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VILLAGE OF DOWNERS GROVE Report for the Village 7/6/2021

SUBJECT:	SUBMITTED BY:
Special Use – 931 and 935 Ogden Avenue	Stan Popovich, AICP Community Development Director

SYNOPSIS

The petitioner is requesting approval for a Special Use to construct a drive-through for a 6,480 square foot multi-tenant retail building at 931 and 935 Ogden Avenue.

STRATEGIC PLAN ALIGNMENT

The goals for 2019-2021 include Strong and Diverse Local Economy.

FISCAL IMPACT

N/A

RECOMMENDATION

Approval on the July 13, 2021 active agenda per the Plan Commission's 9:0 positive recommendation. The Plan Commission found that the proposal is compatible with the Comprehensive Plan and meets the standards for a Special Use found in Section 28.12.050.H.

BACKGROUND

Property Information & Zoning Request

The petitioner is seeking a special use to construct a drive-through facility for a multi-tenant commercial building. The proposed drive-through, is listed as a permitted Special Use pursuant to Section 28.5.010 of the Zoning Ordinance. The property is located at the southeast corner of Ogden Avenue and Highland Avenue and is zoned B3, General Services and Highway Business.

The subject property consists of three lots, which contain an existing vacant building, parking lot on two lots and an off-site 27 space parking lot on the third lot that serves a nearby medical office building at 1001 Ogden Avenue. The petitioner is proposing to demolish the existing building and all parking to construct a new 6,480 square foot multi-tenant retail building. The building facades will be composed of various colored brick, glass, and metal canopies, with a varied roof line. The design is complimentary of other recent redevelopment projects along Ogden Avenue. The new commercial building includes four tenant spaces. The easternmost tenant space includes the drive-through and a building bump out to the east to serve as a pick-up window. The drive-through lane is designed to accommodate eight vehicles, as required by the Zoning Ordinance.

The existing off-site parking spaces for the 1001 Ogden Avenue property will be relocated to the south of the proposed building. Of the 16 parking spaces along the rear property line, 15 will be leased back to the owner

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of 1001 Ogden Avenue, to supplement their loss of off-site parking on the east side of the proposed redevelopment.

Compliance with the Comprehensive Plan

The current Comprehensive Plan identifies Ogden Avenue as a Key Focus Area and specifically the site is designated as part of Catalyst Site D10. The key concepts include:

- A blend of neighborhood-oriented commercial retail, offices, smaller regional retail and service uses.
- Pay special attention to pedestrian circulation, reducing the number of curb-cuts, cross-access between lots and overall enhanced appearance.
- The existing medical office uses on 1001 Ogden are an important component that can remain with the implementation of aesthetic and functional improvements (i.e. shared parking) to strengthen these uses
- Consolidate parcels to allow for an improved functional corner at a major intersection.

The proposed development would add to the commercial area by providing neighborhood-oriented services. The site plan indicates attention to pedestrian circulation, reduced curb-cuts and overall enhanced appearance.

Compliance with the Zoning Ordinance

The subject property is zoned B3, General Services and Highway Business. The proposed multi-tenant shopping center business is a permitted use, while a drive-through requires a Special Use in the B-3 zoning district. A table is provided in the Staff Report that summarizes the development regulations for B-3 zoning district, in addition to the applicable calculations for the proposed improvements.

As noted in the parking calculations provided in the Staff Report, the proposed 41 parking spaces will exceed the 26 spaces required by the Zoning Ordinance. Of the 16 parking spaces along the rear property line, 15 will be leased back to the owner of 1001 Ogden Avenue, to supplement their loss of the existing off-site parking on the east side of the proposed redevelopment. The parking for 1001 Ogden will continue to conform to the Village's parking requirements. Section 28.7.070 allows off-site parking areas be located within a one thousand foot (1,000') radius of the use served by such parking. The off-site parking area may be under separate ownership only if an agreement is provided, in a form approved by the Village Attorney, guaranteeing the long-term availability of the parking, commensurate with the use served by the parking.

Public Comment

Prior to the Plan Commission meeting, staff did not receive any inquiries regarding this proposal. During the Plan Commission hearing the immediately adjacent property owner to the south expressed concern about the audio level of the drive through. To address this potential issue, the Plan Commission added a condition to the approvals that the audio levels of the drive through must be reduced after 9PM.

ATTACHMENTS

Ordinance
Aerial Map
Staff Report with attachments dated June 7, 2021
Approved Minutes of the Plan Commission Hearing dated June 7, 2021

931 & 935 Ogden Special Use – 21-PLC-0012

ORDINANCE NO.

AN ORDINANCE AUTHORIZING A SPECIAL USE FOR 931 AND 935 OGDEN AVENUE TO PERMIT A MULTI-TENANT RETAIL BUILDING WITH DRIVE-THROUGH

WHEREAS, the following described property, to wit:

LOT 1 AND LOT 2 IN KNIPPEN'S SUBDIVISION OF LOT 8 IN LINDLEY'S ADDITION TO DOWNERS GROVE, BEING A SUBDIVISION IN THE NORTHEAST1/4 OF THE SOUTHWEST 1/4 OF SECTION 5, TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT OF SAID KNIPPEN'S RESUBDIVISION RECORDED APRIL 21, 1922 AS DOCUMENT 155351, IN DUPAGE COUNTY ILLINOIS

Commonly known as: 931 & 935 Ogden Avenue, Downers Grove, IL 60515

PIN(s): 09-05-306-001; -002; -003

(hereinafter referred to as the "Property") is presently zoned in the "B-3, General Services and Highway Business District" under the Comprehensive Zoning Ordinance of the Village of Downers Grove; and

WHEREAS, the owner of the Property has filed with the Plan Commission, a written petition conforming to the requirements of the Zoning Ordinance, requesting that a Special Use per Section 28.12.050 of the Zoning Ordinance be granted to permit a multi-tenant retail building with drive-through; and

WHEREAS, such petition was referred to the Plan Commission of the Village of Downers Grove, and said Plan Commission has given the required public notice, has conducted a public hearing for the petition on June 7, 2021 and has made its findings and recommendations, all in accordance with the statutes of the State of Illinois and the ordinances of the Village of Downers Grove; and,

WHEREAS, the Plan Commission has recommended approval of the Special Use, subject to certain conditions; and,

WHEREAS, the Village Council finds that the evidence presented in support of said petition, as stated in the aforesaid findings and recommendations of the Plan Commission, is such as to establish the following:

- 1. That the proposed use is expressly authorized as a Special Use in the district in which it is to be located;
- 2. That the proposed use at the proposed location is necessary or desirable to provide a service or a facility that is in the interest of public convenience and will contribute to the general welfare of the neighborhood or community.
- 3. That the proposed use will not, in the particular case, be detrimental to the health, safety or general welfare of persons residing or working in the vicinity or be injurious to property values or improvements in the vicinity.

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NOW, THEREFORE, BE IT ORDAINED by the Council of the Village of Downers Grove, in DuPage County, Illinois, as follows:

<u>SECTION 1</u>. That Special Use of the Property is hereby granted to permit a multi-tenant retail building with drive-through.

<u>SECTION 2.</u> This approval is subject to the following conditions:

- 1. The proposed Special Use for a drive-through use shall substantially conform to the proposed New Multi-Tenant Building Plans for 935 Ogden drawings prepared by Engineering Resource Associates, Inc. dated April 7, 2021, last revised May 12, 2021, the architectural drawings prepared by CJ Architects dated April 29, 2021, last revised May 18, 2021, except as such plans may be modified to conform to Village codes, ordinances, and policies.
- 2. An administrative lot consolidation of the three lots shall be recorded at DuPage County prior to the issuance of a building permit. The Plat of Consolidation shall provide for a cross-access easement to the benefit of the 925 Ogden Avenue property.
- 3. Submit a fully executed off-street parking agreement to provide for the required parking spaces in a form approved by the Village Attorney.
- 4. The speaker volume on the drive through menu board must be reduced during overnight hours, starting at 9 PM CST.

SECTION 3. The above conditions are hereby made part of the terms under which the Special Use is granted. Violation of any or all of such conditions shall be deemed a violation of the Village of Downers Grove Zoning Ordinance, the penalty for which may include, but is not limited to, a fine and/or revocation of the Special Use granted herein.

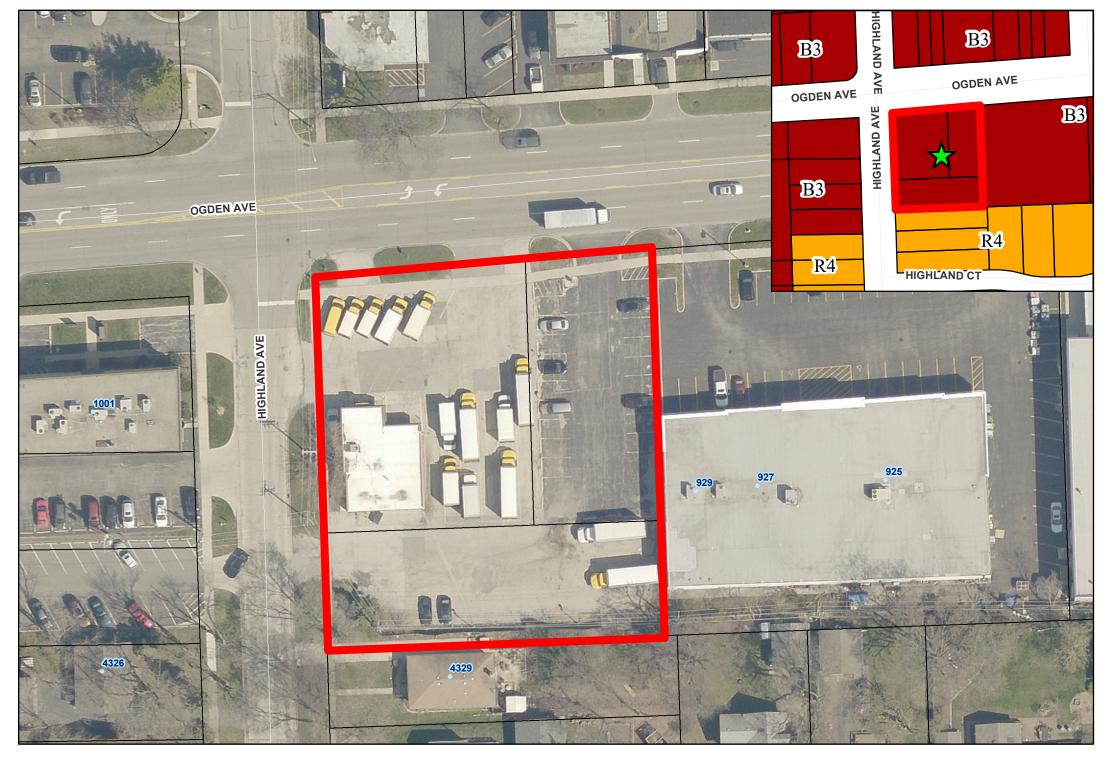
<u>SECTION 4</u>. It is the Petitioner's obligation to maintain compliance with all applicable Federal, State, County and Village laws, ordinances, regulations, and policies.

<u>SECTION 5</u>. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

		Mayor
Passed:		·
Published:		
Attest:		
	Village Clerk	

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VILLAGE OF DOWNERS GROVE REPORT FOR THE PLAN COMMISSION JUNE 7, 2021 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:		
21-PLC-0012 931 and 935 Ogden Avenue	Special Use for a drive-through	Jason Zawila, AICP Planning Manager		

REQUEST

The petitioner is requesting approval of a Special Use for a drive-through at 931 and 935 Ogden.

NOTICE

The application has been filed in conformance with applicable procedural and public notice requirements.

