting: PT Open top (includes top cap); 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). KAC/KAD/KSE/KSF/KVR/KVF Drill mounting[3]: DM19 1 at 90°; DM28 2 at 180°; DM28 PL 2 at 180° with one side plugged; DM29 2 at 90°; DM39 3 at 90°; DM49 4 at 90°. CSX/DSX/RSX/AERIS™/OMERO™/KAX Drill mounting[3]: DM19AS 1 at 90°; DM28AS 2 at 180°; DM29AS 2 at 90°; DM39AS 3 at 90°; DM49AS 4 at 90°. RAD drill mounting[3]: DM19RAD 1 at 90°; DM28RAD 2 at 180°; DM29RAD 2 at 90°; DM39RAD 3 at 90°; DM49RAD 4 at 90°. ESX Drill mounting[3]: DM19ESX 1 at 90°; DM28ESX 2 at 180°; DM29ESX 2 at 90°; DM39ESX 3 at 90°; DM49ESX 4 at 90° | Shipped installed: VD Vibration damper[4]; HAxy Horizontal arm bracket (1 fixture)[5,6]; FDLxy Festoon outlet less electrical[5,7]; CPL12/xy 1/2" coupling[5]; CPL34/xy 3/4" coupling[5]; CPL1/xy 1" coupling[5]; NPL12/xy 1/2" threaded nipple[5]; NPL34/xy 3/4" threaded nipple[5]; NPL1/xy 1" threaded nipple[5]; EHHxy Extra handhole[5,8]; STLHHC Steel handhole cover (standard is plastic, finish is smooth)[9]; FBCSTL2PC 2 Piece steel base cover (standard is plastic)[9]; IC Interior coating[10]; 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(n) Act Compliant[11]; VM/original order# Match pole to prior order or project[12] | Super durable paint colors: 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. Other finishes: GALV Galvanized finish. Architectural colors and special finishes[13]: [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:**
1. Wall thickness will be signified with a "C" (11 Gauge) or a "G" (7-Gauge) in nomenclature. "C" - 0.120" | "G" - 0.179".
2. 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.*
3. Refer to the fixture spec sheet for the correct drilling template pattern and orientation compatibility.
4. 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.*
5. Specify location and orientation when ordering option.
**For "x":** Specify the height above the base of pole in feet or 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 5'8", orientation C = CPL12/5-8C*
6. 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 arm at the same height, specify with HAxyy.
*Example: HA20BD.*
7. FDL does not come with GFCI outlet or handhole cover. These must be supplied by contractor or electrician.
8. Combination of tenon-top and drill mount includes extra handhole. EHH includes cover.
9. Plastic hand hole cover and base covers come standard with all poles. Items ship separately. Additional parts can be ordered as replacements.
10. Provides enhanced corrosion resistance. N/A with GALV.
11. Use when mill certifications are required.
12. 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: VM/010-36784*
13. 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 xxFT | Field installed vibration damper (snake style) |

LITHONIA LIGHTING® — POLE-SSS

OUTDOOR: One Lithonia Way Conyers, GA 30012 Phone: 800-705-SERV (7378) www.lithonia.com
©1994-2024 Acuity Brands Lighting, Inc. All rights reserved. Rev. 03/27/24

POLE - LITHONIA SSS

| No. | REVISIONS | DATE | BY |
|---|---|---|---|
| | SITE PLAN CHANGE | 02/20/26 | JRS |
| 1 | STORM WATER UPDATE | 06/28/25 | JRS |

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WARRENVILLE, IL 60555
PHONE: 630-487-5550
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED
DESIGNED BY: BJB
DRAWN BY: BJB
CHECKED BY: SK

STATE OF ILLINOIS — SARA KHAN 62065680 — LICENSED PROFESSIONAL ENGINEER
02/20/2026
EXP: 11/30/2027

BRIDGE

PHOTOMETRIC DETAILS

BRIDGE INDUSTRIAL MORTON GROVE
SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
E1.3

Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\CAD\PlanSheets\PRELIM ENGINEERING\E4.0 - SITE PHOTOMETRIC PLAN.dwg E1.3 Feb 19, 2026 3:11pm by: Chris.Graf
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# MEMORANDUM

To: Village of Morton Grove

From: Tom Szafranski, P.E.
Kimley-Horn and Associates, Inc.

Date: May 5, 2025
Revised: June 27, 2025
Revised: February 20, 2026

Re: ***Bridge Industrial - Morton Grove***
***Southwest Corner of Lehigh Avenue & River Drive***
***Morton Grove, IL 60053***

## *Introduction*

Kimley-Horn and Associates, Inc., serves as the engineering consultant for Bridge Industrial. They are proposing to construct an industrial warehouse. The sitework includes demolition, grading, storm sewer, water, sanitary sewer, and paving installation.

The site stormwater management practices will be designed to meet the requirements of the Village of Morton Grove and the Metropolitan Water Reclamation District (MWRD).

## *Existing Conditions*

In existing conditions, the site contains two offices buildings with associated parking and utilities. The site is bound by Lehigh Avenue to the east, Park Avenue to the south, and River Drive to the west and north. The sitework includes demolition, grading, storm sewer, watermain, sanitary sewer, and paving installations across the site.

Runoff drains via on-site storm inlets and sewers with outfalls along both the northern and western portions of River Drive. There is currently no detention provided on this site. As shown in the Existing Impervious Area Exhibit, the existing site contains 7.74-acres of impervious area and 3.23-acres of pervious area.

## *Proposed Conditions*

The proposed development will consist of a ±198,000 SF building with truck docks to the south and passenger car parking on the north and southeast. As shown in the Proposed Impervious Area Exhibit, the proposed site contains 8.10 acres of impervious area and 2.87 acres of pervious area (1.06 acres of which is the detention basin footprint).

Storm inlets and sewers throughout the site will convey runoff to an aboveground detention basin on the west side of the site. The proposed storm sewers will be sized to convey runoff flows for the 10-year event.

Due to shallow groundwater on site, retention-based practices will not be feasible. In lieu of retention-based practices, a flow-through BMP will be proposed directly upstream of the storm sewer outfall on the north, to meet the MWRD volume control requirements.

A stormwater model was created using HydroCAD 10.00 to determine the required detention. The aboveground detention basin is designed to store and release runoff from the 100-year event per MWRD requirements. The North Branch Chicago River has a 100-yr base flood elevation (BFE) of 618.00' approximately 1,250' west of the subject site. For the preliminary phase of this design, a tailwater elevation of 618.30' is assumed at the site and has been applied to the detention model. The gross allowable watershed release rate for the subject site is 3.29-cfs (0.3-cfs/ac). Since the unrestricted area of the subject site is less than 5% of the total site area, it is negligible; therefore, the net allowable release rate remains 3.29 cfs. A 7.3" orifice will be utilized to restrict flows to 3.28 cfs during the 100-year, 24-hour storm event. 3.0 ac-ft of detention is provided at a high-water level (HWL) of 623.63.

### *Attachments*

- Exhibit 1 - Site Location Map
- Exhibit 2 - USGS Topography Map
- Exhibit 3 - NRCS Soils Map
- Exhibit 4 - FEMA FIRMette Map
- Exhibit 5 - Existing Impervious Area Exhibit
- Exhibit 6 - Proposed Impervious Area Exhibit
- Exhibit 7 - Preliminary HydroCAD Model

# Exhibit 1 – Site Location Map

Plotted By:----- March 18, 2025 12:14:20 PM K:\CHS_LDEV\288815000_Bridge - Morton Grove\6 Permits & Apps\SHPO\SHPO LOCATION MAP.dwg
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NORTH

SHEET NUMBER
1 OF 1.

# LOCATION MAP (N.T.S)

8120 LEHIGH AVENUE
MORTON GROVE, IL 60053

Kimley»Horn

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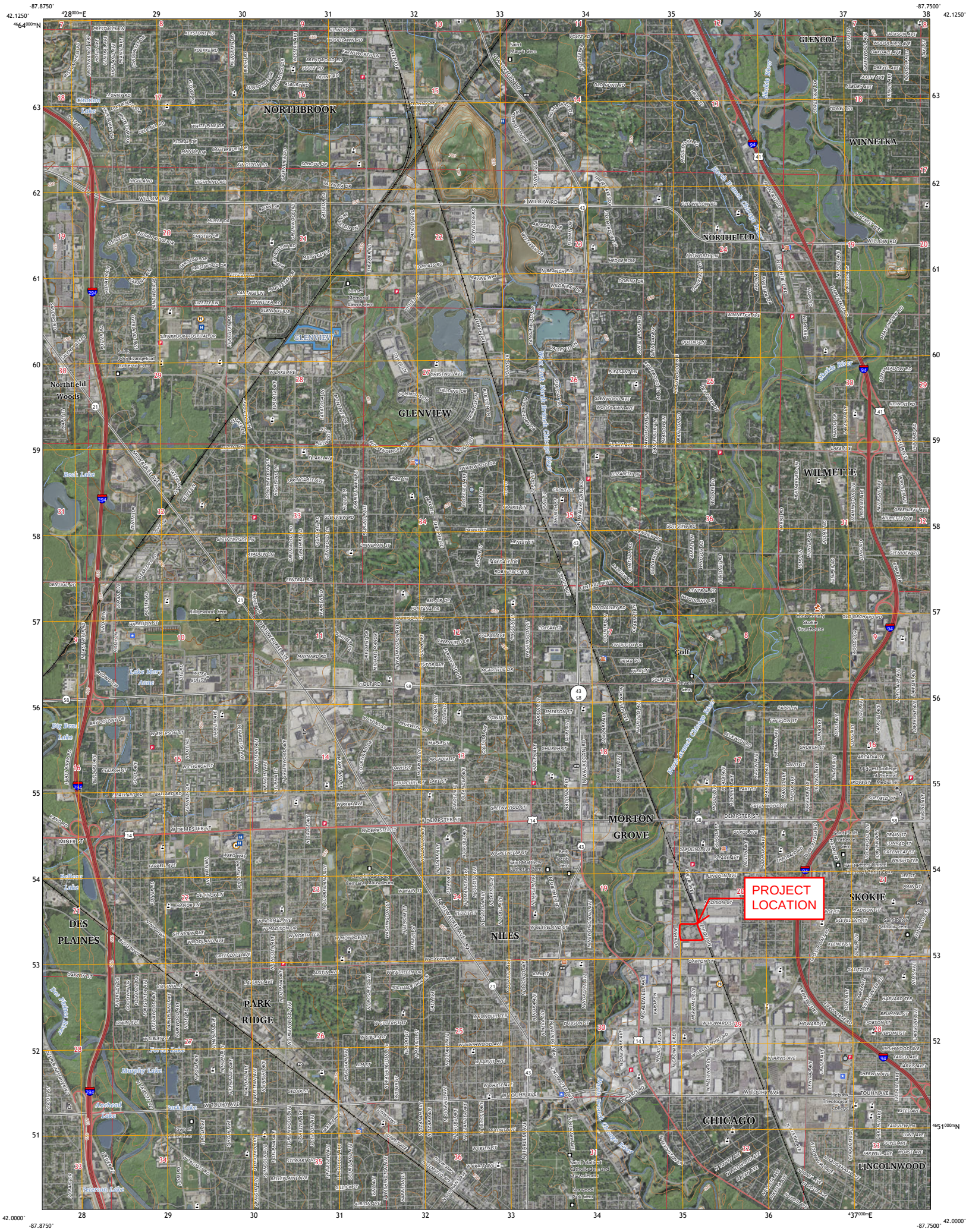
4201 WINFIELD ROAD, SUITE 600, WARRENVILLE, IL 60555
PHONE: 630-487-5550 WWW.KIMLEY-HORN.COM

# Exhibit 2 – USGS Topography Map

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

# PARK RIDGE QUADRANGLE
ILLINOIS - COOK COUNTY
7.5-MINUTE SERIES




**Produced by the United States Geological Survey**
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 16T
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, August 2019 - September 2019
Roads.....U.S. Census Bureau, 2017
Names.....GNIS, 1995 - 2023
Hydrography.....National Hydrography Dataset, 2002 - 2022
Contours.....National Elevation Dataset, 2003
Boundaries.....Multiple sources; see metadata file 2020 - 2022
Public Land Survey System.....BLM, 2020
Wetlands.....FWS National Wetlands Inventory Not Available

UTM GRID AND 2023 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
3°59' 71 MILS 0°33' 10 MILS

U.S. National Grid
100,000-m Square ID
DM
Grid Zone Designation 16T

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
MILES
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

ILLINOIS
QUADRANGLE LOCATION

| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | | 5 |
| 6 | 7 | 8 |

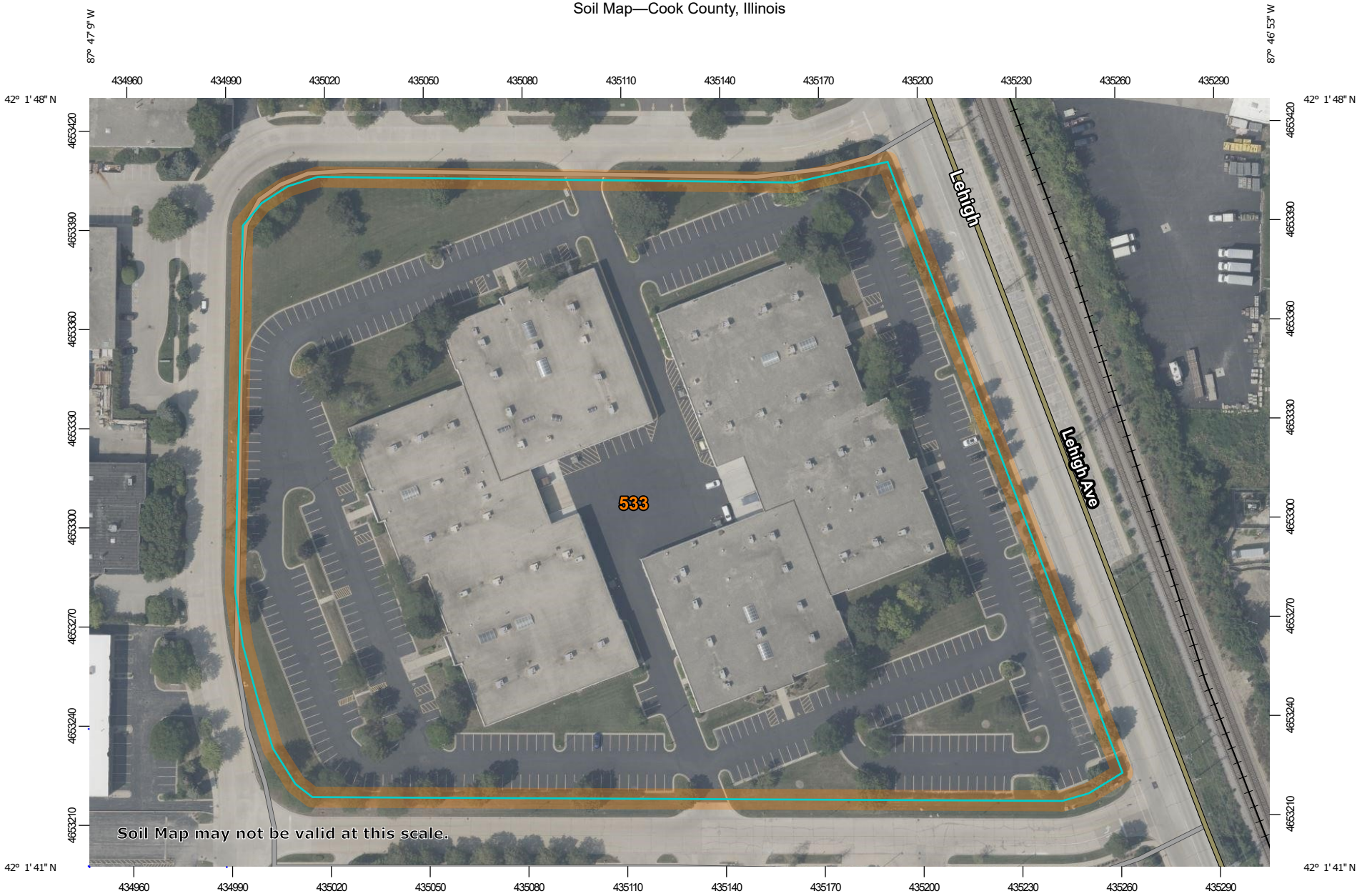
ADJOINING QUADRANGLES
1 Wheeling
2 Highland Park
3 Highland Park OE E
4 Arlington Heights
5 Evanston
6 Elmhurst
7 River Forest
8 Chicago Loop

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

**PARK RIDGE, IL**
**2024**

NSN. 7643016365641
NGA REF NO. USGSX24K34230

# Exhibit 3 – NRCS Soils Map




Map Scale: 1:1,640 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

## MAP LEGEND

**Area of Interest (AOI)**

- Area of Interest (AOI)

**Soils**

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**

- Streams and Canals

**Transportation**

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**

- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cook County, Illinois
Survey Area Data: Version 18, Aug 21, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend

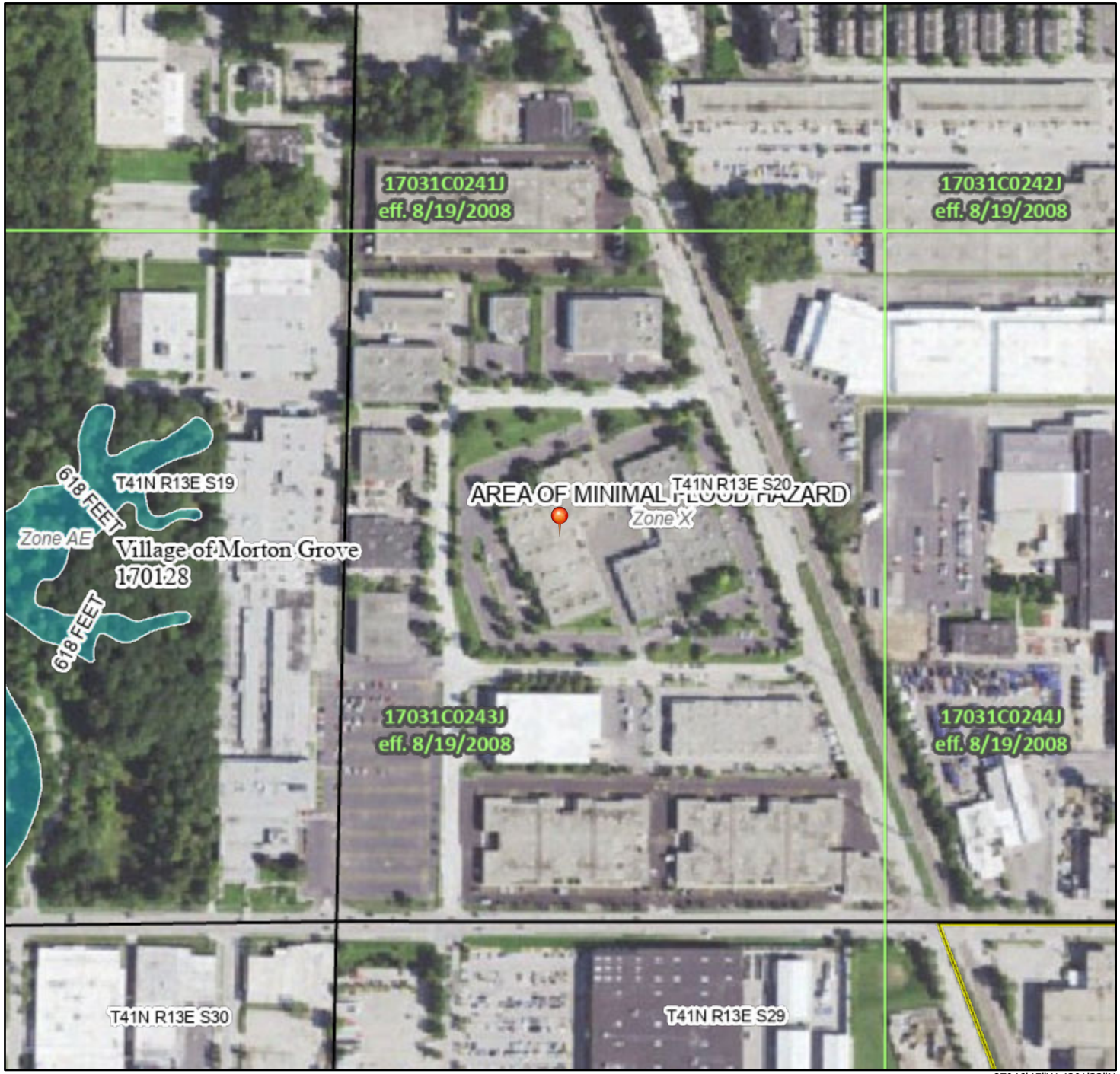
| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| 533 | Urban land | 10.8 | 100.0% |
| **Totals for Area of Interest** | | **10.8** | **100.0%** |

# Exhibit 4 – FEMA FIRMette Map

# National Flood Hazard Layer FIRMette

FEMA

87°47'22"W 42°1'58"N




87°46'45"W 42°1'32"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap Imagery Source: USGS National Map 2023*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/11/2025 at 7:14 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# Exhibit 5 – Existing Impervious Area Exhibit

Drawing name: K:\DHS_LDEV\268915000_Bridge – Morton Grove\2-Design\CAD\Exhibits\Ex-Impervious Area Exhibit.dwg EXH Apr 30, 2025, 3:12pm by richard.gonzal
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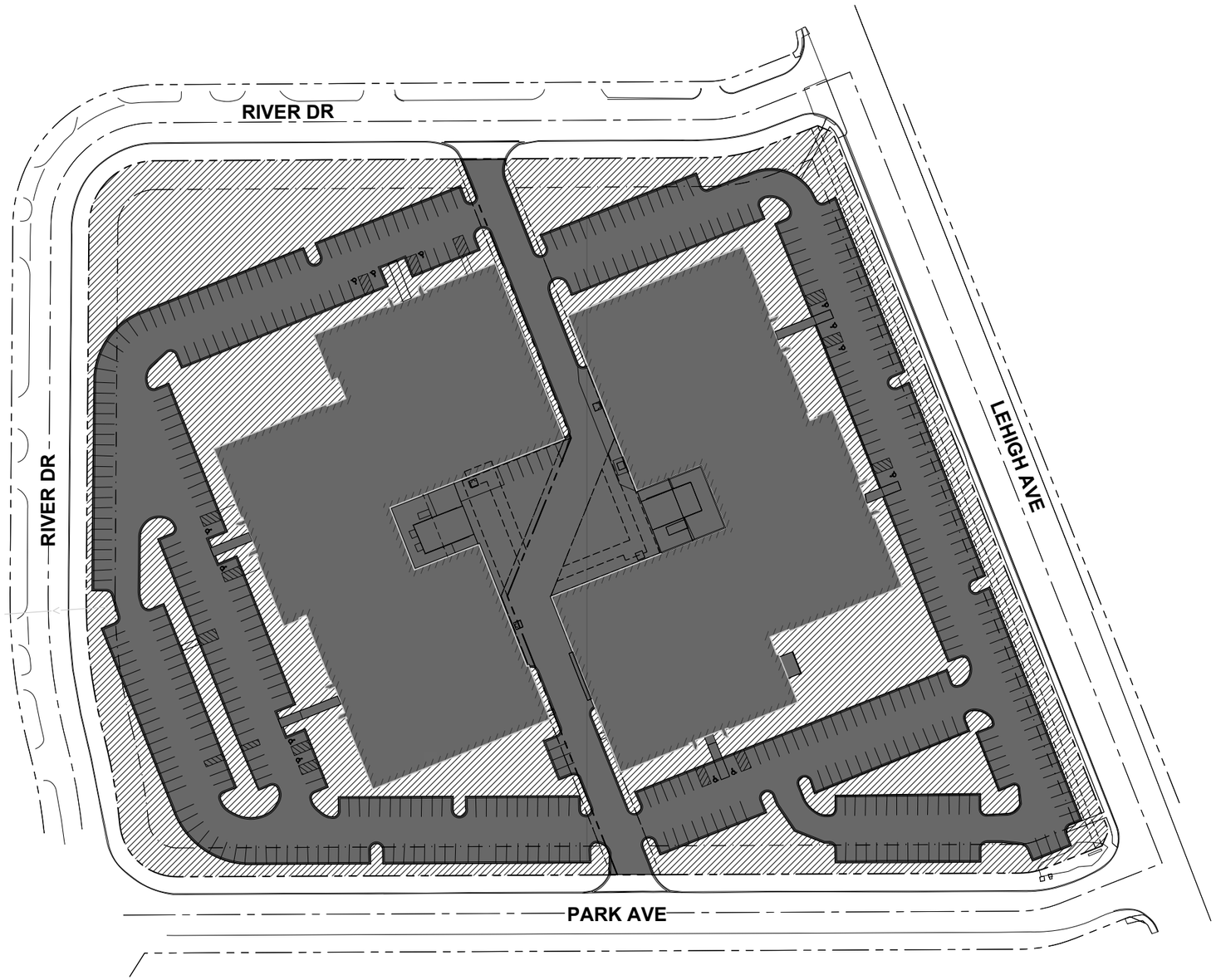


NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Call Before You Dig
JULIE
1-800-892-0123

## UTILITY NOTES

IMPERVIOUS AREA
337,498 SF (7.74 AC)

PERVIOUS AREA
140,462 SF (3.23 AC)

TOTAL AREA: 477,960 SF (10.97 AC)

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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PHONE: 630-487-5550
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SCALE: AS NOTED
DESIGNED BY: HLM
DRAWN BY: HLM
CHECKED BY: TJS

BRIDGE

# EXISTING IMPERVIOUS AREA EXIHBIT

## BRIDGE INDUSTRIAL MORTON GROVE

SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE:
05/05/2025

KHA PROJECT NO.
268915000

SHEET NUMBER
1 OF 1

# Exhibit 6 – Proposed Impervious Area Exhibit

Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\CAD\Exhibits\Pr-Impervious Area Exhibit.dwg EXH Feb 19, 2026 1:23pm by Juliette.Stroesser
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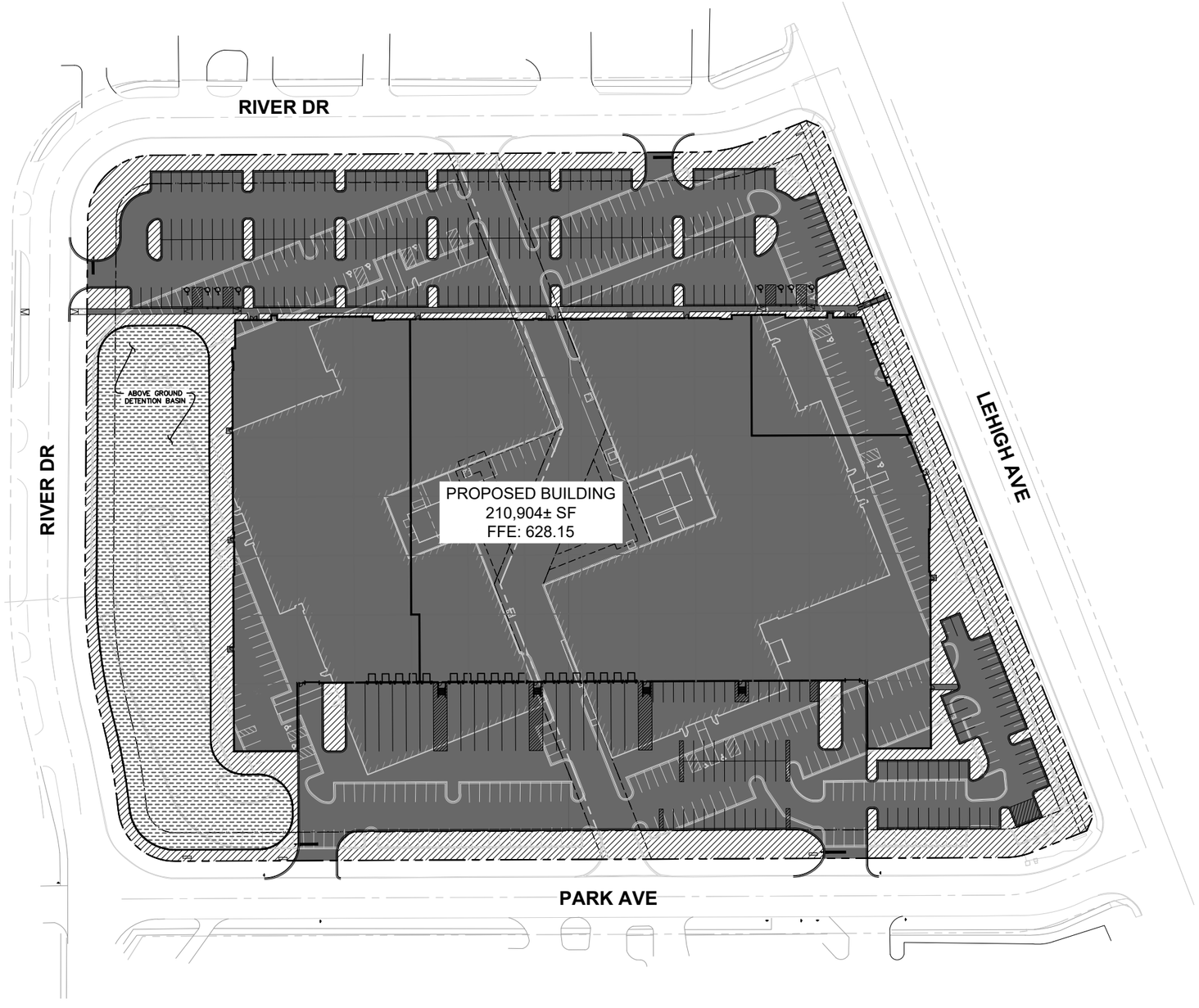


NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

Call Before You Dig
JULIE
1-800-892-0123

## UTILITY NOTES

IMPERVIOUS AREA
353,172 SF (8.10 AC)

PERVIOUS AREA
78,569 SF (1.81 AC)

POND AREA
46,219 SF (1.06 AC)

TOTAL AREA: 477,960 SF (10.97 AC)

| No. | REVISIONS | DATE | BY |
|---|---|---|---|
| 1 | SITE PLAN CHANGE | 02/20/26 | JRS |
| 2 | STORM WATER UPDATE | 06/28/25 | JRS |

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PHONE: 630-487-5550
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED
DESIGNED BY: JRS
DRAWN BY: CG
CHECKED BY: TJS

BRIDGE

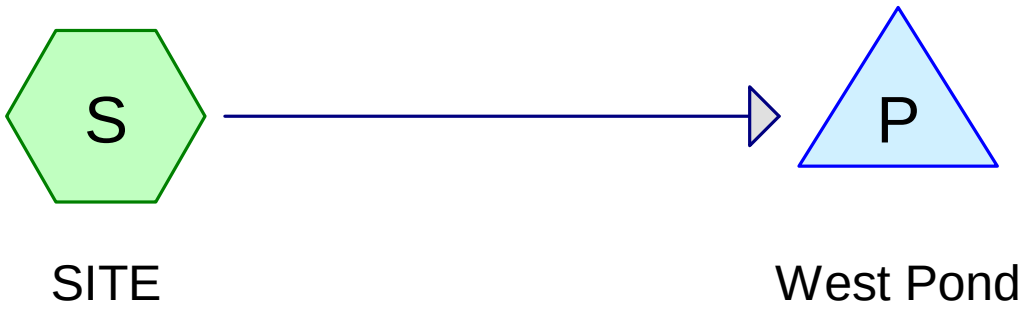
# PROPOSED IMPERVIOUS AREA EXHIBIT

## BRIDGE INDUSTRIAL MORTON GROVE

SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
1 OF 1

# Exhibit 7 – Preliminary HydroCAD Model




Subcat Reach Pond Link

**Routing Diagram for Above-ALT Ground Scheme 2-12-26**
Prepared by Kimley-Horn & Associates, Printed 2/18/2026
HydroCAD® 10.20-5c s/n 02344 © 2023 HydroCAD Software Solutions LLC

## Area Listing (selected nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|---|---|---|
| 1.810 | 80 | >75% Grass cover, Good, HSG D (S) |
| 8.100 | 98 | Paved parking, HSG D (S) |
| 1.060 | 100 | Pond (S) |
| **10.970** | **95** | **TOTAL AREA** |

Time span=0.00-80.00 hrs, dt=0.10 hrs, 801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment S: SITE** Runoff Area=10.970 ac 83.50% Impervious Runoff Depth=7.97"
Tc=10.0 min CN=95 Runoff=10.28 cfs 7.285 af

**Pond P: West Pond** Peak Elev=623.63' Storage=3.038 af Inflow=10.28 cfs 7.285 af
Outflow=3.28 cfs 7.285 af

**Total Runoff Area = 10.970 ac Runoff Volume = 7.285 af Average Runoff Depth = 7.97"**
**16.50% Pervious = 1.810 ac 83.50% Impervious = 9.160 ac**

## Summary for Subcatchment S: SITE

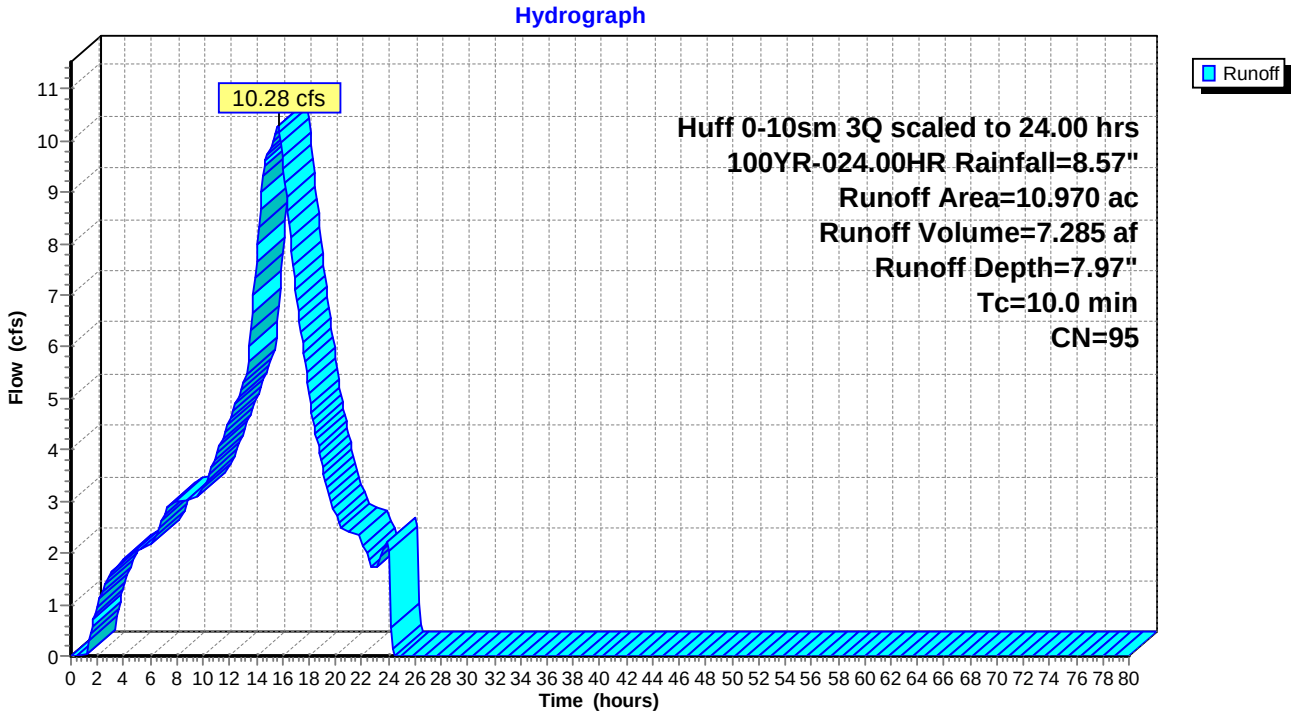
Runoff = 10.28 cfs @ 15.68 hrs, Volume= 7.285 af, Depth= 7.97"
Routed to Pond P : West Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-80.00 hrs, dt= 0.10 hrs
Huff 0-10sm 3Q scaled to 24.00 hrs 100YR-024.00HR Rainfall=8.57"

| | Area (ac) | CN | Description |
|---|---|---|---|
| | 8.100 | 98 | Paved parking, HSG D |
| | 1.810 | 80 | >75% Grass cover, Good, HSG D |
| * | 1.060 | 100 | Pond |
| | 10.970 | 95 | Weighted Average |
| | 1.810 | | 16.50% Pervious Area |
| | 9.160 | | 83.50% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 10.0 | | | | | **Direct Entry,** |

## Subcatchment S: SITE



## Summary for Pond P: West Pond

Inflow Area = 10.970 ac, 83.50% Impervious, Inflow Depth = 7.97" for 100YR-024.00HR event
Inflow = 10.28 cfs @ 15.68 hrs, Volume= 7.285 af
Outflow = 3.28 cfs @ 19.30 hrs, Volume= 7.285 af, Atten= 68%, Lag= 217.1 min
Primary = 3.28 cfs @ 19.30 hrs, Volume= 7.285 af

Routing by Stor-Ind method, Time Span= 0.00-80.00 hrs, dt= 0.10 hrs
Peak Elev= 623.63' @ 19.30 hrs Surf.Area= 0.976 ac Storage= 3.038 af

Plug-Flow detention time= 376.3 min calculated for 7.285 af (100% of inflow)
Center-of-Mass det. time= 376.2 min ( 1,212.4 - 836.2 )

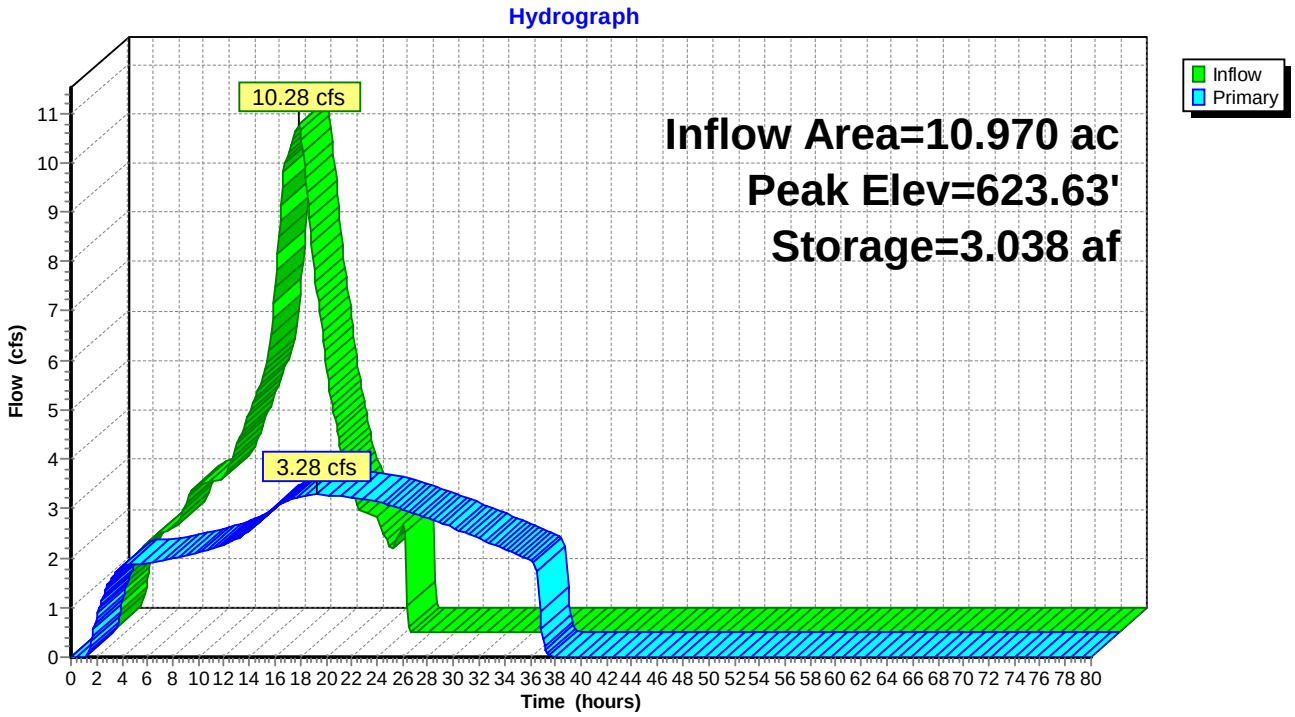
| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 620.00' | 4.129 af | **Custom Stage Data (Prismatic)** Listed below (Recalc) |

| Elevation (feet) | Surf.Area (acres) | Inc.Store (acre-feet) | Cum.Store (acre-feet) |
|---|---|---|---|
| 620.00 | 0.701 | 0.000 | 0.000 |
| 621.00 | 0.775 | 0.738 | 0.738 |
| 622.00 | 0.851 | 0.813 | 1.551 |
| 623.00 | 0.927 | 0.889 | 2.440 |
| 624.00 | 1.005 | 0.966 | 3.406 |
| 624.70 | 1.061 | 0.723 | 4.129 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 618.00' | **7.3" Vert. Orifice/Grate** C= 0.610 Limited to weir flow at low heads |

**Primary OutFlow** Max=3.28 cfs @ 19.30 hrs HW=623.63' TW=618.30' (Fixed TW Elev= 618.30')
↑—**1=Orifice/Grate** (Orifice Controls 3.28 cfs @ 11.30 fps)

## Pond P: West Pond



## Events for Subcatchment S: SITE

| Event | Rainfall (inches) | Runoff (cfs) | Volume (acre-feet) | Depth (inches) |
|---|---|---|---|---|
| 100YR-024.00HR | **8.57** | **10.28** | **7.285** | **7.97** |

## Events for Pond P: West Pond

| Event | Inflow (cfs) | Primary (cfs) | Elevation (feet) | Storage (acre-feet) |
|---|---|---|---|---|
| 100YR-024.00HR | **10.28** | **3.28** | **623.63** | **3.038** |

# Traffic Impact Study
## Proposed Industrial Building
Morton Grove, Illinois




Prepared For:

## Midwest RE Acquisitions, LLC.

KLOA
Kenig, Lindgren, O'Hara, Aboona, Inc.

February 20, 2026

# 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 industrial building to be located in Morton Grove, Illinois. The site, which currently contains two office buildings, is located within the North Grove Corporate Center in the northwest corner of the intersection of Oakton Street with Lehigh Avenue. As proposed, the site will be redeveloped with an approximately 210,904 square-foot industrial building that will be partially occupied by BBJ. Access to the development will be provided via four full-movement access drives on River Drive and Park Avenue. These roadways operate as the access system for the North Grove Corporate Center and provide connection to Oakton Street and Lehigh Avenue.

The purpose of this study was to examine background traffic conditions, assess the impact that the proposed development will have on traffic conditions in the area, and determine if any roadway or access improvements are necessary to accommodate traffic generated by the proposed development.

**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:

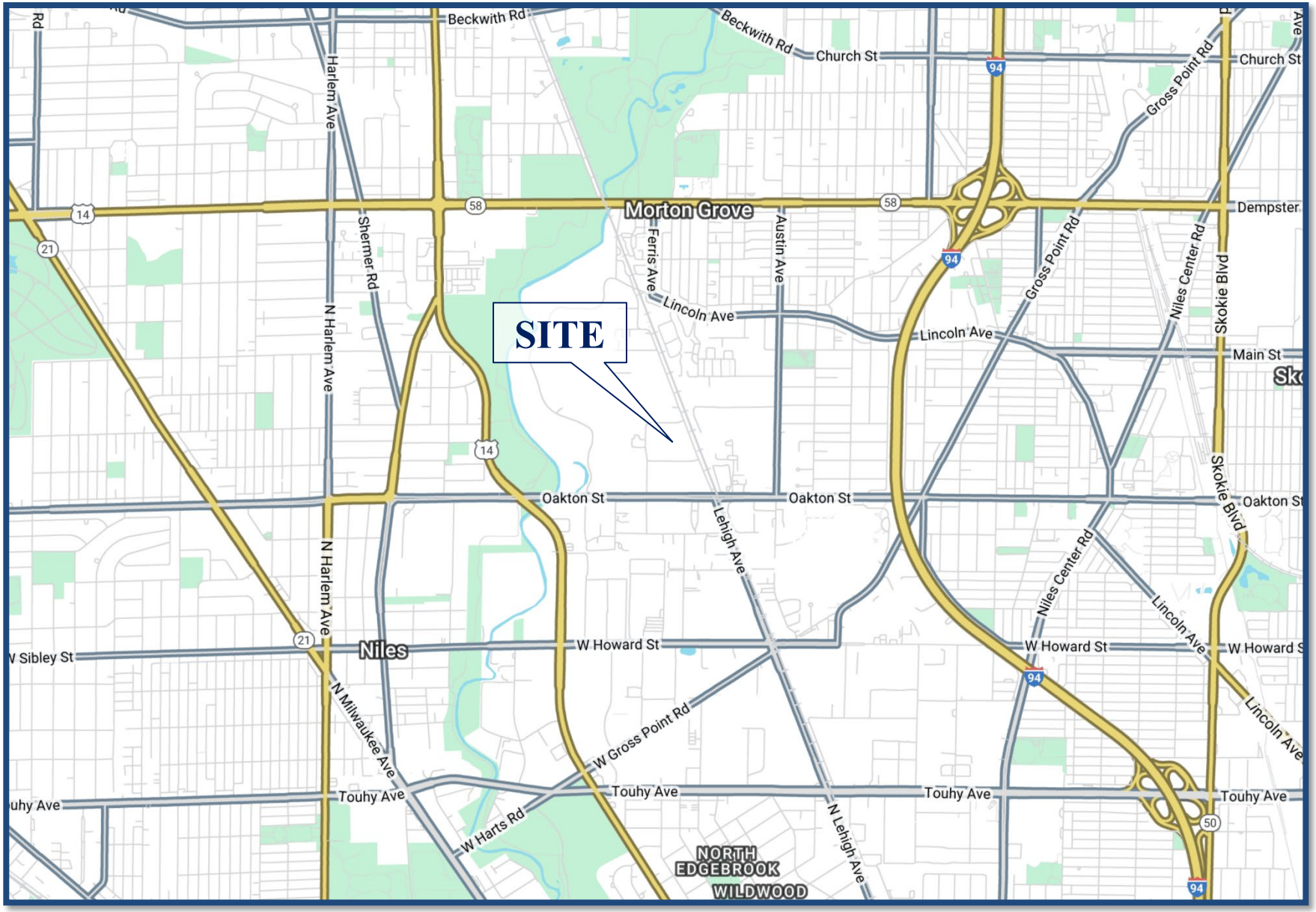
- Existing roadway conditions
- A description of the proposed development
- Directional distribution of the development traffic
- Vehicle trip generation for the development
- Future traffic conditions including access to the development
- Traffic analyses for the weekday morning and evening peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system
- Evaluation of the proposed parking supply

Traffic capacity analyses were conducted for the weekday morning and weekday evening peak hours for the following conditions:

1. Existing Conditions – Analyzes the capacity of the existing roadway system using peak hour traffic volumes from traffic counts conducted in 2025.

2. Year 2031 No-Build Conditions – Analyzes the capacity of the future roadway system using existing traffic volumes increased by an ambient area growth factor as well as the traffic expected to be generated by multiple area developments.

3. Year 2031 Total Projected Conditions – Analyzes the capacity of the future roadway system using Year 2031 no-build traffic volumes increased by the traffic estimated to be generated by the proposed development.




**Site Location**
*Industrial Building*
*Morton Grove, Illinois*

**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

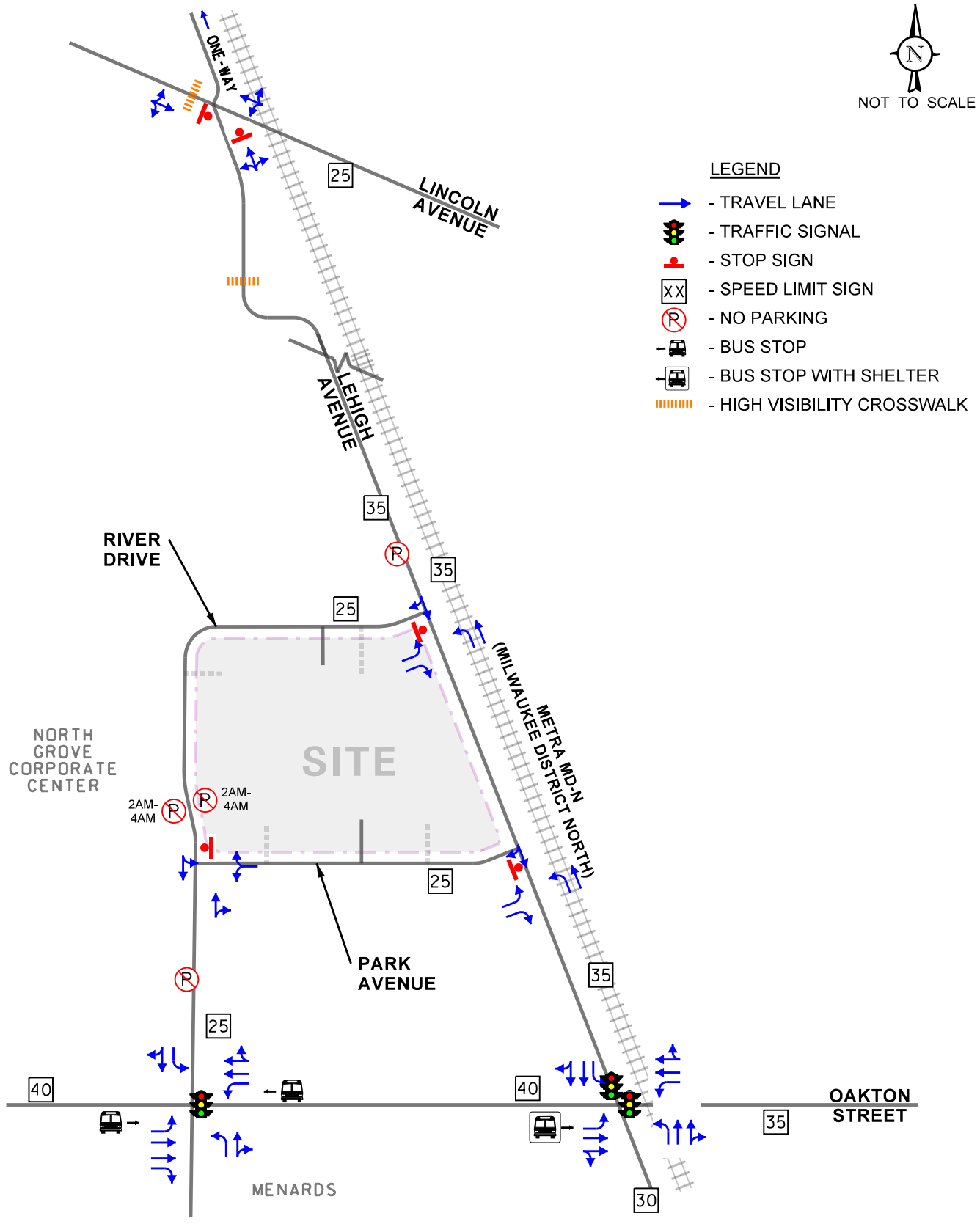
The development site, which currently contains two office buildings, is located within the North Grove Corporate Center. The site is bounded by River Drive to the north and west, Lehigh Avenue to the east, and Park Avenue to the south. Land uses in the vicinity of the site are primarily industrial, warehouse, and distribution with some commercial uses along Oakton Street.

## Existing Roadway System Characteristics

The characteristics of the existing roadways near the development are described below and illustrated in **Figure 3**.

*Oakton Street* is an east-west, minor arterial roadway that provides two lanes in each direction. At its signalized intersection with Lehigh Avenue, Oakton Street provides an exclusive left-turn lane, a through lane and a shared through/right-turn lane on both approaches. Immediately east of this intersection, Oakton Street has an at-grade crossing with the Milwaukee District North (MD-N) Metra railroad. At its signalized intersection with River Drive, Oakton Street provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on the eastbound approach and an exclusive left turn lane, a through lane, and a shared through/right-turn lane on the westbound approach. Oakton Street is under the jurisdiction of Illinois Department of Transportation (IDOT), is not designated as a Strategic Regional Arterial (SRA), and carries an Annual Average Daily Traffic (AADT) volume of 20,000 vehicles (IDOT 2025) east of Lehigh Avenue and 20,800 vehicles (IDOT 2025) west of Lehigh Avenue. Oakton Street has a posted speed limit of 35 miles per hour east of Lehigh Avenue and 40 miles per hour west of Lehigh Avenue.

*Lehigh Avenue* is a north-south, major collector roadway that extends south from Lincoln Avenue and provides one lane in each direction widening to two lanes in each direction through its intersection with Oakton Street. At its signalized intersection with Oakton Street, Lehigh Avenue provides an exclusive left-turn lane, a through lane and a shared through/right-turn lane on both approaches. At its unsignalized intersections with Park Avenue and River Drive, Lehigh Avenue provides one lane in each direction and northbound left-turn lanes. At its unsignalized intersection with Lincoln Avenue, Lehigh Avenue is aligned opposite an inbound only access drive, provides a shared left-turn/through/right-turn lane on the northbound approach, and is under stop sign control. North of Oakton Street, Lehigh Avenue is under the jurisdiction of the Village of Morton Grove, carries an AADT of 3,400 vehicles (IDOT 2025), and has a posted speed limit of 35 miles per hour. South of Oakton Street, Lehigh Avenue is under the jurisdiction of IDOT, carries an AADT of 6,450 vehicles (IDOT 2025), and has a posted speed limit of 30 miles per hour.




Industrial Building
Morton Grove, Illinois

Existing Roadway Characteristics

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Job No: 25-073 Figure: 3

*River Drive* is a local roadway that extends north from Oakton Street before turning east and terminating at Lehigh Avenue. River Drive provides one lane in each direction and serves the North Grove Corporate Center. At its signalized intersection with Oakton Street, Lehigh Avenue is aligned opposite an access drive and both approaches provide an exclusive left-turn lane and shared through/right-turn lane. At its unsignalized intersection with Lehigh Avenue, River Drive provides an exclusive left-turn lane and an exclusive right-turn lane on the eastbound approach and is under stop sign control. River Drive is under the jurisdiction of the Village of Morton Grove and has a posted speed limit of 25 miles per hour.

*Park Avenue* is a local roadway that extends between River Drive and Lehigh Avenue. Park Avenue provides one lane in each direction and serves the North Grove Corporate Center. At its unsignalized intersection with Lehigh Avenue, Park Avenue provides an exclusive left-turn lane and an exclusive right-turn lane on the eastbound approach and is under stop sign control. Park Avenue is under the jurisdiction of the Village of Morton Grove and has a posted speed limit of 25 miles per hour.

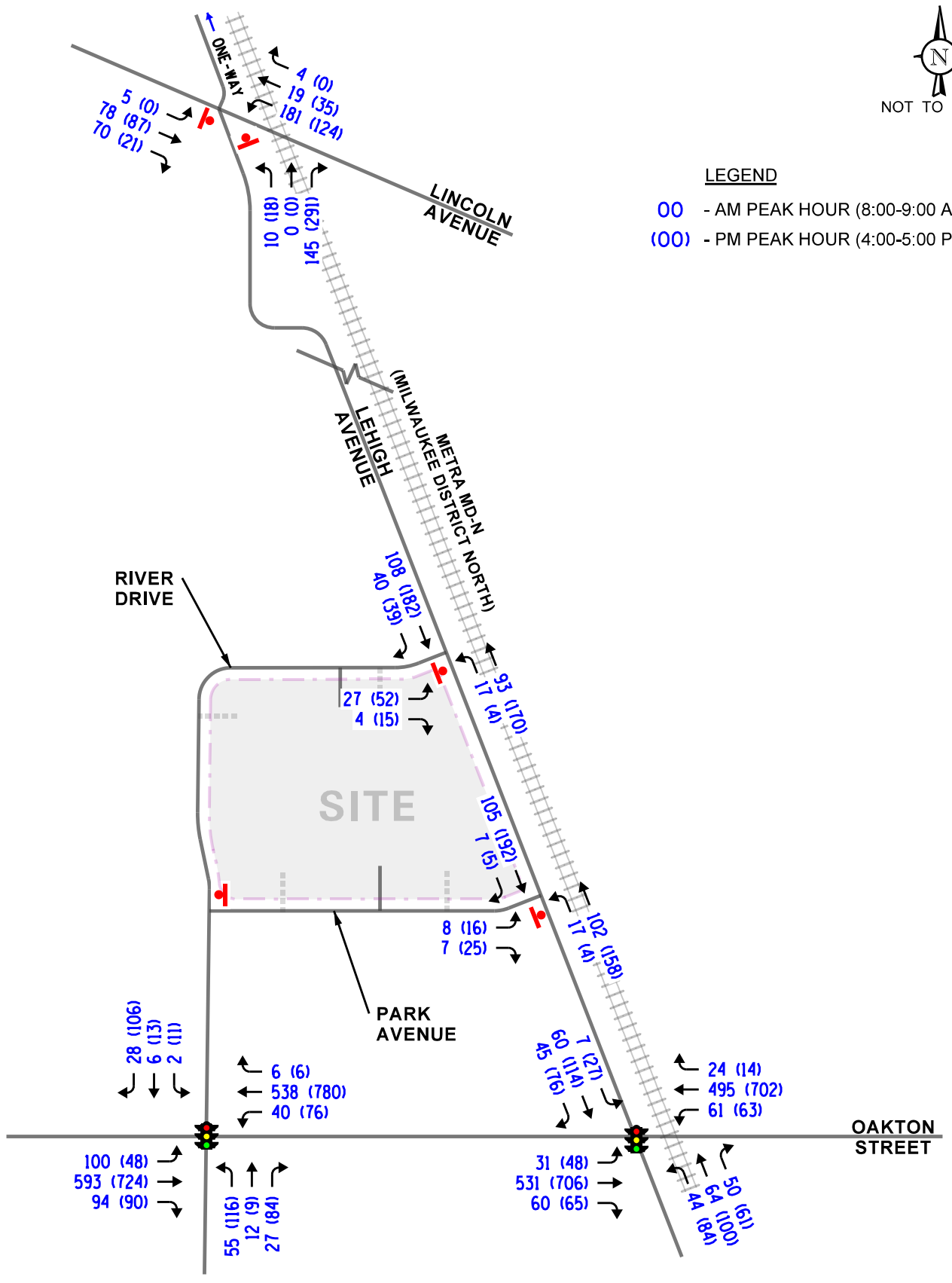
*Lincoln Avenue* is an east-west, major collector roadway that extends that provides one lane in each direction. At its unsignalized intersection with Lehigh Avenue, Lincoln Avenue provides a shared left-turn/through/right-turn lane on both approaches and the west leg is under stop sign control. This traffic configuration is due to the at-grade crossing with the MD-N railroad on Lincoln Avenue immediately east of this intersection. Lincoln Avenue is under the jurisdiction of the Village of Morton Grove and has posted speed limit of 25 miles per hour. Lincoln Avenue carries an AADT of 1,325 vehicles west of Lehigh Avenue and 3,500 vehicles east of Lehigh Avenue (IDOT 2022).

## Existing Traffic Volumes

In order to determine current traffic conditions within the study area, peak period traffic classification counts were conducted at the following intersections:

- Oakton Street with Lehigh Avenue
- Oakton Street with River Drive
- Lehigh Avenue with River Drive
- Lehigh Avenue with Park Avenue
- Lehigh Avenue with Lincoln Avenue

The traffic counts were conducted on Tuesday March 25, 2025 during the weekday morning (6:00 A.M. to 9:00 A.M.) and weekday evening (4:00 P.M. to 7:00 P.M.) peak periods. The results of the traffic counts show that the peak hours of traffic generally occur from 8:00 to 9:00 A.M. during the weekday morning peak period and from 4:00 to 5:00 P.M. during the weekday evening peak period. The existing traffic volumes, inclusive of heavy vehicles, are illustrated in **Figure 4.** The existing heavy vehicle traffic volumes are illustrated in **Figure 5**.




Industrial Building
Morton Grove, Illinois

Existing Traffic Volumes

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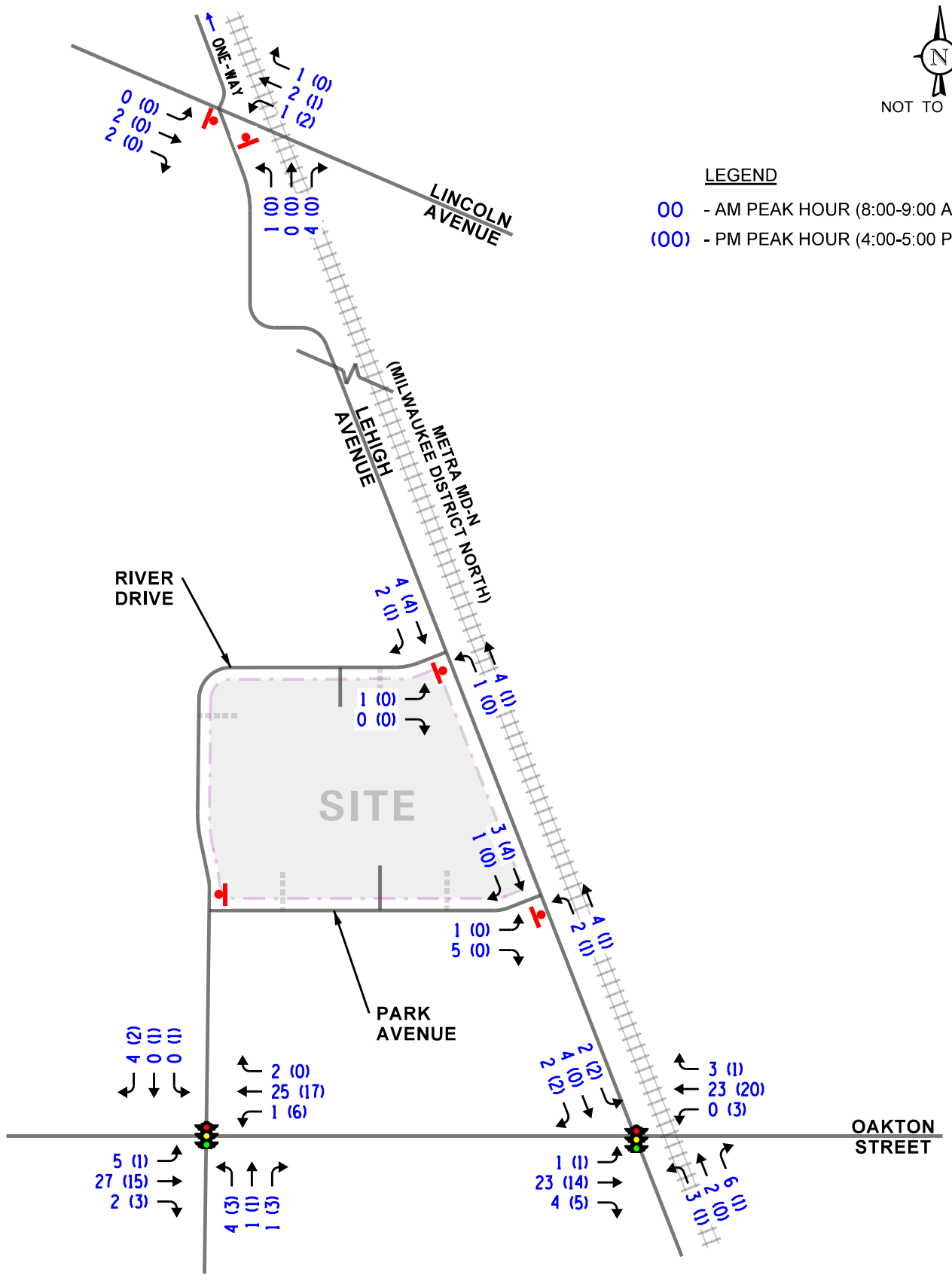
Job No: 25-073 Figure: 4




Industrial Building
Morton Grove, Illinois

Existing Traffic Volumes
Trucks

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Job No: 25-073 Figure: 5

## Crash Data Summary

KLOA, Inc. obtained crash data[1] from IDOT for the most recent available five years for the study area signalized intersections. A review of the crash data indicated that only one crash was reported at the intersection of Lehigh Avenue with River Drive, one crash were reported at the intersection of Lehigh Avenue with Park Avenue, and only four crashes were reported at the intersection of Lehigh Avenue with Lincoln Avenue. Further, no fatalities were reported at any intersection during the review period. **Tables 1** and **2** summarize the crash data for the remaining intersections.

Table 1
OAKTON STREET WITH LEHIGH AVENUE– CRASH SUMMARY

| Year | Type of Crash Frequency | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Angle | Head On | Object | Rear End | Sideswipe | Turning | Other | Total |
| 2020 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 3 |
| 2021 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 3 |
| 2022 | 1 | 0 | 0 | 0 | 0 | 6 | 0 | 7 |
| 2023 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 5 |
| 2024 | 2 | 0 | 1 | 7 | 0 | 3 | 0 | 13 |
| **Total** | **4** | **0** | **1** | **10** | **0** | **15** | **1** | **31** |
| **Average** | **<1.0** | **--** | **--** | **2** | **--** | **3.0** | **<1.0** | **6.6** |

Table 2
OAKTON STREET WITH RIVER DRIVE – CRASH SUMMARY

| Year | Type of Crash Frequency | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Angle | Head On | Object | Rear End | Sideswipe | Turning | Other | Total |
| 2019 | 1 | 0 | 0 | 4 | 0 | 1 | 0 | 6 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 |
| 2023 | 0 | 0 | 0 | 2 | 0 | 5 | 0 | 7 |
| **Total** | **1** | **0** | **0** | **6** | **1** | **9** | **0** | **17** |
| **Average** | **<1.0** | **--** | **--** | **1.2** | **<1.0** | **1.8** | **--** | **3.4** |

[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).

# 3. Traffic Characteristics of the Proposed Development

In order to properly evaluate future traffic conditions in the surrounding area, it was necessary to determine the traffic characteristics of the proposed development, including the directional distribution and volumes of traffic that it will generate.

## Proposed Site and Development Plan

As proposed, the site will be redeveloped with an approximately 210,904 square foot industrial building with 18 truck docks. 156,886 square feet of the building will be occupied by BBJ, a wedding linens provider currently located in Niles, Illinois. The remaining 54,018 square feet of the building will be occupied by a separate tenant. The site will provide 317 employee parking spaces. A copy of the preliminary site plan is included in the Appendix.

Access to the development will be provided via the following four access drives:

- A full-movement access drive on River Drive located approximately 145 feet west of Lehigh Avenue that will serve passenger vehicles only. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

- A full-movement access drive along the curved segment of River Drive approximately 650 feet west of Lehigh Avenue that will serve passenger vehicles only. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

- A full-movement access drive on Park Avenue located approximately 265 feet west of Lehigh Avenue that will serve primarily trucks and some passenger vehicles. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

- A full-movement access drive on Park Avenue located approximately 730 feet west of Lehigh Avenue that will serve primarily trucks and some passenger vehicles. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

The proposed access system will replace the existing full-movement access drives serving the site on Park Avenue and Lehigh Avenue. It should be noted that truck traffic and passenger vehicle traffic will generally be separated on site with separate access points. This separation will help improve access efficiency, on-site circulation, and safety.

## Truck Routes

Truck approaching and departing the development will be able to utilize the following routes:

- ***Via Lehigh Avenue and Touhy Avenue:*** Approximately one mile south of the site, Lehigh Avenue has a signalized intersection with Touhy Avenue. East of Lehigh Avenue, Touhy Avenue has a free-flow interchange with Interstate 94. West of Lehigh Avenue, Touhy Avenue has a signalized intersection with U.S Route 14 (Caldwell Avenue)

- ***Via Oakton Street to the West:*** West of the site, Oakton Street has signalized intersections with U.S. Route 14, Illinois Route 43 (Harlem Avenue), and Illinois Route 21 (Milwaukee Avenue). U.S. Route 14 can be utilized to travel north to Illinois Route 58 (Dempster Street) which has a free-flow interchange with I-94.

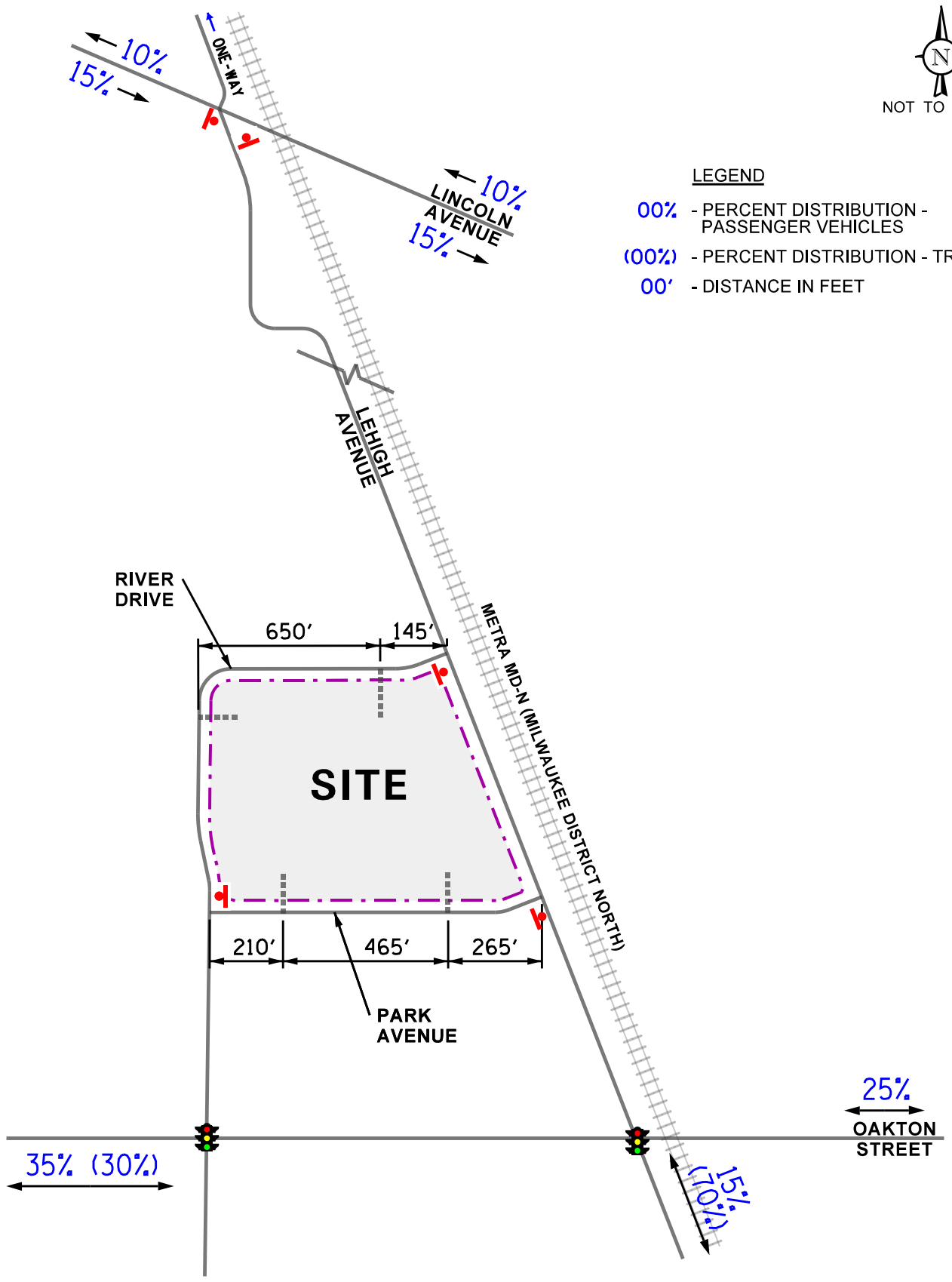
- Truck traffic will be prohibited from entering or exiting the business park from Lehigh Avenue. All trucks will enter and exit via the signalized intersection of River Drive and Oakton Street.

- Truck traffic will be prohibited from travelling Lehigh Avenue as truck traffic is restricted on Lincoln Avenue.

- Truck traffic destined to and from the expressway system should be prohibited from approaching from/departing to the east on Oakton Street with the exception of those that have local and/or nearby destinations.

## Directional Distribution

The directions from which employees and trucks will approach and depart the development were estimated based on existing travel patterns, as determined from the traffic counts. **Figure 6** illustrates the directional distribution of the development-generated traffic. Figure 6 also shows the distance, in feet, between the existing and proposed access drives.




Industrial Building
Morton Grove, Illinois

Directional Distribution

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Job No: 25-073 Figure: 6

## Peak Hour Traffic Volumes

The volume of traffic estimated to be generated by the development was determined as follows:

- The trip generation for the BBJ facility was based on information provided by the operator from their existing facility in Niles.
    - The volumes are based on BBJ's projected operations for 2032 at the new facility.
    - The volume of employee traffic was based on BBJ's planned shifts and number of employees.
    - The volume of peak hour truck traffic was based on BBJ's projected daily truck volumes and estimated based on daily truck trips and ITE's Truck Time of Day Distribution Tables for LUC 150 (Warehouse).
- The trip generation for the additional tenant was estimated proportionally based on the trip generation for the BBJ facility.

The projected peak hour and daily trips estimated to be generated by the development are shown in **Table 3.**

Table 3
ESTIMATED PEAK HOUR AND DAILY TRIP GENERATION

| Type/Size | Weekday Morning Peak Hour | | | Weekday Evening Peak Hour | | | Daily Trips | | |
|---|---|---|---|---|---|---|---|---|---|
| | In | Out | Total | In | Out | Total | In | Out | Total |
| **BBJ Facility (156,886 s.f.)[1]** | **61** | **2** | **63** | **1** | **61** | **62** | **269** | **269** | **538** |
| *Employees[2]* | *60* | *0* | *60* | *0* | *60* | *60* | *243* | *243* | *486* |
| *Trucks[3]* | *1* | *2* | *3* | *1* | *1* | *2* | *26* | *26* | *52* |
| **Additional Tenant (54,018 s.f.)[4]** | **21** | **1** | **23** | **0** | **21** | **21** | **93** | **93** | **186** |
| *Employees* | *21* | *0* | *21* | *0* | *21* | *21* | *84* | *84* | *168* |
| *Trucks[3]* | *1* | *1* | *2* | *0* | *0* | *0* | *9* | *9* | *18* |
| **Total Development** | **82** | **3** | **86** | **1** | **82** | **83** | **362** | **362** | **724** |
| *Total Employee Trips* | *81* | *0* | *81* | *0* | *81* | *81* | *327* | *327* | *654* |
| *Total Truck Trips* | *2* | *3* | *5* | *1* | *1* | *2* | *35* | *35* | *70* |

1 – Volume of traffic generated by BBJ facility based on information provided by operator.
2 – Peak hour employee trips for BBJ facility estimated based on planned employee shifts.
3 – Peak hour truck trips estimated based on daily truck trips and ITE's Truck Time of Day Distribution Tables for LUC 150 (Warehouse)
4 – Additional Tenant traffic volumes estimated proportionally based on BBJ projected volumes.

## Trip Generation Comparison

The site currently contains two office buildings totaling approximately 144,116 square feet. The volume of traffic that could have been generated by these buildings when they were fully occupied was estimated based on ITE trip generation rates for Land Use Code 710 (General Office Building). **Table 4** provides a comparison of the traffic estimated to be generated by the proposed development to the traffic that would be generated by the office buildings. As can be seen, the proposed development is projected to generate fewer total trips than office buildings and as such will have lower impact on area roadways.

Table 4
TRIP GENERATION COMPARISON

| Traffic Type | Weekday Morning Peak Hour | | | Weekday Evening Peak Hour | | | Daily Trips | | |
|---|---|---|---|---|---|---|---|---|---|
| | In | Out | Total | In | Out | Total | In | Out | Total |
| **Proposed Development** | | | | | | | | | |
| **Total Trips** | **82** | **3** | **86** | **1** | **82** | **83** | **362** | **362** | **724** |
| *Truck Trips* | *2* | *3* | *5* | *1* | *1* | *2* | *35* | *35* | *70* |
| *Passenger Vehicle Trips* | *81* | *0* | *81* | *0* | *81* | *81* | *327* | *327* | *654* |
| **Existing Office Buildings - 144,116 s.f. of Office Space (ITE Land Use Code 710)** | | | | | | | | | |
| **Total Trips** | **202** | **27** | **229** | **38** | **187** | **225** | **798** | **798** | **1,596** |
| *Truck Trips* | *1* | *0* | *1* | *0* | *1* | *1* | *7* | *7* | *14* |
| *Passenger Vehicle Trips* | *201* | *27* | *228* | *38* | *186* | *224* | *792* | *792* | *1,582* |
| **Difference** | | | | | | | | | |
| **Total Trips** | **-120** | **-24** | **-143** | **-37** | **-105** | **-142** | **-436** | **-436** | **-872** |
| Truck Trips | +1 | +3 | +4 | +1 | +0 | +1 | +28 | +28 | +56 |
| Passenger Vehicle Trips | -120 | -27 | -147 | -38 | -105 | -143 | -465 | -465 | -928 |

# 4. Projected Traffic Conditions

The total projected traffic volumes take into consideration the existing traffic volumes, increase in background traffic due to growth, and the traffic estimated to be generated by the proposed subject development.