GENERAL INFORMATION

OWNER: 935 Ogden, LLC

2777 Finley Rd. Suite 12 Downers Grove, IL 60515

The 1001 Ogden Avenue Building, LLC

1001 Ogden Avenue Downers Grove, IL 60515

PETITIONER: Vick Mehta

2777 Finley Rd. Suite 12 Downers Grove, IL 60515

PROPERTY INFORMATION

EXISTING ZONING: B-3, General Services and Highway Business **EXISTING LAND USE:** Vehicle Rental (Vacant) and Parking Lot

PROPERTY SIZE: 34,514 square feet (0.79 acres)

PINS: 09-05-306-001, 09-05-306-002, 09-05-306-003

SURROUNDING ZONING AND LAND USES

	ZONING	FUTURE LAND USE
NORTH:	B-3, General Services and Highway Business	Corridor Commercial
SOUTH:	R-4, Residential Detached House 4	Single Family Detached
EAST:	B-3, General Services and Highway Business	Corridor Commercial
WEST:	B-3, General Services and Highway Business	Corridor Commercial

ANALYSIS

21-PLC-0012, (931 and 935 Ogden) June 7, 2021 Page 2

SUBMITTALS

This report is based on the following documents, which are on file with the Department of Community Development:

- 1. Application/Petition for Public Hearing
- 2. Project Summary
- 3. ALTA/ACSM Land Title Survey
- 4. Architectural Plans
- 5. Engineering Plans
- 6. Landscape Plans
- 7. Traffic Study

PROJECT DESCRIPTION

The petitioner is seeking a special use to construct a drive-through facility for a multi-tenant commercial building. The proposed drive-through, is listed as a permitted Special use pursuant to Section 28.5.010 of the Zoning Ordinance. The property is located at the southeast corner of Ogden Avenue and Highland Avenue and is zoned B3, General Services and Highway Business.

The subject property consists of three lots, which contain an existing vacant building, parking lot on two lots and an off-site 27 space parking lot on the third lot that serves a nearby medical office building at 1001 Ogden Avenue. The petitioner is proposing to demolish the existing building and all parking to construct a new 6,480 square foot multi-tenant retail building. The building facades will be composed of various colored brick, glass, and metal canopies, with a varied roof line. The design is complimentary of other recent redevelopment projects along Ogden Avenue. The new commercial building includes four tenant spaces. The easternmost tenant space includes the drive-through and a building bump out to the east to serve as a pick-up window. The drive-through lane is designed to accommodate eight vehicles, as required by the Zoning Ordinance.

The petitioner is proposing landscaping around the perimeter of the site, in conformance with the Village Ordinance. Landscaping is provided along the north, west, and southern property lines. Immediately southeast of the building, a new screened trash enclosure area is proposed. As required by the Zoning Ordinance, pedestrian connections will be provide to both Ogden Avenue and Highland Avenue. The existing three curb cuts onto Ogden Avenue will be reduced to one access point. The existing two curb cuts on Highland Avenue will also be reduced to one access point.

The existing off-site parking spaces for the 1001 Ogden Avenue property will be relocated to the south of the proposed building. Of the 16 parking spaces along the rear property line, 15 will be leased back to the owner of 1001 Ogden Avenue, to supplement their loss of off-site parking on the east side of the proposed redevelopment.

COMPLIANCE WITH THE COMPREHENSIVE PLAN

The property is designated as Corridor Commercial in the Comprehensive Plan and specifically the site is designated as part of Catalyst Site #D10 of the Ogden Avenue Key Focus Area.

The Ogden Avenue Focus Area key concepts include:

- A blend of neighborhood-oriented commercial retail, offices, smaller regional retail and service
- Special attention to pedestrian circulation, reducing the number of curb-cuts, cross-access between lots and overall enhanced appearance.

21-PLC-0012, (931 and 935 Ogden) June 7, 2021 Page 3

The Comprehensive Plan identifies the following key features of Catalyst Site #D10:

- The existing medical office uses on 1001 Ogden are an important component that can remain with the implementation of aesthetic and functional improvements (i.e. shared parking) to strengthen these uses
- Consolidate parcels to allow for an improved functional corner at a major intersection.

The proposed development:

- Reduces the curb-cuts and improves access onto Ogden Avenue and Highland Avenue.
- Improves pedestrian connectivity by installing a new sidewalk along Ogden Avenue and Highland Avenue.
- Consolidates multiple lots to improve onsite operations.
- Provides enhanced landscaping and screening in order to provide a buffer to the residential uses to the south and continues to build on a more attractive image along Ogden Avenue.
- A shared parking agreement for off-site parking for the existing medical office building located at 1001 Ogden Avenue.
- Development would allow for a potential cross-access agreement with the property immediately to the east.

The proposed development meets the goals of the Comprehensive Plan.

COMPLIANCE WITH THE ZONING ORDINANCE

The property is zoned B-3, General Services and Highway Business District. The proposed multi-tenant retail building with a drive-through use is listed as an allowable Special Use in this district. The bulk requirements of the proposed drive-through in the B-3 zoning district are summarized in the following table:

Proposed Commercial Building	Required	Proposed
Street Setback (North – Ogden)	75' from CL of Ogden	118'
Street Setback (East)	0 feet	11.7
Side Setback (West)	8 feet	25'
Rear Setback (South)	8 feet	28'
FAR	0.75	0.18
Proposed Parking	Required	Proposed
Street Setback (North – Ogden)	50 ft. from CL of Ogden	57'
Street Setback (West – Highland)	8'	10'
Side Setback (East)	N/A	11.3'
Rear Setback (South)	5'	5'
Total Parking Required	26	41
Total ADA Required	2 (on-site)	2 (on-site)
Proposed Drive-through	Required	Proposed
Street Setback (North – Ogden)	50' from CL of Ogden	89'
Side Setback (East)	N/A	N/A
Rear Setback (South)	50'	50'
Stacking Spaces	8	8
Drive-Through Lane Width	10'	10'

Site Plan Elements	Required	Proposed
Pedestrian Connections (x2)	Yes	Provided
Trash Enclosure	Yes	Yes
Bike Parking	2	2
Open Space	10% of lot area	11.5%

Parking

As noted in the above table, the proposed 41 parking spaces will exceed the 26 spaces required by the Zoning Ordinance. Of the 16 parking spaces along the rear property line, 15 will be leased back to the owner of 1001 Ogden Avenue, to supplement their loss of off-site parking on the east side of the proposed redevelopment. It should be noted that the medical office building at 1001 Ogden Avenue is approximately 7,400 square feet, which requires 32 parking spaces by Village Code (4.5 spaces per 1,000SF). The site itself is legal nonconforming with the provision of 27 parking spaces. The leasing of these fifteen parking spaces will meet the Village's parking requirements.

Section 28.7.070 allows off-site parking areas be located within a one thousand foot (1,000') radius of the use served by such parking. The off-site parking area may be under separate ownership only if an agreement is provided, in a form approved by the Village Attorney, guaranteeing the long-term availability of the parking, commensurate with the use served by the parking.

Signage

New wall signs are proposed on the northern and western facades. Directional signage to assist with directing vehicles to the drive-through is also proposed. All exterior signage will be required to meet the Sign Ordinance requirements.

ENGINEERING/PUBLIC IMPROVEMENTS

Based on the existing and proposed impervious area and the use of pervious concrete, Post Construction Best Management Practices are not required for this property. The project will meet all provisions of the Stormwater and Floodplain Ordinance. Additional public improvements include the removal of two curb cuts on Ogden Avenue and one will be removed on Highland Avenue. The existing sidewalk on Ogden Avenue will be replaced and shifted north into the right of way, to allow additional open space and parking. The development proposes to connect water and sanitary service to existing mains located in the Highland Avenue right-of-way.

TRAFFIC

A traffic impact study for the proposed development was prepared by Gewalt Hamilton Associates. Ingress and egress to the site will be provided via two access points. The drive-through provides queueing for eight vehicles and access to the site is proposed via one full access drive on Highland Avenue and one full access drive on Ogden Avenue. The study notes that the site currently has three full access drives on Ogden Avenue and two full access drives on Highland Avenue. Per the site plan, two drives on Ogden Avenue and one drive on Highland Avenue will be eliminated.

The study projects that the existing roadway system will have sufficient reserve capacity to accommodate the traffic generated by the new development. Additionally, the signalized intersections on Ogden Avenue at Main Street create enough gaps in the Ogden Avenue traffic stream that allow vehicles to turn to/from the local roadways and access drives onto/off of Ogden Avenue. The eight vehicle drive-through stacking lane is adequate to accommodate drive-through peak demand without blocking the parking lot drive aisles.

21-PLC-0012, (931 and 935 Ogden) June 7, 2021 Page 5

PUBLIC SAFETY REQUIREMENTS

The Fire Prevention Division has reviewed the proposed plans and determined that the development provides sufficient access for emergency vehicles. As shown in the truck turning plan, the Village's largest emergency vehicle can maneuver through the site and access the new building. The building will also include a fire alarm system and sprinkler system that meet the Village's code requirements.

NEIGHBORHOOD COMMENT

Notice was provided to all property owners 250 feet or less from the property in addition to posting public hearing notice signs and publishing the legal notice in the *Enterprise Newspaper*, *Inc.* (*The Bugle*). Staff did not receive any inquiries regarding the proposed development.

STANDARDS OF APPROVAL

The petitioner is requesting a Special Use approval to construct a new drive-through. The review and approval criteria is listed below.

The petitioner has submitted a narrative that attempts to address all the standards of approval. The Plan Commission should consider the petitioner's documentation, the staff report, and the discussion at the Plan Commission meeting in determining whether the standards for approval have been met.

Section 28.12.050.H Standards for Approval of Special Uses

No special use may be recommended for approval or approved unless the respective review or decision-making body determines that the proposed special use is constituent with and in substantial compliance with all Village Council policies and plans and that the petitioner has presented evidence to support each of the following conclusions:

- (1) That the proposed use is expressly authorized as a Special Use in the district in which it is to be located.
- (2) That the proposed use at the proposed location is necessary or desirable to provide a service or a facility that is in the interest of public convenience and will contribute to the general welfare of the neighborhood or community.
- (3) That the proposed use will not, in the particular case, be detrimental to the health, safety or general welfare of persons residing or working in the vicinity or be injurious to property values or improvements in the vicinity.

DRAFT MOTION

Staff will provide a recommendation at the June 7, 2021 meeting. Should the Plan Commission find that the request meets the standards of approval for a Special Use, staff has prepared a draft motion that the Plan Commission may make for the recommended approval of 21-PLC-0012:

Based on the petitioner's submittal, the staff report, and the testimony presented, I find that the petitioner has met the standards of approval for a Special Use as required by the Village of Downers Grove Zoning Ordinance and is in the public interest and therefore, I move that the Plan Commission recommend to the Village Council approval of 21-PLC-0012, subject to the following conditions:

1. The proposed Special Use for a drive-through use shall substantially conform to the attached proposed New Multi-Tenant Building Plans for 935 Ogden drawings prepared by Engineering Resource Associates, Inc. dated April 7, 2021, last revised May 12, 2021, the architectural drawings

21-PLC-0012, (931 and 935 Ogden) June 7, 2021 Page 6

- prepared by CJ Architects dated April 29, 2021, last revised May 18, 2021, except as such plans may be modified to conform to Village codes, ordinances, and policies.
- 2. An administrative lot consolidation of the three lots shall be recorded at DuPage County prior to the issuance of a building permit. On the Plat of Consolidation provide a cross-access easement to the benefit of the 925 Ogden Avenue property in the event a cross-access agreement can be worked out between the two property owners.
- 3. Complete an off-street parking agreement in a form approved by the Village Attorney.
- 4. Consider with the property owner of 925 Ogden Avenue options for the consolidation of driveways and allow cross-access if both property owners reach an agreement.