## Development Traffic Assignment

The estimated weekday morning and weekday evening traffic volumes that will be generated by the proposed development were assigned to the roadway system in accordance with the previously described directional distribution (Figure 6). **Figure 7** illustrates the traffic assignment of the new passenger vehicle trips and **Figure 8** illustrates the traffic assignment of the new truck traffic.

## Background (No-Build) 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 planned development). Based on AADT projections provided by the Chicago Metropolitan Agency for Planning (CMAP), the base traffic volumes were increased by an annually compounded growth rate of 0.6 percent per year for six years (buildout year plus five years) for a total of 3.7 percent. A copy of the CMAP letter is included in the Appendix.

In addition, the following proposed or planned developments were included in the no-build traffic volumes:

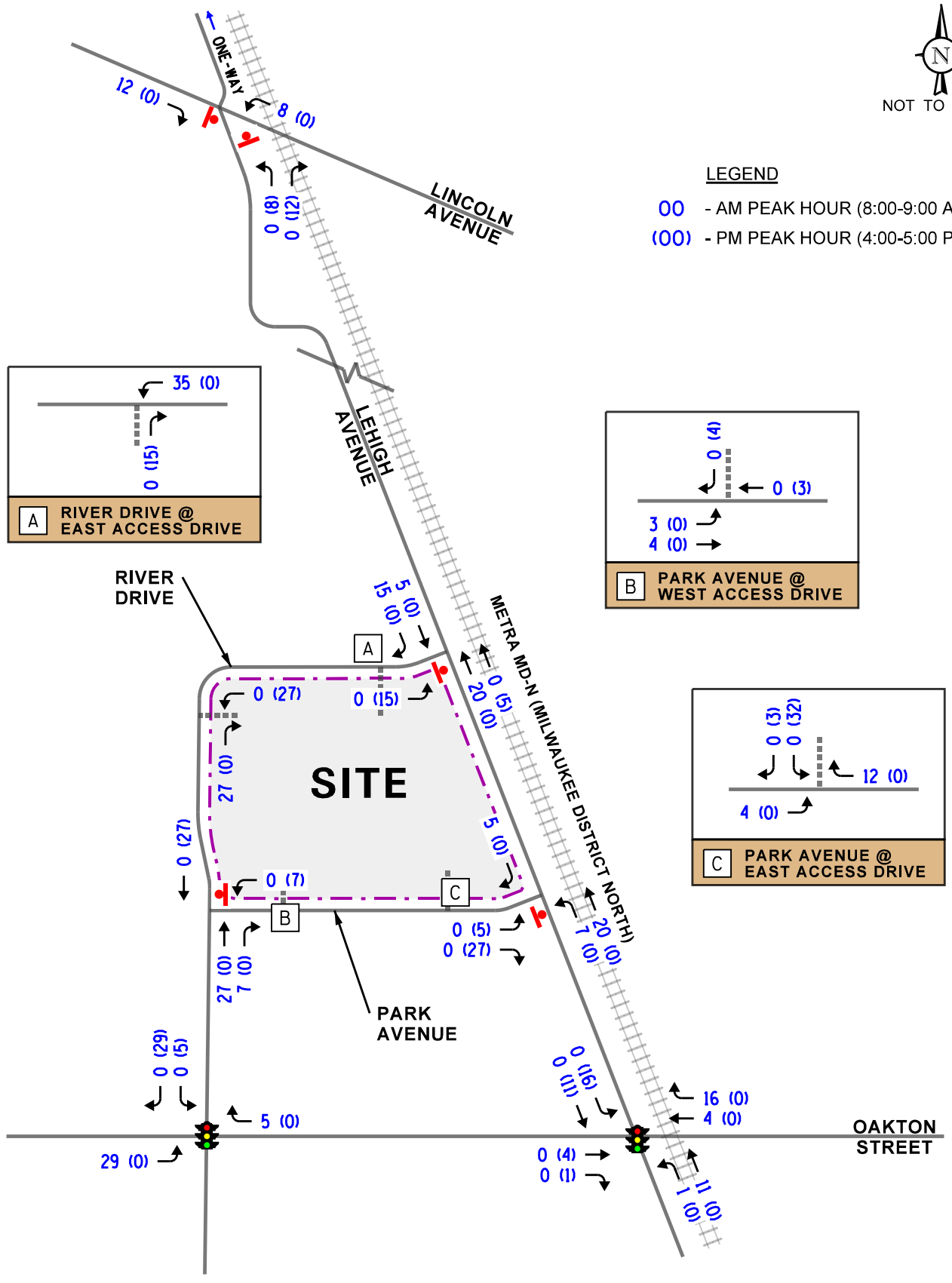
- The Metro at Main townhome development to be located in the southwest corner of the intersection of Lehigh Avenue and Main Street intersection. As proposed the development will contain 89 townhome units. The volume of traffic to be generated by this development was based on the Traffic Planning Study prepared by Kimley-Horn and Associates, Inc. dated October 2022.

- A mixed-use transit-oriented development to be located at 8500-8550 Lehigh Avenue. The building will contain a mixture of residential, retail, and restaurant uses. The volume of traffic to be generated by this development was based on the Traffic Planning Study prepared by Kimley-Horn and Associates, Inc. dated January 2022.

The Year 2031 no-build traffic volumes, which include the existing traffic volume increased by the ambient growth factor are illustrated in **Figure 9**.

## Total Projected Traffic Volumes

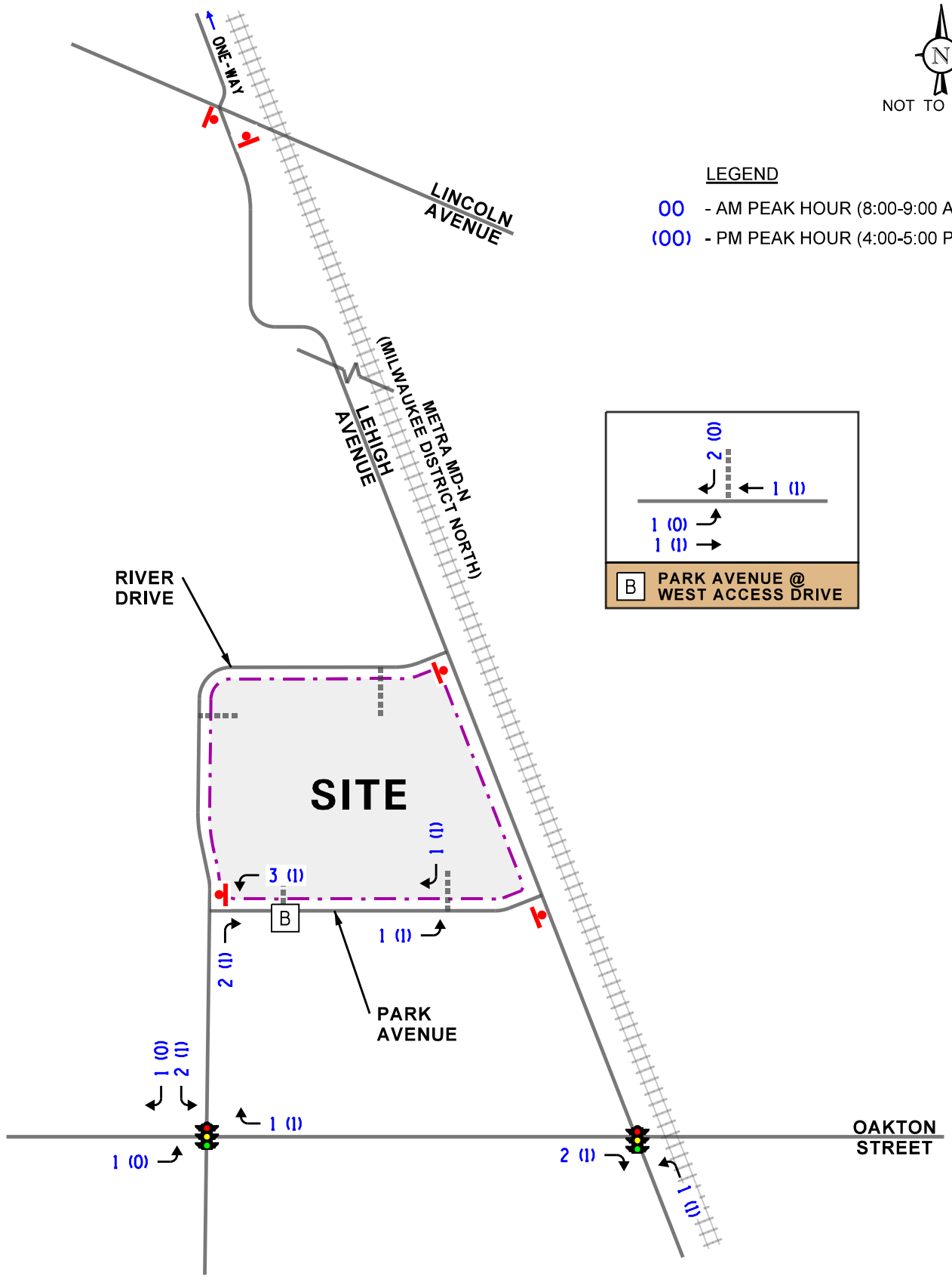
The development-generated traffic (Figures 7 and 8) was added to the Year 2031 no-build traffic volumes (Figure 9) to determine the Year 2031 total projected traffic volumes, as shown in **Figure 10.** It should be noted that the total projected volumes do not include the removal of any traffic currently generated by the office buildings that occupy the site despite the buildings being partially occupied.




Industrial Building
Morton Grove, Illinois

Site-Generated Traffic Volumes
Passenger Vehicles

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.
Job No: 25-073 Figure: 7




Industrial Building
Morton Grove, Illinois

Site-Generated Traffic Volumes
Trucks

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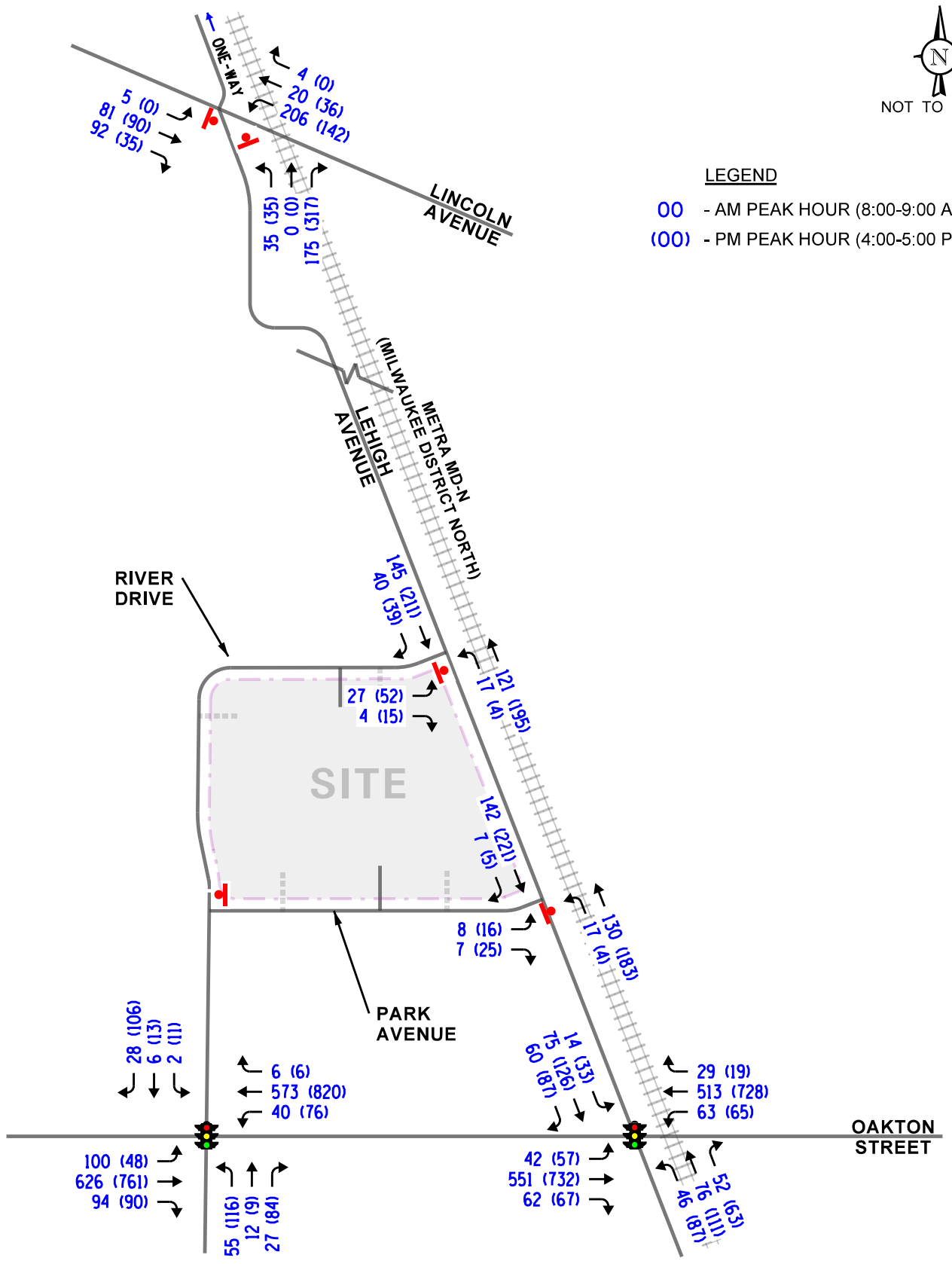
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-073 Figure: 8

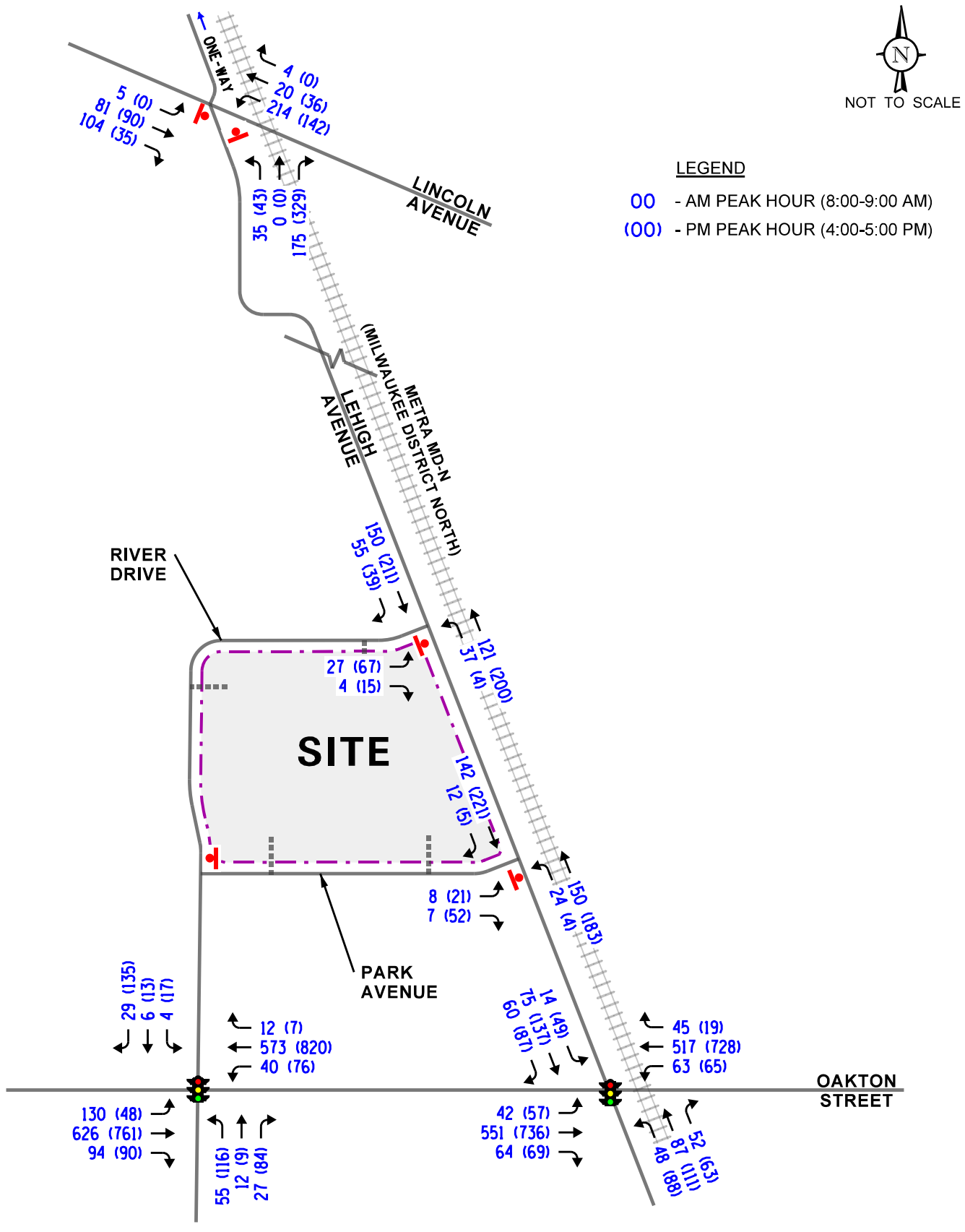



Industrial Building
Morton Grove, Illinois

Year 2031 No-Build Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-073 Figure: 9




Industrial Building
Morton Grove, Illinois

Year 2031 Total Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-073 Figure: 10

# 5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning and evening 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 and evening 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 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 **9.** A discussion of each intersection follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 5
CAPACITY ANALYSIS RESULTS – OAKTON STREET WITH LEHIGH AVENUE – SIGNALIZED

| | Peak Hour | Eastbound | | Westbound | | Northbound | | Southbound | | Overall |
|---|---|---|---|---|---|---|---|---|---|---|
| | | L | T/R | L | T/R | L | T/R | L | T/R | |
| Existing Conditions | Weekday Morning | A 4.3 | A 7.2 | A 5.7 | A 9.8 | C 31.7 | D 37.6 | C 28.0 | D 44.7 | B 13.9 |
| | | A - 7.1 | | A - 9.4 | | D - 36 | | D - 43.7 | | |
| | Weekday Evening | A 5.4 | A 9.3 | A 7 | B 12.8 | C 35 | D 43.9 | C 31.1 | D 50.1 | B 18.2 |
| | | A - 9.1 | | B - 12.4 | | D - 40.8 | | D - 47.7 | | |
| No-Build Conditions | Weekday Morning | A 4.8 | A 8.1 | A 6.5 | B 11.2 | C 29.7 | D 38.2 | C 27.9 | D 44.9 | B 15.4 |
| | | A - 7.9 | | B - 10.7 | | C – 36.0 | | D - 43.3 | | |
| | Weekday Evening | A 5.7 | A 9.7 | A 7.4 | B 13.6 | D 34.6 | D 43.6 | C 30.8 | D 50.0 | B 18.9 |
| | | A - 9.4 | | B – 13.1 | | D - 40.6 | | D - 47.4 | | |
| Total Projected Conditions | Weekday Morning | A 4.9 | A 8.3 | A 6.6 | B 11.5 | C 29.7 | D 38.4 | C 27.4 | D 45.1 | B 15.7 |
| | | A – 8.0 | | B – 11.0 | | C – 36.2 | | D – 43.5 | | |
| | Weekday Evening | A 5.7 | A 9.7 | A 7.6 | B 13.9 | C 34.2 | D 46.0 | C 31.2 | D 50.0 | B 19.4 |
| | | A - 9.5 | | B – 13.4 | | D - 42.0 | | D - 46.6 | | |

Letter denotes Level of Service
Delay is measured in seconds.

L – Left Turns
R – Right Turns
T – Through

Table 6
CAPACITY ANALYSIS RESULTS – OAKTON STREET WITH RIVER DRIVE – SIGNALIZED

| | Peak Hour | Eastbound | | | Westbound | | Northbound | | Southbound | | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | T | R | L | T/R | L | T/R | L | T/R | |
| Existing Conditions | Weekday Morning | A 5.5 | A 9.4 | A 9.7 | A 4.2 | A 7.3 | C 33.2 | D 37.0 | C 27.5 | D 46.3 | B 10.7 |
| | | A - 8.9 | | | A - 7.1 | | C - 34.8 | | D - 45.3 | | |
| | Weekday Evening | A 8.9 | B 16.2 | B 15 | A 6.7 | B 10.5 | C 31.9 | D 35.5 | C 26.5 | E 59.0 | B 17.7 |
| | | B - 15.7 | | | B - 10.2 | | C - 33.5 | | E - 56.3 | | |
| No-Build Conditions | Weekday Morning | A 5.5 | A 9.5 | A 9.7 | A 4.3 | A 7.3 | C 33.2 | D 37.0 | C 27.5 | D 46.3 | B 10.6 |
| | | A – 9.0 | | | A - 7.1 | | C - 34.8 | | D - 45.3 | | |
| | Weekday Evening | A 8.9 | B 16.4 | B 15.0 | A 6.7 | B 10.6 | C 31.9 | D 35.5 | C 26.5 | E 59.0 | B 17.7 |
| | | B - 15.9 | | | B - 10.3 | | C - 33.5 | | E - 56.3 | | |
| Total Projected Conditions | Weekday Morning | A 5.9 | A 9.6 | A 9.9 | A 4.4 | A 7.8 | C 32.9 | D 36.9 | C 28.0 | D 46.9 | B 10.9 |
| | | A - 9.1 | | | A – 7.6 | | C – 34.6 | | D - 45.0 | | |
| | Weekday Evening | A 9.5 | B 17.5 | B 15.7 | A 7.1 | B 11.3 | C 31.1 | D 37.0 | C 26.4 | E 61.4 | B 19.1 |
| | | B - 16.9 | | | B - 10.9 | | C - 33.7 | | E – 57.8 | | |

Letter denotes Level of Service
Delay is measured in seconds.

L – Left Turns
R – Right Turns
T – Through

Table 7
CAPACITY ANALYSIS RESULTS – EXISTING CONDITIONS– UNSIGNALIZED

| Intersection | Weekday Morning Peak Hour | | Weekday Evening Peak Hour | |
|---|---|---|---|---|
| | LOS | Delay | LOS | Delay |
| **Lehigh Avenue with River Drive** | | | | |
| • Eastbound Left Turn | B | 10.4 | B | 11.5 |
| • Eastbound Right Turn | A | 9.0 | A | 9.4 |
| • Northbound Left Turn | A | 7.6 | A | 7.7 |
| **Lehigh Avenue with Park Avenue** | | | | |
| • Eastbound Left Turn | B | 10.4 | B | 11.0 |
| • Eastbound Right Turn | A | 9.7 | A | 9.4 |
| • Northbound Left Turn | A | 7.6 | A | 7.9 |
| **Lehigh Avenue with Lincoln Avenue** | | | | |
| • ICU Level of Service | A | 39.4% | A | 41.0% |

LOS = Level of Service
Delay is measured in seconds.

1 - 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.

Table 8
CAPACITY ANALYSIS RESULTS – NO BUILD CONDITIONS– UNSIGNALIZED

| Intersection | Weekday Morning Peak Hour | | Weekday Evening Peak Hour | |
|---|---|---|---|---|
| | LOS | Delay | LOS | Delay |
| **Lehigh Avenue with River Drive** | | | | |
| • Eastbound Left Turn | B | 11.0 | B | 12.0 |
| • Eastbound Right Turn | A | 9.2 | A | 9.6 |
| • Northbound Left Turn | A | 7.7 | A | 7.7 |
| **Lehigh Avenue with Park Avenue** | | | | |
| • Eastbound Left Turn | B | 10.9 | B | 11.4 |
| • Eastbound Right Turn | B | 10.0 | A | 9.6 |
| • Northbound Left Turn | A | 7.7 | A | 8.0 |
| **Lehigh Avenue with Lincoln Avenue** | | | | |
| • ICU Level of Service | A | 45.6% | A | 48.2% |

LOS = Level of Service
Delay is measured in seconds.

1 - 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.

Table 9
CAPACITY ANALYSIS RESULTS – TOTAL PROJECTED CONDITIONS– UNSIGNALIZED

| Intersection | Weekday Morning Peak Hour | | Weekday Evening Peak Hour | |
|---|---|---|---|---|
| | LOS | Delay | LOS | Delay |
| **Lehigh Avenue with River Drive** | | | | |
| • Eastbound Left Turn | B | 11.6 | B | 12.3 |
| • Eastbound Right Turn | B | 10.2 | A | 9.9 |
| • Northbound Left Turn | A | 8.2 | A | 8.3 |
| **Lehigh Avenue with Park Avenue** | | | | |
| • Eastbound Left Turn | B | 11.2 | B | 11.5 |
| • Eastbound Right Turn | A | 9.8 | A | 9.8 |
| • Northbound Left Turn | A | 7.6 | A | 7.9 |
| **Lehigh Avenue with Lincoln Avenue** | | | | |
| • ICU Level of Service | A | 46.8% | A | 54.4% |

LOS = Level of Service
Delay is measured in seconds.
1 - 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 development-generated traffic.

### *Oakton Street with Lehigh Avenue*

The results of the capacity analysis indicate that this intersection currently operates at an overall Level of Service (LOS) B during the weekday morning peak and weekday evening peak hour. Furthermore, all movements currently operate at LOS D or better during both peak hours and through movements on Oakton Street operate at LOS B or better. It should be noted this intersection is adjacent to an at-grade railroad crossing and westbound movements stop on the far side (east side) of the railroad. Oakton Street movements do experience additional delay during train events. However, trains were not observed to stop in the crossing and a majority of train events were less than one minute in length. The traffic signal is programmed with a westbound clearance phase to accommodate these train events.

Under Year 2031 no-build and total projected conditions, this intersection is projected to continue to operate at LOS B during both peak hours with increases in delay of one second or less. Overall, the proposed development is projected to increase the volume of traffic traversing this intersection by less than six percent during the peak hours. As such, the proposed development is projected to have a limited impact on the operation of this intersection and no roadway improvements or traffic control modifications are recommended or required.

### *Oakton Street with River Drive*

The results of the capacity analysis indicate that this intersection currently operates at an overall LOS B during the weekday morning peak and weekday evening peak hour. Furthermore, all movements currently operate at LOS E or better during both peak hours and through movements on Oakton Street operate at LOS B or better. Under Year 2031 no-build conditions this intersection is projected to operate at the same LOS during both peak hours.

Under Year 2031 total projected conditions, this intersection is projected to continue to operate at LOS B during both peak hours with increases in delay of approximately two seconds or less over no-build conditions. The following should be noted:

- Eastbound left-turn 95$^{th}$ percentile queues, which include site traffic entering North Grove Corporate Center, will continue to be accommodated within the existing turn lane.

- Southbound 95$^{th}$ percentile queues, which include site traffic existing North Grove Corporate Center, will continue to be accommodated within the existing turn lanes.

- All movements will continue to operate at LOS E or better during both peak hours and through movements on Oakton Street will continue to operate at LOS B or better.

As such, this intersection can adequately accommodate development-generated traffic and no roadway improvements or traffic control modifications are recommended or required.

*Lehigh Avenue with River Drive and Park Avenue*

The results of the capacity analysis indicate all critical movements at these intersections currently operates at LOS B or better during the weekday morning and weekday evening peak hours. Under Year 2031 no-build and total projected conditions, all movements are projected to continue to operate at LOS B or better during both peak hours with increases in delay of less than one second. The following should be noted:

- These access drives will carry development generated traffic entering and exiting the North Grove Corporate Center.

- Eastbound 95$^{th}$ percentile right-turn queues and northbound 95$^{th}$ percentile left-turn queues at both intersections can be accommodated within the existing turn lanes.

- When the projected traffic volumes are compared to the turn lane warrant guidelines published in Chapter 36 of the IDOT *Bureau of Design and Environment* (BDE) Manual, southbound right-turn lanes are not warranted at either intersection during either peak hour.

As such, this intersection can adequately accommodate development-generated traffic and no roadway improvements or traffic control modifications are recommended or required.

*Lehigh Avenue with Lincoln Avenue*

Because of the traffic control configuration of this intersection, 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 39 to 41 percent of the capacity of the intersection. Under total projected conditions, it is projected that the intersection will utilize approximately 45 to 46 percent of the capacity of the intersection. As a result, the intersection will continue to operate efficiently and with minimal delays.

It should be noted this intersection is immediately adjacent to an at-grade railroad crossing and westbound movements stop on the far side (east side) of the railroad. However, trains were not observed to stop in the crossing and a majority of train events were less than one minute in length.

It is important to note that the proposed development will not add any truck traffic to this intersection. The proposed development is projected to have a limited impact on the operation of this intersection and no roadway improvements or traffic control modifications are recommended or required.

*Proposed Site Access System*

As proposed access to the site will be provided via the following four access drives.

- A full-movement access drive on River Drive located approximately 145 feet west of Lehigh Avenue that will serve passenger vehicles only. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

- A full-movement access drive along the curved segment of River Drive approximately 650 feet west of Lehigh Avenue that will serve passenger vehicles only. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

- A full-movement access drive on Park Avenue located approximately 265 feet west of Lehigh Avenue that will serve primarily trucks and some passenger vehicles. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

- A full-movement access drive on Park Avenue located approximately 730 feet west of Lehigh Avenue that will serve primarily trucks and some passenger vehicles. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

The proposed access system is projected to operate acceptably given the following:

- The access drives will be on River Drive and Park Avenue which are local roads that carry a limited volume of traffic.

- Passenger vehicles and truck traffic will generally be separated with separate access points.

- All vehicles will be able to utilize any access point to the North Grove Corporate Center.

As such, the proposed access system will adequately accommodate site-generated traffic.

## Parking Evaluation

As proposed, the site will provide 248 employee parking spaces for BBJ and 69 employee parking spaces for the additional tenant for a total of 317 parking spaces.

### *Operator Information*

Based on information provided by the operator, projected peak staff parking demand for BBJ will be 243 employee vehicles which can be accommodated within the proposed 248 spaces.

### *Village of Morton Grove Requirements*

The Morton Grove Municipal Code requires a parking ratio of one parking spaces per 1,000 square-feet of gross floor area for warehouse uses. As such, the proposed development should provide a total of 211 parking spaces, which is 106 less than the number of spaces proposed.

It should be noted that the number of spaces provided for BBJ is based on part on their projected parking demands. Evaluating just the additional tenant, a total of 54 spaces should be provided for the 54,018 square-foot space and 69 will be provided.

### *ITE Parking Generation Manual*

In reviewing the survey data published in the Institute of Transportation Engineers' (ITE) 6th Edition of the Parking Generation Manual, the following average peak parking demands were determined for multiple industrial land use types for the additional tenant.

- General Light Industrial (Land-Use Code 110)
  - Ratio of 0.67 spaces per 1,000 s.f.
  - 36 Spaces Required

- Manufacturing (Land-Use Code 140)
  - Ratio of 0.92 spaces per 1,000 s.f.
  - 50 Spaces Required

- Warehousing (Land-Use Code 150)
  - Ratio of 0.37 spaces per 1,000 s.f.
  - 20 Spaces Required

As such, based on ITE Parking Generation Manual rates, the proposed parking supply for the additional tenant will be adequate in accommodating the parking demand of the different types of uses.

### *Evaluation*

The proposed parking supply is greater than the projected peak parking demand of the development based on operator information, village code, and ITE trip generation rates. As such, the proposed 317 spaces s projected to adequately accommodate the parking demand of the proposed development.

# 6. Conclusion

Based on the preceding analyses and recommendations, the following conclusions have been made:

- As proposed, the site will be redeveloped with an approximately 210,904 square-foot industrial building.
- The proposed development will generate less total traffic than the office buildings that currently occupy the site could have generated when they were fully occupied.
- The study accounted for the traffic that will be generated by the proposed Metro at Main Townhomes and the 8500-8550 Lehigh Avenue Mixed Use Transit Oriented Development.
- The signalized intersections of Oakton Street with Lehigh Avenue and River Drive have sufficient reserve capacity to accommodate site-generated traffic.
- The development will be located within the North Grove Corporate Center and will utilize the existing access system serving the center of River Drive and Park Avenue.
    - This access system will adequately accommodate site-generated traffic.
    - Southbound right-turn lanes will not be warranted on Lehigh Avenue at River Drive or Park Avenue
- Within the center, access to the development will be provided via four full-movement access drives on River Drive and Park Avenue.
    - Passenger vehicles and truck traffic will generally be separated on-site with separate access points.
    - Employees will be able to utilize any access point to the North Grove Corporate Center.
- The proposed 317-space parking lot can adequately accommodate the projected parking demand.