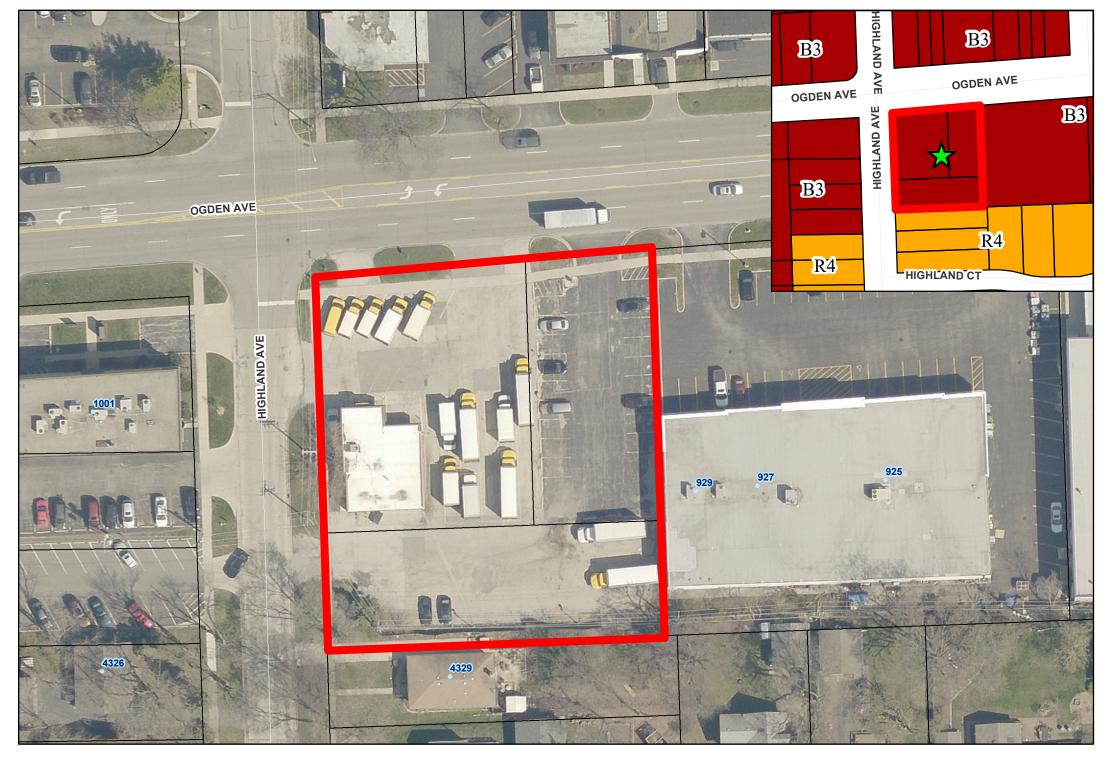
Staff Report Approved By:

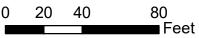
Stanley J. Popovich, AICP

Director of Community Development

Audric

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cj architects 773.383.6556 cj-architects.com



To: Village of Downers Grove, IL

Community Development Dept. - Planning Division

801 Burlington Ave. Downers Grove, IL 60515

ATTN: Mr. Jason Zawila, Planning Manager

RE: 935 Ogden Ave.

Site Plan and Special Use review petition

DATE: 29 April 2021

Mr. Zawila-

On behalf of the Owner of 935 Ogden, LLC, Mr. Vick Mehta, I am submitting this narrative to staff, to supplement and guide the petition for a plan commission hearing.

The properties in question are commonly known as 935 Ogden Ave and 931 Ogden Ave, and are currently separate parcels. 935 Ogden Ave is currently improved with a roughly 1,800 s.f. 1-story building, which has been vacant for many years. It was presumably used for automobile sales. Furthermore, this property is split into two lots/parcels, with separate Property Identification Numbers (P.I.N.s). 931 Ogden Ave is currently unimproved, with a paved/striped lot used for satellite parking by a nearby medical office at 1001 Ogden Ave.

The proposal is to consolidate all three lots into one and build a new 1-story, 6,480 s.f. mixed use retail/commercial building. The front of the building will mostly front on and face Ogden Ave to the north, and will thus contain 4 storefronts for a varied mix of potential tenants. The east side of the building will provide for a drive-thru window, with queueing space around the rear of the building for 8 vehicles, minimum. 25 automobile parking spaces will be provided in the front grade-lot and 16 in the rear grade-lot. Of the 16 rear, at least 5 will be leased back to the original owner of the lot at 931 Ogden Ave, to supplement their loss in converted parking for their building at 1001 Ogden Ave. This shared parking agreement is pending and will be finalized upon staff review. Two bicycle spaces will be provided for along the front parking island.

Vehicular Access to the site will be provided predominately by an enlarged curb cut on the NE corner along the Ogden Ave side. A secondary entrance will be provided by a slightly widened curb cut on the Highland Ave side, that will largely be for the rear S.P.A. and employee parking, for egress from around the front parking lot, and for patrons familiar with the entrance from the adjacent neighborhood. The drive-thru discharges at the Ogden Ave curb cut. Pedestrian access will be provided from the



north by a walkway from a reconfigured sidewalk along Ogden Ave, and also from public sidewalks on the Highland Ave side.

The proposed building will be adorned with a mixture of masonry elements and banding, synthetic stucco signage façades, and large storefronts. Storefronts will be highlighted with fabric awnings above, and decorative lighting in between. The drivethru will also have a metal rain canopy to offset the look and focus this feature. The building will have a low-slope roof with discharge concentrated to the rear, allowing bold, multi-leveled cornice lines along the front, street-facing facades. Additionally, the site will be improved with a 4-slot monument sign and a refuse container storage enclosure, which will match the material and character of the building.

I hope this narrative adequately describes our project proposal and assists staff in review of the details. Should you have any further questions, comments, or concerns, please do not hesitate to contact me directly.

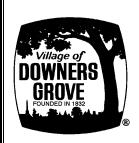
Behind this letter, you will find the following documents enclosed within this submittal:

- Plan Commission Submittal Application (Petition, et al)
- Plan Commission Review and Approval Criteria
- Proof of Ownership for multiple lots
- DuPage County Parcel Report
- Downers Grove Sanitary District concept approval letter
- Traffic Study
- Drawing sets, including: Prelim. Architectural, Plats of Survey and Plat of Consolidation, Civil Engineering, Site Lighting, and Landscaping

Respectfully Submitted-

Christopher A Jackson, Architect - NCARB, LEED AP

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Review and Approval Criteria SPECIAL USES

Plan	Commission Number	& Title:	
		_	

A DETAILED RESPONSE TO ALL OF THE STANDARDS SHALL BE PROVIDED, SPECIFYING HOW EACH STANDARD IS OR IS NOT MET.

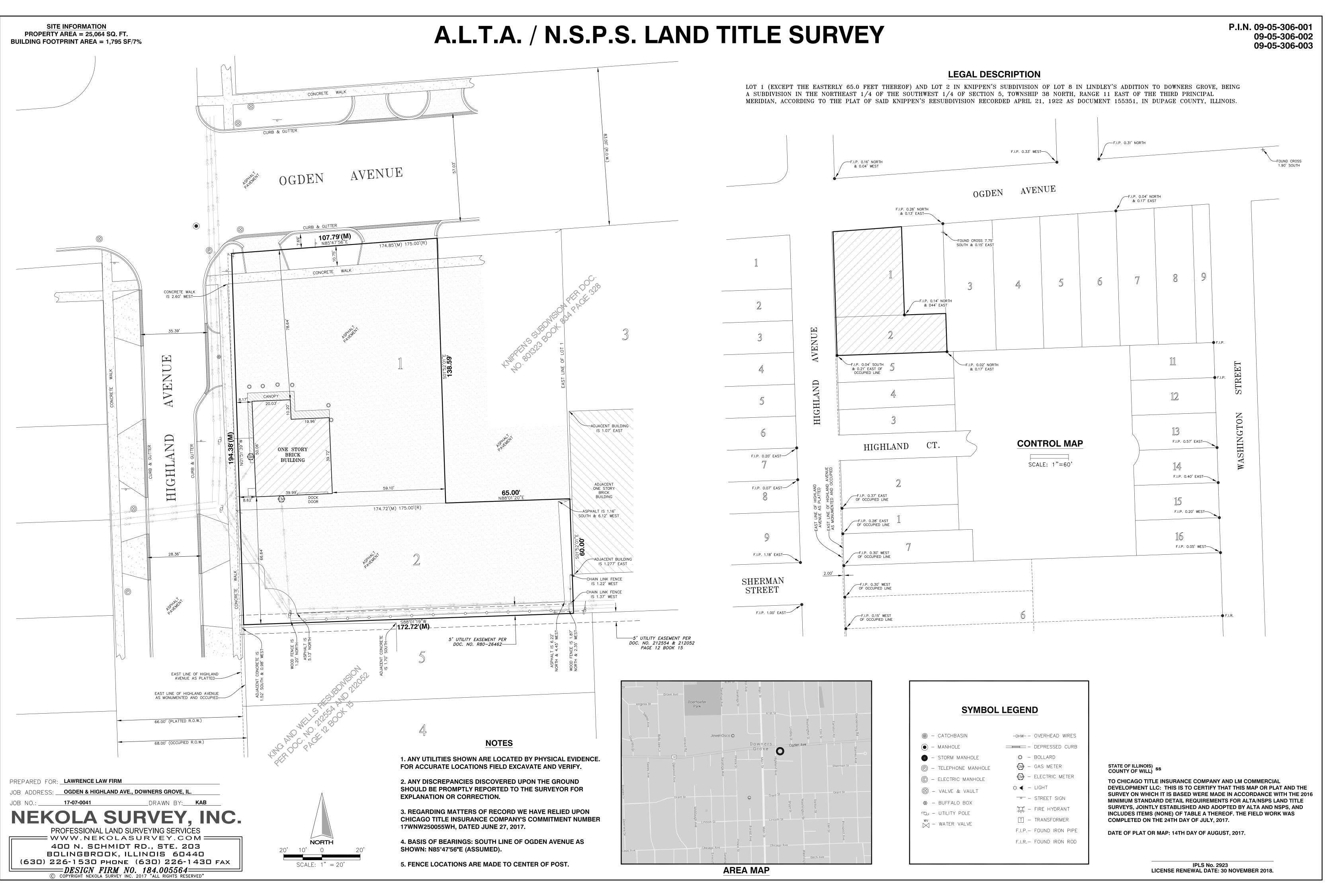
Section 28.12.050.H Approval Criteria (Special Uses)

No special use may be recommended for approval or approved unless the respective review or decision-making body determines that the proposed special use is constituent with and in substantial compliance with all Village Council policies and plans and that the applicant has presented evidence to support each of the following conclusions:

<i>1</i> .	That the proposed use is expressly authorized as a Special Use in the district in which it is to be located.
2.	That the proposed use at the proposed location is necessary or desirable to provide a service or a facility that is in the interest of public convenience and will contribute to the general welfare of the neighborhood or community.

3. That the proposed use will not, in the particular case, be detrimental to the health, safety or general welfare of persons residing or working in the vicinity or be injurious to property values or improvements in the vicinity.

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PLAT OF SURVEY

THE EASTERLY 65 FEET OF LOT 1 IN KNIPPEN'S SUBDIVISION OF LOT 8 IN LINDLEY'S ADDITION TO DOWNERS GROVE, IN SECTION 5 TOWNSHIP 38 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN DUPAGE COUNTY, ILLINOIS.

P.I.N.: 09-05-306-002

COMMONLY KNOWN AS: 931 OGDEN AVENUE, DOWNERS GROVE, ILLINOIS

GENERAL NOTES

- 1. THE BEARINGS SHOWN ON THIS PLAT ARE BASED ON THE ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE (NAD 83).
- CHECK LEGAL DESCRIPTION WITH DEED OR TITLE POLICY AND REPORT ANY DISCREPANCY IMMEDIATELY. BUILDING LINES AND EASEMENTS, IF ANY, SHOWN HEREON ARE AS SHOWN ON THE RECORDED SUBDIVISION OR AS INDICATED.
- 3. ALL AREAS LISTED IN THE AREA SUMMARY TABLE ARE MORE OR LESS.
- 4. ALL DISTANCES ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF.
- 5. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES WHICH MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT.