# Appendix

Traffic Count Summary Sheets
Preliminary Site Plan
CMAP 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 abowen@kloainc.com

Count Name: Lehigh Avenue with Oakton Street
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Data

| Start Time | Oakton Street Eastbound | | | | | | Oakton Street Westbound | | | | | | Lehigh Avenue Northbound | | | | | | Lehigh Avenue 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 | |
| 6:00 AM | 0 | 5 | 57 | 5 | 0 | 67 | 0 | 15 | 63 | 8 | 0 | 86 | 0 | 7 | 9 | 1 | 0 | 17 | 0 | 1 | 5 | 4 | 0 | 10 | 180 |
| 6:15 AM | 0 | 12 | 68 | 6 | 0 | 86 | 0 | 5 | 78 | 6 | 0 | 89 | 0 | 9 | 10 | 5 | 0 | 24 | 0 | 2 | 7 | 10 | 0 | 19 | 218 |
| 6:30 AM | 0 | 10 | 119 | 7 | 0 | 136 | 0 | 6 | 96 | 3 | 0 | 105 | 0 | 7 | 10 | 7 | 0 | 24 | 0 | 0 | 8 | 4 | 0 | 12 | 277 |
| 6:45 AM | 0 | 7 | 114 | 6 | 0 | 127 | 0 | 4 | 86 | 12 | 0 | 102 | 0 | 9 | 22 | 11 | 0 | 42 | 0 | 1 | 9 | 7 | 0 | 17 | 288 |
| Hourly Total | 0 | 34 | 358 | 24 | 0 | 416 | 0 | 30 | 323 | 29 | 0 | 382 | 0 | 32 | 51 | 24 | 0 | 107 | 0 | 4 | 29 | 25 | 0 | 58 | 963 |
| 7:00 AM | 0 | 6 | 100 | 9 | 1 | 115 | 0 | 9 | 118 | 9 | 0 | 136 | 0 | 10 | 24 | 11 | 0 | 45 | 0 | 5 | 12 | 7 | 0 | 24 | 320 |
| 7:15 AM | 0 | 6 | 109 | 18 | 0 | 133 | 0 | 15 | 105 | 13 | 0 | 133 | 0 | 6 | 14 | 12 | 1 | 32 | 0 | 5 | 18 | 4 | 0 | 27 | 325 |
| 7:30 AM | 0 | 10 | 114 | 13 | 0 | 137 | 0 | 7 | 130 | 16 | 0 | 153 | 0 | 12 | 18 | 4 | 0 | 34 | 1 | 5 | 7 | 8 | 0 | 21 | 345 |
| 7:45 AM | 0 | 10 | 126 | 14 | 0 | 150 | 0 | 26 | 95 | 7 | 1 | 128 | 0 | 9 | 15 | 8 | 2 | 32 | 0 | 3 | 19 | 8 | 0 | 30 | 340 |
| Hourly Total | 0 | 32 | 449 | 54 | 1 | 535 | 0 | 57 | 448 | 45 | 1 | 550 | 0 | 37 | 71 | 35 | 3 | 143 | 1 | 18 | 56 | 27 | 0 | 102 | 1330 |
| 8:00 AM | 0 | 8 | 107 | 15 | 0 | 130 | 0 | 14 | 113 | 5 | 2 | 132 | 0 | 19 | 18 | 13 | 2 | 50 | 0 | 2 | 18 | 11 | 0 | 31 | 343 |
| 8:15 AM | 0 | 10 | 151 | 15 | 0 | 176 | 0 | 11 | 125 | 6 | 0 | 142 | 0 | 9 | 18 | 14 | 1 | 41 | 0 | 2 | 9 | 13 | 0 | 24 | 383 |
| 8:30 AM | 0 | 4 | 123 | 13 | 0 | 140 | 0 | 15 | 132 | 7 | 0 | 154 | 0 | 5 | 9 | 11 | 1 | 25 | 0 | 2 | 19 | 10 | 0 | 31 | 350 |
| 8:45 AM | 0 | 9 | 150 | 17 | 0 | 176 | 0 | 21 | 125 | 6 | 0 | 152 | 0 | 11 | 19 | 12 | 0 | 42 | 0 | 1 | 8 | 11 | 0 | 20 | 390 |
| Hourly Total | 0 | 31 | 531 | 60 | 0 | 622 | 0 | 61 | 495 | 24 | 2 | 580 | 0 | 44 | 64 | 50 | 4 | 158 | 0 | 7 | 54 | 45 | 0 | 106 | 1466 |
| *** BREAK *** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | 0 | 10 | 166 | 16 | 0 | 192 | 0 | 19 | 181 | 4 | 1 | 204 | 0 | 30 | 18 | 12 | 0 | 60 | 0 | 8 | 31 | 19 | 0 | 58 | 514 |
| 4:15 PM | 0 | 14 | 164 | 11 | 1 | 189 | 0 | 18 | 164 | 4 | 0 | 186 | 0 | 16 | 24 | 17 | 0 | 57 | 0 | 3 | 25 | 21 | 0 | 49 | 481 |
| 4:30 PM | 0 | 11 | 167 | 18 | 0 | 196 | 0 | 10 | 172 | 3 | 0 | 185 | 0 | 22 | 30 | 20 | 0 | 72 | 0 | 9 | 32 | 18 | 0 | 59 | 512 |
| 4:45 PM | 0 | 13 | 179 | 20 | 0 | 212 | 0 | 16 | 178 | 3 | 0 | 197 | 0 | 16 | 21 | 12 | 0 | 49 | 0 | 7 | 26 | 18 | 0 | 51 | 509 |
| Hourly Total | 0 | 48 | 676 | 65 | 1 | 789 | 0 | 63 | 695 | 14 | 1 | 772 | 0 | 84 | 93 | 61 | 0 | 238 | 0 | 27 | 114 | 76 | 0 | 217 | 2016 |
| 5:00 PM | 1 | 9 | 158 | 16 | 0 | 184 | 0 | 16 | 162 | 1 | 0 | 179 | 0 | 20 | 14 | 23 | 0 | 57 | 0 | 3 | 35 | 12 | 0 | 50 | 470 |
| 5:15 PM | 0 | 11 | 199 | 30 | 1 | 240 | 0 | 14 | 183 | 3 | 0 | 200 | 0 | 29 | 16 | 20 | 0 | 65 | 0 | 9 | 20 | 17 | 0 | 46 | 551 |
| 5:30 PM | 0 | 5 | 205 | 17 | 1 | 227 | 0 | 17 | 156 | 0 | 0 | 173 | 0 | 18 | 15 | 11 | 0 | 44 | 0 | 1 | 22 | 10 | 0 | 33 | 477 |
| 5:45 PM | 0 | 8 | 177 | 23 | 1 | 208 | 0 | 15 | 158 | 2 | 0 | 175 | 0 | 15 | 10 | 19 | 1 | 44 | 0 | 11 | 29 | 23 | 0 | 63 | 490 |
| Hourly Total | 1 | 33 | 739 | 86 | 3 | 859 | 0 | 62 | 659 | 6 | 0 | 727 | 0 | 82 | 55 | 73 | 1 | 210 | 0 | 24 | 106 | 62 | 0 | 192 | 1988 |
| 6:00 PM | 0 | 9 | 128 | 16 | 0 | 153 | 0 | 9 | 124 | 0 | 0 | 133 | 0 | 25 | 17 | 9 | 0 | 51 | 0 | 7 | 20 | 12 | 0 | 39 | 376 |
| 6:15 PM | 0 | 12 | 160 | 20 | 0 | 192 | 0 | 14 | 158 | 1 | 0 | 173 | 0 | 13 | 16 | 14 | 1 | 43 | 0 | 5 | 21 | 17 | 0 | 43 | 451 |
| 6:30 PM | 0 | 6 | 127 | 19 | 0 | 152 | 0 | 9 | 135 | 4 | 0 | 148 | 0 | 13 | 17 | 10 | 0 | 40 | 0 | 5 | 13 | 11 | 0 | 29 | 369 |
| 6:45 PM | 0 | 5 | 145 | 9 | 0 | 159 | 0 | 14 | 121 | 2 | 0 | 137 | 0 | 16 | 9 | 7 | 0 | 32 | 0 | 1 | 10 | 11 | 0 | 22 | 350 |
| Hourly Total | 0 | 32 | 560 | 64 | 0 | 656 | 0 | 46 | 538 | 7 | 0 | 591 | 0 | 67 | 59 | 40 | 1 | 166 | 0 | 18 | 64 | 51 | 0 | 133 | 1546 |
| Grand Total | 1 | 210 | 3313 | 353 | 5 | 3877 | 0 | 319 | 3158 | 125 | 4 | 3602 | 0 | 346 | 393 | 283 | 9 | 1022 | 1 | 98 | 423 | 286 | 0 | 808 | 9309 |
| Approach % | 0.0 | 5.4 | 85.5 | 9.1 | - | - | 0.0 | 8.9 | 87.7 | 3.5 | - | - | 0.0 | 33.9 | 38.5 | 27.7 | - | - | 0.1 | 12.1 | 52.4 | 35.4 | - | - | - |
| Total % | 0.0 | 2.3 | 35.6 | 3.8 | - | 41.6 | 0.0 | 3.4 | 33.9 | 1.3 | - | 38.7 | 0.0 | 3.7 | 4.2 | 3.0 | - | 11.0 | 0.0 | 1.1 | 4.5 | 3.1 | - | 8.7 | - |
| Lights | 1 | 204 | 3214 | 326 | - | 3745 | 0 | 301 | 3066 | 122 | - | 3489 | 0 | 327 | 386 | 268 | - | 981 | 1 | 94 | 416 | 281 | - | 792 | 9007 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % Lights | 100.0 | 97.1 | 97.0 | 92.4 | - | 96.6 | - | 94.4 | 97.1 | 97.6 | - | 96.9 | - | 94.5 | 98.2 | 94.7 | - | 96.0 | 100.0 | 95.9 | 98.3 | 98.3 | - | 98.0 | 96.8 |
| Buses | 0 | 0 | 19 | 4 | - | 23 | 0 | 1 | 17 | 0 | - | 18 | 0 | 10 | 0 | 1 | - | 11 | 0 | 0 | 0 | 0 | - | 0 | 52 |
| % Buses | 0.0 | 0.0 | 0.6 | 1.1 | - | 0.6 | - | 0.3 | 0.5 | 0.0 | - | 0.5 | - | 2.9 | 0.0 | 0.4 | - | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.6 |
| Single-Unit Trucks | 0 | 3 | 61 | 13 | - | 77 | 0 | 14 | 58 | 3 | - | 75 | 0 | 4 | 5 | 9 | - | 18 | 0 | 3 | 4 | 4 | - | 11 | 181 |
| % Single-Unit Trucks | 0.0 | 1.4 | 1.8 | 3.7 | - | 2.0 | - | 4.4 | 1.8 | 2.4 | - | 2.1 | - | 1.2 | 1.3 | 3.2 | - | 1.8 | 0.0 | 3.1 | 0.9 | 1.4 | - | 1.4 | 1.9 |
| Articulated Trucks | 0 | 3 | 18 | 9 | - | 30 | 0 | 3 | 16 | 0 | - | 19 | 0 | 5 | 0 | 5 | - | 10 | 0 | 1 | 2 | 1 | - | 4 | 63 |
| % Articulated Trucks | 0.0 | 1.4 | 0.5 | 2.5 | - | 0.8 | - | 0.9 | 0.5 | 0.0 | - | 0.5 | - | 1.4 | 0.0 | 1.8 | - | 1.0 | 0.0 | 1.0 | 0.5 | 0.3 | - | 0.5 | 0.7 |
| Bicycles on Road | 0 | 0 | 1 | 1 | - | 2 | 0 | 0 | 1 | 0 | - | 1 | 0 | 0 | 2 | 0 | - | 2 | 0 | 0 | 1 | 0 | - | 1 | 6 |
| % Bicycles on Road | 0.0 | 0.0 | 0.0 | 0.3 | - | 0.1 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.5 | 0.0 | - | 0.2 | 0.0 | 0.0 | 0.2 | 0.0 | - | 0.1 | 0.1 |
| Pedestrians | - | - | - | - | 5 | - | - | - | - | - | 4 | - | - | - | - | - | 9 | - | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | - | 100.0 | - | - | - | - | - | 100.0 | - | - | - | - | - | 100.0 | - | - | - | - | - | - | - | - |

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Rosemont, Illinois, United States 60018
(847)518-9990 abowen@kloainc.com

Count Name: Lehigh Avenue with Oakton Street
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (8:00 AM)

| Start Time | Oakton Street Eastbound | | | | | | Oakton Street Westbound | | | | | | Lehigh Avenue Northbound | | | | | | Lehigh Avenue 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 | |
| 8:00 AM | 0 | 8 | 107 | 15 | 0 | 130 | 0 | 14 | 113 | 5 | 2 | 132 | 0 | 19 | 18 | 13 | 2 | 50 | 0 | 2 | 18 | 11 | 0 | 31 | 343 |
| 8:15 AM | 0 | 10 | 151 | 15 | 0 | 176 | 0 | 11 | 125 | 6 | 0 | 142 | 0 | 9 | 18 | 14 | 1 | 41 | 0 | 2 | 9 | 13 | 0 | 24 | 383 |
| 8:30 AM | 0 | 4 | 123 | 13 | 0 | 140 | 0 | 15 | 132 | 7 | 0 | 154 | 0 | 5 | 9 | 11 | 1 | 25 | 0 | 2 | 19 | 10 | 0 | 31 | 350 |
| 8:45 AM | 0 | 9 | 150 | 17 | 0 | 176 | 0 | 21 | 125 | 6 | 0 | 152 | 0 | 11 | 19 | 12 | 0 | 42 | 0 | 1 | 8 | 11 | 0 | 20 | 390 |
| Total | 0 | 31 | 531 | 60 | 0 | 622 | 0 | 61 | 495 | 24 | 2 | 580 | 0 | 44 | 64 | 50 | 4 | 158 | 0 | 7 | 54 | 45 | 0 | 106 | 1466 |
| Approach % | 0.0 | 5.0 | 85.4 | 9.6 | - | - | 0.0 | 10.5 | 85.3 | 4.1 | - | - | 0.0 | 27.8 | 40.5 | 31.6 | - | - | 0.0 | 6.6 | 50.9 | 42.5 | - | - | - |
| Total % | 0.0 | 2.1 | 36.2 | 4.1 | - | 42.4 | 0.0 | 4.2 | 33.8 | 1.6 | - | 39.6 | 0.0 | 3.0 | 4.4 | 3.4 | - | 10.8 | 0.0 | 0.5 | 3.7 | 3.1 | - | 7.2 | - |
| PHF | 0.000 | 0.775 | 0.879 | 0.882 | - | 0.884 | 0.000 | 0.726 | 0.938 | 0.857 | - | 0.942 | 0.000 | 0.579 | 0.842 | 0.893 | - | 0.790 | 0.000 | 0.875 | 0.711 | 0.865 | - | 0.855 | 0.940 |
| Lights | 0 | 30 | 508 | 56 | - | 594 | 0 | 61 | 472 | 21 | - | 554 | 0 | 41 | 62 | 44 | - | 147 | 0 | 5 | 50 | 43 | - | 98 | 1393 |
| % Lights | - | 96.8 | 95.7 | 93.3 | - | 95.5 | - | 100.0 | 95.4 | 87.5 | - | 95.5 | - | 93.2 | 96.9 | 88.0 | - | 93.0 | - | 71.4 | 92.6 | 95.6 | - | 92.5 | 95.0 |
| Buses | 0 | 0 | 4 | 0 | - | 4 | 0 | 0 | 2 | 0 | - | 2 | 0 | 0 | 0 | 1 | - | 1 | 0 | 0 | 0 | 0 | - | 0 | 7 |
| % Buses | - | 0.0 | 0.8 | 0.0 | - | 0.6 | - | 0.0 | 0.4 | 0.0 | - | 0.3 | - | 0.0 | 0.0 | 2.0 | - | 0.6 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.5 |
| Single-Unit Trucks | 0 | 0 | 15 | 3 | - | 18 | 0 | 0 | 13 | 3 | - | 16 | 0 | 3 | 2 | 5 | - | 10 | 0 | 1 | 2 | 1 | - | 4 | 48 |
| % Single-Unit Trucks | - | 0.0 | 2.8 | 5.0 | - | 2.9 | - | 0.0 | 2.6 | 12.5 | - | 2.8 | - | 6.8 | 3.1 | 10.0 | - | 6.3 | - | 14.3 | 3.7 | 2.2 | - | 3.8 | 3.3 |
| Articulated Trucks | 0 | 1 | 4 | 1 | - | 6 | 0 | 0 | 8 | 0 | - | 8 | 0 | 0 | 0 | 0 | - | 0 | 0 | 1 | 1 | 1 | - | 3 | 17 |
| % Articulated Trucks | - | 3.2 | 0.8 | 1.7 | - | 1.0 | - | 0.0 | 1.6 | 0.0 | - | 1.4 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 14.3 | 1.9 | 2.2 | - | 2.8 | 1.2 |
| Bicycles on Road | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 1 | 0 | - | 1 | 1 |
| % 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 | 1.9 | 0.0 | - | 0.9 | 0.1 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 2 | - | - | - | - | - | 4 | - | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | - | - | - | - | - | - | - | 100.0 | - | - | - | - | - | 100.0 | - | - | - | - | - | - | - | - |

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Count Name: Lehigh Avenue with Oakton Street
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (4:00 PM)

| Start Time | Oakton Street Eastbound | | | | | | Oakton Street Westbound | | | | | | Lehigh Avenue Northbound | | | | | | Lehigh Avenue Southbound | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | Int. Total |
| 4:00 PM | 0 | 10 | 166 | 16 | 0 | 192 | 0 | 19 | 181 | 4 | 1 | 204 | 0 | 30 | 18 | 12 | 0 | 60 | 0 | 8 | 31 | 19 | 0 | 58 | 514 |
| 4:15 PM | 0 | 14 | 164 | 11 | 1 | 189 | 0 | 18 | 164 | 4 | 0 | 186 | 0 | 16 | 24 | 17 | 0 | 57 | 0 | 3 | 25 | 21 | 0 | 49 | 481 |
| 4:30 PM | 0 | 11 | 167 | 18 | 0 | 196 | 0 | 10 | 172 | 3 | 0 | 185 | 0 | 22 | 30 | 20 | 0 | 72 | 0 | 9 | 32 | 18 | 0 | 59 | 512 |
| 4:45 PM | 0 | 13 | 179 | 20 | 0 | 212 | 0 | 16 | 178 | 3 | 0 | 197 | 0 | 16 | 21 | 12 | 0 | 49 | 0 | 7 | 26 | 18 | 0 | 51 | 509 |
| Total | 0 | 48 | 676 | 65 | 1 | 789 | 0 | 63 | 695 | 14 | 1 | 772 | 0 | 84 | 93 | 61 | 0 | 238 | 0 | 27 | 114 | 76 | 0 | 217 | 2016 |
| Approach % | 0.0 | 6.1 | 85.7 | 8.2 | - | - | 0.0 | 8.2 | 90.0 | 1.8 | - | - | 0.0 | 35.3 | 39.1 | 25.6 | - | - | 0.0 | 12.4 | 52.5 | 35.0 | - | - | - |
| Total % | 0.0 | 2.4 | 33.5 | 3.2 | - | 39.1 | 0.0 | 3.1 | 34.5 | 0.7 | - | 38.3 | 0.0 | 4.2 | 4.6 | 3.0 | - | 11.8 | 0.0 | 1.3 | 5.7 | 3.8 | - | 10.8 | - |
| PHF | 0.000 | 0.857 | 0.944 | 0.813 | - | 0.930 | 0.000 | 0.829 | 0.960 | 0.875 | - | 0.946 | 0.000 | 0.700 | 0.775 | 0.763 | - | 0.826 | 0.000 | 0.750 | 0.891 | 0.905 | - | 0.919 | 0.981 |
| Lights | 0 | 47 | 661 | 60 | - | 768 | 0 | 60 | 681 | 14 | - | 755 | 0 | 83 | 93 | 60 | - | 236 | 0 | 26 | 114 | 74 | - | 214 | 1973 |
| % Lights | - | 97.9 | 97.8 | 92.3 | - | 97.3 | - | 95.2 | 98.0 | 100.0 | - | 97.8 | - | 98.8 | 100.0 | 98.4 | - | 99.2 | - | 96.3 | 100.0 | 97.4 | - | 98.6 | 97.9 |
| Buses | 0 | 0 | 2 | 2 | - | 4 | 0 | 1 | 3 | 0 | - | 4 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 8 |
| % Buses | - | 0.0 | 0.3 | 3.1 | - | 0.5 | - | 1.6 | 0.4 | 0.0 | - | 0.5 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.4 |
| Single-Unit Trucks | 0 | 0 | 11 | 0 | - | 11 | 0 | 2 | 8 | 0 | - | 10 | 0 | 1 | 0 | 1 | - | 2 | 0 | 1 | 0 | 2 | - | 3 | 26 |
| % Single-Unit Trucks | - | 0.0 | 1.6 | 0.0 | - | 1.4 | - | 3.2 | 1.2 | 0.0 | - | 1.3 | - | 1.2 | 0.0 | 1.6 | - | 0.8 | - | 3.7 | 0.0 | 2.6 | - | 1.4 | 1.3 |
| Articulated Trucks | 0 | 1 | 1 | 3 | - | 5 | 0 | 0 | 3 | 0 | - | 3 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 8 |
| % Articulated Trucks | - | 2.1 | 0.1 | 4.6 | - | 0.6 | - | 0.0 | 0.4 | 0.0 | - | 0.4 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.4 |
| Bicycles on Road | 0 | 0 | 1 | 0 | - | 1 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 1 |
| % Bicycles on Road | - | 0.0 | 0.1 | 0.0 | - | 0.1 | - | 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 | - | - | - | - | - | 1 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | - | 100.0 | - | - | - | - | - | 100.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

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Rosemont, Illinois, United States 60018
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Count Name: Lehigh Avenue with Park Avenue
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Data

| Start Time | Park Avenue Eastbound | | | | | Lehigh Avenue Northbound | | | | | Lehigh Avenue Southbound | | | | | Int. Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | |
| 6:00 AM | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 20 | 0 | 22 | 0 | 11 | 1 | 0 | 12 | 36 |
| 6:15 AM | 0 | 0 | 1 | 0 | 1 | 0 | 7 | 21 | 0 | 28 | 0 | 19 | 2 | 0 | 21 | 50 |
| 6:30 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 23 | 0 | 23 | 0 | 8 | 1 | 0 | 9 | 33 |
| 6:45 AM | 0 | 1 | 3 | 0 | 4 | 0 | 15 | 23 | 0 | 38 | 0 | 17 | 3 | 0 | 20 | 62 |
| Hourly Total | 0 | 3 | 5 | 0 | 8 | 0 | 24 | 87 | 0 | 111 | 0 | 55 | 7 | 0 | 62 | 181 |
| 7:00 AM | 1 | 3 | 2 | 0 | 6 | 0 | 6 | 35 | 0 | 41 | 0 | 20 | 2 | 0 | 22 | 69 |
| 7:15 AM | 0 | 3 | 2 | 0 | 5 | 0 | 5 | 27 | 0 | 32 | 0 | 26 | 0 | 0 | 26 | 63 |
| 7:30 AM | 0 | 3 | 2 | 1 | 5 | 0 | 7 | 35 | 0 | 42 | 0 | 21 | 0 | 0 | 21 | 68 |
| 7:45 AM | 0 | 1 | 0 | 0 | 1 | 0 | 4 | 34 | 0 | 38 | 0 | 28 | 3 | 0 | 31 | 70 |
| Hourly Total | 1 | 10 | 6 | 1 | 17 | 0 | 22 | 131 | 0 | 153 | 0 | 95 | 5 | 0 | 100 | 270 |
| 8:00 AM | 1 | 2 | 3 | 0 | 6 | 0 | 2 | 26 | 0 | 28 | 0 | 31 | 0 | 0 | 31 | 65 |
| 8:15 AM | 0 | 2 | 2 | 0 | 4 | 0 | 8 | 24 | 0 | 32 | 0 | 21 | 2 | 0 | 23 | 59 |
| 8:30 AM | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 17 | 0 | 21 | 0 | 29 | 3 | 0 | 32 | 55 |
| 8:45 AM | 0 | 3 | 0 | 0 | 3 | 0 | 3 | 24 | 0 | 27 | 0 | 17 | 2 | 0 | 19 | 49 |
| Hourly Total | 1 | 7 | 7 | 0 | 15 | 0 | 17 | 91 | 0 | 108 | 0 | 98 | 7 | 0 | 105 | 228 |
| *** BREAK *** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | 0 | 9 | 10 | 1 | 19 | 0 | 0 | 38 | 0 | 38 | 0 | 44 | 3 | 0 | 47 | 104 |
| 4:15 PM | 0 | 4 | 6 | 0 | 10 | 0 | 0 | 40 | 0 | 40 | 0 | 46 | 0 | 0 | 46 | 96 |
| 4:30 PM | 0 | 2 | 6 | 0 | 8 | 0 | 0 | 44 | 0 | 44 | 0 | 46 | 0 | 0 | 46 | 98 |
| 4:45 PM | 0 | 1 | 3 | 0 | 4 | 0 | 4 | 33 | 0 | 37 | 0 | 51 | 2 | 0 | 53 | 94 |
| Hourly Total | 0 | 16 | 25 | 1 | 41 | 0 | 4 | 155 | 0 | 159 | 0 | 187 | 5 | 0 | 192 | 392 |
| 5:00 PM | 0 | 6 | 7 | 0 | 13 | 0 | 2 | 26 | 0 | 28 | 0 | 45 | 2 | 0 | 47 | 88 |
| 5:15 PM | 0 | 3 | 3 | 1 | 6 | 1 | 0 | 32 | 0 | 33 | 0 | 40 | 0 | 0 | 40 | 79 |
| 5:30 PM | 0 | 2 | 3 | 1 | 5 | 0 | 0 | 21 | 0 | 21 | 0 | 40 | 2 | 0 | 42 | 68 |
| 5:45 PM | 0 | 2 | 4 | 0 | 6 | 0 | 2 | 19 | 0 | 21 | 0 | 50 | 1 | 0 | 51 | 78 |
| Hourly Total | 0 | 13 | 17 | 2 | 30 | 1 | 4 | 98 | 0 | 103 | 0 | 175 | 5 | 0 | 180 | 313 |
| 6:00 PM | 0 | 2 | 3 | 0 | 5 | 0 | 0 | 25 | 0 | 25 | 0 | 30 | 0 | 0 | 30 | 60 |
| 6:15 PM | 0 | 3 | 2 | 0 | 5 | 0 | 0 | 29 | 0 | 29 | 0 | 40 | 2 | 0 | 42 | 76 |
| 6:30 PM | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 27 | 0 | 27 | 0 | 24 | 3 | 0 | 27 | 56 |
| 6:45 PM | 0 | 1 | 2 | 0 | 3 | 0 | 1 | 15 | 0 | 16 | 0 | 23 | 0 | 0 | 23 | 42 |
| Hourly Total | 0 | 7 | 8 | 0 | 15 | 0 | 1 | 96 | 0 | 97 | 0 | 117 | 5 | 0 | 122 | 234 |
| Grand Total | 2 | 56 | 68 | 4 | 126 | 1 | 72 | 658 | 0 | 731 | 0 | 727 | 34 | 0 | 761 | 1618 |
| Approach % | 1.6 | 44.4 | 54.0 | - | - | 0.1 | 9.8 | 90.0 | - | - | 0.0 | 95.5 | 4.5 | - | - | - |
| Total % | 0.1 | 3.5 | 4.2 | - | 7.8 | 0.1 | 4.4 | 40.7 | - | 45.2 | 0.0 | 44.9 | 2.1 | - | 47.0 | - |
| Lights | 2 | 55 | 61 | - | 118 | 1 | 67 | 647 | - | 715 | 0 | 714 | 33 | - | 747 | 1580 |
| % Lights | 100.0 | 98.2 | 89.7 | - | 93.7 | 100.0 | 93.1 | 98.3 | - | 97.8 | - | 98.2 | 97.1 | - | 98.2 | 97.7 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | - | 0.0 | 0.0 |
| Single-Unit Trucks | 0 | 0 | 4 | - | 4 | 0 | 3 | 10 | - | 13 | 0 | 11 | 1 | - | 12 | 29 |
| % Single-Unit Trucks | 0.0 | 0.0 | 5.9 | - | 3.2 | 0.0 | 4.2 | 1.5 | - | 1.8 | - | 1.5 | 2.9 | - | 1.6 | 1.8 |
| Articulated Trucks | 0 | 1 | 3 | - | 4 | 0 | 2 | 0 | - | 2 | 0 | 0 | 0 | - | 0 | 6 |
| % Articulated Trucks | 0.0 | 1.8 | 4.4 | - | 3.2 | 0.0 | 2.8 | 0.0 | - | 0.3 | - | 0.0 | 0.0 | - | 0.0 | 0.4 |
| Bicycles on Road | 0 | 0 | 0 | - | 0 | 0 | 0 | 1 | - | 1 | 0 | 2 | 0 | - | 2 | 3 |
| % Bicycles on Road | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.2 | - | 0.1 | - | 0.3 | 0.0 | - | 0.3 | 0.2 |
| Pedestrians | - | - | - | 4 | - | - | - | - | 0 | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | 100.0 | - | - | - | - | - | - | - | - | - | - | - | - |

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Count Name: Lehigh Avenue with Park Avenue
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (8:00 AM)

| Start Time | Park Avenue Eastbound | | | | | Lehigh Avenue Northbound | | | | | Lehigh Avenue Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | Int. Total |
| 8:00 AM | 1 | 2 | 3 | 0 | 6 | 0 | 2 | 26 | 0 | 28 | 0 | 31 | 0 | 0 | 31 | 65 |
| 8:15 AM | 0 | 2 | 2 | 0 | 4 | 0 | 8 | 24 | 0 | 32 | 0 | 21 | 2 | 0 | 23 | 59 |
| 8:30 AM | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 17 | 0 | 21 | 0 | 29 | 3 | 0 | 32 | 55 |
| 8:45 AM | 0 | 3 | 0 | 0 | 3 | 0 | 3 | 24 | 0 | 27 | 0 | 17 | 2 | 0 | 19 | 49 |
| Total | 1 | 7 | 7 | 0 | 15 | 0 | 17 | 91 | 0 | 108 | 0 | 98 | 7 | 0 | 105 | 228 |
| Approach % | 6.7 | 46.7 | 46.7 | - | - | 0.0 | 15.7 | 84.3 | - | - | 0.0 | 93.3 | 6.7 | - | - | - |
| Total % | 0.4 | 3.1 | 3.1 | - | 6.6 | 0.0 | 7.5 | 39.9 | - | 47.4 | 0.0 | 43.0 | 3.1 | - | 46.1 | - |
| PHF | 0.250 | 0.583 | 0.583 | - | 0.625 | 0.000 | 0.531 | 0.875 | - | 0.844 | 0.000 | 0.790 | 0.583 | - | 0.820 | 0.877 |
| Lights | 1 | 6 | 2 | - | 9 | 0 | 15 | 89 | - | 104 | 0 | 94 | 6 | - | 100 | 213 |
| % Lights | 100.0 | 85.7 | 28.6 | - | 60.0 | - | 88.2 | 97.8 | - | 96.3 | - | 95.9 | 85.7 | - | 95.2 | 93.4 |
| 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 | 0.0 |
| Single-Unit Trucks | 0 | 0 | 3 | - | 3 | 0 | 2 | 2 | - | 4 | 0 | 3 | 1 | - | 4 | 11 |
| % Single-Unit Trucks | 0.0 | 0.0 | 42.9 | - | 20.0 | - | 11.8 | 2.2 | - | 3.7 | - | 3.1 | 14.3 | - | 3.8 | 4.8 |
| Articulated Trucks | 0 | 1 | 2 | - | 3 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 3 |
| % Articulated Trucks | 0.0 | 14.3 | 28.6 | - | 20.0 | - | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | - | 0.0 | 1.3 |
| Bicycles on Road | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 1 | 0 | - | 1 | 1 |
| % Bicycles on Road | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | - | 0.0 | - | 1.0 | 0.0 | - | 1.0 | 0.4 |
| Pedestrians | - | - | - | 0 | - | - | - | - | 0 | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

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Count Name: Lehigh Avenue with Park Avenue
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (4:00 PM)

| Start Time | Park Avenue Eastbound | | | | | Lehigh Avenue Northbound | | | | | Lehigh Avenue Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | Int. Total |
| 4:00 PM | 0 | 9 | 10 | 1 | 19 | 0 | 0 | 38 | 0 | 38 | 0 | 44 | 3 | 0 | 47 | 104 |
| 4:15 PM | 0 | 4 | 6 | 0 | 10 | 0 | 0 | 40 | 0 | 40 | 0 | 46 | 0 | 0 | 46 | 96 |
| 4:30 PM | 0 | 2 | 6 | 0 | 8 | 0 | 0 | 44 | 0 | 44 | 0 | 46 | 0 | 0 | 46 | 98 |
| 4:45 PM | 0 | 1 | 3 | 0 | 4 | 0 | 4 | 33 | 0 | 37 | 0 | 51 | 2 | 0 | 53 | 94 |
| Total | 0 | 16 | 25 | 1 | 41 | 0 | 4 | 155 | 0 | 159 | 0 | 187 | 5 | 0 | 192 | 392 |
| Approach % | 0.0 | 39.0 | 61.0 | - | - | 0.0 | 2.5 | 97.5 | - | - | 0.0 | 97.4 | 2.6 | - | - | - |
| Total % | 0.0 | 4.1 | 6.4 | - | 10.5 | 0.0 | 1.0 | 39.5 | - | 40.6 | 0.0 | 47.7 | 1.3 | - | 49.0 | - |
| PHF | 0.000 | 0.444 | 0.625 | - | 0.539 | 0.000 | 0.250 | 0.881 | - | 0.903 | 0.000 | 0.917 | 0.417 | - | 0.906 | 0.942 |
| Lights | 0 | 16 | 25 | - | 41 | 0 | 3 | 154 | - | 157 | 0 | 183 | 5 | - | 188 | 386 |
| % Lights | - | 100.0 | 100.0 | - | 100.0 | - | 75.0 | 99.4 | - | 98.7 | - | 97.9 | 100.0 | - | 97.9 | 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 | - | 0.0 | 0.0 |
| Single-Unit Trucks | 0 | 0 | 0 | - | 0 | 0 | 0 | 1 | - | 1 | 0 | 4 | 0 | - | 4 | 5 |
| % Single-Unit Trucks | - | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.6 | - | 0.6 | - | 2.1 | 0.0 | - | 2.1 | 1.3 |
| Articulated Trucks | 0 | 0 | 0 | - | 0 | 0 | 1 | 0 | - | 1 | 0 | 0 | 0 | - | 0 | 1 |
| % Articulated Trucks | - | 0.0 | 0.0 | - | 0.0 | - | 25.0 | 0.0 | - | 0.6 | - | 0.0 | 0.0 | - | 0.0 | 0.3 |
| 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 | - | - | - | 1 | - | - | - | - | 0 | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | 100.0 | - | - | - | - | - | - | - | - | - | - | - | - |

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 abowen@kloainc.com

Count Name: Lehigh Avenue with River Drive
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Data

| Start Time | River Drive Eastbound | | | | | Lehigh Avenue Northbound | | | | | Lehigh Avenue Southbound | | | | | Int. Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | |
| 6:00 AM | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 21 | 0 | 21 | 0 | 12 | 5 | 0 | 17 | 44 |
| 6:15 AM | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 20 | 0 | 20 | 0 | 21 | 5 | 0 | 26 | 49 |
| 6:30 AM | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 24 | 0 | 24 | 0 | 9 | 9 | 0 | 18 | 48 |
| 6:45 AM | 0 | 2 | 1 | 0 | 3 | 0 | 2 | 24 | 0 | 26 | 0 | 19 | 10 | 0 | 29 | 58 |
| Hourly Total | 0 | 17 | 1 | 0 | 18 | 0 | 2 | 89 | 0 | 91 | 0 | 61 | 29 | 0 | 90 | 199 |
| 7:00 AM | 0 | 3 | 1 | 0 | 4 | 0 | 2 | 33 | 0 | 35 | 0 | 21 | 6 | 0 | 27 | 66 |
| 7:15 AM | 0 | 8 | 2 | 0 | 10 | 0 | 2 | 28 | 0 | 30 | 0 | 24 | 15 | 0 | 39 | 79 |
| 7:30 AM | 0 | 6 | 0 | 0 | 6 | 0 | 2 | 37 | 0 | 39 | 0 | 21 | 9 | 0 | 30 | 75 |
| 7:45 AM | 0 | 8 | 0 | 1 | 8 | 0 | 3 | 26 | 0 | 29 | 0 | 32 | 15 | 0 | 47 | 84 |
| Hourly Total | 0 | 25 | 3 | 1 | 28 | 0 | 9 | 124 | 0 | 133 | 0 | 98 | 45 | 0 | 143 | 304 |
| 8:00 AM | 0 | 9 | 1 | 0 | 10 | 0 | 3 | 27 | 0 | 30 | 0 | 29 | 8 | 0 | 37 | 77 |
| 8:15 AM | 0 | 7 | 1 | 0 | 8 | 0 | 4 | 22 | 0 | 26 | 0 | 30 | 10 | 0 | 40 | 74 |
| 8:30 AM | 0 | 2 | 1 | 0 | 3 | 0 | 4 | 10 | 0 | 14 | 0 | 31 | 7 | 0 | 38 | 55 |
| 8:45 AM | 0 | 9 | 1 | 0 | 10 | 0 | 6 | 24 | 0 | 30 | 0 | 18 | 15 | 0 | 33 | 73 |
| Hourly Total | 0 | 27 | 4 | 0 | 31 | 0 | 17 | 83 | 0 | 100 | 0 | 108 | 40 | 0 | 148 | 279 |
| *** BREAK *** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | 0 | 15 | 5 | 0 | 20 | 0 | 0 | 42 | 0 | 42 | 0 | 42 | 7 | 0 | 49 | 111 |
| 4:15 PM | 0 | 11 | 0 | 0 | 11 | 0 | 2 | 47 | 1 | 49 | 0 | 45 | 14 | 0 | 59 | 119 |
| 4:30 PM | 0 | 10 | 5 | 1 | 15 | 0 | 1 | 45 | 0 | 46 | 0 | 41 | 7 | 0 | 48 | 109 |
| 4:45 PM | 0 | 16 | 5 | 0 | 21 | 0 | 1 | 36 | 0 | 37 | 0 | 48 | 11 | 0 | 59 | 117 |
| Hourly Total | 0 | 52 | 15 | 1 | 67 | 0 | 4 | 170 | 1 | 174 | 0 | 176 | 39 | 0 | 215 | 456 |
| 5:00 PM | 0 | 14 | 10 | 0 | 24 | 0 | 2 | 31 | 0 | 33 | 0 | 38 | 6 | 0 | 44 | 101 |
| 5:15 PM | 0 | 10 | 3 | 0 | 13 | 0 | 3 | 35 | 0 | 38 | 0 | 39 | 11 | 0 | 50 | 101 |
| 5:30 PM | 0 | 8 | 1 | 0 | 9 | 0 | 1 | 21 | 0 | 22 | 0 | 43 | 7 | 0 | 50 | 81 |
| 5:45 PM | 0 | 5 | 1 | 0 | 6 | 0 | 3 | 18 | 0 | 21 | 0 | 49 | 6 | 0 | 55 | 82 |
| Hourly Total | 0 | 37 | 15 | 0 | 52 | 0 | 9 | 105 | 0 | 114 | 0 | 169 | 30 | 0 | 199 | 365 |
| 6:00 PM | 0 | 8 | 1 | 0 | 9 | 0 | 2 | 28 | 0 | 30 | 0 | 30 | 2 | 0 | 32 | 71 |
| 6:15 PM | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 32 | 0 | 32 | 0 | 42 | 4 | 1 | 46 | 84 |
| 6:30 PM | 0 | 4 | 0 | 0 | 4 | 0 | 2 | 27 | 0 | 29 | 0 | 27 | 3 | 0 | 30 | 63 |
| 6:45 PM | 0 | 2 | 1 | 0 | 3 | 0 | 3 | 13 | 0 | 16 | 0 | 22 | 2 | 0 | 24 | 43 |
| Hourly Total | 0 | 20 | 2 | 0 | 22 | 0 | 7 | 100 | 0 | 107 | 0 | 121 | 11 | 1 | 132 | 261 |
| Grand Total | 0 | 178 | 40 | 2 | 218 | 0 | 48 | 671 | 1 | 719 | 0 | 733 | 194 | 1 | 927 | 1864 |
| Approach % | 0.0 | 81.7 | 18.3 | - | - | 0.0 | 6.7 | 93.3 | - | - | 0.0 | 79.1 | 20.9 | - | - | - |
| Total % | 0.0 | 9.5 | 2.1 | - | 11.7 | 0.0 | 2.6 | 36.0 | - | 38.6 | 0.0 | 39.3 | 10.4 | - | 49.7 | - |
| Lights | 0 | 176 | 40 | - | 216 | 0 | 47 | 660 | - | 707 | 0 | 721 | 189 | - | 910 | 1833 |
| % Lights | - | 98.9 | 100.0 | - | 99.1 | - | 97.9 | 98.4 | - | 98.3 | - | 98.4 | 97.4 | - | 98.2 | 98.3 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 2 | 0 | - | 2 | 0 | 0 | 9 | - | 9 | 0 | 11 | 4 | - | 15 | 26 |
| % Single-Unit Trucks | - | 1.1 | 0.0 | - | 0.9 | - | 0.0 | 1.3 | - | 1.3 | - | 1.5 | 2.1 | - | 1.6 | 1.4 |
| Articulated Trucks | 0 | 0 | 0 | - | 0 | 0 | 1 | 0 | - | 1 | 0 | 1 | 0 | - | 1 | 2 |
| % Articulated Trucks | - | 0.0 | 0.0 | - | 0.0 | - | 2.1 | 0.0 | - | 0.1 | - | 0.1 | 0.0 | - | 0.1 | 0.1 |
| Bicycles on Road | 0 | 0 | 0 | - | 0 | 0 | 0 | 2 | - | 2 | 0 | 0 | 1 | - | 1 | 3 |
| % Bicycles on Road | - | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.3 | - | 0.3 | - | 0.0 | 0.5 | - | 0.1 | 0.2 |
| Pedestrians | - | - | - | 2 | - | - | - | - | 1 | - | - | - | - | 1 | - | - |
| % Pedestrians | - | - | - | 100.0 | - | - | - | - | 100.0 | - | - | - | - | 100.0 | - | - |