STATE OF ILLINOIS SS COUNTY OF DUPAGE

I, TIMOTHY B. MARTINEK, AN ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-003782, HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE PROPERTY AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

GIVEN UNDER MY HAND AND SEAL THIS 18TH, DAY OF MARCH, 2021

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-003782 LICENSE EXPIRES NOVEMBER 30, 2022

DESIGN FIRM PROFESSIONAL LICENSE NO. 184.001186 LICENSE EXPIRES APRIL 30, 2021

FIELD WORK COMPLETED MARCH 8, 2021

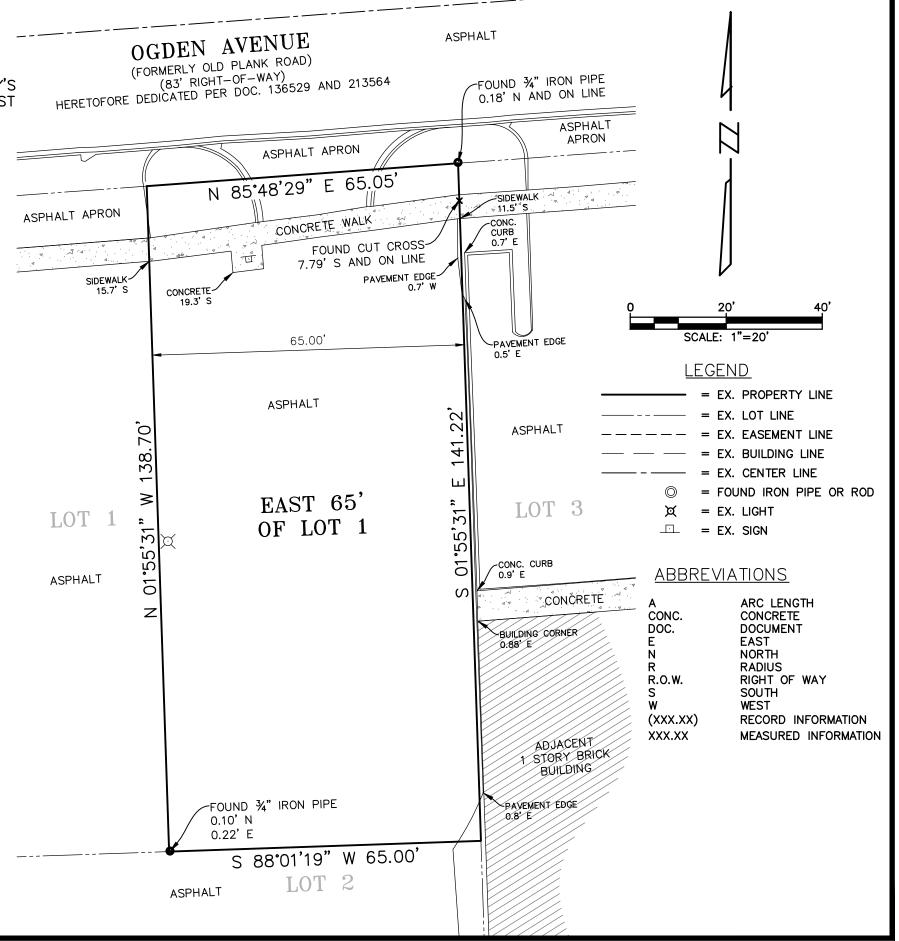




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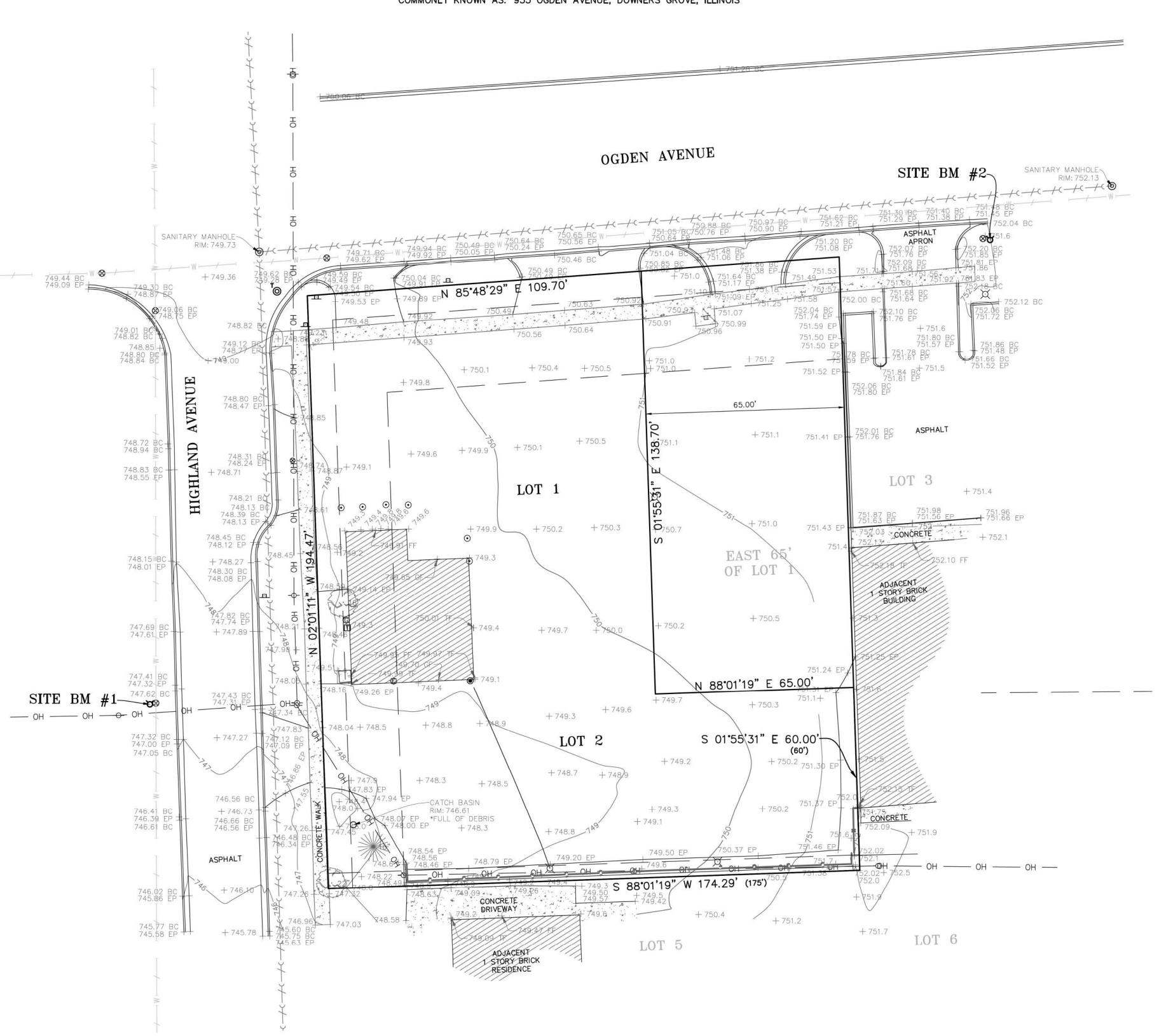
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> PARCEL 1: LOT 1 (EXCEPT THE EASTERLY 65.0 FEET THEREOF) IN KNIPPEN'S SUBDIVISION OF LOT 8 OF LINDLEY'S ADDITION TO DOWNERS GROVE, BEING A SUBDIVISION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 38 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT OF SAID KNIPPEN'S SUBDIVISION RECORDED APRIL 21, 1922 AS DOCUMENT 155351 IN DUPAGE COUNTY, ILLINOIS.

> PARCEL 2: LOT 2 IN KNIPPEN'S SUBDIVISION OF LOT 8 OF LINDLEY'S ADDITION TO DOWNERS GROVE, BEING A SUBDIVISION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 38 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT OF SAID KNIPPEN'S SUBDIVISION RECORDED APRIL 21, 1922 AS DOCUMENT 155351 IN DUPAGE COUNTY, ILLINOIS.

> > P.I.N.: 09-05-306-001 AND 09-05-306-003

COMMONLY KNOWN AS: 935 OGDEN AVENUE, DOWNERS GROVE, ILLINOIS



SITE BENCHMARKS �

ELEV: 748.84 (NAVD 88)

ELEV: 753.52 (NAVD 88)

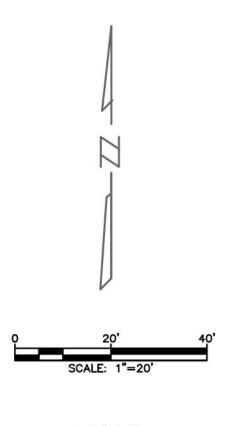
SITE BENCHMARK (BM) #1
SOUTHWEST BONNET BOLT ON A FIRE HYDRANT

LOCATED AT THE WEST SIDE OF HIGHLAND AVENUE

APPROXIMATELY 66' WEST OF THE BRICK BUILDING.

SITE BENCHMARK (BM) #2 SOUTHEAST BONNET BOLT ON A FIRE HYDRANT LOCATED AT THE SOUTH SIDE OF OGDEN AVENUE

APPROXIMATELY 250' EAST OF THE INTERSECTION OF OGDEN AVEN AVENUE AND HIGHLAND AVENUE.



LEGEND = EX. PROPERTY LINE = EX. LOT LINE --- -- = EX. EASEMENT LINE ---- = EX. BUILDING LINE = EX. CENTER LINE -) = EX. SANITARY LINE —→ = EX. STORM LINE = EX. WATER LINE — OH — = EX. OVERHEAD WIRE = EX. CHAIN-LINK FENCE = EX. WOOD FENCE = EX. CONCRETE CURB & GUTTER = EX. TREE/BRUSH LINE \sim -780 \sim = EX. 1 FOOT CONTOURS = FOUND IRON PIPE OR ROD ⟨€⟩ = EX. ELECTRICAL METER = EX. AIR CONDITIONING UNIT = EX. CATCH BASIN = EX. STORM MANHOLE = EX. INLET = EX. SANITARY MANHOLE = EX. FIRE HYDRANT/AUX. VALVE ⊗ = EX. VALVE BOX TV = EX. CABLE TV VAULT = EX. SIGN E = EX. ELECTRIC PEDESTAL = EX. UTILITY PEDESTAL **II** = EX. TELEPHONE PEDESTAL ■ EX. CABLE TV PEDESTAL -⊙- = EX. UTILITY POLE -co = EX. GUY WIRE = EX. SIGN = EX. CONIFEROUS TREE = EX. DECIDUOUS TREE

ABBREVIATIONS

(XXX.XX)

XXX.XX

ARC LENGTH BUILDING SETBACK LINE B.S.L. CH CONC. DOC. CHORD CONCRETE DOCUMENT EAST FOUND IRON PIPE FOUND IRON ROD INVERT NORTH RADIUS
REINFORCED CONCRETE PIPE
RIGHT OF WAY
SOUTH R.C.P R.O.W. TOP OF PIPE

RECORD INFORMATION

MEASURED INFORMATION

ETAIL 2

GDEN

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9

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ENGINEERING RESOURCE ASSOCIATES

EXISTING CONDITIONS **PLAN**

C-3.0

PROFESSIONAL DESIGN FIRM NUMBER: 184.001186

Page 19 of 139

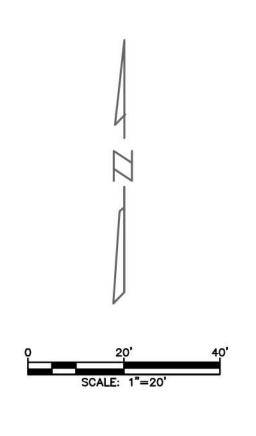
IMPERVIOUS DATA TABLE PROPOSED IMPERVIOUS EXISTING IMPERVIOUS 1,795 S.F. 6,479 S.F. **BUILDING: BUILDING:** 1,146 S.F. 897 S.F. SIDEWALK: SIDEWALK: ASPHALT: 28,816 S.F. ASPHALT: 20,536 S.F. CONCRETE: 15 S.F. CONCRETE: 520 S.F.