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9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
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Count Name: Lehigh Avenue with River Drive
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (8:00 AM)

| Start Time | River Drive Eastbound | | | | | Lehigh Avenue Northbound | | | | | Lehigh Avenue Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | Int. Total |
| 8:00 AM | 0 | 9 | 1 | 0 | 10 | 0 | 3 | 27 | 0 | 30 | 0 | 29 | 8 | 0 | 37 | 77 |
| 8:15 AM | 0 | 7 | 1 | 0 | 8 | 0 | 4 | 22 | 0 | 26 | 0 | 30 | 10 | 0 | 40 | 74 |
| 8:30 AM | 0 | 2 | 1 | 0 | 3 | 0 | 4 | 10 | 0 | 14 | 0 | 31 | 7 | 0 | 38 | 55 |
| 8:45 AM | 0 | 9 | 1 | 0 | 10 | 0 | 6 | 24 | 0 | 30 | 0 | 18 | 15 | 0 | 33 | 73 |
| Total | 0 | 27 | 4 | 0 | 31 | 0 | 17 | 83 | 0 | 100 | 0 | 108 | 40 | 0 | 148 | 279 |
| Approach % | 0.0 | 87.1 | 12.9 | - | - | 0.0 | 17.0 | 83.0 | - | - | 0.0 | 73.0 | 27.0 | - | - | - |
| Total % | 0.0 | 9.7 | 1.4 | - | 11.1 | 0.0 | 6.1 | 29.7 | - | 35.8 | 0.0 | 38.7 | 14.3 | - | 53.0 | - |
| PHF | 0.000 | 0.750 | 1.000 | - | 0.775 | 0.000 | 0.708 | 0.769 | - | 0.833 | 0.000 | 0.871 | 0.667 | - | 0.925 | 0.906 |
| Lights | 0 | 26 | 4 | - | 30 | 0 | 16 | 83 | - | 99 | 0 | 104 | 38 | - | 142 | 271 |
| % Lights | - | 96.3 | 100.0 | - | 96.8 | - | 94.1 | 100.0 | - | 99.0 | - | 96.3 | 95.0 | - | 95.9 | 97.1 |
| 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 | 1 | 0 | - | 1 | 0 | 0 | 0 | - | 0 | 0 | 3 | 2 | - | 5 | 6 |
| % Single-Unit Trucks | - | 3.7 | 0.0 | - | 3.2 | - | 0.0 | 0.0 | - | 0.0 | - | 2.8 | 5.0 | - | 3.4 | 2.2 |
| Articulated Trucks | 0 | 0 | 0 | - | 0 | 0 | 1 | 0 | - | 1 | 0 | 1 | 0 | - | 1 | 2 |
| % Articulated Trucks | - | 0.0 | 0.0 | - | 0.0 | - | 5.9 | 0.0 | - | 1.0 | - | 0.9 | 0.0 | - | 0.7 | 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 | - | 0.0 | 0.0 |
| Pedestrians | - | - | - | 0 | - | - | - | - | 0 | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

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Count Name: Lehigh Avenue with River Drive
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (4:00 PM)

| Start Time | River Drive Eastbound | | | | | Lehigh Avenue Northbound | | | | | Lehigh Avenue Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | Int. Total |
| 4:00 PM | 0 | 15 | 5 | 0 | 20 | 0 | 0 | 42 | 0 | 42 | 0 | 42 | 7 | 0 | 49 | 111 |
| 4:15 PM | 0 | 11 | 0 | 0 | 11 | 0 | 2 | 47 | 1 | 49 | 0 | 45 | 14 | 0 | 59 | 119 |
| 4:30 PM | 0 | 10 | 5 | 1 | 15 | 0 | 1 | 45 | 0 | 46 | 0 | 41 | 7 | 0 | 48 | 109 |
| 4:45 PM | 0 | 16 | 5 | 0 | 21 | 0 | 1 | 36 | 0 | 37 | 0 | 48 | 11 | 0 | 59 | 117 |
| Total | 0 | 52 | 15 | 1 | 67 | 0 | 4 | 170 | 1 | 174 | 0 | 176 | 39 | 0 | 215 | 456 |
| Approach % | 0.0 | 77.6 | 22.4 | - | - | 0.0 | 2.3 | 97.7 | - | - | 0.0 | 81.9 | 18.1 | - | - | - |
| Total % | 0.0 | 11.4 | 3.3 | - | 14.7 | 0.0 | 0.9 | 37.3 | - | 38.2 | 0.0 | 38.6 | 8.6 | - | 47.1 | - |
| PHF | 0.000 | 0.813 | 0.750 | - | 0.798 | 0.000 | 0.500 | 0.904 | - | 0.888 | 0.000 | 0.917 | 0.696 | - | 0.911 | 0.958 |
| Lights | 0 | 52 | 15 | - | 67 | 0 | 4 | 169 | - | 173 | 0 | 172 | 38 | - | 210 | 450 |
| % Lights | - | 100.0 | 100.0 | - | 100.0 | - | 100.0 | 99.4 | - | 99.4 | - | 97.7 | 97.4 | - | 97.7 | 98.7 |
| 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 | 0 | - | 0 | 0 | 0 | 1 | - | 1 | 0 | 4 | 1 | - | 5 | 6 |
| % Single-Unit Trucks | - | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.6 | - | 0.6 | - | 2.3 | 2.6 | - | 2.3 | 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 |
| 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 | - | - | - | 1 | - | - | - | - | 1 | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | 100.0 | - | - | - | - | 100.0 | - | - | - | - | - | - | - |

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Rosemont, Illinois, United States 60018
(847)518-9990 abowen@kloainc.com

Count Name: Lincoln Avenue with Lehigh Avenue TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Data

| Start Time | Lincoln Avenue Westbound | | | | | Lehigh Avenue Northbound | | | | | Access Drive Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | Int. Total |
| 4:00 PM | 0 | 21 | 13 | 0 | 34 | 0 | 7 | 76 | 1 | 83 | 0 | 23 | 7 | 0 | 30 | 147 |
| 4:15 PM | 0 | 33 | 5 | 1 | 38 | 1 | 3 | 74 | 2 | 78 | 0 | 17 | 6 | 1 | 23 | 139 |
| 4:30 PM | 0 | 35 | 10 | 0 | 45 | 0 | 4 | 54 | 1 | 58 | 0 | 16 | 1 | 1 | 17 | 120 |
| 4:45 PM | 0 | 35 | 7 | 0 | 42 | 0 | 3 | 87 | 3 | 90 | 0 | 31 | 7 | 0 | 38 | 170 |
| Hourly Total | 0 | 124 | 35 | 1 | 159 | 1 | 17 | 291 | 7 | 309 | 0 | 87 | 21 | 2 | 108 | 576 |
| 5:00 PM | 0 | 28 | 8 | 0 | 36 | 0 | 4 | 53 | 0 | 57 | 0 | 27 | 12 | 1 | 39 | 132 |
| 5:15 PM | 0 | 29 | 12 | 0 | 41 | 0 | 3 | 79 | 0 | 82 | 0 | 28 | 12 | 0 | 40 | 163 |
| 5:30 PM | 0 | 34 | 12 | 0 | 46 | 0 | 5 | 38 | 0 | 43 | 0 | 15 | 14 | 1 | 29 | 118 |
| 5:45 PM | 0 | 32 | 12 | 0 | 44 | 0 | 3 | 64 | 0 | 67 | 0 | 29 | 9 | 2 | 38 | 149 |
| Hourly Total | 0 | 123 | 44 | 0 | 167 | 0 | 15 | 234 | 0 | 249 | 0 | 99 | 47 | 4 | 146 | 562 |
| 6:00 PM | 0 | 18 | 9 | 0 | 27 | 0 | 7 | 49 | 0 | 56 | 0 | 16 | 8 | 3 | 24 | 107 |
| 6:15 PM | 0 | 28 | 9 | 0 | 37 | 0 | 4 | 46 | 0 | 50 | 0 | 19 | 6 | 0 | 25 | 112 |
| 6:30 PM | 0 | 13 | 6 | 0 | 19 | 0 | 2 | 36 | 0 | 38 | 0 | 26 | 11 | 0 | 37 | 94 |
| 6:45 PM | 0 | 14 | 5 | 0 | 19 | 0 | 4 | 14 | 1 | 18 | 0 | 23 | 11 | 2 | 34 | 71 |
| Hourly Total | 0 | 73 | 29 | 0 | 102 | 0 | 17 | 145 | 1 | 162 | 0 | 84 | 36 | 5 | 120 | 384 |
| Grand Total | 0 | 320 | 108 | 1 | 428 | 1 | 49 | 670 | 8 | 720 | 0 | 270 | 104 | 11 | 374 | 1522 |
| Approach % | 0.0 | 74.8 | 25.2 | - | - | 0.1 | 6.8 | 93.1 | - | - | 0.0 | 72.2 | 27.8 | - | - | - |
| Total % | 0.0 | 21.0 | 7.1 | - | 28.1 | 0.1 | 3.2 | 44.0 | - | 47.3 | 0.0 | 17.7 | 6.8 | - | 24.6 | - |
| Lights | 0 | 316 | 106 | - | 422 | 1 | 48 | 669 | - | 718 | 0 | 267 | 103 | - | 370 | 1510 |
| % Lights | - | 98.8 | 98.1 | - | 98.6 | 100.0 | 98.0 | 99.9 | - | 99.7 | - | 98.9 | 99.0 | - | 98.9 | 99.2 |
| Buses | 0 | 0 | 0 | - | 0 | 0 | 0 | 1 | - | 1 | 0 | 0 | 0 | - | 0 | 1 |
| % Buses | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.1 | - | 0.1 | - | 0.0 | 0.0 | - | 0.0 | 0.1 |
| Single-Unit Trucks | 0 | 4 | 1 | - | 5 | 0 | 1 | 0 | - | 1 | 0 | 2 | 1 | - | 3 | 9 |
| % Single-Unit Trucks | - | 1.3 | 0.9 | - | 1.2 | 0.0 | 2.0 | 0.0 | - | 0.1 | - | 0.7 | 1.0 | - | 0.8 | 0.6 |
| 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 | 0 | 1 | - | 1 | 0 | 0 | 0 | - | 0 | 0 | 1 | 0 | - | 1 | 2 |
| % Bicycles on Road | - | 0.0 | 0.9 | - | 0.2 | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.4 | 0.0 | - | 0.3 | 0.1 |
| Pedestrians | - | - | - | 1 | - | - | - | - | 8 | - | - | - | - | 11 | - | - |
| % Pedestrians | - | - | - | 100.0 | - | - | - | - | 100.0 | - | - | - | - | 100.0 | - | - |

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Rosemont, Illinois, United States 60018
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Count Name: Lincoln Avenue with Lehigh Avenue TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (4:00 PM)

| Start Time | Lincoln Avenue Westbound | | | | | Lehigh Avenue Northbound | | | | | Access Drive Southbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | Int. Total |
| 4:00 PM | 0 | 21 | 13 | 0 | 34 | 0 | 7 | 76 | 1 | 83 | 0 | 23 | 7 | 0 | 30 | 147 |
| 4:15 PM | 0 | 33 | 5 | 1 | 38 | 1 | 3 | 74 | 2 | 78 | 0 | 17 | 6 | 1 | 23 | 139 |
| 4:30 PM | 0 | 35 | 10 | 0 | 45 | 0 | 4 | 54 | 1 | 58 | 0 | 16 | 1 | 1 | 17 | 120 |
| 4:45 PM | 0 | 35 | 7 | 0 | 42 | 0 | 3 | 87 | 3 | 90 | 0 | 31 | 7 | 0 | 38 | 170 |
| Total | 0 | 124 | 35 | 1 | 159 | 1 | 17 | 291 | 7 | 309 | 0 | 87 | 21 | 2 | 108 | 576 |
| Approach % | 0.0 | 78.0 | 22.0 | - | - | 0.3 | 5.5 | 94.2 | - | - | 0.0 | 80.6 | 19.4 | - | - | - |
| Total % | 0.0 | 21.5 | 6.1 | - | 27.6 | 0.2 | 3.0 | 50.5 | - | 53.6 | 0.0 | 15.1 | 3.6 | - | 18.8 | - |
| PHF | 0.000 | 0.886 | 0.673 | - | 0.883 | 0.250 | 0.607 | 0.836 | - | 0.858 | 0.000 | 0.702 | 0.750 | - | 0.711 | 0.847 |
| Lights | 0 | 122 | 34 | - | 156 | 1 | 17 | 291 | - | 309 | 0 | 87 | 21 | - | 108 | 573 |
| % Lights | - | 98.4 | 97.1 | - | 98.1 | 100.0 | 100.0 | 100.0 | - | 100.0 | - | 100.0 | 100.0 | - | 100.0 | 99.5 |
| 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 | 0.0 | - | 0.0 | 0.0 |
| Single-Unit Trucks | 0 | 2 | 1 | - | 3 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 3 |
| % Single-Unit Trucks | - | 1.6 | 2.9 | - | 1.9 | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | - | 0.0 | 0.5 |
| 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 | 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 |
| Pedestrians | - | - | - | 1 | - | - | - | - | 7 | - | - | - | - | 2 | - | - |
| % Pedestrians | - | - | - | 100.0 | - | - | - | - | 100.0 | - | - | - | - | 100.0 | - | - |

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Count Name: Oakton Street with River Drive
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Data

| Start Time | Oakton Street Eastbound | | | | | | Oakton Street Westbound | | | | | | River Drive Northbound | | | | | | River Drive 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 | |
| 6:00 AM | 0 | 17 | 65 | 7 | 0 | 89 | 0 | 4 | 65 | 0 | 0 | 69 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 4 | 164 |
| 6:15 AM | 0 | 13 | 90 | 19 | 0 | 122 | 0 | 2 | 93 | 2 | 0 | 97 | 0 | 1 | 0 | 3 | 0 | 4 | 0 | 0 | 2 | 2 | 0 | 4 | 227 |
| 6:30 AM | 0 | 15 | 128 | 16 | 0 | 159 | 0 | 6 | 100 | 0 | 0 | 106 | 0 | 6 | 0 | 4 | 0 | 10 | 0 | 0 | 1 | 3 | 0 | 4 | 279 |
| 6:45 AM | 0 | 30 | 130 | 13 | 0 | 173 | 0 | 7 | 90 | 1 | 0 | 98 | 0 | 3 | 2 | 7 | 0 | 12 | 0 | 0 | 0 | 6 | 0 | 6 | 289 |
| Hourly Total | 0 | 75 | 413 | 55 | 0 | 543 | 0 | 19 | 348 | 3 | 0 | 370 | 0 | 11 | 2 | 15 | 0 | 28 | 0 | 0 | 3 | 15 | 0 | 18 | 959 |
| 7:00 AM | 0 | 17 | 112 | 17 | 0 | 146 | 0 | 3 | 126 | 6 | 1 | 135 | 0 | 8 | 2 | 3 | 0 | 13 | 0 | 3 | 0 | 5 | 0 | 8 | 302 |
| 7:15 AM | 0 | 28 | 124 | 22 | 0 | 174 | 0 | 8 | 98 | 3 | 0 | 109 | 0 | 11 | 2 | 5 | 1 | 18 | 0 | 1 | 1 | 8 | 0 | 10 | 311 |
| 7:30 AM | 0 | 23 | 140 | 26 | 0 | 189 | 0 | 5 | 143 | 1 | 0 | 149 | 0 | 11 | 1 | 3 | 0 | 15 | 0 | 0 | 0 | 7 | 0 | 7 | 360 |
| 7:45 AM | 0 | 34 | 138 | 27 | 0 | 199 | 0 | 2 | 103 | 0 | 0 | 105 | 0 | 8 | 4 | 8 | 0 | 20 | 0 | 0 | 1 | 10 | 0 | 11 | 335 |
| Hourly Total | 0 | 102 | 514 | 92 | 0 | 708 | 0 | 18 | 470 | 10 | 1 | 498 | 0 | 38 | 9 | 19 | 1 | 66 | 0 | 4 | 2 | 30 | 0 | 36 | 1308 |
| 8:00 AM | 0 | 22 | 129 | 27 | 0 | 178 | 0 | 10 | 127 | 4 | 0 | 141 | 0 | 17 | 5 | 4 | 0 | 26 | 0 | 1 | 1 | 6 | 0 | 8 | 353 |
| 8:15 AM | 0 | 30 | 154 | 19 | 0 | 203 | 0 | 7 | 140 | 1 | 0 | 148 | 0 | 14 | 2 | 6 | 0 | 22 | 0 | 1 | 2 | 6 | 0 | 9 | 382 |
| 8:30 AM | 0 | 22 | 137 | 29 | 0 | 188 | 0 | 12 | 138 | 0 | 0 | 150 | 0 | 12 | 1 | 7 | 0 | 20 | 0 | 0 | 1 | 9 | 0 | 10 | 368 |
| 8:45 AM | 0 | 26 | 139 | 19 | 0 | 184 | 0 | 11 | 129 | 1 | 0 | 141 | 0 | 12 | 4 | 10 | 0 | 26 | 0 | 0 | 2 | 7 | 0 | 9 | 360 |
| Hourly Total | 0 | 100 | 559 | 94 | 0 | 753 | 0 | 40 | 534 | 6 | 0 | 580 | 0 | 55 | 12 | 27 | 0 | 94 | 0 | 2 | 6 | 28 | 0 | 36 | 1463 |
| *** BREAK *** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | 0 | 17 | 182 | 22 | 0 | 221 | 0 | 25 | 208 | 2 | 0 | 235 | 0 | 27 | 3 | 21 | 0 | 51 | 0 | 5 | 3 | 25 | 0 | 33 | 540 |
| 4:15 PM | 0 | 10 | 162 | 23 | 0 | 195 | 0 | 12 | 190 | 4 | 0 | 206 | 0 | 28 | 4 | 25 | 0 | 57 | 0 | 0 | 1 | 24 | 0 | 25 | 483 |
| 4:30 PM | 0 | 9 | 199 | 21 | 0 | 229 | 0 | 23 | 186 | 0 | 0 | 209 | 0 | 36 | 2 | 18 | 0 | 56 | 0 | 5 | 4 | 25 | 0 | 34 | 528 |
| 4:45 PM | 0 | 12 | 181 | 24 | 0 | 217 | 0 | 16 | 196 | 0 | 0 | 212 | 0 | 25 | 0 | 20 | 0 | 45 | 0 | 1 | 5 | 32 | 0 | 38 | 512 |
| Hourly Total | 0 | 48 | 724 | 90 | 0 | 862 | 0 | 76 | 780 | 6 | 0 | 862 | 0 | 116 | 9 | 84 | 0 | 209 | 0 | 11 | 13 | 106 | 0 | 130 | 2063 |
| 5:00 PM | 0 | 9 | 184 | 9 | 0 | 202 | 0 | 17 | 189 | 2 | 0 | 208 | 0 | 40 | 5 | 12 | 0 | 57 | 0 | 1 | 1 | 23 | 0 | 25 | 492 |
| 5:15 PM | 0 | 12 | 197 | 31 | 0 | 240 | 0 | 11 | 215 | 0 | 0 | 226 | 0 | 27 | 2 | 19 | 0 | 48 | 0 | 2 | 3 | 23 | 0 | 28 | 542 |
| 5:30 PM | 0 | 8 | 211 | 21 | 0 | 240 | 0 | 8 | 175 | 0 | 0 | 183 | 0 | 22 | 1 | 20 | 0 | 43 | 0 | 1 | 1 | 19 | 0 | 21 | 487 |
| 5:45 PM | 0 | 6 | 190 | 17 | 0 | 213 | 0 | 15 | 180 | 1 | 1 | 196 | 0 | 30 | 1 | 10 | 1 | 41 | 0 | 2 | 1 | 17 | 0 | 20 | 470 |
| Hourly Total | 0 | 35 | 782 | 78 | 0 | 895 | 0 | 51 | 759 | 3 | 1 | 813 | 0 | 119 | 9 | 61 | 1 | 189 | 0 | 6 | 6 | 82 | 0 | 94 | 1991 |
| 6:00 PM | 0 | 11 | 146 | 28 | 1 | 185 | 0 | 11 | 151 | 1 | 1 | 163 | 0 | 15 | 0 | 15 | 0 | 30 | 0 | 3 | 2 | 14 | 0 | 19 | 397 |
| 6:15 PM | 0 | 6 | 164 | 10 | 0 | 180 | 0 | 8 | 181 | 0 | 0 | 189 | 0 | 24 | 0 | 14 | 1 | 38 | 0 | 0 | 2 | 8 | 0 | 10 | 417 |
| 6:30 PM | 0 | 4 | 160 | 17 | 0 | 181 | 0 | 12 | 147 | 0 | 0 | 159 | 0 | 28 | 2 | 9 | 0 | 39 | 0 | 0 | 2 | 10 | 0 | 12 | 391 |
| 6:45 PM | 0 | 4 | 135 | 19 | 0 | 158 | 0 | 10 | 136 | 0 | 0 | 146 | 0 | 11 | 0 | 5 | 0 | 16 | 0 | 0 | 0 | 4 | 0 | 4 | 324 |
| Hourly Total | 0 | 25 | 605 | 74 | 1 | 704 | 0 | 41 | 615 | 1 | 1 | 657 | 0 | 78 | 2 | 43 | 1 | 123 | 0 | 3 | 6 | 36 | 0 | 45 | 1529 |
| Grand Total | 0 | 385 | 3597 | 483 | 1 | 4465 | 0 | 245 | 3506 | 29 | 3 | 3780 | 0 | 417 | 43 | 249 | 3 | 709 | 0 | 26 | 36 | 297 | 0 | 359 | 9313 |
| Approach % | 0.0 | 8.6 | 80.6 | 10.8 | - | - | 0.0 | 6.5 | 92.8 | 0.8 | - | - | 0.0 | 58.8 | 6.1 | 35.1 | - | - | 0.0 | 7.2 | 10.0 | 82.7 | - | - | - |
| Total % | 0.0 | 4.1 | 38.6 | 5.2 | - | 47.9 | 0.0 | 2.6 | 37.6 | 0.3 | - | 40.6 | 0.0 | 4.5 | 0.5 | 2.7 | - | 7.6 | 0.0 | 0.3 | 0.4 | 3.2 | - | 3.9 | - |
| Lights | 0 | 372 | 3480 | 471 | - | 4323 | 0 | 237 | 3399 | 25 | - | 3661 | 0 | 394 | 37 | 242 | - | 673 | 0 | 24 | 29 | 288 | - | 341 | 8998 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % Lights | - | 96.6 | 96.7 | 97.5 | - | 96.8 | - | 96.7 | 96.9 | 86.2 | - | 96.9 | - | 94.5 | 86.0 | 97.2 | - | 94.9 | - | 92.3 | 80.6 | 97.0 | - | 95.0 | 96.6 |
| Buses | 0 | 0 | 18 | 0 | - | 18 | 0 | 0 | 24 | 0 | - | 24 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 42 |
| % Buses | - | 0.0 | 0.5 | 0.0 | - | 0.4 | - | 0.0 | 0.7 | 0.0 | - | 0.6 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.5 |
| Single-Unit Trucks | 0 | 7 | 72 | 5 | - | 84 | 0 | 6 | 62 | 2 | - | 70 | 0 | 14 | 5 | 3 | - | 22 | 0 | 1 | 5 | 6 | - | 12 | 188 |
| % Single-Unit Trucks | - | 1.8 | 2.0 | 1.0 | - | 1.9 | - | 2.4 | 1.8 | 6.9 | - | 1.9 | - | 3.4 | 11.6 | 1.2 | - | 3.1 | - | 3.8 | 13.9 | 2.0 | - | 3.3 | 2.0 |
| Articulated Trucks | 0 | 6 | 27 | 6 | - | 39 | 0 | 2 | 20 | 2 | - | 24 | 0 | 9 | 1 | 3 | - | 13 | 0 | 1 | 1 | 3 | - | 5 | 81 |
| % Articulated Trucks | - | 1.6 | 0.8 | 1.2 | - | 0.9 | - | 0.8 | 0.6 | 6.9 | - | 0.6 | - | 2.2 | 2.3 | 1.2 | - | 1.8 | - | 3.8 | 2.8 | 1.0 | - | 1.4 | 0.9 |
| Bicycles on Road | 0 | 0 | 0 | 1 | - | 1 | 0 | 0 | 1 | 0 | - | 1 | 0 | 0 | 0 | 1 | - | 1 | 0 | 0 | 1 | 0 | - | 1 | 4 |
| % Bicycles on Road | - | 0.0 | 0.0 | 0.2 | - | 0.0 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | 0.4 | - | 0.1 | - | 0.0 | 2.8 | 0.0 | - | 0.3 | 0.0 |
| Pedestrians | - | - | - | - | 1 | - | - | - | - | - | 3 | - | - | - | - | - | 3 | - | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | - | 100.0 | - | - | - | - | - | 100.0 | - | - | - | - | - | 100.0 | - | - | - | - | - | - | - | - |

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 abowen@kloainc.com

Count Name: Oakton Street with River Drive
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (8:00 AM)

| Start Time | Oakton Street Eastbound | | | | | | Oakton Street Westbound | | | | | | River Drive Northbound | | | | | | River Drive Southbound | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | Int. Total |
| 8:00 AM | 0 | 22 | 129 | 27 | 0 | 178 | 0 | 10 | 127 | 4 | 0 | 141 | 0 | 17 | 5 | 4 | 0 | 26 | 0 | 1 | 1 | 6 | 0 | 8 | 353 |
| 8:15 AM | 0 | 30 | 154 | 19 | 0 | 203 | 0 | 7 | 140 | 1 | 0 | 148 | 0 | 14 | 2 | 6 | 0 | 22 | 0 | 1 | 2 | 6 | 0 | 9 | 382 |
| 8:30 AM | 0 | 22 | 137 | 29 | 0 | 188 | 0 | 12 | 138 | 0 | 0 | 150 | 0 | 12 | 1 | 7 | 0 | 20 | 0 | 0 | 1 | 9 | 0 | 10 | 368 |
| 8:45 AM | 0 | 26 | 139 | 19 | 0 | 184 | 0 | 11 | 129 | 1 | 0 | 141 | 0 | 12 | 4 | 10 | 0 | 26 | 0 | 0 | 2 | 7 | 0 | 9 | 360 |
| Total | 0 | 100 | 559 | 94 | 0 | 753 | 0 | 40 | 534 | 6 | 0 | 580 | 0 | 55 | 12 | 27 | 0 | 94 | 0 | 2 | 6 | 28 | 0 | 36 | 1463 |
| Approach % | 0.0 | 13.3 | 74.2 | 12.5 | - | - | 0.0 | 6.9 | 92.1 | 1.0 | - | - | 0.0 | 58.5 | 12.8 | 28.7 | - | - | 0.0 | 5.6 | 16.7 | 77.8 | - | - | - |
| Total % | 0.0 | 6.8 | 38.2 | 6.4 | - | 51.5 | 0.0 | 2.7 | 36.5 | 0.4 | - | 39.6 | 0.0 | 3.8 | 0.8 | 1.8 | - | 6.4 | 0.0 | 0.1 | 0.4 | 1.9 | - | 2.5 | - |
| PHF | 0.000 | 0.833 | 0.907 | 0.810 | - | 0.927 | 0.000 | 0.833 | 0.954 | 0.375 | - | 0.967 | 0.000 | 0.809 | 0.600 | 0.675 | - | 0.904 | 0.000 | 0.500 | 0.750 | 0.778 | - | 0.900 | 0.957 |
| Lights | 0 | 95 | 535 | 92 | - | 722 | 0 | 39 | 509 | 4 | - | 552 | 0 | 51 | 11 | 26 | - | 88 | 0 | 2 | 6 | 24 | - | 32 | 1394 |
| % Lights | - | 95.0 | 95.7 | 97.9 | - | 95.9 | - | 97.5 | 95.3 | 66.7 | - | 95.2 | - | 92.7 | 91.7 | 96.3 | - | 93.6 | - | 100.0 | 100.0 | 85.7 | - | 88.9 | 95.3 |
| Buses | 0 | 0 | 4 | 0 | - | 4 | 0 | 0 | 2 | 0 | - | 2 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 6 |
| % Buses | - | 0.0 | 0.7 | 0.0 | - | 0.5 | - | 0.0 | 0.4 | 0.0 | - | 0.3 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.4 |
| Single-Unit Trucks | 0 | 3 | 13 | 0 | - | 16 | 0 | 1 | 15 | 0 | - | 16 | 0 | 2 | 1 | 1 | - | 4 | 0 | 0 | 0 | 3 | - | 3 | 39 |
| % Single-Unit Trucks | - | 3.0 | 2.3 | 0.0 | - | 2.1 | - | 2.5 | 2.8 | 0.0 | - | 2.8 | - | 3.6 | 8.3 | 3.7 | - | 4.3 | - | 0.0 | 0.0 | 10.7 | - | 8.3 | 2.7 |
| Articulated Trucks | 0 | 2 | 7 | 2 | - | 11 | 0 | 0 | 8 | 2 | - | 10 | 0 | 2 | 0 | 0 | - | 2 | 0 | 0 | 0 | 1 | - | 1 | 24 |
| % Articulated Trucks | - | 2.0 | 1.3 | 2.1 | - | 1.5 | - | 0.0 | 1.5 | 33.3 | - | 1.7 | - | 3.6 | 0.0 | 0.0 | - | 2.1 | - | 0.0 | 0.0 | 3.6 | - | 2.8 | 1.6 |
| 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 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

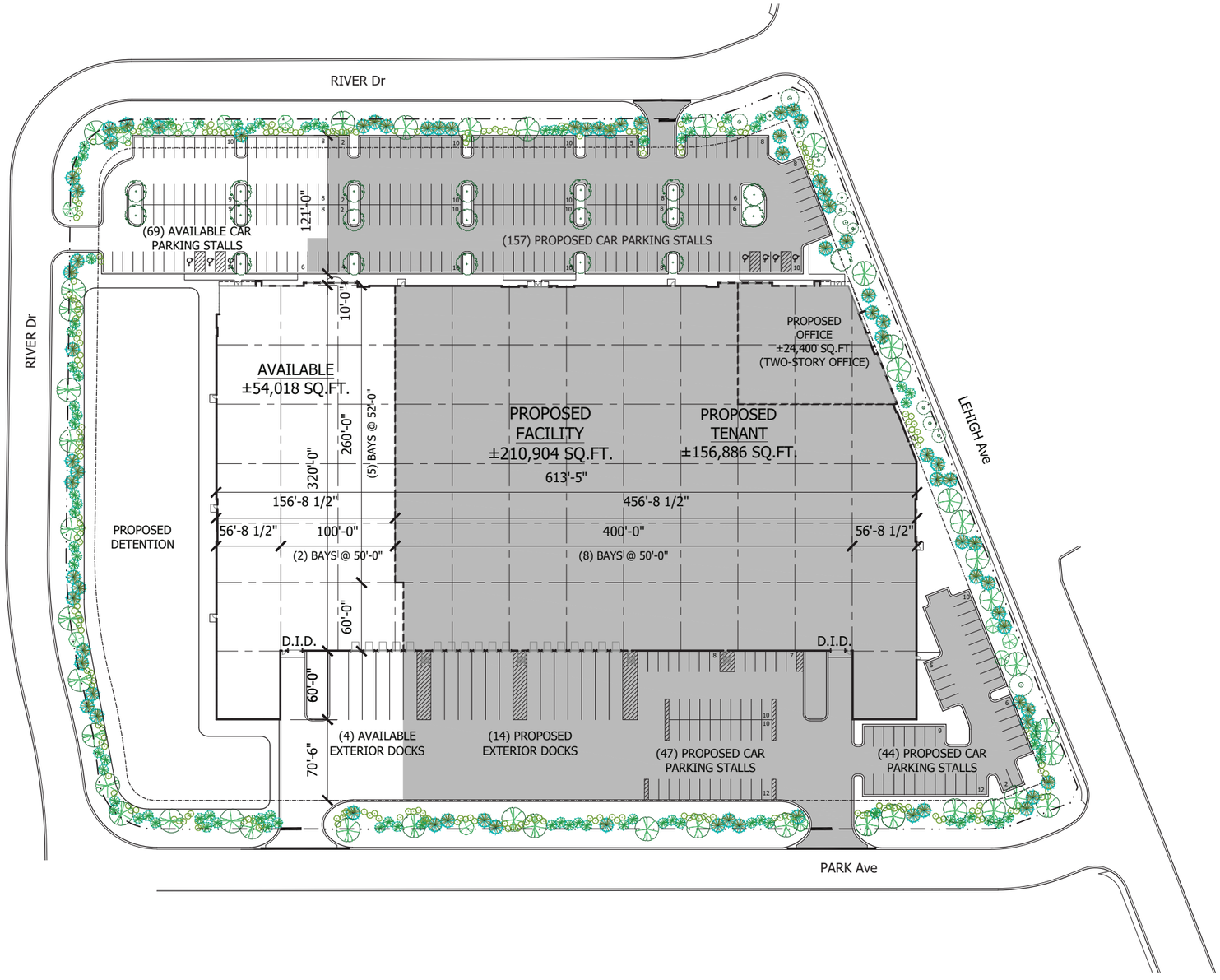
Rosemont, Illinois, United States 60018
(847)518-9990 abowen@kloainc.com

Count Name: Oakton Street with River Drive
TMC
Site Code:
Start Date: 03/25/2025


# Turning Movement Peak Hour Data (4:00 PM)

| Start Time | Oakton Street Eastbound | | | | | | Oakton Street Westbound | | | | | | River Drive Northbound | | | | | | River Drive Southbound | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | Int. Total |
| 4:00 PM | 0 | 17 | 182 | 22 | 0 | 221 | 0 | 25 | 208 | 2 | 0 | 235 | 0 | 27 | 3 | 21 | 0 | 51 | 0 | 5 | 3 | 25 | 0 | 33 | 540 |
| 4:15 PM | 0 | 10 | 162 | 23 | 0 | 195 | 0 | 12 | 190 | 4 | 0 | 206 | 0 | 28 | 4 | 25 | 0 | 57 | 0 | 0 | 1 | 24 | 0 | 25 | 483 |
| 4:30 PM | 0 | 9 | 199 | 21 | 0 | 229 | 0 | 23 | 186 | 0 | 0 | 209 | 0 | 36 | 2 | 18 | 0 | 56 | 0 | 5 | 4 | 25 | 0 | 34 | 528 |
| 4:45 PM | 0 | 12 | 181 | 24 | 0 | 217 | 0 | 16 | 196 | 0 | 0 | 212 | 0 | 25 | 0 | 20 | 0 | 45 | 0 | 1 | 5 | 32 | 0 | 38 | 512 |
| Total | 0 | 48 | 724 | 90 | 0 | 862 | 0 | 76 | 780 | 6 | 0 | 862 | 0 | 116 | 9 | 84 | 0 | 209 | 0 | 11 | 13 | 106 | 0 | 130 | 2063 |
| Approach % | 0.0 | 5.6 | 84.0 | 10.4 | - | - | 0.0 | 8.8 | 90.5 | 0.7 | - | - | 0.0 | 55.5 | 4.3 | 40.2 | - | - | 0.0 | 8.5 | 10.0 | 81.5 | - | - | - |
| Total % | 0.0 | 2.3 | 35.1 | 4.4 | - | 41.8 | 0.0 | 3.7 | 37.8 | 0.3 | - | 41.8 | 0.0 | 5.6 | 0.4 | 4.1 | - | 10.1 | 0.0 | 0.5 | 0.6 | 5.1 | - | 6.3 | - |
| PHF | 0.000 | 0.706 | 0.910 | 0.938 | - | 0.941 | 0.000 | 0.760 | 0.938 | 0.375 | - | 0.917 | 0.000 | 0.806 | 0.563 | 0.840 | - | 0.917 | 0.000 | 0.550 | 0.650 | 0.828 | - | 0.855 | 0.955 |
| Lights | 0 | 47 | 709 | 87 | - | 843 | 0 | 70 | 763 | 6 | - | 839 | 0 | 113 | 8 | 81 | - | 202 | 0 | 10 | 12 | 104 | - | 126 | 2010 |
| % Lights | - | 97.9 | 97.9 | 96.7 | - | 97.8 | - | 92.1 | 97.8 | 100.0 | - | 97.3 | - | 97.4 | 88.9 | 96.4 | - | 96.7 | - | 90.9 | 92.3 | 98.1 | - | 96.9 | 97.4 |
| Buses | 0 | 0 | 2 | 0 | - | 2 | 0 | 0 | 2 | 0 | - | 2 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 4 |
| % Buses | - | 0.0 | 0.3 | 0.0 | - | 0.2 | - | 0.0 | 0.3 | 0.0 | - | 0.2 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | - | 0.0 | 0.0 | 0.0 | - | 0.0 | 0.2 |
| Single-Unit Trucks | 0 | 0 | 13 | 3 | - | 16 | 0 | 4 | 13 | 0 | - | 17 | 0 | 2 | 0 | 1 | - | 3 | 0 | 0 | 0 | 1 | - | 1 | 37 |
| % Single-Unit Trucks | - | 0.0 | 1.8 | 3.3 | - | 1.9 | - | 5.3 | 1.7 | 0.0 | - | 2.0 | - | 1.7 | 0.0 | 1.2 | - | 1.4 | - | 0.0 | 0.0 | 0.9 | - | 0.8 | 1.8 |
| Articulated Trucks | 0 | 1 | 0 | 0 | - | 1 | 0 | 2 | 2 | 0 | - | 4 | 0 | 1 | 1 | 2 | - | 4 | 0 | 1 | 1 | 1 | - | 3 | 12 |
| % Articulated Trucks | - | 2.1 | 0.0 | 0.0 | - | 0.1 | - | 2.6 | 0.3 | 0.0 | - | 0.5 | - | 0.9 | 11.1 | 2.4 | - | 1.9 | - | 9.1 | 7.7 | 0.9 | - | 2.3 | 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 |
| Pedestrians | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - | - | - | - | 0 | - | - |
| % Pedestrians | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# Preliminary Site Plan




## DATA:

| | | |
|---|---|---|
| SITE AREA: | ±477,960 | SQ.FT. |
| | ±11.0 | ACRES |
| BUILDING AREA (GROSS): | ±210,904 | SQ.FT. |
| EXTERIOR DOCKS: | 18 | DOCKS |
| DRIVE-IN-DOORS: | 2 | DOORS |
| CAR PARKING: | 317 | CARS |
| CLEAR HEIGHT: | 36 | FEET |
| F.A.R.: | .44 | |

1 SITE PLAN
SCALE: 1" = 50'-0"

NELSON
NELSONWW.com
BRIDGE

CLIENT: BRIDGE INDUSTRIAL
9525 BRYN MAWR AVE, SUITE 700
ROSEMONT, ILLINOIS

PROJECT: PROPOSED FACILITY
8120 LEHIGH AVE
MORTON GROVE, ILLINOIS

DATE: 02/20/2026
PROJECT: #25023

SHEET: SITE PLAN

SP-15
1 of 2

# CMAP Projections Letter

Chicago Metropolitan Agency for Planning

433 West Van Buren Street, Suite 450
Chicago, IL 60607
cmap.illinois.gov | 312-454-0400

March 21, 2025

Ryan May
Project Coordinator
Kenig, Lindgren, O'Hara and Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, IL 60018

***Subject: Lehigh Avenue - Lincoln Avenue - Oakton Street***
IDOT

Dear Ms. May:

In response to a request made on your behalf and dated March 20, 2025, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

| ROAD SEGMENT | Current ADT | Year 2050 ADT |
|---|---|---|
| Lehigh Ave, at Lincoln Ave | 2,950 | 3,650 |
| Lincoln Ave west of Lehigh Ave | 1,325 | 1,640 |
| Lincoln Ave east of Lehigh Ave | 3,500 | 4,330 |
| Oakton Ave west of Lehigh Ave | 27,300 | 29,500 |
| Oakton Ave east of Lehigh Ave | 21,400 | 23,400 |
| Lehigh Ave south of Oakton Ave | 4,700 | 5,500 |

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2024 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)
\2025_trafficForecasts\MortonGrove\ck-28-25\ck-28-25.docx

# Level of Service Criteria

LEVEL OF SERVICE CRITERIA

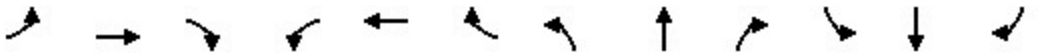
| Signalized Intersections | | |
|---|---|---|
| **Level of Service** | **Interpretation** | **Average Control Delay (seconds per vehicle)** |
| A | Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping. | ≤10 |
| B | Good progression, 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. | >80.0 |

| 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: *Highway Capacity Manual*, 6th Edition.