TOTAL: TOTAL: 31,523 S.F. 28,681 S.F.

NET NEW IMPERVIOUS AREA = 28,681 S.F. - 31,523 S.F. = -2,842 S.F.

SINCE NET NEW IMPERVIOUS AREA IS LESS THAN 2,500 SQ. FT. IN AGGREGATE SINCE APRIL 23, 2013 PCBMPS ARE NOT REQUIRED.

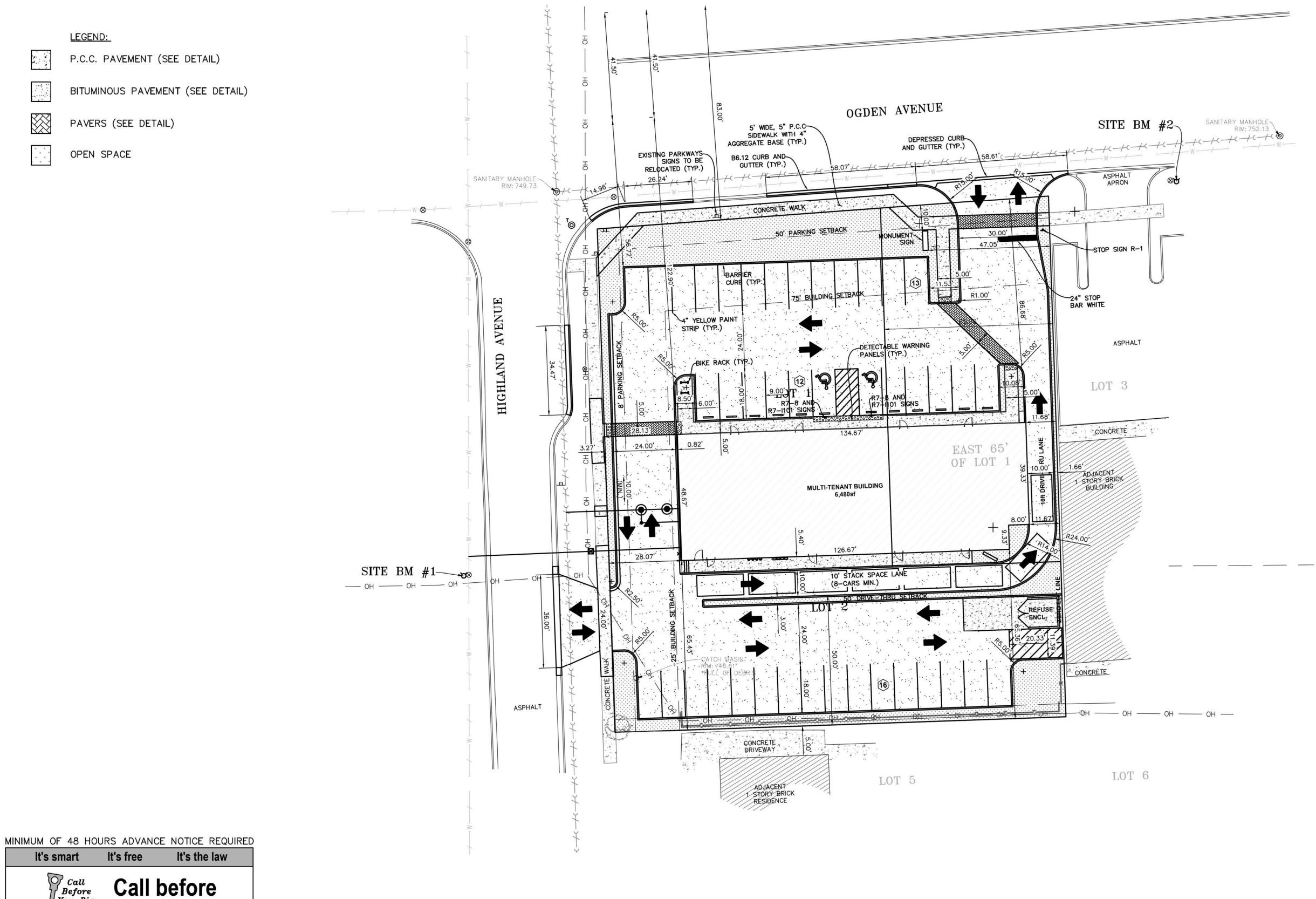
SINCE NET NEW IMPERVIOUS AREA IS LESS THAN 25,000 SQ. FT. IN AGGREGATE SINCE FEBRUARY 15, 1992 SITE RUNOFF STORAGE IS NOT REQUIRED.



- 1. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD. THE CONTRACTOR WILL NOTIFY THE ENGINEER OF ANY
- 2. COORDINATE WITH ARCHITECTURAL PLANS, GRADING PLANS,
- 3. ALL WORK AND OPERATIONS SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND
- 4. LAYOUT OF ALL NEW PAVING SHALL BE SMOOTH AND CONTINUOUS, DEFLECTION IN ALIGNMENT OR ABRUPT CHANGES WILL NOT BE ACCEPTED. ENGINEER SHALL REVIEW STAKED
- 5. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES ON WHICH THE WORK IS BEING DONE CLEAR OF RUBBISH AND
- 6. THE CONTRACTOR WILL NOT INTERFERE WITH USE OF
- 7. MEET THE LINE AND GRADE OF NEW PAVEMENT AND/OR LAWN AND PLANTING AREAS WITH THE LINE AND GRADE OF THE
- 8. SEE DETAIL SHEETS FOR MATERIAL TYPE, AND INSTALLATION



- DISCREPANCIES.
- UTILITY PLANS, & ALL CONSTRUCTION DETAILS.
- ORDINANCES.
- LAYOUT AND FRAMEWORK PRIOR TO PAVING OPERATIONS.
- DEBRIS.
- ADJACENT BUILDINGS, PARKING LOTS, STREETS, OR ALLEYS WITHOUT PRIOR COORDINATION WITH THE OWNER, IDOT, AND THE VILLAGE OF DOWNER'S GROVE.
- EXISTING PAVEMENT AND/OR LAWN AND PLANTING AREAS.
- PROCEDURES.
- 9. ALL SIGNAGE TO BE PERMITTED SEPARATELY