# Capacity Analysis Summary Sheets

Existing Weekday Morning Peak Hour Conditions



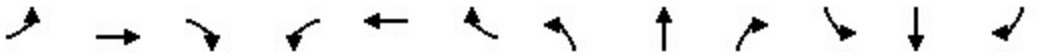
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 31 | 531 | 60 | 61 | 495 | 24 | 44 | 64 | 50 | 7 | 60 | 45 |
| Future Volume (vph) | 31 | 531 | 60 | 61 | 495 | 24 | 44 | 64 | 50 | 7 | 60 | 45 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 170 | | 0 | 215 | | 0 | 185 | | 0 | 175 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 140 | | | 130 | | | 120 | | | 110 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | 0.985 | | | 0.993 | | | 0.934 | | | 0.936 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1752 | 3409 | 0 | 1805 | 3402 | 0 | 1687 | 3153 | 0 | 1399 | 3196 | 0 |
| Flt Permitted | 0.445 | | | 0.380 | | | 0.521 | | | 0.675 | | |
| Satd. Flow (perm) | 821 | 3409 | 0 | 722 | 3402 | 0 | 925 | 3153 | 0 | 994 | 3196 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 35 | | | 30 | | | 35 | |
| Link Distance (ft) | | 1224 | | | 2871 | | | 815 | | | 722 | |
| Travel Time (s) | | 20.9 | | | 55.9 | | | 18.5 | | | 14.1 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 3% | 4% | 7% | 0% | 5% | 13% | 7% | 3% | 12% | 29% | 7% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 33 | 629 | 0 | 65 | 553 | 0 | 47 | 121 | 0 | 7 | 112 | 0 |
| Turn Type | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 48.0 | | 13.0 | 48.0 | | 13.0 | 26.0 | | 13.0 | 26.0 | |
| Total Split (%) | 13.0% | 48.0% | | 13.0% | 48.0% | | 13.0% | 26.0% | | 13.0% | 26.0% | |
| Yellow Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 69.9 | 62.4 | | 71.7 | 64.8 | | 19.5 | 15.1 | | 16.3 | 10.0 | |
| Actuated g/C Ratio | 0.70 | 0.62 | | 0.72 | 0.65 | | 0.20 | 0.15 | | 0.16 | 0.10 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.05 | 0.30 | | 0.11 | 0.25 | | 0.20 | 0.25 | | 0.04 | 0.35 | |
| Control Delay (s/veh) | 4.3 | 7.2 | | 5.7 | 9.8 | | 31.7 | 37.6 | | 28.0 | 44.7 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 4.3 | 7.2 | | 5.7 | 9.8 | | 31.7 | 37.6 | | 28.0 | 44.7 | |
| LOS | A | A | | A | A | | C | D | | C | D | |
| Approach Delay (s/veh) | | 7.1 | | | 9.4 | | | 36.0 | | | 43.7 | |
| Approach LOS | | A | | | A | | | D | | | D | |
| Queue Length 50th (ft) | 4 | 56 | | 12 | 87 | | 24 | 33 | | 3 | 35 | |
| Queue Length 95th (ft) | 9 | 63 | | 28 | 136 | | 51 | 64 | | 14 | 61 | |
| Internal Link Dist (ft) | | 1144 | | | 2791 | | | 735 | | | 642 | |
| Turn Bay Length (ft) | 170 | | | 215 | | | 185 | | | 175 | | |
| Base Capacity (vph) | 683 | 2128 | | 629 | 2204 | | 253 | 653 | | 219 | 639 | |
| 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 | 0.05 | 0.30 | | 0.10 | 0.25 | | 0.19 | 0.19 | | 0.03 | 0.18 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 100 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | | | |
| Natural Cycle: 50 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.35 | | | |
| Intersection Signal Delay (s/veh): 13.9 | | Intersection LOS: B | |
| Intersection Capacity Utilization 42.4% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Lehigh Avenue & Oakton Street





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 100 | 593 | 94 | 40 | 538 | 6 | 55 | 12 | 27 | 2 | 6 | 28 |
| Future Volume (vph) | 100 | 593 | 94 | 40 | 538 | 6 | 55 | 12 | 27 | 2 | 6 | 28 |
| Ideal Flow (vphpl) | 1900 | 2000 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 120 | | 180 | 285 | | 0 | 250 | | 0 | 95 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 145 | | | 50 | | | 100 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | 0.850 | | 0.998 | | | 0.898 | | | 0.876 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1719 | 3619 | 1583 | 1752 | 3422 | 0 | 1687 | 1621 | 0 | 1805 | 1491 | 0 |
| Flt Permitted | 0.410 | | | 0.418 | | | 0.487 | | | 0.730 | | |
| Satd. Flow (perm) | 742 | 3619 | 1583 | 771 | 3422 | 0 | 865 | 1621 | 0 | 1387 | 1491 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 40 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1323 | | | 1224 | | | 671 | | | 680 | |
| Travel Time (s) | | 22.6 | | | 20.9 | | | 18.3 | | | 18.5 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 5% | 5% | 2% | 3% | 5% | 33% | 7% | 8% | 4% | 0% | 0% | 14% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 104 | 618 | 98 | 42 | 566 | 0 | 57 | 41 | 0 | 2 | 35 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | 15.0 | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 24.0 | 24.0 | 6.5 | 24.0 | | 6.5 | 24.0 | | 6.5 | 24.0 | |
| Total Split (s) | 16.0 | 48.0 | 48.0 | 13.0 | 45.0 | | 13.0 | 26.0 | | 13.0 | 26.0 | |
| Total Split (%) | 16.0% | 48.0% | 48.0% | 13.0% | 45.0% | | 13.0% | 26.0% | | 13.0% | 26.0% | |
| Yellow Time (s) | 3.5 | 4.5 | 4.5 | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | 1.5 | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | 6.0 | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 75.5 | 69.2 | 69.2 | 72.7 | 66.2 | | 18.2 | 14.8 | | 13.2 | 9.3 | |
| Actuated g/C Ratio | 0.76 | 0.69 | 0.69 | 0.73 | 0.66 | | 0.18 | 0.15 | | 0.13 | 0.09 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.16 | 0.25 | 0.09 | 0.07 | 0.25 | | 0.25 | 0.17 | | 0.01 | 0.25 | |
| Control Delay (s/veh) | 5.5 | 9.4 | 9.7 | 4.2 | 7.3 | | 33.2 | 37.0 | | 27.5 | 46.3 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 5.5 | 9.4 | 9.7 | 4.2 | 7.3 | | 33.2 | 37.0 | | 27.5 | 46.3 | |
| LOS | A | A | A | A | A | | C | D | | C | D | |
| Approach Delay (s/veh) | | 8.9 | | | 7.1 | | | 34.8 | | | 45.3 | |
| Approach LOS | | A | | | A | | | C | | | D | |
| Queue Length 50th (ft) | 18 | 98 | 26 | 5 | 66 | | 29 | 22 | | 1 | 21 | |
| Queue Length 95th (ft) | 41 | 150 | 57 | 14 | 91 | | 59 | 55 | | 7 | 51 | |
| Internal Link Dist (ft) | | 1243 | | | 1144 | | | 591 | | | 600 | |
| Turn Bay Length (ft) | 120 | | 180 | 285 | | | 250 | | | 95 | | |
| Base Capacity (vph) | 690 | 2503 | 1095 | 672 | 2266 | | 244 | 333 | | 276 | 298 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | 0.15 | 0.25 | 0.09 | 0.06 | 0.25 | | 0.23 | 0.12 | | 0.01 | 0.12 | |

**Intersection Summary**

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.25
Intersection Signal Delay (s/veh): 10.7 Intersection LOS: B
Intersection Capacity Utilization 43.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: River Drive & Oakton Street



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.5 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 27 | 4 | 17 | 93 | 108 | 40 |
| Future Vol, veh/h | 27 | 4 | 17 | 93 | 108 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 90 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 91 | 91 | 91 | 91 | 91 | 91 |
| Heavy Vehicles, % | 4 | 0 | 6 | 4 | 4 | 5 |
| Mvmt Flow | 30 | 4 | 19 | 102 | 119 | 44 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 280 | 141 | 163 | 0 | - | 0 |
| Stage 1 | 141 | - | - | - | - | - |
| Stage 2 | 140 | - | - | - | - | - |
| Critical Hdwy | 6.44 | 6.2 | 4.16 | - | - | - |
| Critical Hdwy Stg 1 | 5.44 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.44 | - | - | - | - | - |
| Follow-up Hdwy | 3.536 | 3.3 | 2.254 | - | - | - |
| Pot Cap-1 Maneuver | 705 | 913 | 1392 | - | - | - |
| Stage 1 | 881 | - | - | - | - | - |
| Stage 2 | 882 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 696 | 913 | 1392 | - | - | - |
| Mov Cap-2 Maneuver | 696 | - | - | - | - | - |
| Stage 1 | 869 | - | - | - | - | - |
| Stage 2 | 882 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.22 | 1.18 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1392 | - | 696 | 913 | - | - |
| HCM Lane V/C Ratio | 0.013 | - | 0.043 | 0.005 | - | - |
| HCM Ctrl Dly (s/v) | 7.6 | - | 10.4 | 9 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | 0 | - | - |

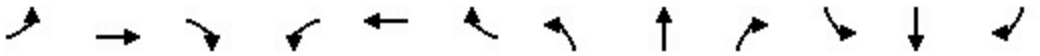
| Intersection | |
|---|---|
| Int Delay, s/veh | 1.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 7 | 17 | 102 | 105 | 7 |
| Future Vol, veh/h | 8 | 7 | 17 | 102 | 105 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 95 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 13 | 71 | 12 | 4 | 3 | 14 |
| Mvmt Flow | 9 | 8 | 19 | 116 | 119 | 8 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 278 | 123 | 127 | 0 | - | 0 |
| Stage 1 | 123 | - | - | - | - | - |
| Stage 2 | 155 | - | - | - | - | - |
| Critical Hdwy | 6.53 | 6.91 | 4.22 | - | - | - |
| Critical Hdwy Stg 1 | 5.53 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.53 | - | - | - | - | - |
| Follow-up Hdwy | 3.617 | 3.939 | 2.308 | - | - | - |
| Pot Cap-1 Maneuver | 689 | 771 | 1399 | - | - | - |
| Stage 1 | 876 | - | - | - | - | - |
| Stage 2 | 847 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 680 | 771 | 1399 | - | - | - |
| Mov Cap-2 Maneuver | 680 | - | - | - | - | - |
| Stage 1 | 864 | - | - | - | - | - |
| Stage 2 | 847 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.06 | 1.09 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1399 | - | 680 | 771 | - | - |
| HCM Lane V/C Ratio | 0.014 | - | 0.013 | 0.01 | - | - |
| HCM Ctrl Dly (s/v) | 7.6 | - | 10.4 | 9.7 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | 0 | - | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 78 | 70 | 181 | 19 | 4 | 10 | 0 | 145 | 0 | 0 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Ped Button | | | | | | | | | | | | |
| Pedestrian Timing (s) | | | | | | | | | | | | |
| Free Right | | | No | | | No | | | No | | | No |
| Ideal Flow | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 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 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Refr Cycle Length (s) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Volume Combined (vph) | 0 | 153 | 0 | 0 | 204 | 0 | 0 | 155 | 0 | 0 | 0 | 0 |
| Lane Utilization Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Factor (vph) | 0.95 | 0.93 | 0.85 | 0.95 | 0.95 | 0.85 | 0.95 | 0.86 | 0.85 | 0.95 | 1.00 | 0.85 |
| Saturated Flow (vph) | 0 | 1767 | 0 | 0 | 1810 | 0 | 0 | 1628 | 0 | 0 | 0 | 0 |
| Ped Intf Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pedestrian Frequency (%) | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Protected Option Allowed | | No | | | No | | | No | | | No | |
| Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Adj Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Permitted Option | | | | | | | | | | | | |
| Adj Saturation A (vph) | 0 | 1792 | | 0 | 198 | | 0 | 841 | | 0 | 0 | |
| Reference Time A (s) | 0.0 | 10.2 | | 0.0 | 123.7 | | 0.0 | 22.1 | | 0.0 | 0.0 | |
| Adj Saturation B (vph | 0 | 0 | | NA | NA | | 0 | 0 | | NA | NA | |
| Reference Time B (s) | 8.3 | 18.4 | | NA | NA | | 8.7 | 19.4 | | NA | NA | |
| Reference Time (s) | | 10.2 | | | 123.7 | | | 19.4 | | | 0.0 | |
| Adj Reference Time (s) | | 14.2 | | | 127.7 | | | 23.4 | | | 8.0 | |
| Split Option | | | | | | | | | | | | |
| Ref Time Combined (s) | 0.0 | 10.4 | | 0.0 | 13.5 | | 0.0 | 11.4 | | 0.0 | 0.0 | |
| Ref Time Seperate (s) | 0.3 | 5.3 | | 12.0 | 1.2 | | 0.7 | 0.0 | | 0.0 | 0.0 | |
| Reference Time (s) | 10.4 | 10.4 | | 13.5 | 13.5 | | 11.4 | 11.4 | | 0.0 | 0.0 | |
| Adj Reference Time (s) | 14.4 | 14.4 | | 17.5 | 17.5 | | 15.4 | 15.4 | | 0.0 | 0.0 | |

| Summary | EB WB | NB SB | Combined |
|---|---|---|---|
| Protected Option (s) | NA | NA | |
| Permitted Option (s) | 127.7 | 23.4 | |
| Split Option (s) | 31.9 | 15.4 | |
| Minimum (s) | 31.9 | 15.4 | 47.3 |

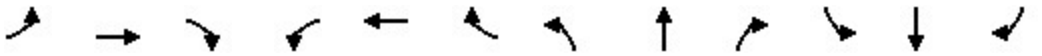
| Right Turns |
|---|
| Adj Reference Time (s) |
| Cross Thru Ref Time (s) |
| Oncoming Left Ref Time (s) |
| Combined (s) |

| Intersection Summary | | | |
|---|---|---|---|
| Intersection Capacity Utilization | 39.4% | ICU Level of Service | A |

Reference Times and Phasing Options do not represent an optimized timing plan.

# Capacity Analysis Summary Sheets

Existing Weekday Evening Peak Hour Conditions

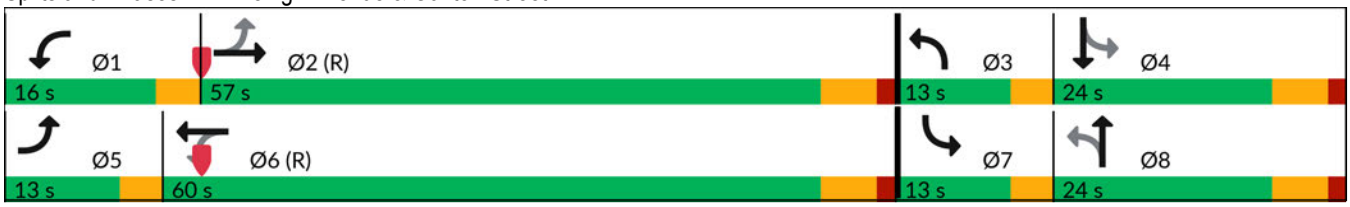


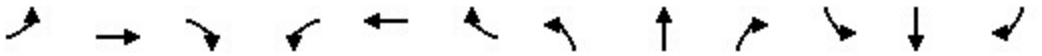
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 48 | 706 | 65 | 63 | 702 | 14 | 84 | 100 | 61 | 27 | 114 | 76 |
| Future Volume (vph) | 48 | 706 | 65 | 63 | 702 | 14 | 84 | 100 | 61 | 27 | 114 | 76 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 170 | | 0 | 215 | | 0 | 185 | | 0 | 175 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 140 | | | 130 | | | 120 | | | 110 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | 0.987 | | | 0.997 | | | 0.943 | | | 0.940 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 3476 | 0 | 1719 | 3492 | 0 | 1787 | 3379 | 0 | 1687 | 3353 | 0 |
| Flt Permitted | 0.340 | | | 0.311 | | | 0.520 | | | 0.648 | | |
| Satd. Flow (perm) | 633 | 3476 | 0 | 563 | 3492 | 0 | 978 | 3379 | 0 | 1151 | 3353 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 35 | | | 30 | | | 35 | |
| Link Distance (ft) | | 1224 | | | 2871 | | | 815 | | | 722 | |
| Travel Time (s) | | 20.9 | | | 55.9 | | | 18.5 | | | 14.1 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 8% | 5% | 3% | 7% | 1% | 0% | 2% | 7% | 0% | 3% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 49 | 786 | 0 | 64 | 730 | 0 | 86 | 164 | 0 | 28 | 194 | 0 |
| Turn Type | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 57.0 | | 16.0 | 60.0 | | 13.0 | 24.0 | | 13.0 | 24.0 | |
| Total Split (%) | 11.8% | 51.8% | | 14.5% | 54.5% | | 11.8% | 21.8% | | 11.8% | 21.8% | |
| Yellow Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 74.6 | 66.7 | | 75.3 | 67.0 | | 24.3 | 16.1 | | 20.9 | 12.6 | |
| Actuated g/C Ratio | 0.68 | 0.61 | | 0.68 | 0.61 | | 0.22 | 0.15 | | 0.19 | 0.11 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.10 | 0.37 | | 0.14 | 0.34 | | 0.31 | 0.33 | | 0.11 | 0.51 | |
| Control Delay (s/veh) | 5.4 | 9.3 | | 7.0 | 12.8 | | 35.0 | 43.9 | | 31.1 | 50.1 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 5.4 | 9.3 | | 7.0 | 12.8 | | 35.0 | 43.9 | | 31.1 | 50.1 | |
| LOS | A | A | | A | B | | C | D | | C | D | |
| Approach Delay (s/veh) | | 9.1 | | | 12.4 | | | 40.8 | | | 47.7 | |
| Approach LOS | | A | | | B | | | D | | | D | |
| Queue Length 50th (ft) | 8 | 105 | | 13 | 140 | | 48 | 55 | | 15 | 68 | |
| Queue Length 95th (ft) | 15 | 116 | | 30 | 199 | | 86 | 88 | | 37 | 103 | |
| Internal Link Dist (ft) | | 1144 | | | 2791 | | | 735 | | | 642 | |
| Turn Bay Length (ft) | 170 | | | 215 | | | 185 | | | 175 | | |
| Base Capacity (vph) | 539 | 2106 | | 529 | 2127 | | 286 | 583 | | 283 | 548 | |
| 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 | 0.09 | 0.37 | | 0.12 | 0.34 | | 0.30 | 0.28 | | 0.10 | 0.35 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 110 | | | |
| Actuated Cycle Length: 110 | | | |
| Offset: 106 (96%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | | | |
| Natural Cycle: 50 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.51 | | | |
| Intersection Signal Delay (s/veh): 18.2 | | Intersection LOS: B | |
| Intersection Capacity Utilization 53.1% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Lehigh Avenue & Oakton Street





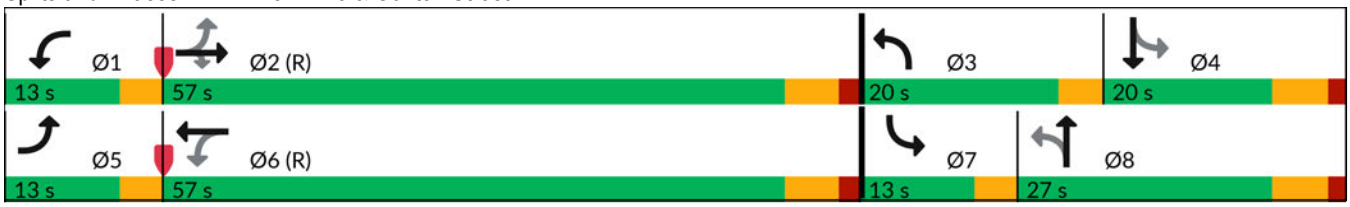
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 48 | 724 | 90 | 76 | 780 | 6 | 116 | 9 | 84 | 11 | 13 | 106 |
| Future Volume (vph) | 48 | 724 | 90 | 76 | 780 | 6 | 116 | 9 | 84 | 11 | 13 | 106 |
| Ideal Flow (vphpl) | 1900 | 2000 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 120 | | 180 | 285 | | 0 | 250 | | 0 | 95 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 145 | | | 50 | | | 100 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | 0.850 | | 0.999 | | | 0.864 | | | 0.867 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 3725 | 1568 | 1671 | 3536 | 0 | 1752 | 1569 | 0 | 1656 | 1604 | 0 |
| Flt Permitted | 0.285 | | | 0.303 | | | 0.529 | | | 0.694 | | |
| Satd. Flow (perm) | 531 | 3725 | 1568 | 533 | 3536 | 0 | 976 | 1569 | 0 | 1210 | 1604 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 40 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1323 | | | 1224 | | | 671 | | | 680 | |
| Travel Time (s) | | 22.6 | | | 20.9 | | | 18.3 | | | 18.5 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 3% | 8% | 2% | 0% | 3% | 11% | 4% | 9% | 8% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 50 | 754 | 94 | 79 | 819 | 0 | 121 | 97 | 0 | 11 | 124 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | 15.0 | 3.0 | 8.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | 21.0 | 6.5 | 14.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 57.0 | 57.0 | 13.0 | 57.0 | | 20.0 | 27.0 | | 13.0 | 20.0 | |
| Total Split (%) | 11.8% | 51.8% | 51.8% | 11.8% | 51.8% | | 18.2% | 24.5% | | 11.8% | 18.2% | |
| Yellow Time (s) | 3.5 | 4.5 | 4.5 | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | 1.5 | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | 6.0 | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 68.5 | 60.4 | 60.4 | 70.1 | 61.2 | | 30.9 | 26.3 | | 22.3 | 13.8 | |
| Actuated g/C Ratio | 0.62 | 0.55 | 0.55 | 0.64 | 0.56 | | 0.28 | 0.24 | | 0.20 | 0.13 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.12 | 0.37 | 0.11 | 0.19 | 0.42 | | 0.34 | 0.26 | | 0.04 | 0.62 | |
| Control Delay (s/veh) | 8.9 | 16.2 | 15.0 | 6.7 | 10.5 | | 31.9 | 35.5 | | 26.5 | 59.0 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 8.9 | 16.2 | 15.0 | 6.7 | 10.5 | | 31.9 | 35.5 | | 26.5 | 59.0 | |
| LOS | A | B | B | A | B | | C | D | | C | E | |
| Approach Delay (s/veh) | | 15.7 | | | 10.2 | | | 33.5 | | | 56.3 | |
| Approach LOS | | B | | | B | | | C | | | E | |
| Queue Length 50th (ft) | 12 | 159 | 32 | 14 | 95 | | 65 | 54 | | 6 | 83 | |
| Queue Length 95th (ft) | 29 | 233 | 69 | 29 | 124 | | 108 | 107 | | 18 | 145 | |
| Internal Link Dist (ft) | | 1243 | | | 1144 | | | 591 | | | 600 | |
| Turn Bay Length (ft) | 120 | | 180 | 285 | | | 250 | | | 95 | | |
| Base Capacity (vph) | 447 | 2046 | 861 | 444 | 1967 | | 390 | 377 | | 322 | 218 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | 0.11 | 0.37 | 0.11 | 0.18 | 0.42 | | 0.31 | 0.26 | | 0.03 | 0.57 | |

**Intersection Summary**

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay (s/veh): 17.7 Intersection LOS: B
Intersection Capacity Utilization 51.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: River Drive & Oakton Street



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.7 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 52 | 15 | 4 | 170 | 182 | 39 |
| Future Vol, veh/h | 52 | 15 | 4 | 170 | 182 | 39 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 90 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 0 | 0 | 0 | 1 | 2 | 3 |
| Mvmt Flow | 54 | 16 | 4 | 177 | 190 | 41 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 395 | 210 | 230 | 0 | - | 0 |
| Stage 1 | 210 | - | - | - | - | - |
| Stage 2 | 185 | - | - | - | - | - |
| Critical Hdwy | 6.4 | 6.2 | 4.1 | - | - | - |
| Critical Hdwy Stg 1 | 5.4 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.4 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | 2.2 | - | - | - |
| Pot Cap-1 Maneuver | 613 | 835 | 1350 | - | - | - |
| Stage 1 | 830 | - | - | - | - | - |
| Stage 2 | 851 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 612 | 835 | 1350 | - | - | - |
| Mov Cap-2 Maneuver | 612 | - | - | - | - | - |
| Stage 1 | 827 | - | - | - | - | - |
| Stage 2 | 851 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.99 | 0.18 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1350 | - | 612 | 835 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | 0.089 | 0.019 | - | - |
| HCM Ctrl Dly (s/v) | 7.7 | - | 11.5 | 9.4 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.3 | 0.1 | - | - |

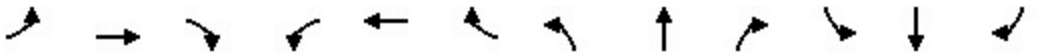
| Intersection | |
|---|---|
| Int Delay, s/veh | 1.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 16 | 25 | 4 | 158 | 192 | 5 |
| Future Vol, veh/h | 16 | 25 | 4 | 158 | 192 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 95 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 0 | 0 | 25 | 1 | 2 | 0 |
| Mvmt Flow | 17 | 27 | 4 | 168 | 204 | 5 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 384 | 207 | 210 | 0 | - | 0 |
| Stage 1 | 207 | - | - | - | - | - |
| Stage 2 | 177 | - | - | - | - | - |
| Critical Hdwy | 6.4 | 6.2 | 4.35 | - | - | - |
| Critical Hdwy Stg 1 | 5.4 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.4 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | 2.425 | - | - | - |
| Pot Cap-1 Maneuver | 623 | 839 | 1236 | - | - | - |
| Stage 1 | 833 | - | - | - | - | - |
| Stage 2 | 859 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 621 | 839 | 1236 | - | - | - |
| Mov Cap-2 Maneuver | 621 | - | - | - | - | - |
| Stage 1 | 830 | - | - | - | - | - |
| Stage 2 | 859 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.03 | 0.2 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1236 | - | 621 | 839 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | 0.027 | 0.032 | - | - |
| HCM Ctrl Dly (s/v) | 7.9 | - | 11 | 9.4 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | 0.1 | - | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 87 | 21 | 124 | 35 | 0 | 18 | 0 | 291 | 0 | 0 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Ped Button | | | | | | | | | | | | |
| Pedestrian Timing (s) | | | | | | | | | | | | |
| Free Right | | | No | | | No | | | No | | | No |
| Ideal Flow | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 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 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Refr Cycle Length (s) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Volume Combined (vph) | 0 | 108 | 0 | 0 | 159 | 0 | 0 | 309 | 0 | 0 | 0 | 0 |
| Lane Utilization Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Factor (vph) | 0.95 | 0.97 | 0.85 | 0.95 | 0.96 | 0.85 | 0.95 | 0.86 | 0.85 | 0.95 | 1.00 | 0.85 |
| Saturated Flow (vph) | 0 | 1845 | 0 | 0 | 1826 | 0 | 0 | 1627 | 0 | 0 | 0 | 0 |
| Ped Intf Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pedestrian Frequency (%) | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Protected Option Allowed | | No | | | No | | | No | | | No | |
| Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Adj Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Permitted Option | | | | | | | | | | | | |
| Adj Saturation A (vph) | 0 | 1845 | | 0 | 145 | | 0 | 883 | | 0 | 0 | |
| Reference Time A (s) | 0.0 | 7.0 | | 0.0 | 131.6 | | 0.0 | 42.0 | | 0.0 | 0.0 | |
| Adj Saturation B (vph | 0 | 1845 | | 0 | 0 | | 0 | 0 | | NA | NA | |
| Reference Time B (s) | 0.0 | 7.0 | | 16.2 | 18.4 | | 9.2 | 30.8 | | NA | NA | |
| Reference Time (s) | | 7.0 | | | 18.4 | | | 30.8 | | | 0.0 | |
| Adj Reference Time (s) | | 11.0 | | | 22.4 | | | 34.8 | | | 8.0 | |
| Split Option | | | | | | | | | | | | |
| Ref Time Combined (s) | 0.0 | 7.0 | | 0.0 | 10.4 | | 0.0 | 22.8 | | 0.0 | 0.0 | |
| Ref Time Seperate (s) | 0.0 | 5.7 | | 8.2 | 2.2 | | 1.2 | 0.0 | | 0.0 | 0.0 | |
| Reference Time (s) | 7.0 | 7.0 | | 10.4 | 10.4 | | 22.8 | 22.8 | | 0.0 | 0.0 | |
| Adj Reference Time (s) | 11.0 | 11.0 | | 14.4 | 14.4 | | 26.8 | 26.8 | | 0.0 | 0.0 | |

| Summary | EB WB | NB SB | Combined |
|---|---|---|---|
| Protected Option (s) | NA | NA | |
| Permitted Option (s) | 22.4 | 34.8 | |
| Split Option (s) | 25.5 | 26.8 | |
| Minimum (s) | 22.4 | 26.8 | 49.2 |

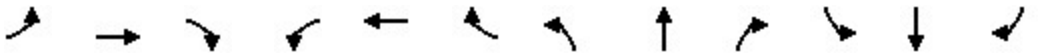
| Right Turns |
|---|
| Adj Reference Time (s) |
| Cross Thru Ref Time (s) |
| Oncoming Left Ref Time (s) |
| Combined (s) |

| Intersection Summary | | | |
|---|---|---|---|
| Intersection Capacity Utilization | 41.0% | ICU Level of Service | A |

Reference Times and Phasing Options do not represent an optimized timing plan.

# Capacity Analysis Summary Sheets

No Build Weekday Morning Peak Hour Conditions



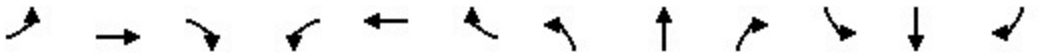
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 42 | 551 | 62 | 63 | 513 | 29 | 46 | 76 | 52 | 14 | 75 | 60 |
| Future Volume (vph) | 42 | 551 | 62 | 63 | 513 | 29 | 46 | 76 | 52 | 14 | 75 | 60 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 170 | | 0 | 215 | | 0 | 185 | | 0 | 175 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 140 | | | 130 | | | 120 | | | 110 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | 0.985 | | | 0.992 | | | 0.939 | | | 0.933 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1752 | 3409 | 0 | 1805 | 3397 | 0 | 1687 | 3179 | 0 | 1399 | 3188 | 0 |
| Flt Permitted | 0.428 | | | 0.364 | | | 0.513 | | | 0.666 | | |
| Satd. Flow (perm) | 790 | 3409 | 0 | 692 | 3397 | 0 | 911 | 3179 | 0 | 981 | 3188 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 35 | | | 30 | | | 35 | |
| Link Distance (ft) | | 1224 | | | 2871 | | | 815 | | | 722 | |
| Travel Time (s) | | 20.9 | | | 55.9 | | | 18.5 | | | 14.1 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 3% | 4% | 7% | 0% | 5% | 13% | 7% | 3% | 12% | 29% | 7% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 45 | 652 | 0 | 67 | 577 | 0 | 49 | 136 | 0 | 15 | 144 | 0 |
| Turn Type | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 48.0 | | 13.0 | 48.0 | | 13.0 | 26.0 | | 13.0 | 26.0 | |
| Total Split (%) | 13.0% | 48.0% | | 13.0% | 48.0% | | 13.0% | 26.0% | | 13.0% | 26.0% | |
| Yellow Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 67.2 | 59.4 | | 68.6 | 61.6 | | 21.9 | 15.8 | | 18.6 | 10.8 | |
| Actuated g/C Ratio | 0.67 | 0.59 | | 0.69 | 0.62 | | 0.22 | 0.16 | | 0.19 | 0.11 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.08 | 0.32 | | 0.12 | 0.28 | | 0.19 | 0.27 | | 0.07 | 0.42 | |
| Control Delay (s/veh) | 4.8 | 8.1 | | 6.5 | 11.2 | | 29.7 | 38.2 | | 27.9 | 44.9 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 4.8 | 8.1 | | 6.5 | 11.2 | | 29.7 | 38.2 | | 27.9 | 44.9 | |
| LOS | A | A | | A | B | | C | D | | C | D | |
| Approach Delay (s/veh) | | 7.9 | | | 10.7 | | | 36.0 | | | 43.3 | |
| Approach LOS | | A | | | B | | | D | | | D | |
| Queue Length 50th (ft) | 6 | 60 | | 12 | 95 | | 24 | 37 | | 7 | 45 | |
| Queue Length 95th (ft) | 11 | 65 | | 30 | 149 | | 51 | 70 | | 22 | 74 | |
| Internal Link Dist (ft) | | 1144 | | | 2791 | | | 735 | | | 642 | |
| Turn Bay Length (ft) | 170 | | | 215 | | | 185 | | | 175 | | |
| Base Capacity (vph) | 640 | 2024 | | 588 | 2093 | | 274 | 647 | | 244 | 637 | |
| 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 | 0.07 | 0.32 | | 0.11 | 0.28 | | 0.18 | 0.21 | | 0.06 | 0.23 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 100 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | | | |
| Natural Cycle: 50 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.42 | | | |
| Intersection Signal Delay (s/veh): 15.4 | | Intersection LOS: B | |
| Intersection Capacity Utilization 47.4% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Lehigh Avenue & Oakton Street





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 100 | 626 | 94 | 40 | 573 | 6 | 55 | 12 | 27 | 2 | 6 | 28 |
| Future Volume (vph) | 100 | 626 | 94 | 40 | 573 | 6 | 55 | 12 | 27 | 2 | 6 | 28 |
| Ideal Flow (vphpl) | 1900 | 2000 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 120 | | 180 | 285 | | 0 | 250 | | 0 | 95 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 145 | | | 50 | | | 100 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | 0.850 | | 0.999 | | | 0.898 | | | 0.876 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1719 | 3619 | 1583 | 1752 | 3426 | 0 | 1687 | 1621 | 0 | 1805 | 1491 | 0 |
| Flt Permitted | 0.391 | | | 0.401 | | | 0.487 | | | 0.730 | | |
| Satd. Flow (perm) | 708 | 3619 | 1583 | 740 | 3426 | 0 | 865 | 1621 | 0 | 1387 | 1491 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 40 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1323 | | | 1224 | | | 671 | | | 680 | |
| Travel Time (s) | | 22.6 | | | 20.9 | | | 18.3 | | | 18.5 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 5% | 5% | 2% | 3% | 5% | 33% | 7% | 8% | 4% | 0% | 0% | 14% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 104 | 652 | 98 | 42 | 603 | 0 | 57 | 41 | 0 | 2 | 35 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | 15.0 | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 24.0 | 24.0 | 6.5 | 24.0 | | 6.5 | 24.0 | | 6.5 | 24.0 | |
| Total Split (s) | 16.0 | 48.0 | 48.0 | 13.0 | 45.0 | | 13.0 | 26.0 | | 13.0 | 26.0 | |
| Total Split (%) | 16.0% | 48.0% | 48.0% | 13.0% | 45.0% | | 13.0% | 26.0% | | 13.0% | 26.0% | |
| Yellow Time (s) | 3.5 | 4.5 | 4.5 | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | 1.5 | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | 6.0 | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 75.5 | 69.2 | 69.2 | 72.7 | 66.2 | | 18.2 | 14.8 | | 13.2 | 9.3 | |
| Actuated g/C Ratio | 0.76 | 0.69 | 0.69 | 0.73 | 0.66 | | 0.18 | 0.15 | | 0.13 | 0.09 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.17 | 0.26 | 0.09 | 0.07 | 0.27 | | 0.25 | 0.17 | | 0.01 | 0.25 | |
| Control Delay (s/veh) | 5.5 | 9.5 | 9.7 | 4.3 | 7.3 | | 33.2 | 37.0 | | 27.5 | 46.3 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 5.5 | 9.5 | 9.7 | 4.3 | 7.3 | | 33.2 | 37.0 | | 27.5 | 46.3 | |
| LOS | A | A | A | A | A | | C | D | | C | D | |
| Approach Delay (s/veh) | | 9.0 | | | 7.1 | | | 34.8 | | | 45.3 | |
| Approach LOS | | A | | | A | | | C | | | D | |
| Queue Length 50th (ft) | 18 | 104 | 26 | 5 | 72 | | 29 | 22 | | 1 | 21 | |
| Queue Length 95th (ft) | 41 | 159 | 57 | 13 | 100 | | 59 | 55 | | 7 | 51 | |
| Internal Link Dist (ft) | | 1243 | | | 1144 | | | 591 | | | 600 | |
| Turn Bay Length (ft) | 120 | | 180 | 285 | | | 250 | | | 95 | | |
| Base Capacity (vph) | 668 | 2502 | 1094 | 652 | 2268 | | 244 | 333 | | 276 | 298 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | 0.16 | 0.26 | 0.09 | 0.06 | 0.27 | | 0.23 | 0.12 | | 0.01 | 0.12 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 100 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | | | |
| Natural Cycle: 65 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.27 | | | |
| Intersection Signal Delay (s/veh): 10.6 | | Intersection LOS: B | |
| Intersection Capacity Utilization 44.6% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: River Drive & Oakton Street



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 27 | 4 | 17 | 121 | 145 | 40 |
| Future Vol, veh/h | 27 | 4 | 17 | 121 | 145 | 40 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 90 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 91 | 91 | 91 | 91 | 91 | 91 |
| Heavy Vehicles, % | 4 | 0 | 6 | 4 | 4 | 5 |
| Mvmt Flow | 30 | 4 | 19 | 133 | 159 | 44 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 352 | 181 | 203 | 0 | - | 0 |
| Stage 1 | 181 | - | - | - | - | - |
| Stage 2 | 170 | - | - | - | - | - |
| Critical Hdwy | 6.44 | 6.2 | 4.16 | - | - | - |
| Critical Hdwy Stg 1 | 5.44 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.44 | - | - | - | - | - |
| Follow-up Hdwy | 3.536 | 3.3 | 2.254 | - | - | - |
| Pot Cap-1 Maneuver | 642 | 866 | 1345 | - | - | - |
| Stage 1 | 845 | - | - | - | - | - |
| Stage 2 | 855 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 633 | 866 | 1345 | - | - | - |
| Mov Cap-2 Maneuver | 633 | - | - | - | - | - |
| Stage 1 | 833 | - | - | - | - | - |
| Stage 2 | 855 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.74 | 0.95 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1345 | - | 633 | 866 | - | - |
| HCM Lane V/C Ratio | 0.014 | - | 0.047 | 0.005 | - | - |
| HCM Ctrl Dly (s/v) | 7.7 | - | 11 | 9.2 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | 0 | - | - |

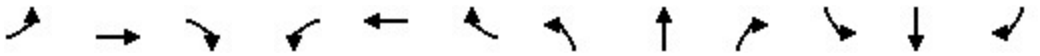
| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 7 | 17 | 130 | 142 | 7 |
| Future Vol, veh/h | 8 | 7 | 17 | 130 | 142 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 95 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 13 | 71 | 12 | 4 | 3 | 14 |
| Mvmt Flow | 9 | 8 | 19 | 148 | 161 | 8 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 352 | 165 | 169 | 0 | - | 0 |
| Stage 1 | 165 | - | - | - | - | - |
| Stage 2 | 186 | - | - | - | - | - |
| Critical Hdwy | 6.53 | 6.91 | 4.22 | - | - | - |
| Critical Hdwy Stg 1 | 5.53 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.53 | - | - | - | - | - |
| Follow-up Hdwy | 3.617 | 3.939 | 2.308 | - | - | - |
| Pot Cap-1 Maneuver | 624 | 727 | 1350 | - | - | - |
| Stage 1 | 838 | - | - | - | - | - |
| Stage 2 | 820 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 615 | 727 | 1350 | - | - | - |
| Mov Cap-2 Maneuver | 615 | - | - | - | - | - |
| Stage 1 | 826 | - | - | - | - | - |
| Stage 2 | 820 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.5 | 0.89 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1350 | - | 615 | 727 | - | - |
| HCM Lane V/C Ratio | 0.014 | - | 0.015 | 0.011 | - | - |
| HCM Ctrl Dly (s/v) | 7.7 | - | 10.9 | 10 | - | - |
| HCM Lane LOS | A | - | B | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | 0 | - | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 81 | 92 | 206 | 20 | 4 | 35 | 0 | 175 | 0 | 0 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Ped Button | | | | | | | | | | | | |
| Pedestrian Timing (s) | | | | | | | | | | | | |
| Free Right | | | No | | | No | | | No | | | No |
| Ideal Flow | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 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 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Refr Cycle Length (s) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Volume Combined (vph) | 0 | 178 | 0 | 0 | 230 | 0 | 0 | 210 | 0 | 0 | 0 | 0 |
| Lane Utilization Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Factor (vph) | 0.95 | 0.92 | 0.85 | 0.95 | 0.95 | 0.85 | 0.95 | 0.87 | 0.85 | 0.95 | 1.00 | 0.85 |
| Saturated Flow (vph) | 0 | 1750 | 0 | 0 | 1810 | 0 | 0 | 1649 | 0 | 0 | 0 | 0 |
| Ped Intf Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pedestrian Frequency (%) | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Protected Option Allowed | | No | | | No | | | No | | | No | |
| Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Adj Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Permitted Option | | | | | | | | | | | | |
| Adj Saturation A (vph) | 0 | 1772 | | 0 | 187 | | 0 | 469 | | 0 | 0 | |
| Reference Time A (s) | 0.0 | 12.1 | | 0.0 | 147.6 | | 0.0 | 53.7 | | 0.0 | 0.0 | |
| Adj Saturation B (vph | 0 | 0 | | NA | NA | | 0 | 0 | | NA | NA | |
| Reference Time B (s) | 8.3 | 20.2 | | NA | NA | | 10.3 | 23.3 | | NA | NA | |
| Reference Time (s) | | 12.1 | | | 147.6 | | | 23.3 | | | 0.0 | |
| Adj Reference Time (s) | | 16.1 | | | 151.6 | | | 27.3 | | | 8.0 | |
| Split Option | | | | | | | | | | | | |
| Ref Time Combined (s) | 0.0 | 12.2 | | 0.0 | 15.2 | | 0.0 | 15.3 | | 0.0 | 0.0 | |
| Ref Time Seperate (s) | 0.3 | 5.6 | | 13.7 | 1.3 | | 2.3 | 0.0 | | 0.0 | 0.0 | |
| Reference Time (s) | 12.2 | 12.2 | | 15.2 | 15.2 | | 15.3 | 15.3 | | 0.0 | 0.0 | |
| Adj Reference Time (s) | 16.2 | 16.2 | | 19.2 | 19.2 | | 19.3 | 19.3 | | 0.0 | 0.0 | |

| Summary | EB WB | NB SB | Combined |
|---|---|---|---|
| Protected Option (s) | NA | NA | |
| Permitted Option (s) | 151.6 | 27.3 | |
| Split Option (s) | 35.5 | 19.3 | |
| Minimum (s) | 35.5 | 19.3 | 54.7 |

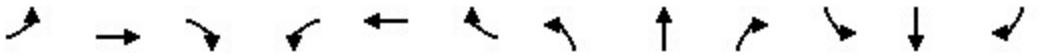
| Right Turns |
|---|
| Adj Reference Time (s) |
| Cross Thru Ref Time (s) |
| Oncoming Left Ref Time (s) |
| Combined (s) |

| Intersection Summary | | | |
|---|---|---|---|
| Intersection Capacity Utilization | 45.6% | ICU Level of Service | A |

Reference Times and Phasing Options do not represent an optimized timing plan.