ENGINEERING
RESOURCE ASSOCIATES
3S701 WEST AVENUE, SUITE 150
WARRENVILLE, ILLINOIS 60555
PHONE (630) 393-2152

OGDEN

 \sim 9

PLAZA

RETAIL

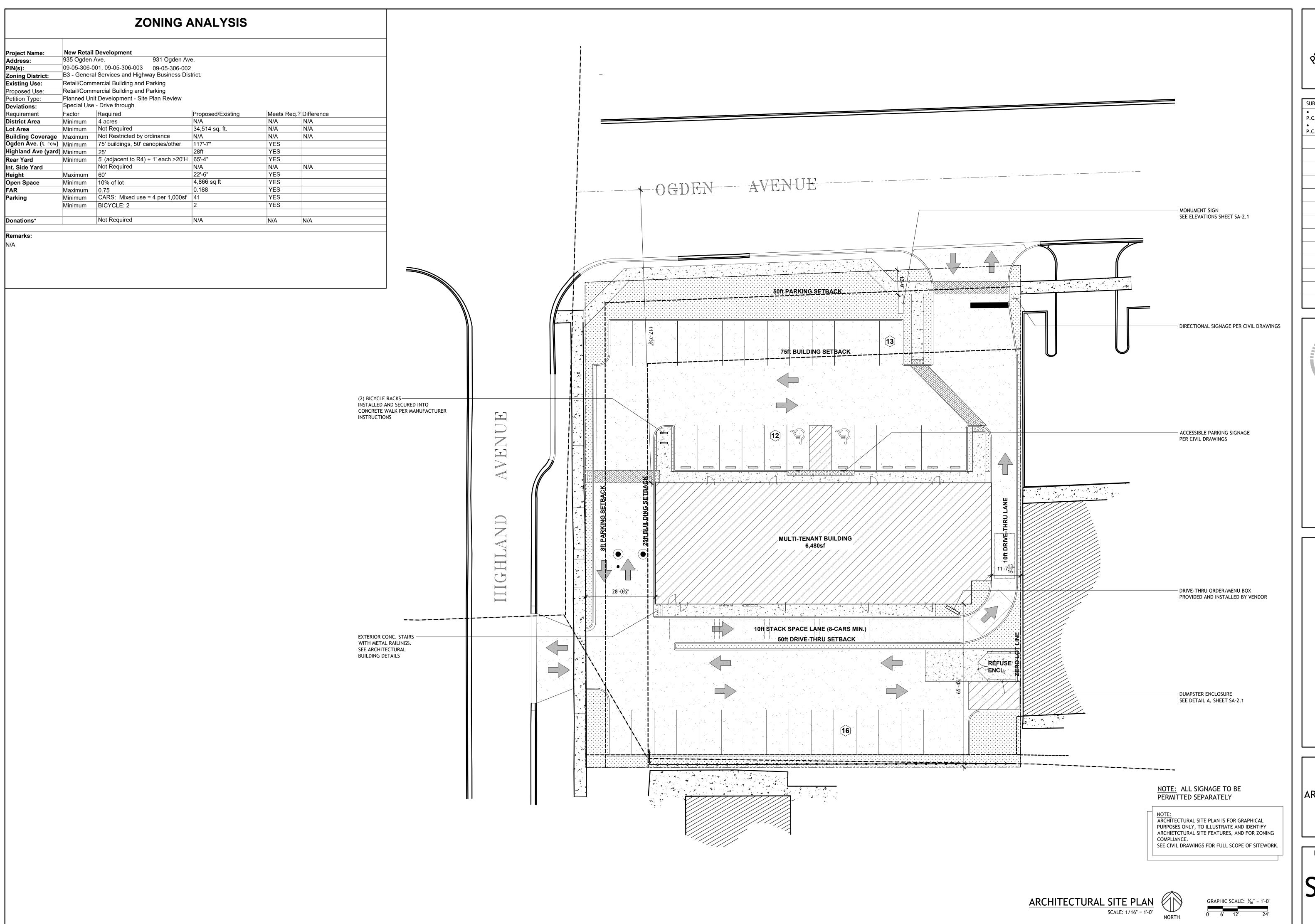
GEOMETRY PLAN

C-5.0

PROFESSIONAL DESIGN FIRM NUMBER: 184.001186

you dig 800.892.0123

Page 20 of 139



SUBMITTAL HISTORY: REV: • APR. 29, 2021 P.C. SUBMITTAL MAY 18, 2021 P.C. RE-SUBMITTAL



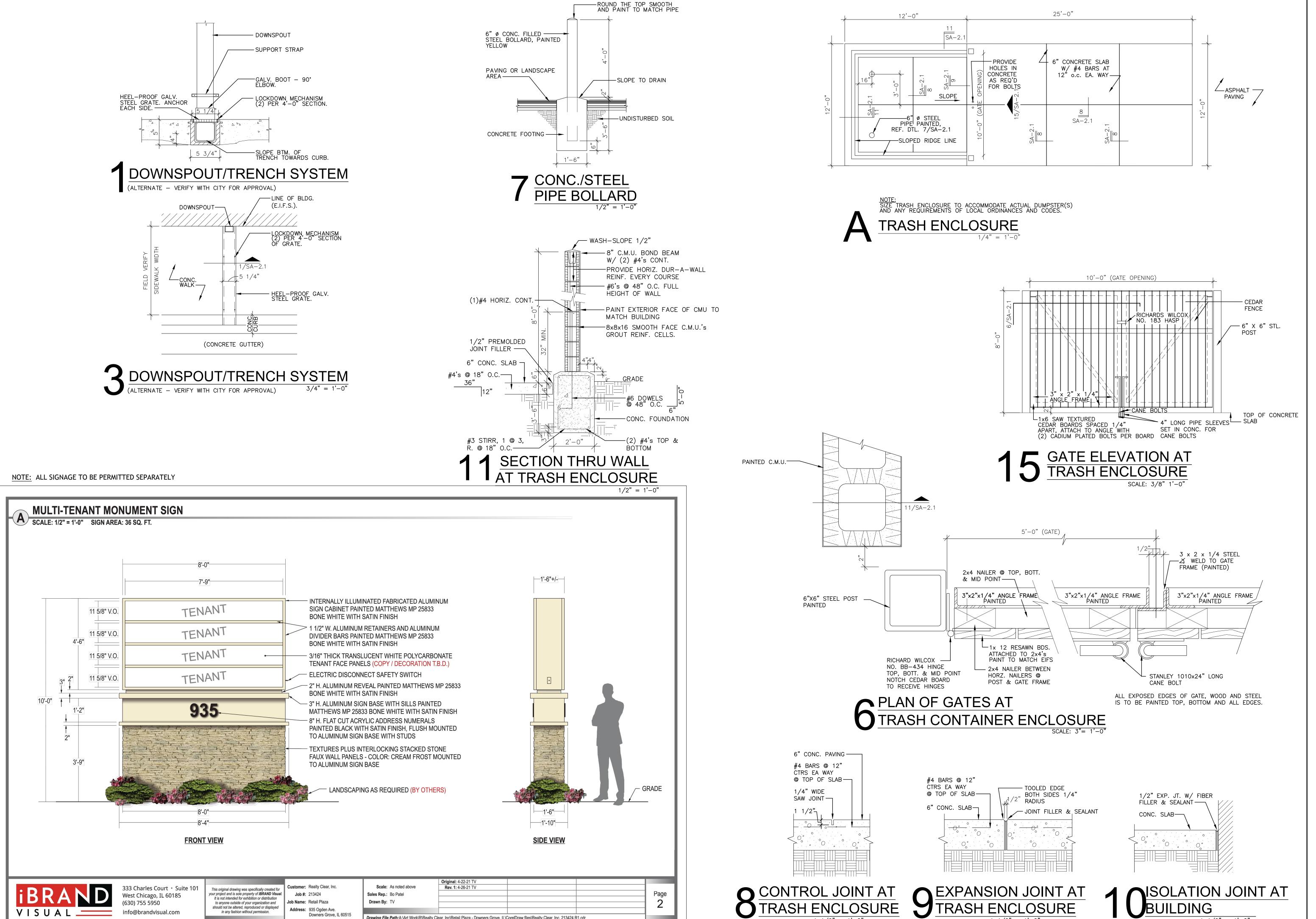
NEW MULTI-TENANT BUILDING LANDLORD WORK - SITE/SHELL

SHEET NAME

ARCHITECTURAL SITE PLAN

PLAN COMMISSION

Page 21 of 139



Drawing File Path: A:\Art Work\R\Realty Clear, Inc\Retail Plaza - Downers Grove, IL\CorelDraw files\Realty Clear, Inc. 213424 R1.cdr

SUBMITTAL HISTORY: APR. 29, 2021 P.C. SUBMITTAL • MAY 18, 2021 P.C. RE-SUBMITTAL

NEW MULTI-TENANT BUILDING
LANDLORD WORK - SITE/SHELL

935 OGDEN AVE.

DOWNERS GROVE, IL 60561

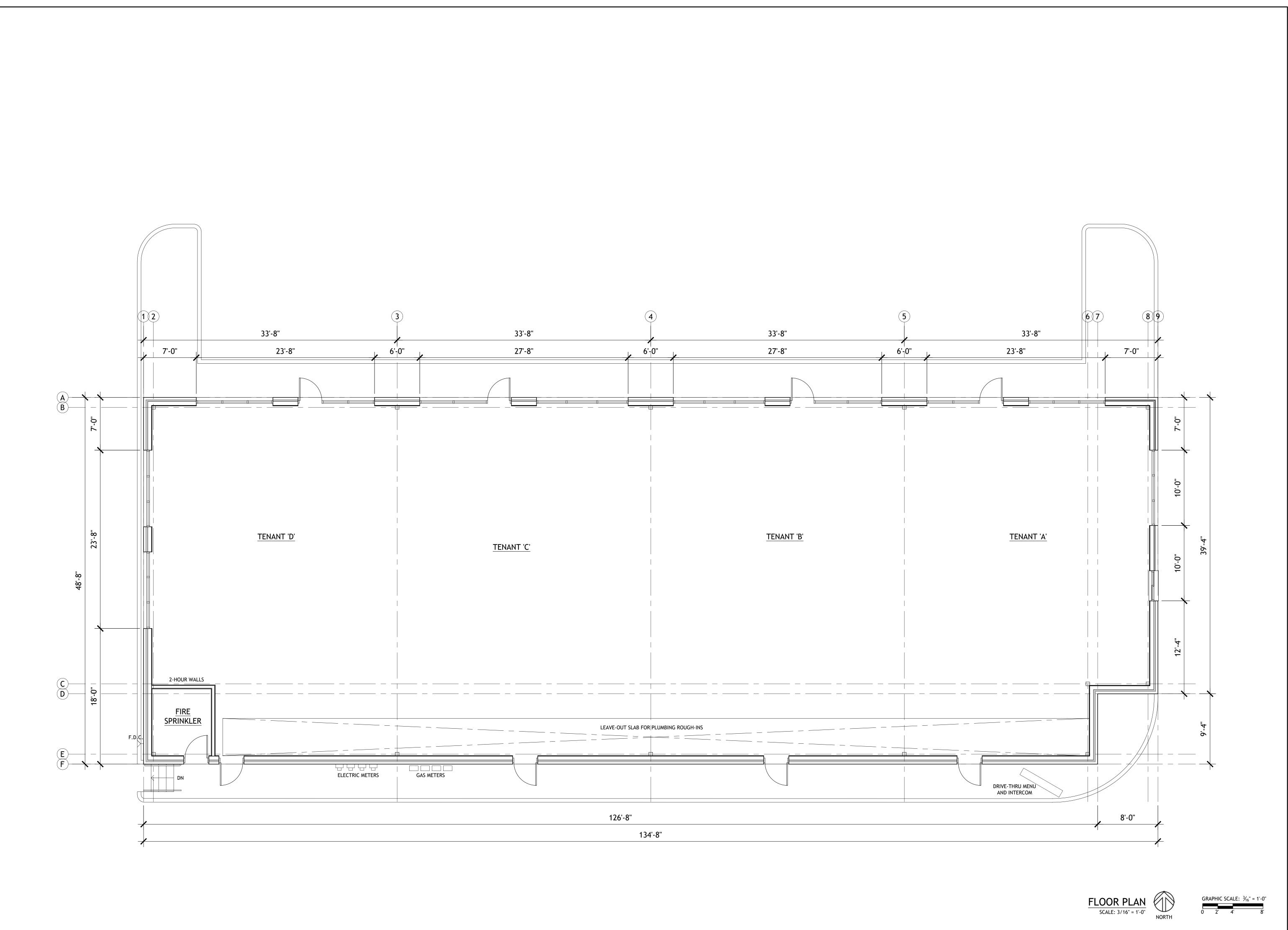
SHEET NAME **ARCHITECTURAL** SITE DETAILS

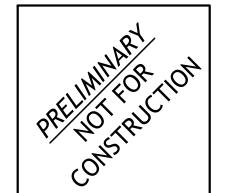
PLAN COMMISSION SA-2.1

05.18.2021

 $1 \ 1/2" = 1'-0"$

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SUBMITTAL HISTORY:	REV:
• APR. 29, 2021	
P.C. SUBMITTAL	
 MAY 18, 2021 	
P.C. RE-SUBMITTAL	



NEW MULTI-TENANT BUILDING
LANDLORD WORK - SITE/SHELL

935 OGDEN AVE.

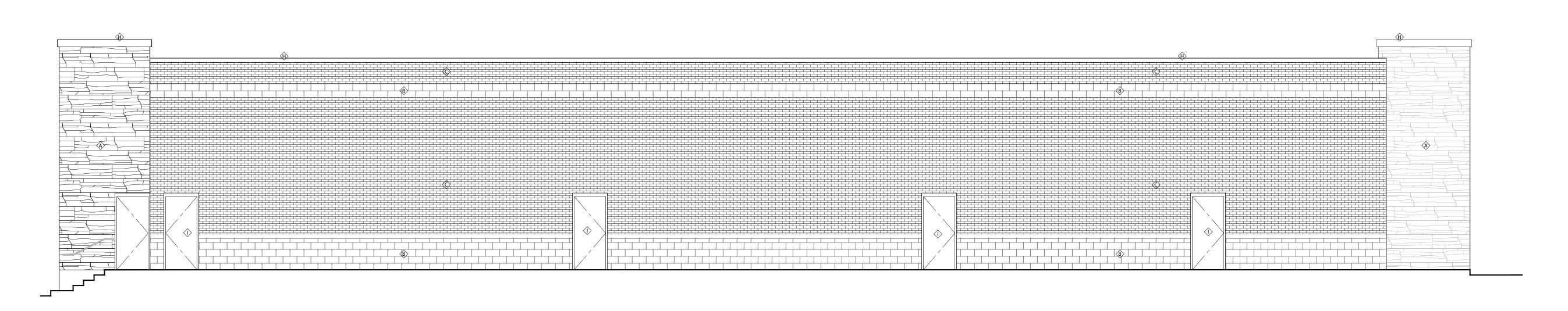
DOWNERS GROVE, IL 60561

SHEET NAME

FLOOR PLAN

A-1.1

ORD 2021-9000

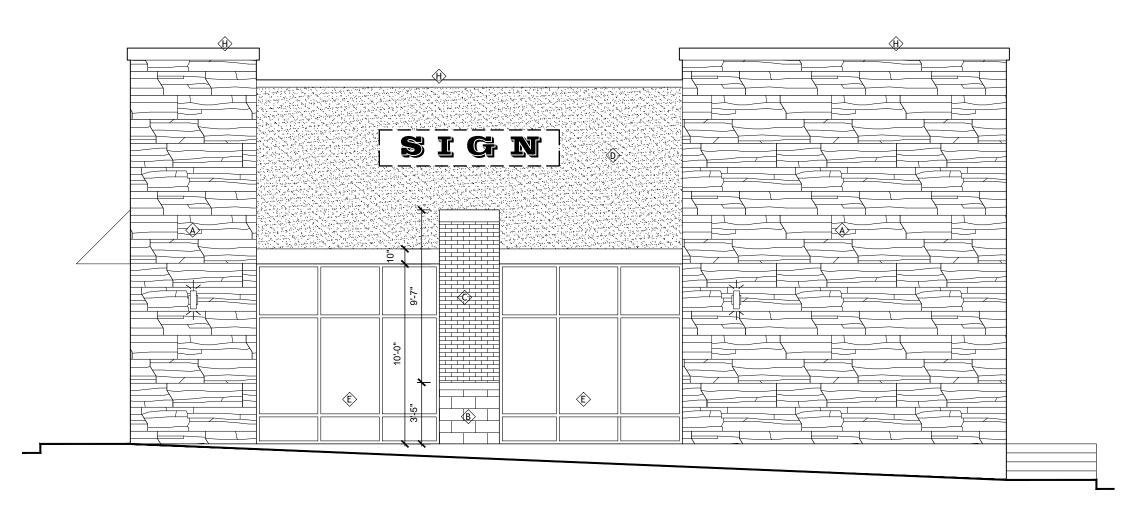


PROPOSED ELEVATION - SOUTH (REAR)

SCALE: 3/16" = 1'-0"

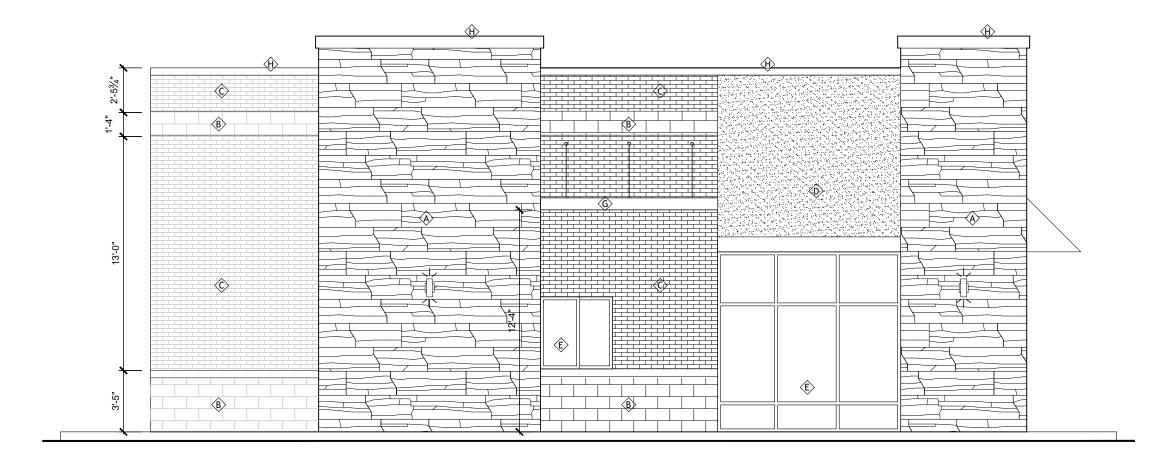
٩RK	MATERIAL	COLOR
>	FIELD STONE	RED
>	SPLIT-FACE CMU W/ STONE SILL	GRAY
>	BRICK VENEER W/ STONE CAP	BEIGE
>	SYNTHETIC STUCCO (E.I.F.S.)	TAN
>	ALUMINUM STOREFRONT	DARK BRONZE
>	FABRIC AWNING	PREFIN.
>	METAL CANOPY	BLACK
>	METAL COPING CAP	COPPER
>	STEEL SERVICE DOOR	BEIGE

NOTE:
ALL SIGNAGE TO BE PERMITTED SEPARATELY

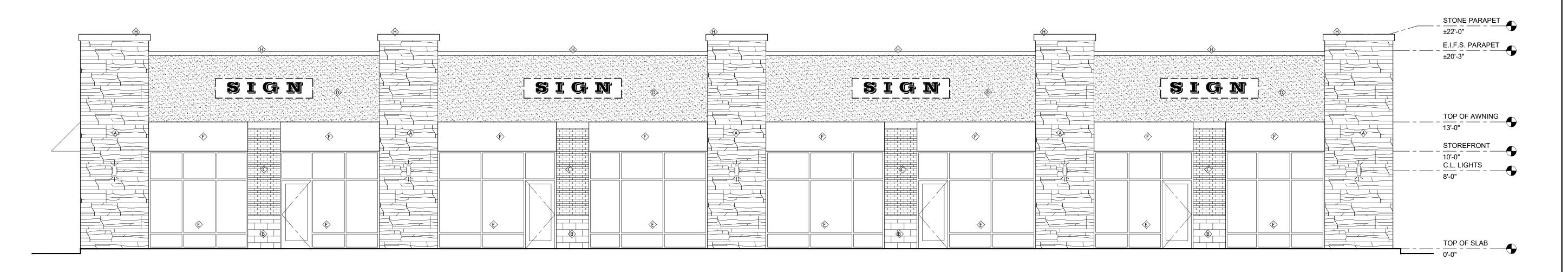


PROPOSED ELEVATION - WEST SIDE (FACING HIGHLAND AVE.)

SCALE: 3/16" = 1'-0"

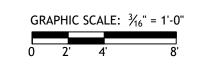


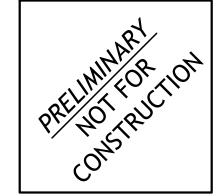
PROPOSED ELEVATION - EAST SIDE SCALE: 3/16" = 1'-0"



PROPOSED ELEVATION - NORTH (FACING OGDEN)

SCALE: 3/16" = 1'-0"





SUBMITTAL HISTORY: REV:

APR. 29, 2021
P.C. SUBMITTAL

MAY 18, 2021
P.C. RE-SUBMITTAL



NEW MULTI-TENANT BUILDING
LANDLORD WORK - SITE/SHELL

935 OGDEN AVE.
DOWNERS GROVE, IL 60561

EXTERIOR ELEVATIONS

PLAN COMMISSION

A-2.1

Page 24 o



PROPOSED FACADE RENDERING - NORTHEAST CORNER LOOKING IN 2



PROPOSED FACADE RENDERING - NORTHWEST CORNER LOOKING IN 1

PRELIMITARY OR TON'S CONSTRUCTION

SUBMITTAL HISTORY: REV:

• APR. 29, 2021
P.C. SUBMITTAL

• MAY 18, 2021
P.C. RE-SUBMITTAL



cj architects, inc.
Darien, IL
773.383.6556
DESIGN FIRM PROF. REG.#: 184.00

NEW MULTI-TENANT BUILDING LANDLORD WORK - SITE/SHELL 935 OGDEN AVE. DOWNERS GROVE, IL 60561

EXTERIOR RENDERINGS

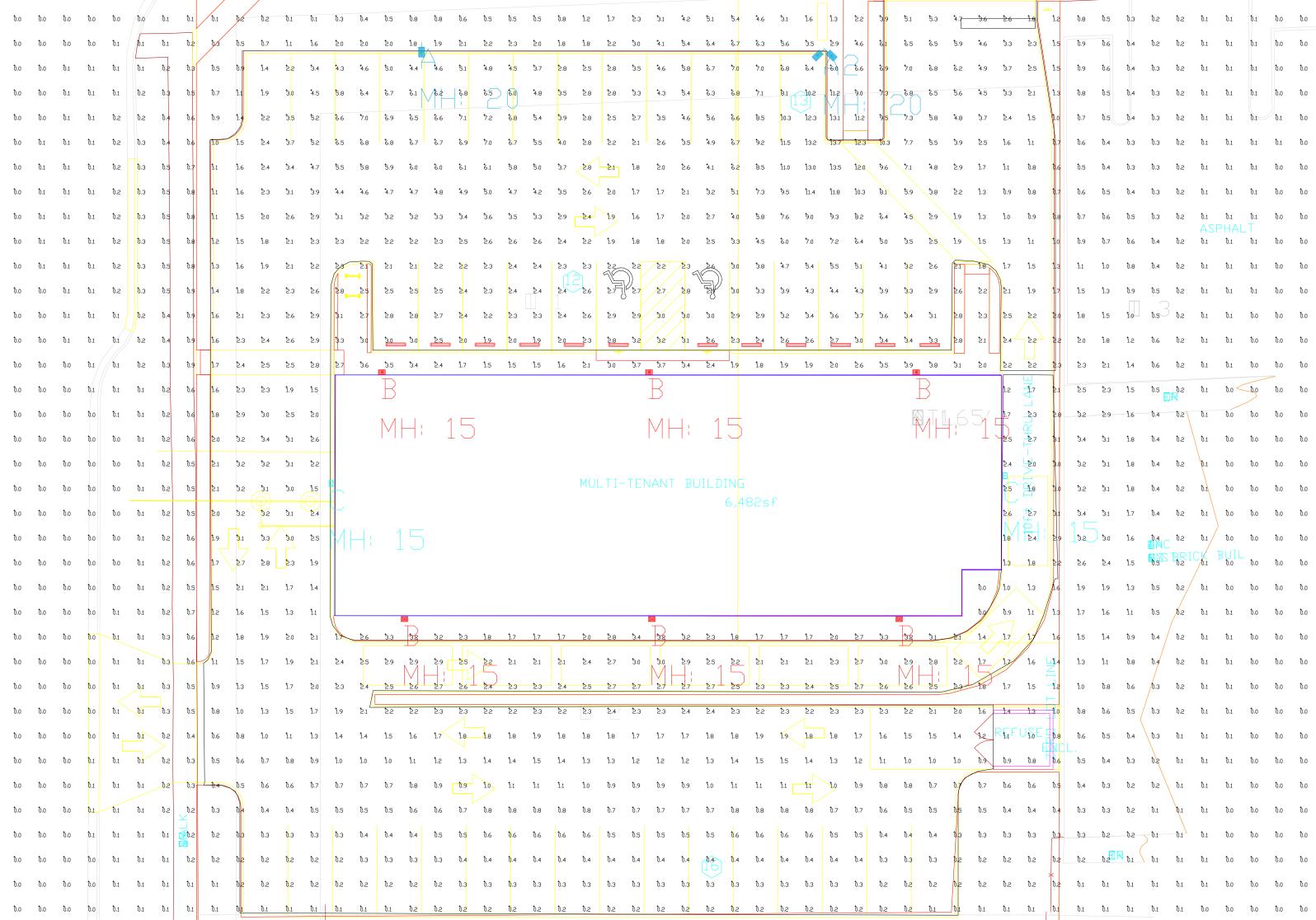
SHEET NAME

PLAN COMMISSION

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Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL POINTS AT GRADE 5X5	Illuminance	Fc	1.21	13.7	0.0	N.A.	N.A.
SOUTHERN PROPERTY LINE AT GRAD	Illuminance	Fc	0.10	0.1	0.1	1.00	1.00
PARKING SUMMARY	Illuminance	Fc	2.58	13.5	0.1	25.80	135.00

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

Symbol	Qty	Label	Arrangement	Description	LLD	UDF	LLF	Arr. Lum. Lumens	Arr. Watts
	1	А	SINGLE	MRS-LED-21L-SIL-FT-40-70CRI-IL-SINGLE-20'MH	1.000	1.000	0.940	13567	165
\$	1	A2	2 @ 90 DEGREES	MRS-LED-21L-SIL-FT-40-70CRI-IL-D90-20'MH	1,000	1.000	0.940	27134	330
	6	В	SINGLE	XWM-FT-LED-06L-40-15'MH	1,000	1.000	0,980	6057	44.7
+	2	С	SINGLE	XWM-3-LED-06L-40-15'MH	1.000	1.000	0,980	6133	44.7

Total Project Watts_1 Total Watts = 852,6001





LIGHTING PROPOSAL LD-153412-2 RETAIL PLAZA 935 OGDEN AVE

DOWNERS GROVE, IL REV:5/12/21 DATE:3/11/21

SCALE: 1"=16'

Page 26 of 139 ENGINEERING
RESOURCE ASSOCIATES
3S701 WEST AVENUE, SUITE 150
WARRENVILLE, ILLINOIS 60555
PHONE (630) 393-2152 LEGEND: P.C.C. PAVEMENT (SEE DETAIL)

OGDEN AVENUE SITE BM #2 5' WIDE, 5" P.C.C— SIDEWALK WITH 4" AGGREGATE BASE (TYP.) DEPRESSED CURBAND GUTTER (TYP.) EXISTING PARKWAYS— SIGNS TO BE RELOCATED (TYP.) B6.12 CURB AND GUTTER (TYP.) CONCRETE WALK MONUMENT SIGN STOP SIGN R-1 AVENUE ASPHALT HIGHLAND LOT 3 CONCRETE EAST 65' OF LOT 1 MULTI-TENANT BUILDING 6,480sf 126.67 10' STACK SPACE LANE (8-CARS MIN.) CONCRETE ASPHALT CONCRETE DRIVEWAY LOT 6 LOT 5 ADJACENT 1 STORY BRICK RESIDENCE