# Capacity Analysis Summary Sheets

No Build Weekday Evening Peak Hour Conditions



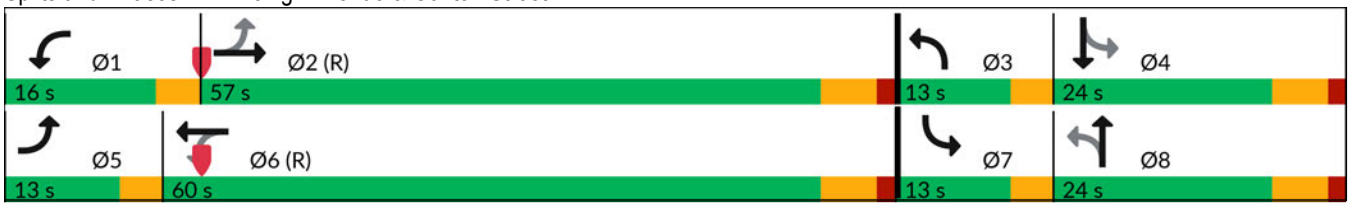
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 57 | 732 | 67 | 65 | 728 | 19 | 87 | 111 | 63 | 33 | 126 | 87 |
| Future Volume (vph) | 57 | 732 | 67 | 65 | 728 | 19 | 87 | 111 | 63 | 33 | 126 | 87 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 170 | | 0 | 215 | | 0 | 185 | | 0 | 175 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 140 | | | 130 | | | 120 | | | 110 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | 0.987 | | | 0.996 | | | 0.946 | | | 0.939 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 3476 | 0 | 1719 | 3487 | 0 | 1787 | 3391 | 0 | 1687 | 3349 | 0 |
| Flt Permitted | 0.323 | | | 0.297 | | | 0.503 | | | 0.640 | | |
| Satd. Flow (perm) | 602 | 3476 | 0 | 537 | 3487 | 0 | 946 | 3391 | 0 | 1136 | 3349 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 35 | | | 30 | | | 35 | |
| Link Distance (ft) | | 1224 | | | 2871 | | | 815 | | | 722 | |
| Travel Time (s) | | 20.9 | | | 55.9 | | | 18.5 | | | 14.1 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 8% | 5% | 3% | 7% | 1% | 0% | 2% | 7% | 0% | 3% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 58 | 815 | 0 | 66 | 762 | 0 | 89 | 177 | 0 | 34 | 218 | 0 |
| Turn Type | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 57.0 | | 16.0 | 60.0 | | 13.0 | 24.0 | | 13.0 | 24.0 | |
| Total Split (%) | 11.8% | 51.8% | | 14.5% | 54.5% | | 11.8% | 21.8% | | 11.8% | 21.8% | |
| Yellow Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 73.9 | 65.8 | | 74.4 | 66.0 | | 24.8 | 16.6 | | 22.0 | 13.4 | |
| Actuated g/C Ratio | 0.67 | 0.60 | | 0.68 | 0.60 | | 0.23 | 0.15 | | 0.20 | 0.12 | |

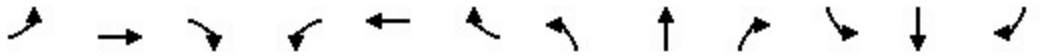
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.12 | 0.39 | | 0.15 | 0.36 | | 0.32 | 0.35 | | 0.13 | 0.54 | |
| Control Delay (s/veh) | 5.7 | 9.7 | | 7.4 | 13.6 | | 34.6 | 43.6 | | 30.8 | 50.0 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 5.7 | 9.7 | | 7.4 | 13.6 | | 34.6 | 43.6 | | 30.8 | 50.0 | |
| LOS | A | A | | A | B | | C | D | | C | D | |
| Approach Delay (s/veh) | | 9.4 | | | 13.1 | | | 40.6 | | | 47.4 | |
| Approach LOS | | A | | | B | | | D | | | D | |
| Queue Length 50th (ft) | 10 | 111 | | 14 | 152 | | 49 | 60 | | 18 | 77 | |
| Queue Length 95th (ft) | 17 | 119 | | 32 | 216 | | 88 | 94 | | 42 | 113 | |
| Internal Link Dist (ft) | | 1144 | | | 2791 | | | 735 | | | 642 | |
| Turn Bay Length (ft) | 170 | | | 215 | | | 185 | | | 175 | | |
| Base Capacity (vph) | 515 | 2078 | | 509 | 2092 | | 286 | 590 | | 290 | 548 | |
| 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 | 0.11 | 0.39 | | 0.13 | 0.36 | | 0.31 | 0.30 | | 0.12 | 0.40 | |

**Intersection Summary**

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 106 (96%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay (s/veh): 18.9 Intersection LOS: B
Intersection Capacity Utilization 54.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Lehigh Avenue & Oakton Street



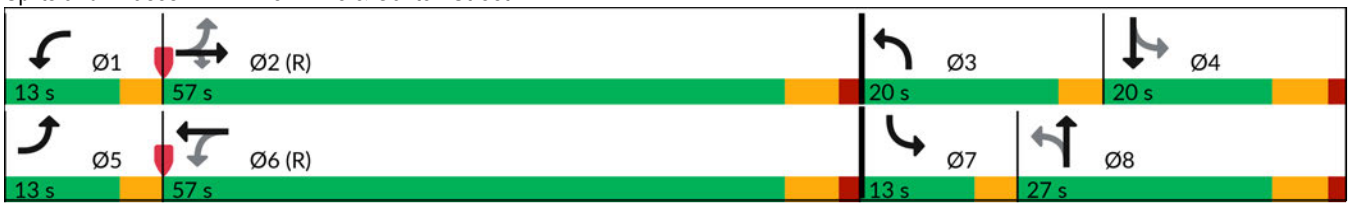


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 48 | 761 | 90 | 76 | 820 | 6 | 116 | 9 | 84 | 11 | 13 | 106 |
| Future Volume (vph) | 48 | 761 | 90 | 76 | 820 | 6 | 116 | 9 | 84 | 11 | 13 | 106 |
| Ideal Flow (vphpl) | 1900 | 2000 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 120 | | 180 | 285 | | 0 | 250 | | 0 | 95 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 145 | | | 50 | | | 100 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | 0.850 | | 0.999 | | | 0.864 | | | 0.867 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 3725 | 1568 | 1671 | 3536 | 0 | 1752 | 1569 | 0 | 1656 | 1604 | 0 |
| Flt Permitted | 0.267 | | | 0.286 | | | 0.528 | | | 0.694 | | |
| Satd. Flow (perm) | 497 | 3725 | 1568 | 503 | 3536 | 0 | 974 | 1569 | 0 | 1210 | 1604 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 40 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1323 | | | 1224 | | | 671 | | | 680 | |
| Travel Time (s) | | 22.6 | | | 20.9 | | | 18.3 | | | 18.5 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 3% | 8% | 2% | 0% | 3% | 11% | 4% | 9% | 8% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 50 | 793 | 94 | 79 | 860 | 0 | 121 | 97 | 0 | 11 | 124 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | 15.0 | 3.0 | 8.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | 21.0 | 6.5 | 14.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 57.0 | 57.0 | 13.0 | 57.0 | | 20.0 | 27.0 | | 13.0 | 20.0 | |
| Total Split (%) | 11.8% | 51.8% | 51.8% | 11.8% | 51.8% | | 18.2% | 24.5% | | 11.8% | 18.2% | |
| Yellow Time (s) | 3.5 | 4.5 | 4.5 | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | 1.5 | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | 6.0 | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 68.5 | 60.4 | 60.4 | 70.1 | 61.2 | | 30.9 | 26.3 | | 22.3 | 13.8 | |
| Actuated g/C Ratio | 0.62 | 0.55 | 0.55 | 0.64 | 0.56 | | 0.28 | 0.24 | | 0.20 | 0.13 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.13 | 0.39 | 0.11 | 0.20 | 0.44 | | 0.34 | 0.26 | | 0.04 | 0.62 | |
| Control Delay (s/veh) | 8.9 | 16.5 | 15.0 | 6.7 | 10.6 | | 31.9 | 35.5 | | 26.5 | 59.0 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 8.9 | 16.5 | 15.0 | 6.7 | 10.6 | | 31.9 | 35.5 | | 26.5 | 59.0 | |
| LOS | A | B | B | A | B | | C | D | | C | E | |
| Approach Delay (s/veh) | | 15.9 | | | 10.3 | | | 33.5 | | | 56.3 | |
| Approach LOS | | B | | | B | | | C | | | E | |
| Queue Length 50th (ft) | 12 | 170 | 32 | 14 | 98 | | 65 | 54 | | 6 | 83 | |
| Queue Length 95th (ft) | 29 | 247 | 69 | 28 | 132 | | 108 | 107 | | 18 | 145 | |
| Internal Link Dist (ft) | | 1243 | | | 1144 | | | 591 | | | 600 | |
| Turn Bay Length (ft) | 120 | | 180 | 285 | | | 250 | | | 95 | | |
| Base Capacity (vph) | 428 | 2045 | 861 | 427 | 1967 | | 390 | 377 | | 322 | 218 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | 0.12 | 0.39 | 0.11 | 0.19 | 0.44 | | 0.31 | 0.26 | | 0.03 | 0.57 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 110 | | | |
| Actuated Cycle Length: 110 | | | |
| Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.62 | | | |
| Intersection Signal Delay (s/veh): 17.7 | | Intersection LOS: B | |
| Intersection Capacity Utilization 52.6% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 2: River Drive & Oakton Street



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.5 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 52 | 15 | 4 | 195 | 211 | 39 |
| Future Vol, veh/h | 52 | 15 | 4 | 195 | 211 | 39 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 90 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 0 | 0 | 0 | 1 | 2 | 3 |
| Mvmt Flow | 54 | 16 | 4 | 203 | 220 | 41 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 452 | 240 | 260 | 0 | - | 0 |
| Stage 1 | 240 | - | - | - | - | - |
| Stage 2 | 211 | - | - | - | - | - |
| Critical Hdwy | 6.4 | 6.2 | 4.1 | - | - | - |
| Critical Hdwy Stg 1 | 5.4 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.4 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | 2.2 | - | - | - |
| Pot Cap-1 Maneuver | 569 | 804 | 1316 | - | - | - |
| Stage 1 | 804 | - | - | - | - | - |
| Stage 2 | 829 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 568 | 804 | 1316 | - | - | - |
| Mov Cap-2 Maneuver | 568 | - | - | - | - | - |
| Stage 1 | 802 | - | - | - | - | - |
| Stage 2 | 829 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 11.46 | 0.16 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1316 | - | 568 | 804 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | 0.095 | 0.019 | - | - |
| HCM Ctrl Dly (s/v) | 7.7 | - | 12 | 9.6 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.3 | 0.1 | - | - |

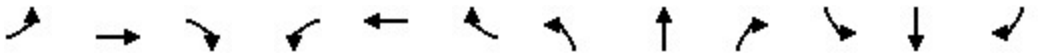
| Intersection | |
|---|---|
| Int Delay, s/veh | 1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 16 | 25 | 4 | 183 | 221 | 5 |
| Future Vol, veh/h | 16 | 25 | 4 | 183 | 221 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 95 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 0 | 0 | 25 | 1 | 2 | 0 |
| Mvmt Flow | 17 | 27 | 4 | 195 | 235 | 5 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 441 | 238 | 240 | 0 | - | 0 |
| Stage 1 | 238 | - | - | - | - | - |
| Stage 2 | 203 | - | - | - | - | - |
| Critical Hdwy | 6.4 | 6.2 | 4.35 | - | - | - |
| Critical Hdwy Stg 1 | 5.4 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.4 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | 2.425 | - | - | - |
| Pot Cap-1 Maneuver | 578 | 806 | 1203 | - | - | - |
| Stage 1 | 806 | - | - | - | - | - |
| Stage 2 | 836 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 575 | 806 | 1203 | - | - | - |
| Mov Cap-2 Maneuver | 575 | - | - | - | - | - |
| Stage 1 | 804 | - | - | - | - | - |
| Stage 2 | 836 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.33 | 0.17 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1203 | - | 575 | 806 | - | - |
| HCM Lane V/C Ratio | 0.004 | - | 0.03 | 0.033 | - | - |
| HCM Ctrl Dly (s/v) | 8 | - | 11.4 | 9.6 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | 0.1 | - | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 90 | 35 | 142 | 36 | 0 | 35 | 0 | 317 | 0 | 0 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Ped Button | | | | | | | | | | | | |
| Pedestrian Timing (s) | | | | | | | | | | | | |
| Free Right | | | No | | | No | | | No | | | No |
| Ideal Flow | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 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 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Refr Cycle Length (s) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Volume Combined (vph) | 0 | 125 | 0 | 0 | 178 | 0 | 0 | 352 | 0 | 0 | 0 | 0 |
| Lane Utilization Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Factor (vph) | 0.95 | 0.96 | 0.85 | 0.95 | 0.96 | 0.85 | 0.95 | 0.86 | 0.85 | 0.95 | 1.00 | 0.85 |
| Saturated Flow (vph) | 0 | 1820 | 0 | 0 | 1824 | 0 | 0 | 1635 | 0 | 0 | 0 | 0 |
| Ped Intf Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pedestrian Frequency (%) | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Protected Option Allowed | | No | | | No | | | No | | | No | |
| Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Adj Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Permitted Option | | | | | | | | | | | | |
| Adj Saturation A (vph) | 0 | 1820 | | 0 | 142 | | 0 | 663 | | 0 | 0 | |
| Reference Time A (s) | 0.0 | 8.2 | | 0.0 | 150.0 | | 0.0 | 63.7 | | 0.0 | 0.0 | |
| Adj Saturation B (vph | 0 | 1820 | | NA | NA | | 0 | 0 | | NA | NA | |
| Reference Time B (s) | 0.0 | 8.2 | | NA | NA | | 10.3 | 33.8 | | NA | NA | |
| Reference Time (s) | | 8.2 | | | 150.0 | | | 33.8 | | | 0.0 | |
| Adj Reference Time (s) | | 12.2 | | | 154.0 | | | 37.8 | | | 8.0 | |
| Split Option | | | | | | | | | | | | |
| Ref Time Combined (s) | 0.0 | 8.2 | | 0.0 | 11.7 | | 0.0 | 25.8 | | 0.0 | 0.0 | |
| Ref Time Seperate (s) | 0.0 | 5.9 | | 9.4 | 2.3 | | 2.3 | 0.0 | | 0.0 | 0.0 | |
| Reference Time (s) | 8.2 | 8.2 | | 11.7 | 11.7 | | 25.8 | 25.8 | | 0.0 | 0.0 | |
| Adj Reference Time (s) | 12.2 | 12.2 | | 15.7 | 15.7 | | 29.8 | 29.8 | | 0.0 | 0.0 | |

| Summary | EB WB | NB SB | Combined |
|---|---|---|---|
| Protected Option (s) | NA | NA | |
| Permitted Option (s) | 154.0 | 37.8 | |
| Split Option (s) | 28.0 | 29.8 | |
| Minimum (s) | 28.0 | 29.8 | 57.8 |

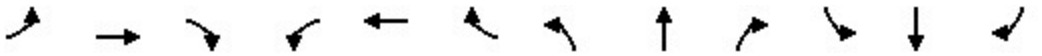
| Right Turns |
|---|
| Adj Reference Time (s) |
| Cross Thru Ref Time (s) |
| Oncoming Left Ref Time (s) |
| Combined (s) |

| Intersection Summary | | | |
|---|---|---|---|
| Intersection Capacity Utilization | 48.2% | ICU Level of Service | A |

Reference Times and Phasing Options do not represent an optimized timing plan.

# Capacity Analysis Summary Sheets

Projected Weekday Morning Peak Hour Conditions



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 42 | 551 | 64 | 63 | 517 | 45 | 48 | 87 | 52 | 14 | 75 | 60 |
| Future Volume (vph) | 42 | 551 | 64 | 63 | 517 | 45 | 48 | 87 | 52 | 14 | 75 | 60 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 170 | | 0 | 215 | | 0 | 185 | | 0 | 175 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 140 | | | 130 | | | 120 | | | 110 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | 0.984 | | | 0.988 | | | 0.944 | | | 0.933 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1752 | 3385 | 0 | 1805 | 3392 | 0 | 1612 | 3026 | 0 | 1480 | 3013 | 0 |
| Flt Permitted | 0.416 | | | 0.362 | | | 0.516 | | | 0.658 | | |
| Satd. Flow (perm) | 767 | 3385 | 0 | 688 | 3392 | 0 | 875 | 3026 | 0 | 1025 | 3013 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 35 | | | 30 | | | 35 | |
| Link Distance (ft) | | 1224 | | | 2871 | | | 815 | | | 722 | |
| Travel Time (s) | | 20.9 | | | 55.9 | | | 18.5 | | | 14.1 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 3% | 4% | 13% | 0% | 5% | 7% | 12% | 13% | 12% | 22% | 18% | 4% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 45 | 654 | 0 | 67 | 598 | 0 | 51 | 148 | 0 | 15 | 144 | 0 |
| Turn Type | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 48.0 | | 13.0 | 48.0 | | 13.0 | 26.0 | | 13.0 | 26.0 | |
| Total Split (%) | 13.0% | 48.0% | | 13.0% | 48.0% | | 13.0% | 26.0% | | 13.0% | 26.0% | |
| Yellow Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 66.9 | 59.1 | | 68.3 | 61.3 | | 22.3 | 16.2 | | 18.8 | 11.1 | |
| Actuated g/C Ratio | 0.67 | 0.59 | | 0.68 | 0.61 | | 0.22 | 0.16 | | 0.19 | 0.11 | |

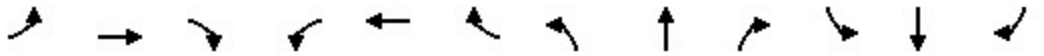
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.08 | 0.33 | | 0.12 | 0.29 | | 0.20 | 0.30 | | 0.07 | 0.43 | |
| Control Delay (s/veh) | 4.9 | 8.3 | | 6.6 | 11.5 | | 29.7 | 38.4 | | 27.4 | 45.1 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 4.9 | 8.3 | | 6.6 | 11.5 | | 29.7 | 38.4 | | 27.4 | 45.1 | |
| LOS | A | A | | A | B | | C | D | | C | D | |
| Approach Delay (s/veh) | | 8.0 | | | 11.0 | | | 36.2 | | | 43.5 | |
| Approach LOS | | A | | | B | | | D | | | D | |
| Queue Length 50th (ft) | 6 | 60 | | 13 | 101 | | 25 | 40 | | 7 | 45 | |
| Queue Length 95th (ft) | 11 | 65 | | 30 | 156 | | 52 | 74 | | 22 | 74 | |
| Internal Link Dist (ft) | | 1144 | | | 2791 | | | 735 | | | 642 | |
| Turn Bay Length (ft) | 170 | | | 215 | | | 185 | | | 175 | | |
| Base Capacity (vph) | 623 | 1999 | | 584 | 2079 | | 266 | 620 | | 260 | 602 | |
| 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 | 0.07 | 0.33 | | 0.11 | 0.29 | | 0.19 | 0.24 | | 0.06 | 0.24 | |

**Intersection Summary**

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay (s/veh): 15.7 Intersection LOS: B
Intersection Capacity Utilization 47.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Lehigh Avenue & Oakton Street





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 626 | 94 | 40 | 573 | 12 | 55 | 12 | 27 | 4 | 6 | 29 |
| Future Volume (vph) | 130 | 626 | 94 | 40 | 573 | 12 | 55 | 12 | 27 | 4 | 6 | 29 |
| Ideal Flow (vphpl) | 1900 | 2000 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 120 | | 180 | 285 | | 0 | 250 | | 0 | 95 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 145 | | | 50 | | | 100 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | 0.850 | | 0.997 | | | 0.898 | | | 0.875 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1687 | 3619 | 1583 | 1752 | 3421 | 0 | 1687 | 1621 | 0 | 1203 | 1376 | 0 |
| Flt Permitted | 0.377 | | | 0.404 | | | 0.491 | | | 0.730 | | |
| Satd. Flow (perm) | 669 | 3619 | 1583 | 745 | 3421 | 0 | 872 | 1621 | 0 | 925 | 1376 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 40 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1323 | | | 1224 | | | 671 | | | 680 | |
| Travel Time (s) | | 22.6 | | | 20.9 | | | 18.3 | | | 18.5 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 7% | 5% | 2% | 3% | 5% | 15% | 7% | 8% | 4% | 50% | 0% | 25% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 135 | 652 | 98 | 42 | 610 | 0 | 57 | 41 | 0 | 4 | 36 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | 15.0 | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 24.0 | 24.0 | 6.5 | 24.0 | | 6.5 | 24.0 | | 6.5 | 24.0 | |
| Total Split (s) | 16.0 | 48.0 | 48.0 | 13.0 | 45.0 | | 13.0 | 26.0 | | 13.0 | 26.0 | |
| Total Split (%) | 16.0% | 48.0% | 48.0% | 13.0% | 45.0% | | 13.0% | 26.0% | | 13.0% | 26.0% | |
| Yellow Time (s) | 3.5 | 4.5 | 4.5 | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | 1.5 | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | 6.0 | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 75.8 | 68.9 | 68.9 | 71.1 | 62.3 | | 18.3 | 14.9 | | 13.7 | 9.5 | |
| Actuated g/C Ratio | 0.76 | 0.69 | 0.69 | 0.71 | 0.62 | | 0.18 | 0.15 | | 0.14 | 0.10 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.23 | 0.26 | 0.09 | 0.07 | 0.29 | | 0.25 | 0.17 | | 0.03 | 0.28 | |
| Control Delay (s/veh) | 5.9 | 9.6 | 9.9 | 4.4 | 7.8 | | 32.9 | 36.9 | | 28.0 | 46.9 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 5.9 | 9.6 | 9.9 | 4.4 | 7.8 | | 32.9 | 36.9 | | 28.0 | 46.9 | |
| LOS | A | A | A | A | A | | C | D | | C | D | |
| Approach Delay (s/veh) | | 9.1 | | | 7.6 | | | 34.6 | | | 45.0 | |
| Approach LOS | | A | | | A | | | C | | | D | |
| Queue Length 50th (ft) | 25 | 105 | 26 | 5 | 73 | | 29 | 22 | | 2 | 22 | |
| Queue Length 95th (ft) | 52 | 161 | 58 | 14 | 102 | | 59 | 55 | | 10 | 52 | |
| Internal Link Dist (ft) | | 1243 | | | 1144 | | | 591 | | | 600 | |
| Turn Bay Length (ft) | 120 | | 180 | 285 | | | 250 | | | 95 | | |
| Base Capacity (vph) | 638 | 2493 | 1090 | 648 | 2131 | | 245 | 336 | | 186 | 275 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | 0.21 | 0.26 | 0.09 | 0.06 | 0.29 | | 0.23 | 0.12 | | 0.02 | 0.13 | |

**Intersection Summary**

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.29
Intersection Signal Delay (s/veh): 10.9 Intersection LOS: B
Intersection Capacity Utilization 46.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: River Drive & Oakton Street



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.7 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 27 | 4 | 37 | 121 | 150 | 55 |
| Future Vol, veh/h | 27 | 4 | 37 | 121 | 150 | 55 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 90 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 91 | 91 | 91 | 91 | 91 | 91 |
| Heavy Vehicles, % | 4 | 69 | 38 | 4 | 3 | 4 |
| Mvmt Flow | 30 | 4 | 41 | 133 | 165 | 60 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 409 | 195 | 225 | 0 | - | 0 |
| Stage 1 | 195 | - | - | - | - | - |
| Stage 2 | 214 | - | - | - | - | - |
| Critical Hdwy | 6.44 | 6.89 | 4.48 | - | - | - |
| Critical Hdwy Stg 1 | 5.44 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.44 | - | - | - | - | - |
| Follow-up Hdwy | 3.536 | 3.921 | 2.542 | - | - | - |
| Pot Cap-1 Maneuver | 595 | 702 | 1157 | - | - | - |
| Stage 1 | 833 | - | - | - | - | - |
| Stage 2 | 817 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 574 | 702 | 1157 | - | - | - |
| Mov Cap-2 Maneuver | 574 | - | - | - | - | - |
| Stage 1 | 804 | - | - | - | - | - |
| Stage 2 | 817 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 11.43 | 1.93 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1157 | - | 574 | 702 | - | - |
| HCM Lane V/C Ratio | 0.035 | - | 0.052 | 0.006 | - | - |
| HCM Ctrl Dly (s/v) | 8.2 | - | 11.6 | 10.2 | - | - |
| HCM Lane LOS | A | - | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | 0 | - | - |

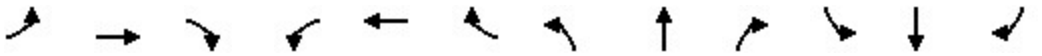
| Intersection | |
|---|---|
| Int Delay, s/veh | 1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 7 | 24 | 150 | 142 | 12 |
| Future Vol, veh/h | 8 | 7 | 24 | 150 | 142 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 95 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 9 | 50 | 4 | 11 | 10 | 3 |
| Mvmt Flow | 9 | 8 | 27 | 170 | 161 | 14 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 393 | 168 | 175 | 0 | - | 0 |
| Stage 1 | 168 | - | - | - | - | - |
| Stage 2 | 225 | - | - | - | - | - |
| Critical Hdwy | 6.49 | 6.7 | 4.14 | - | - | - |
| Critical Hdwy Stg 1 | 5.49 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.49 | - | - | - | - | - |
| Follow-up Hdwy | 3.581 | 3.75 | 2.236 | - | - | - |
| Pot Cap-1 Maneuver | 598 | 765 | 1389 | - | - | - |
| Stage 1 | 845 | - | - | - | - | - |
| Stage 2 | 796 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 586 | 765 | 1389 | - | - | - |
| Mov Cap-2 Maneuver | 586 | - | - | - | - | - |
| Stage 1 | 828 | - | - | - | - | - |
| Stage 2 | 796 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.55 | 1.05 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1389 | - | 586 | 765 | - | - |
| HCM Lane V/C Ratio | 0.02 | - | 0.016 | 0.01 | - | - |
| HCM Ctrl Dly (s/v) | 7.6 | - | 11.2 | 9.8 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0 | 0 | - | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 81 | 104 | 214 | 20 | 4 | 35 | 0 | 175 | 0 | 0 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Ped Button | | | | | | | | | | | | |
| Pedestrian Timing (s) | | | | | | | | | | | | |
| Free Right | | | No | | | No | | | No | | | No |
| Ideal Flow | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 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 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Refr Cycle Length (s) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Volume Combined (vph) | 0 | 190 | 0 | 0 | 238 | 0 | 0 | 210 | 0 | 0 | 0 | 0 |
| Lane Utilization Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Factor (vph) | 0.95 | 0.92 | 0.85 | 0.95 | 0.95 | 0.85 | 0.95 | 0.87 | 0.85 | 0.95 | 1.00 | 0.85 |
| Saturated Flow (vph) | 0 | 1742 | 0 | 0 | 1810 | 0 | 0 | 1649 | 0 | 0 | 0 | 0 |
| Ped Intf Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pedestrian Frequency (%) | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Protected Option Allowed | | No | | | No | | | No | | | No | |
| Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Adj Reference Time (s) | | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 |
| Permitted Option | | | | | | | | | | | | |
| Adj Saturation A (vph) | 0 | 1762 | | 0 | 183 | | 0 | 469 | | 0 | 0 | |
| Reference Time A (s) | 0.0 | 12.9 | | 0.0 | 156.2 | | 0.0 | 53.7 | | 0.0 | 0.0 | |
| Adj Saturation B (vph | 0 | 0 | | NA | NA | | 0 | 0 | | NA | NA | |
| Reference Time B (s) | 8.3 | 21.1 | | NA | NA | | 10.3 | 23.3 | | NA | NA | |
| Reference Time (s) | | 12.9 | | | 156.2 | | | 23.3 | | | 0.0 | |
| Adj Reference Time (s) | | 16.9 | | | 160.2 | | | 27.3 | | | 8.0 | |
| Split Option | | | | | | | | | | | | |
| Ref Time Combined (s) | 0.0 | 13.1 | | 0.0 | 15.8 | | 0.0 | 15.3 | | 0.0 | 0.0 | |
| Ref Time Seperate (s) | 0.3 | 5.6 | | 14.2 | 1.3 | | 2.3 | 0.0 | | 0.0 | 0.0 | |
| Reference Time (s) | 13.1 | 13.1 | | 15.8 | 15.8 | | 15.3 | 15.3 | | 0.0 | 0.0 | |
| Adj Reference Time (s) | 17.1 | 17.1 | | 19.8 | 19.8 | | 19.3 | 19.3 | | 0.0 | 0.0 | |

| Summary | EB WB | NB SB | Combined |
|---|---|---|---|
| Protected Option (s) | NA | NA | |
| Permitted Option (s) | 160.2 | 27.3 | |
| Split Option (s) | 36.9 | 19.3 | |
| Minimum (s) | 36.9 | 19.3 | 56.2 |

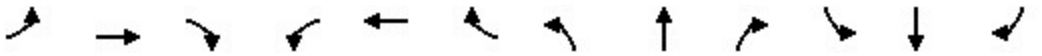
| Right Turns |
|---|
| Adj Reference Time (s) |
| Cross Thru Ref Time (s) |
| Oncoming Left Ref Time (s) |
| Combined (s) |

| Intersection Summary | | | |
|---|---|---|---|
| Intersection Capacity Utilization | 46.8% | ICU Level of Service | A |

Reference Times and Phasing Options do not represent an optimized timing plan.

# Capacity Analysis Summary Sheets

Projected Weekday Evening Peak Hour Conditions



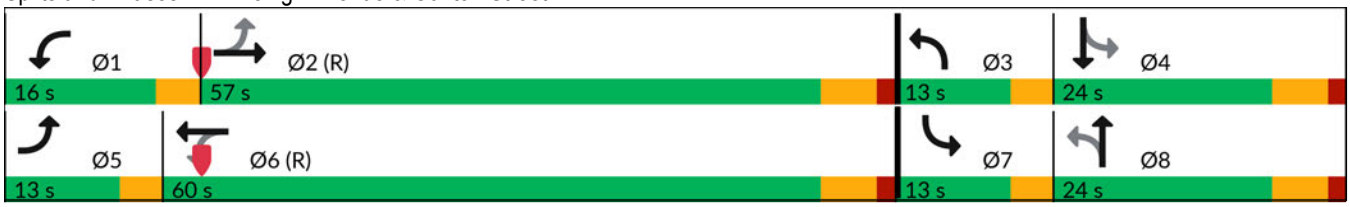
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 57 | 736 | 69 | 65 | 728 | 19 | 88 | 111 | 63 | 49 | 137 | 87 |
| Future Volume (vph) | 57 | 736 | 69 | 65 | 728 | 19 | 88 | 111 | 63 | 49 | 137 | 87 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 170 | | 0 | 215 | | 0 | 185 | | 0 | 175 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 140 | | | 130 | | | 120 | | | 110 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | 0.987 | | | 0.996 | | | 0.946 | | | 0.942 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 3473 | 0 | 1719 | 3488 | 0 | 1770 | 3327 | 0 | 1719 | 3302 | 0 |
| Flt Permitted | 0.323 | | | 0.295 | | | 0.538 | | | 0.640 | | |
| Satd. Flow (perm) | 602 | 3473 | 0 | 534 | 3488 | 0 | 1002 | 3327 | 0 | 1158 | 3302 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 35 | | | 30 | | | 35 | |
| Link Distance (ft) | | 1224 | | | 2871 | | | 815 | | | 722 | |
| Travel Time (s) | | 20.9 | | | 55.9 | | | 18.5 | | | 14.1 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 9% | 5% | 3% | 6% | 2% | 3% | 2% | 5% | 3% | 3% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 58 | 821 | 0 | 66 | 762 | 0 | 90 | 177 | 0 | 50 | 229 | 0 |
| Turn Type | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | | 3.0 | 15.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 57.0 | | 16.0 | 60.0 | | 13.0 | 24.0 | | 13.0 | 24.0 | |
| Total Split (%) | 11.8% | 51.8% | | 14.5% | 54.5% | | 11.8% | 21.8% | | 11.8% | 21.8% | |
| Yellow Time (s) | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 73.5 | 65.3 | | 73.9 | 65.5 | | 24.5 | 14.6 | | 23.0 | 13.8 | |
| Actuated g/C Ratio | 0.67 | 0.59 | | 0.67 | 0.60 | | 0.22 | 0.13 | | 0.21 | 0.13 | |

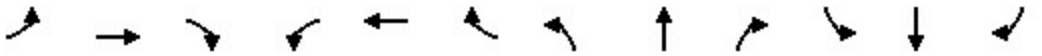
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.12 | 0.40 | | 0.15 | 0.37 | | 0.32 | 0.40 | | 0.18 | 0.55 | |
| Control Delay (s/veh) | 5.7 | 9.7 | | 7.6 | 13.9 | | 34.2 | 46.0 | | 31.2 | 50.0 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 5.7 | 9.7 | | 7.6 | 13.9 | | 34.2 | 46.0 | | 31.2 | 50.0 | |
| LOS | A | A | | A | B | | C | D | | C | D | |
| Approach Delay (s/veh) | | 9.5 | | | 13.4 | | | 42.0 | | | 46.6 | |
| Approach LOS | | A | | | B | | | D | | | D | |
| Queue Length 50th (ft) | 10 | 113 | | 15 | 153 | | 49 | 60 | | 27 | 81 | |
| Queue Length 95th (ft) | 17 | 122 | | 33 | 220 | | 88 | 93 | | 55 | 117 | |
| Internal Link Dist (ft) | | 1144 | | | 2791 | | | 735 | | | 642 | |
| Turn Bay Length (ft) | 170 | | | 215 | | | 185 | | | 175 | | |
| Base Capacity (vph) | 513 | 2062 | | 505 | 2077 | | 291 | 544 | | 300 | 540 | |
| 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 | 0.11 | 0.40 | | 0.13 | 0.37 | | 0.31 | 0.33 | | 0.17 | 0.42 | |

**Intersection Summary**

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 106 (96%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay (s/veh): 19.4 Intersection LOS: B
Intersection Capacity Utilization 54.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Lehigh Avenue & Oakton Street





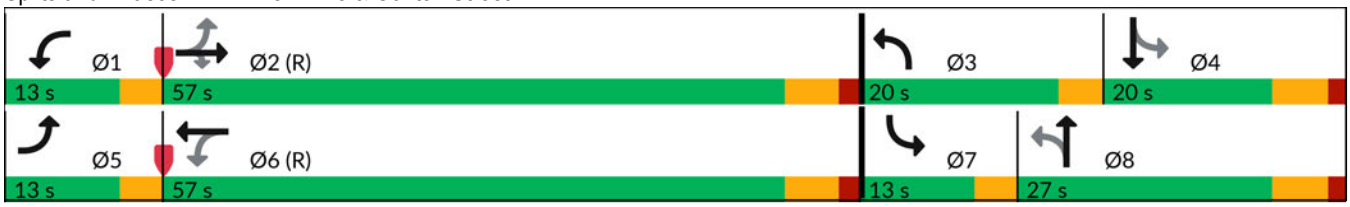
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 48 | 761 | 90 | 76 | 820 | 7 | 116 | 9 | 84 | 17 | 13 | 135 |
| Future Volume (vph) | 48 | 761 | 90 | 76 | 820 | 7 | 116 | 9 | 84 | 17 | 13 | 135 |
| Ideal Flow (vphpl) | 1900 | 2000 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Grade (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Storage Length (ft) | 120 | | 180 | 285 | | 0 | 250 | | 0 | 95 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 145 | | | 50 | | | 100 | | |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | | | | | | | | |
| Frt | | | 0.850 | | 0.999 | | | 0.864 | | | 0.864 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1719 | 3725 | 1568 | 1671 | 3533 | 0 | 1752 | 1569 | 0 | 1656 | 1587 | 0 |
| Flt Permitted | 0.263 | | | 0.283 | | | 0.465 | | | 0.694 | | |
| Satd. Flow (perm) | 476 | 3725 | 1568 | 498 | 3533 | 0 | 858 | 1569 | 0 | 1210 | 1587 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | | No |
| Satd. Flow (RTOR) | | | | | | | | | | | | |
| Link Speed (mph) | | 40 | | | 40 | | | 25 | | | 25 | |
| Link Distance (ft) | | 1323 | | | 1224 | | | 671 | | | 680 | |
| Travel Time (s) | | 22.6 | | | 20.9 | | | 18.3 | | | 18.5 | |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 5% | 2% | 3% | 8% | 2% | 10% | 3% | 11% | 4% | 9% | 8% | 3% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 50 | 793 | 94 | 79 | 861 | 0 | 121 | 97 | 0 | 18 | 155 | 0 |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 3.0 | 15.0 | 15.0 | 3.0 | 8.0 | | 3.0 | 8.0 | | 3.0 | 8.0 | |
| Minimum Split (s) | 6.5 | 21.0 | 21.0 | 6.5 | 14.0 | | 6.5 | 21.0 | | 6.5 | 14.0 | |
| Total Split (s) | 13.0 | 57.0 | 57.0 | 13.0 | 57.0 | | 20.0 | 27.0 | | 13.0 | 20.0 | |
| Total Split (%) | 11.8% | 51.8% | 51.8% | 11.8% | 51.8% | | 18.2% | 24.5% | | 11.8% | 18.2% | |
| Yellow Time (s) | 3.5 | 4.5 | 4.5 | 3.5 | 4.5 | | 3.5 | 4.5 | | 3.5 | 4.5 | |
| All-Red Time (s) | 0.0 | 1.5 | 1.5 | 0.0 | 1.5 | | 0.0 | 1.5 | | 0.0 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 3.5 | 6.0 | 6.0 | 3.5 | 6.0 | | 3.5 | 6.0 | | 3.5 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | | None | None | |
| Act Effct Green (s) | 66.8 | 58.6 | 58.6 | 68.3 | 59.4 | | 32.6 | 25.8 | | 24.5 | 15.6 | |
| Actuated g/C Ratio | 0.61 | 0.53 | 0.53 | 0.62 | 0.54 | | 0.30 | 0.23 | | 0.22 | 0.14 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| v/c Ratio | 0.14 | 0.40 | 0.11 | 0.20 | 0.45 | | 0.35 | 0.26 | | 0.06 | 0.69 | |
| Control Delay (s/veh) | 9.5 | 17.5 | 15.7 | 7.1 | 11.3 | | 31.1 | 37.0 | | 26.4 | 61.4 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Delay (s/veh) | 9.5 | 17.5 | 15.7 | 7.1 | 11.3 | | 31.1 | 37.0 | | 26.4 | 61.4 | |
| LOS | A | B | B | A | B | | C | D | | C | E | |
| Approach Delay (s/veh) | | 16.9 | | | 10.9 | | | 33.7 | | | 57.8 | |
| Approach LOS | | B | | | B | | | C | | | E | |
| Queue Length 50th (ft) | 13 | 181 | 34 | 15 | 97 | | 63 | 52 | | 9 | 103 | |
| Queue Length 95th (ft) | 29 | 247 | 69 | 28 | 133 | | 108 | 108 | | 25 | #196 | |
| Internal Link Dist (ft) | | 1243 | | | 1144 | | | 591 | | | 600 | |
| Turn Bay Length (ft) | 120 | | 180 | 285 | | | 250 | | | 95 | | |
| Base Capacity (vph) | 404 | 1986 | 835 | 415 | 1907 | | 388 | 368 | | 342 | 231 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | 0.12 | 0.40 | 0.11 | 0.19 | 0.45 | | 0.31 | 0.26 | | 0.05 | 0.67 | |

**Intersection Summary**

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay (s/veh): 19.1 Intersection LOS: B
Intersection Capacity Utilization 58.3% ICU Level of Service B
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: River Drive & Oakton Street



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.9 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 67 | 15 | 4 | 200 | 211 | 39 |
| Future Vol, veh/h | 67 | 15 | 4 | 200 | 211 | 39 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 90 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, % | 0 | 21 | 43 | 1 | 2 | 2 |
| Mvmt Flow | 70 | 16 | 4 | 208 | 220 | 41 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 457 | 240 | 260 | 0 | - | 0 |
| Stage 1 | 240 | - | - | - | - | - |
| Stage 2 | 217 | - | - | - | - | - |
| Critical Hdwy | 6.4 | 6.41 | 4.53 | - | - | - |
| Critical Hdwy Stg 1 | 5.4 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.4 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.489 | 2.587 | - | - | - |
| Pot Cap-1 Maneuver | 566 | 754 | 1099 | - | - | - |
| Stage 1 | 804 | - | - | - | - | - |
| Stage 2 | 824 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 563 | 754 | 1099 | - | - | - |
| Mov Cap-2 Maneuver | 563 | - | - | - | - | - |
| Stage 1 | 801 | - | - | - | - | - |
| Stage 2 | 824 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 11.85 | 0.16 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1099 | - | 563 | 754 | - | - |
| HCM Lane V/C Ratio | 0.004 | - | 0.124 | 0.021 | - | - |
| HCM Ctrl Dly (s/v) | 8.3 | - | 12.3 | 9.9 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.4 | 0.1 | - | - |

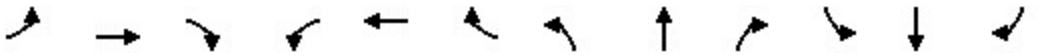
| Intersection | |
|---|---|
| Int Delay, s/veh | 1.6 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 21 | 52 | 4 | 183 | 221 | 5 |
| Future Vol, veh/h | 21 | 52 | 4 | 183 | 221 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 95 | 140 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 0 | 0 | 14 | 2 | 3 | 0 |
| Mvmt Flow | 22 | 55 | 4 | 195 | 235 | 5 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 441 | 238 | 240 | 0 | - | 0 |
| Stage 1 | 238 | - | - | - | - | - |
| Stage 2 | 203 | - | - | - | - | - |
| Critical Hdwy | 6.4 | 6.2 | 4.24 | - | - | - |
| Critical Hdwy Stg 1 | 5.4 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.4 | - | - | - | - | - |
| Follow-up Hdwy | 3.5 | 3.3 | 2.326 | - | - | - |
| Pot Cap-1 Maneuver | 578 | 806 | 1259 | - | - | - |
| Stage 1 | 806 | - | - | - | - | - |
| Stage 2 | 836 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 576 | 806 | 1259 | - | - | - |
| Mov Cap-2 Maneuver | 576 | - | - | - | - | - |
| Stage 1 | 804 | - | - | - | - | - |
| Stage 2 | 836 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Ctrl Dly, s/v | 10.29 | 0.17 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1259 | - | 576 | 806 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | 0.039 | 0.069 | - | - |
| HCM Ctrl Dly (s/v) | 7.9 | - | 11.5 | 9.8 | - | - |
| HCM Lane LOS | A | - | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | 0.2 | - | - |



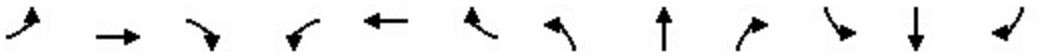
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 57 | 736 | 69 | 65 | 728 | 19 | 88 | 111 | 63 | 49 | 137 | 87 |
| Pedestrians | | | | | | | | | | | | |
| Ped Button | | | | | | | | | | | | |
| Pedestrian Timing (s) | | | | | | | | | | | | |
| Free Right | | | No | | | No | | | No | | | No |
| Ideal Flow | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lost Time (s) | 3.5 | 6.0 | 4.0 | 3.5 | 6.0 | 4.0 | 3.5 | 6.0 | 4.0 | 3.5 | 6.0 | 4.0 |
| Minimum Green (s) | 4.0 | 15.0 | 4.0 | 4.0 | 15.0 | 4.0 | 4.0 | 8.0 | 4.0 | 4.0 | 8.0 | 4.0 |
| Refr Cycle Length (s) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Volume Combined (vph) | 57 | 805 | 0 | 65 | 747 | 0 | 88 | 174 | 0 | 49 | 224 | 0 |
| Lane Utilization Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Turning Factor (vph) | 0.95 | 0.99 | 0.85 | 0.95 | 1.00 | 0.85 | 0.95 | 0.95 | 0.85 | 0.95 | 0.94 | 0.85 |
| Saturated Flow (vph) | 1805 | 3571 | 0 | 1805 | 3604 | 0 | 1805 | 3421 | 0 | 1805 | 3407 | 0 |
| Ped Intf Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pedestrian Frequency (%) | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Protected Option Allowed | | Yes | | | Yes | | | Yes | | | Yes | |
| Reference Time (s) | 3.8 | 27.1 | 0.0 | 4.3 | 24.9 | 0.0 | 5.9 | 6.1 | 0.0 | 3.3 | 7.9 | 0.0 |
| Adj Reference Time (s) | 8.0 | 33.1 | 0.0 | 8.3 | 30.9 | 0.0 | 9.9 | 14.0 | 0.0 | 8.0 | 14.0 | 0.0 |
| Permitted Option | | | | | | | | | | | | |
| Adj Saturation A (vph) | 120 | 1786 | | 120 | 1802 | | 120 | 1711 | | 120 | 1703 | |
| Reference Time A (s) | 56.8 | 27.1 | | 64.8 | 24.9 | | 87.8 | 6.1 | | 48.9 | 7.9 | |
| Adj Saturation B (vph | NA | NA | | NA | NA | | NA | NA | | NA | NA | |
| Reference Time B (s) | NA | NA | | NA | NA | | NA | NA | | NA | NA | |
| Reference Time (s) | | 56.8 | | | 64.8 | | | 87.8 | | | 48.9 | |
| Adj Reference Time (s) | | 62.8 | | | 70.8 | | | 93.8 | | | 54.9 | |
| Split Option | | | | | | | | | | | | |
| Ref Time Combined (s) | 3.8 | 27.1 | | 4.3 | 24.9 | | 5.9 | 6.1 | | 3.3 | 7.9 | |
| Ref Time Seperate (s) | 3.8 | 24.7 | | 4.3 | 24.2 | | 5.9 | 3.9 | | 3.3 | 4.8 | |
| Reference Time (s) | 27.1 | 27.1 | | 24.9 | 24.9 | | 6.1 | 6.1 | | 7.9 | 7.9 | |
| Adj Reference Time (s) | 33.1 | 33.1 | | 30.9 | 30.9 | | 14.0 | 14.0 | | 14.0 | 14.0 | |

| Summary | EB WB | NB SB | Combined |
|---|---|---|---|
| Protected Option (s) | 41.4 | 23.9 | |
| Permitted Option (s) | 70.8 | 93.8 | |
| Split Option (s) | 63.9 | 28.0 | |
| Minimum (s) | 41.4 | 23.9 | 65.2 |

| Right Turns |
|---|
| Adj Reference Time (s) |
| Cross Thru Ref Time (s) |
| Oncoming Left Ref Time (s) |
| Combined (s) |

| Intersection Summary | | | |
|---|---|---|---|
| Intersection Capacity Utilization | 54.4% | ICU Level of Service | A |

Reference Times and Phasing Options do not represent an optimized timing plan.



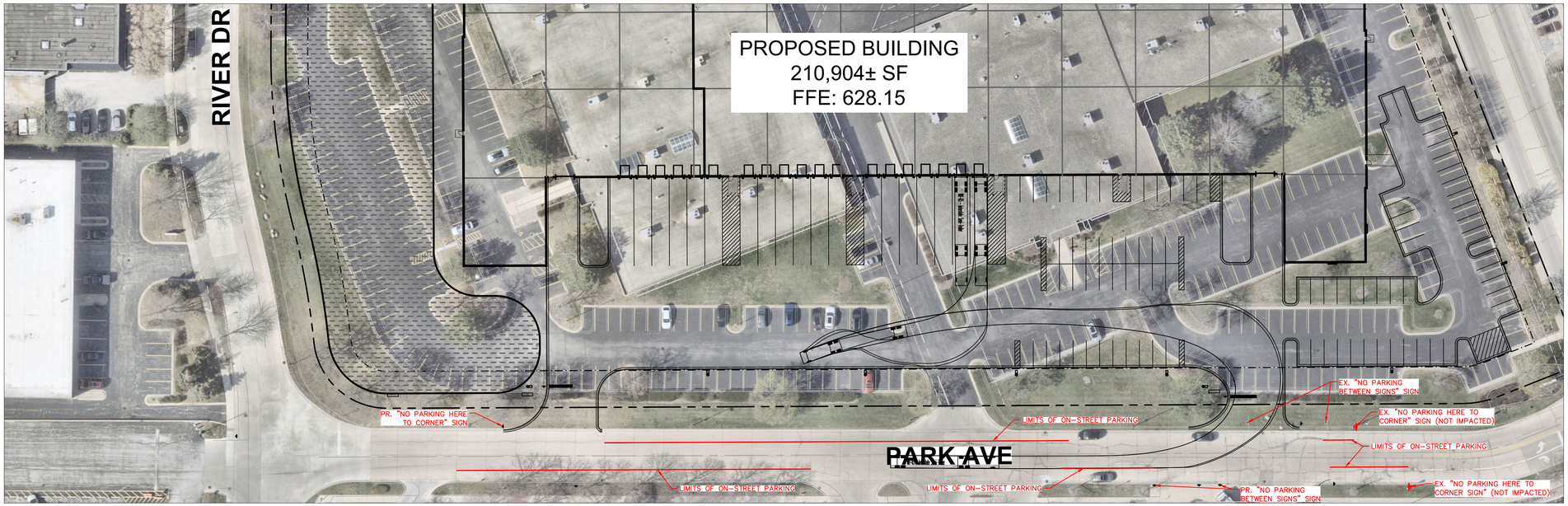
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 48 | 761 | 90 | 76 | 820 | 7 | 116 | 9 | 84 | 17 | 13 | 135 |
| Pedestrians | | | | | | | | | | | | |
| Ped Button | | | | | | | | | | | | |
| Pedestrian Timing (s) | | | | | | | | | | | | |
| Free Right | | | No | | | No | | | No | | | No |
| Ideal Flow | 1900 | 2000 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lost Time (s) | 3.5 | 6.0 | 6.0 | 3.5 | 6.0 | 4.0 | 3.5 | 6.0 | 4.0 | 3.5 | 6.0 | 4.0 |
| Minimum Green (s) | 4.0 | 15.0 | 15.0 | 4.0 | 8.0 | 4.0 | 4.0 | 8.0 | 4.0 | 4.0 | 8.0 | 4.0 |
| Refr Cycle Length (s) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Volume Combined (vph) | 48 | 761 | 90 | 76 | 827 | 0 | 116 | 93 | 0 | 17 | 148 | 0 |
| Lane Utilization Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Factor (vph) | 0.95 | 1.00 | 0.85 | 0.95 | 1.00 | 0.85 | 0.95 | 0.86 | 0.85 | 0.95 | 0.86 | 0.85 |
| Saturated Flow (vph) | 1805 | 3808 | 1615 | 1805 | 3613 | 0 | 1805 | 1643 | 0 | 1805 | 1640 | 0 |
| Ped Intf Time (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pedestrian Frequency (%) | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Protected Option Allowed | | Yes | | | Yes | | | Yes | | | Yes | |
| Reference Time (s) | 3.2 | 24.0 | 6.7 | 5.1 | 27.5 | 0.0 | 7.7 | 6.8 | 0.0 | 1.1 | 10.8 | 0.0 |
| Adj Reference Time (s) | 8.0 | 30.0 | 21.0 | 9.1 | 33.5 | 0.0 | 11.7 | 14.0 | 0.0 | 8.0 | 16.8 | 0.0 |
| Permitted Option | | | | | | | | | | | | |
| Adj Saturation A (vph) | 120 | 1904 | | 120 | 1807 | | 120 | 1643 | | 120 | 1640 | |
| Reference Time A (s) | 47.9 | 24.0 | | 75.8 | 27.5 | | 115.7 | 6.8 | | 17.0 | 10.8 | |
| Adj Saturation B (vph | NA | NA | | NA | NA | | NA | NA | | 0 | 1640 | |
| Reference Time B (s) | NA | NA | | NA | NA | | NA | NA | | 9.1 | 10.8 | |
| Reference Time (s) | | 47.9 | | | 75.8 | | | 115.7 | | | 10.8 | |
| Adj Reference Time (s) | | 53.9 | | | 81.8 | | | 121.7 | | | 16.8 | |
| Split Option | | | | | | | | | | | | |
| Ref Time Combined (s) | 3.2 | 24.0 | | 5.1 | 27.5 | | 7.7 | 6.8 | | 1.1 | 10.8 | |
| Ref Time Seperate (s) | 3.2 | 24.0 | | 5.1 | 27.2 | | 7.7 | 0.7 | | 1.1 | 1.0 | |
| Reference Time (s) | 24.0 | 24.0 | | 27.5 | 27.5 | | 7.7 | 7.7 | | 10.8 | 10.8 | |
| Adj Reference Time (s) | 30.0 | 30.0 | | 33.5 | 33.5 | | 14.0 | 14.0 | | 16.8 | 16.8 | |

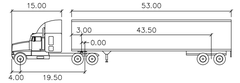
| Summary | EB WB | NB SB | Combined |
|---|---|---|---|
| Protected Option (s) | 41.5 | 28.5 | |
| Permitted Option (s) | 81.8 | 121.7 | |
| Split Option (s) | 63.4 | 30.8 | |
| Minimum (s) | 41.5 | 28.5 | 70.0 |

| Right Turns | EBR |
|---|---|
| Adj Reference Time (s) | 21.0 |
| Cross Thru Ref Time (s) | 16.8 |
| Oncoming Left Ref Time (s) | 9.1 |
| Combined (s) | 46.9 |

| Intersection Summary | | | |
|---|---|---|---|
| Intersection Capacity Utilization | 58.3% | ICU Level of Service | B |

Reference Times and Phasing Options do not represent an optimized timing plan.

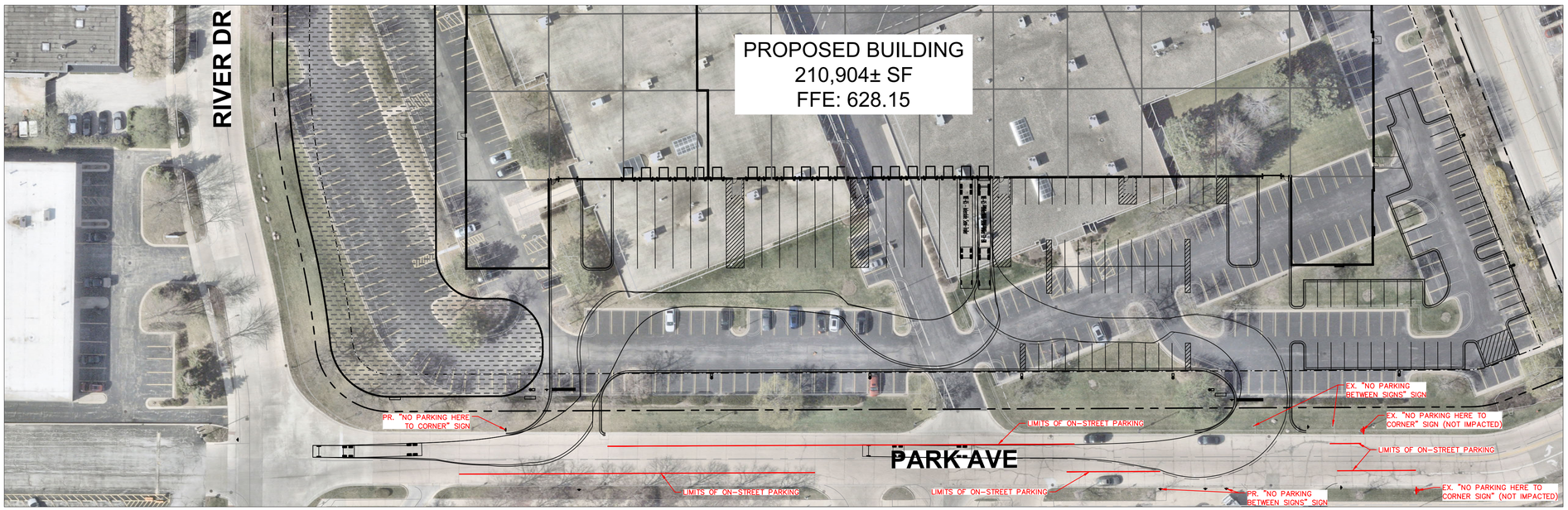



WB-65

feet

| | | | |
|---|---|---|---|
| Tractor Width | : 8.00 | Lock to Lock Time | : 6.0 |
| Trailer Width | : 8.50 | Steering Angle | : 28.4 |
| Tractor Track | : 8.00 | Articulating Angle | : 70.0 |
| Trailer Track | : 8.50 | | |




EX. ON-STREET PARKING (PARK AVE.): 907 LF
PR. ON-STREET PARKING (PARK AVE.): 468 LF
NET GAIN/LOSS OF ON-STREET PARKING: 439 LF LOSS (≈21 STALLS)

NOTE:
PER MORTON GROVE SECTION 12-7-3; 0° PARKING STALL DIMENSIONS ARE 8.5' X 21.0'

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

Call Before You Dig
JULIE
1-800-892-0123

| No. | REVISIONS | DATE | BY |
|---|---|---|---|
| 1 | SITE PLAN CHANGE | 02/20/26 | JRS |
| 2 | STORM WATER UPDATE | 06/28/25 | JRS |

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PHONE: 630-487-5550
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SCALE: AS NOTED
DESIGNED BY: JRS
DRAWN BY: CG
CHECKED BY: TJS

BRIDGE

WB-65 TRUCK EXHIBIT

BRIDGE INDUSTRIAL
MORTON GROVE
SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
1 OF 2

Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\CAD\Exhibits\Truck Turn Exhibit.dwg Layout1 (3) Feb 20, 2026 8:18am by: Chris.Graf
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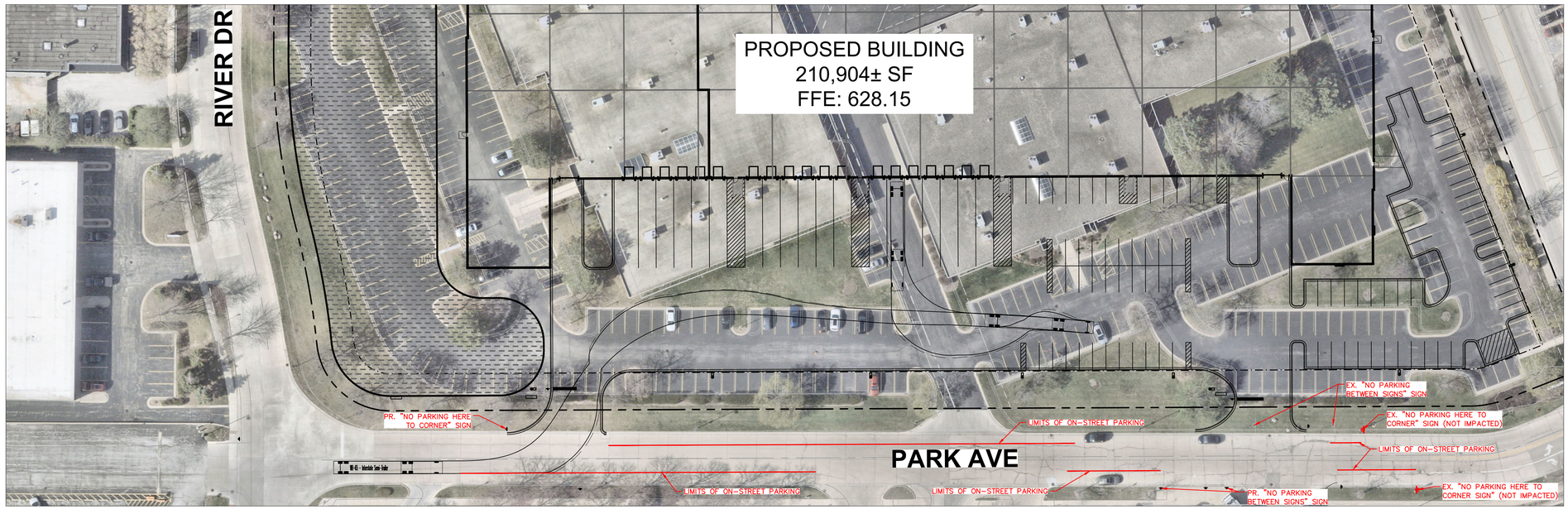


NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

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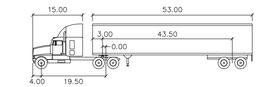
JULIE
1-800-892-0123




WB-65

feet

| | | | |
|---|---|---|---|
| Tractor Width | : 8.00 | Lock to Lock Time | : 6.0 |
| Trailer Width | : 8.50 | Steering Angle | : 28.4 |
| Tractor Track | : 8.00 | Articulating Angle | : 70.0 |
| Trailer Track | : 8.50 | | |

EX. ON-STREET PARKING (PARK AVE.): 907 LF
PR. ON-STREET PARKING (PARK AVE.): 468 LF
NET GAIN/LOSS OF ON-STREET PARKING: 439 LF LOSS (≈21 STALLS)

NOTE:
PER MORTON GROVE SECTION 12-7-3; 0° PARKING STALL DIMENSIONS ARE 8.5' X 21.0'

| No. | REVISIONS | DATE | BY |
|---|---|---|---|
| 1 | SITE PLAN CHANGE | 02/20/26 | JRS |
| 2 | STORM WATER UPDATE | 06/28/25 | JRS |

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SCALE: AS NOTED
DESIGNED BY: JRS
DRAWN BY: CG
CHECKED BY: TJS

BRIDGE

# WB-65 TRUCK EXHIBIT

BRIDGE INDUSTRIAL
MORTON GROVE
SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE: 06/27/2025
KHA PROJECT NO. 268915000
SHEET NUMBER
2 OF 2

Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\CAD\Exhibits\Truck Turn Exhibit.dwg Layout1 (4) Feb 20, 2026 8:18am by: Chris.Graf
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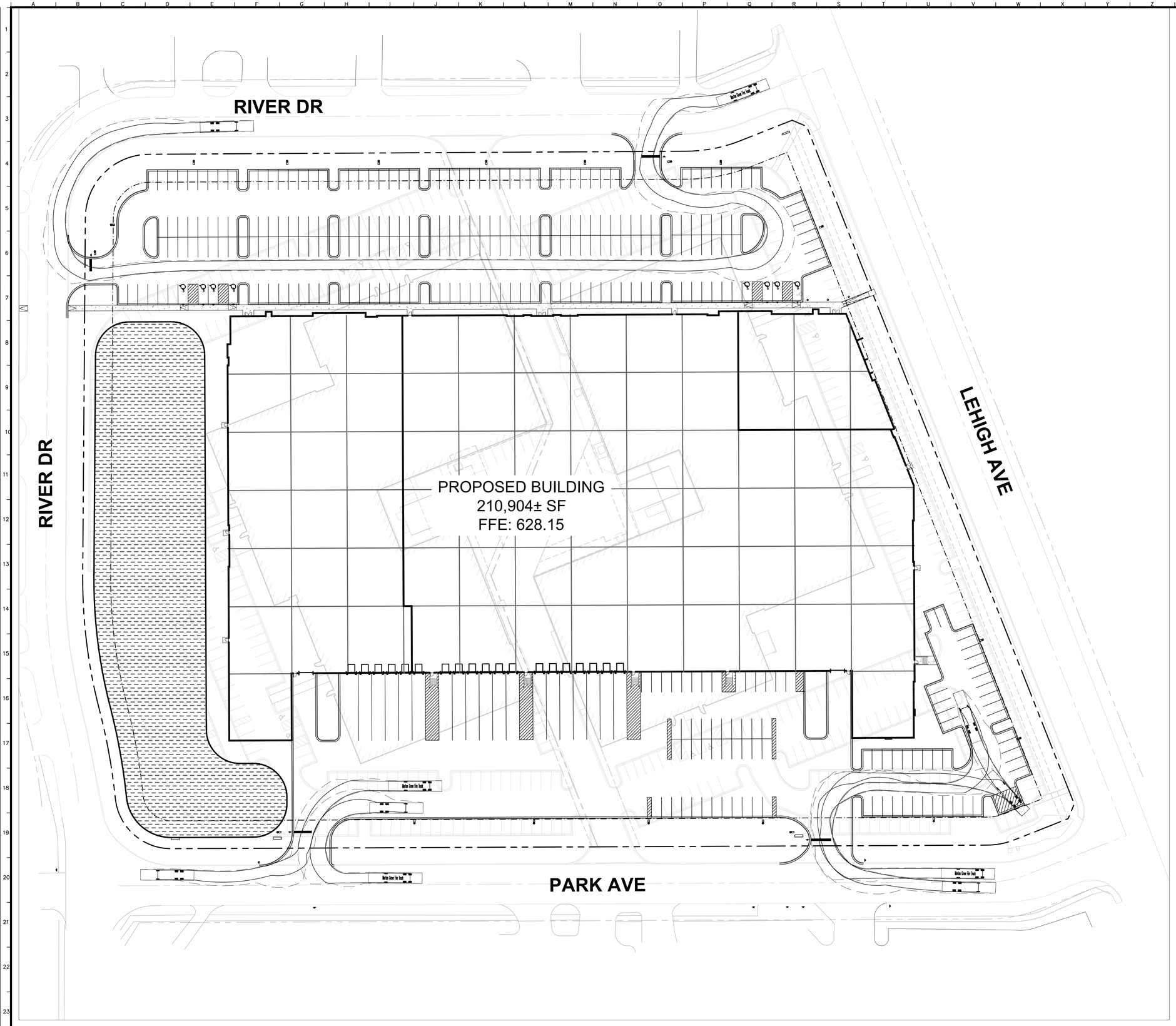


NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

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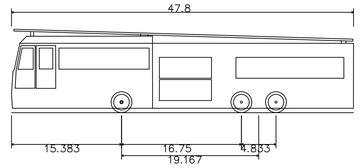
1-800-892-0123




| Morton Grove Fire Truck | |
|---|---|
| Overall Length | 47.800ft |
| Overall Width | 9.500ft |
| Overall Body Height | 11.666ft |
| Min Body Ground Clearance | 0.625ft |
| Track Width | 8.360ft |
| Lock-to-lock time | 6.00s |
| Max Wheel Angle | 45.00° |

## VEHICLE PATH LEGEND

VEHICLE WHEEL PATH

VEHICLE BODY OVERHANG

| NO. | REVISIONS | DATE | BY |
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SCALE: AS NOTED
DESIGNED BY: JRS
DRAWN BY: CG
CHECKED BY: TJS

BRIDGE

# FIRE TRUCK EXIHBIT

BRIDGE INDUSTRIAL
MORTON GROVE

SOUTHWEST CORNER OF LEHIGH AVE & RIVER DR.
MORTON GROVE, ILLINOIS 60053

ORIGINAL ISSUE:
06/27/2025

KHA PROJECT NO.
268915000

SHEET NUMBER
1 OF 1

Drawing name: K:\CHS_LDEV\268915000_Bridge - Morton Grove\2 Design\CAD\Exhibits\Fire Truck Exhibit.dwg Layout1 Feb 19, 2026 2:13pm by: ChrisGraf
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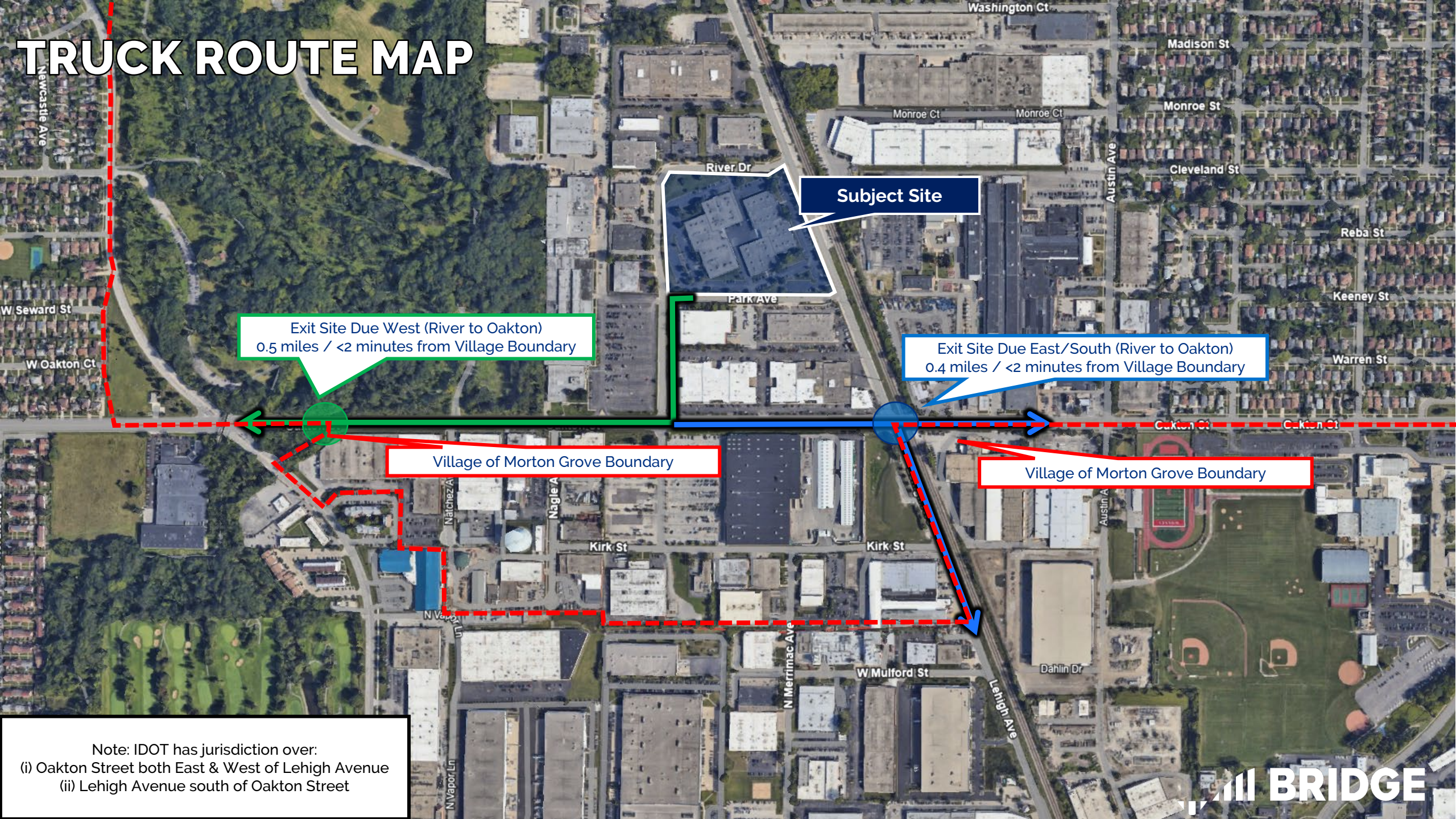
# TRUCK ROUTE MAP




Note: IDOT has jurisdiction over:
(i) Oakton Street both East & West of Lehigh Avenue
(ii) Lehigh Avenue south of Oakton Street

BRIDGE

# SIGNAGE PLAN

| ID | Proposed Signage |
|---|---|
| 1 |   |
| 2 |   |
| 3 |   |
| 4 |   |
| 5 |   |