BITUMINOUS PAVEMENT (SEE DETAIL)

PAVERS (SEE DETAIL)

OPEN SPACE

OGDEN 935

PLAZA RETAIL

PRELIMINARY CROSS-ACCESS AGREEMENT LAYOUT

1.0 PROFESSIONAL DESIGN FIRM NUMBER: 184.001186

Traffic Impact Study

935 Ogden Avenue

Downers Grove, Illinois

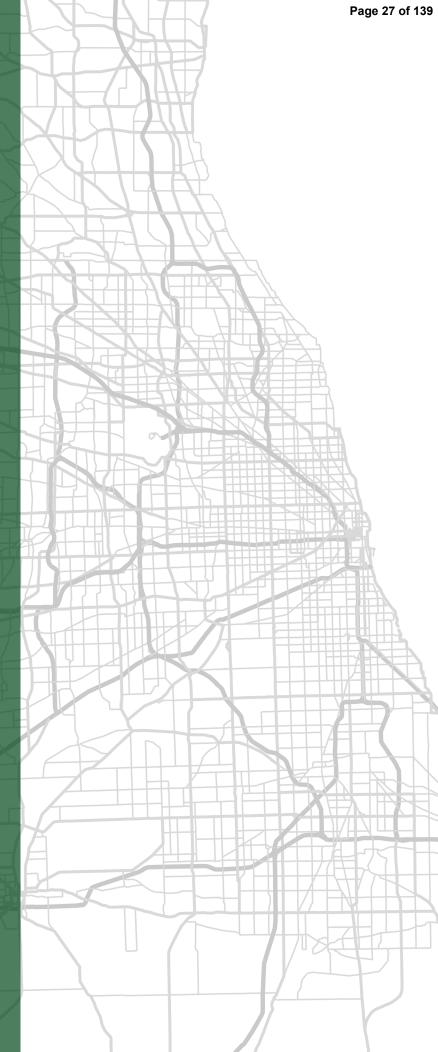
April 27, 2021

Prepared for:

Mr. Vick Mehta

Prepared by: Bill Grieve, P.E., PTOE Senior Transportation Engineer





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Traffic Impact Study

To: Mr. Vick Mehta

935 Ogden LLC

From: Bill Grieve, P.E., PTOE

Senior Transportation Engineer

Justin Opitz, AICP
Transportation Planner

Date: April 27, 2021

Subject: Proposed Retail Center Development

935 Ogden Avenue (US 34) Downers Grove, Illinois



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

www.gha-engineers.com

Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Impact Study (TIS) for the proposed retail center development located at 935 Ogden Avenue (US 34) in Downers Grove, Illinois. The site is located on the southeast corner of the Ogden Avenue and Highland Avenue intersection. The site currently contains a commercial building with two full access drives provided on Highland Avenue and three full access drives provided on Ogden Avenue.

As currently proposed, the vacant commercial building will be razed and a 6,482 square-foot multi-tenant retail building with a drive-through wrapping around the south and east sides of the building would be constructed. The drive-through provides queueing for eight vehicles and access to the site is proposed via one full access drive on Highland Avenue and one full access drive on Ogden Avenue. The development will be served by 41 parking spaces, including 2 accessible spaces. New sidewalk and crosswalks will be installed at each access drive and at pertinent crossing locations within the parking lot to facilitate pedestrian connections from the adjacent sidewalk and the parking lot to the entrance of the building.

The following provides a summary of site traffic characteristics and the analysis conducted, which includes an analysis of the development's impact on the surrounding roadway network and assessment of on-site circulation. *Exhibits* and *Appendices* referenced are located in the Technical Addendum at the end of this document.

Briefly summarizing, we believe the proposed retail center development traffic can be successfully accommodated. Reasons include:

- > The adjacent intersections experience nominal increases in delay as a result of the expected development traffic.
- The parking supply is anticipated to readily meet patron and employee demands.
- Adequate drive-through stacking will be provided for the business that occupies the eastmost tenant space (drive-through tenant space), so as to not impact on-site or off-site circulation.

Proposed Retail Center 935 Ogden Avenue Downers Grove, IL

Part II. Background Information

Site Location Map and Roadway Inventory

Exhibit 1 provides a location map, **Exhibit 2** illustrates the existing traffic operations in the site vicinity, and **Appendix A** provides a photo inventory of the site vicinity. Pertinent comments to the adjacent roadways include:

Ogden Avenue (US Route 34)

- Ogden Avenue is an east/west Principal Arterial roadway under the jurisdiction of the Illinois Department
 of Transportation (IDOT). It is designated as US Route 34 but is not classified as a Strategic Regional
 Arterial (SRA) route. Thus, property access availability tends to be more lenient.
- Ogden Avenue generally provides a five-lane cross-section with two travel lanes in each direction and a shared center bi-directional turn lane.
- The current site access drives along Ogden Avenue function as a full-access drives. Vehicles are permitted to turn left into and out of the site.

Main Street

- Main Street is a north/south Minor Arterial roadway under the jurisdiction of DuPage County Division of Transportation north of Ogden Avenue and switches jurisdiction to the Village of Downers Grove south of Ogden Avenue.
- Main Street generally provides a four-lane cross-section with two travel lanes in each direction.
- There are no site access drives along Main Street.

Highland Avenue

- Highland Avenue is a north/south local roadway under the jurisdiction of the Village of Downers Grove.
- Highland Avenue supports and urban cross-section with one travel lane in each direction.
- The current site access drives along Highland Avenue function as a full-access drives. Vehicles are permitted to turn left into and out of the site.
- Left turns from Highland Avenue onto Ogden Avenue in both the northbound and southbound direction
 are restricted via signage. Similarly, left turns from Ogden Avenue onto Highland Avenue in both the
 eastbound and westbound direction are restricted via signage.

Pedestrian Facilities

- Sidewalks are provided along both sides of all roadways within the site vicinity.
- Pedestrian accommodations (ie. crosswalks and/or pedestrian signals) are provided at the Ogden Avenue and Main Street intersection. Additionally, crosswalks are provided on northbound/southbound approaches at the Ogden Avenue and Highland Avenue intersection.
- Pace operates bus route 834 (Joliet-Downers Grove) along Main Street within the site vicinity. Stops are posted just north and south of Ogden Avenue.
- Pace also operates bus route 722 (Ogden Avenue) along Main Street (north of Ogden Avenue) and Ogden Avenue (west of Main Street) with stops along Main Street just north of Ogden Avenue and along Ogden Avenue just west of Main Street.
- Pre-pandemic, Pace operated bus route 461 (North Downers Grove) along Main Street, however since the pandemic began this route has been placed on hold.

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Proposed Retail Center 935 Ogden Avenue Downers Grove, IL

Surrounding Land Uses

- Ogden Avenue predominately consist of commercial uses within the site area. Some stores are vacant such as the previous Sears Hardware store just east of the site.
- Main Street generally contains residential land uses on both sides, with the Downers Grove North High School being located southwest of the intersection at Ogden Avenue and Main Street.
- Highland Avenue predominately consists of residential land uses south of the site area.

Existing Traffic

Exhibit 3 summarizes the existing weekday morning and evening, as well as the weekend midday peak hour traffic volumes. GHA conducted weekday morning (6:00 – 9:00 AM) peak period, weekday evening (3:00 – 6:00 PM) peak period, and weekend midday peak period (11:00 AM – 1:00 PM) traffic counts on Thursday, April 1, 2021 and on Saturday, April 3, 2021. These counts were administered at the study area intersections of Ogden Avenue and Main Street and Ogden Avenue and Highland Avenue. Based on these counts, the weekday morning peak hour occurred from 8:00 to 9:00 AM, the weekday evening peak hour occurred from 4:00 to 5:00 PM, and the weekend midday peak hour occurred from 12:00 to 1:00 PM. As can be seen, there were several illegal left turns made to/from Highland Avenue at its intersection with Ogden Avenue. **Exhibit 3** also provides the Annual Average Daily Traffic (AADT) along Ogden Avenue from year 2017/2019 and along Main Street from year 2016 obtained from IDOT's website www.gettingaroundillinois.com.

A summary of the traffic counts can be found in *Appendix B*. It should be noted that traffic counts conducted during this post-pandemic time period should be compared to historical data to analyze whether the volumes have increased or decreased. If the volumes have decreased, a COVID factor (e.g., increase volumes by 20%) should be applied to ensure that the maximum impact is tested. The traffic counts conducted in 2021 were compared to historical hourly traffic count data from IDOT's database. Along Ogden Avenue for the three peak periods studied, a COVID factor was applied as traffic volumes have decreased between 18 and 25 percent. Similarly, along Main Street for the three peak periods studied, a COVID factor was applied as traffic volumes have decreased between 31 and 42 percent.

Crash Analysis

In order to evaluate and address potential safety issues at the study area intersections, crash data was obtained from the IDOT Division of Transportation Safety for the last five calendar years available, 2015 through 2019. A summary of the crash data is provided in *Table 1* on the following page, with the locations of the IDOT data mapped on the exhibit contained in *Appendix C*.

Proposed Retail Center 935 Ogden Avenue Downers Grove, IL

Table 1: Crash Summary (2015-2019) A

Location	No. of		Se	verit	y ^B			Percent During					
Location	Crashes	PD		PI ^C		F	СМ	RE	НО	FO	Ped	Bike	Wet/Icy
		ייי	Α	В	С	'					' eu	DIKE	Conditions
Intersections - Crashes within 200' of intersection													
Ogden Ave & Main St	104	71	3	12	18		60	40	-	3	1	-	13%
Ogden Ave & Highland Ave	18	12	1	1	4	-	10	8	-	-	-	-	6%
Segments											-		
Along Ogden Ave between Main St and	2	3						3					0%
Highland Ave	3	S	-	-	-	•	-	٥	-	-	-	-	U%
Along Ogden Ave east of Highland Ave	2	-	-	-	2		-	2	-	-	-	-	50%
Total (2015-19)	125	86	4	13	22	0	70	51	0	3	1	0	12%

A Source: IDOT Division of Transportation Safety for the 2015-2019 calendar years.

As shown in Table 1, the intersection of Ogden Avenue and Main Street experienced the highest number of crashes within the study area over the five-year analyses period. There was a total of 104 crashes over the analysis period, averaging approximately 21 crashes per year. 68 percent (71 of 104) of the crashes at the Ogden Avenue and Main Street intersection involved property damage only and approximately 38 percent (40 of 104) were rear-end type collision.

The intersection of Ogden Avenue and Highland Avenue experienced the next highest number of crashes, with a total of 18 crashes, averaging between three and four per year. 67 percent (12 of 18) of the crashes at this intersection involved property damage only and 56 percent (10 of 18) of the crashes were cross-movement or angle type collisions. Additionally, there was one crash at the Ogden Avenue and Main Street intersection that involved a pedestrian during the five-year analysis period.

No-Build Traffic

Exhibit 4 summarizes the 2027 No-Build weekday morning, weekday evening, and weekend midday peak hour traffic volumes. Traffic growth in the area is a function of expected land development in the region. Future traffic volume conditions were developed for the year 2027, build-out year of the development (year 2022) plus five years. Based on a review of historical traffic volumes and the Chicago Metropolitan Agency for Planning (CMAP) 2050 projections (see **Appendix D**), traffic volumes along Ogden Avenue west of Main Street are assumed to experience an overall annual, compounded growth rate of approximately 0.41% per year. Similarly, traffic volumes along Ogden Avenue east of Main Street are assumed to experience an overall annual, compounded growth rate of approximately 0.32% per year. The traffic volumes are Main Street both north and south of Ogden Avenue are assumed to experience an overall annual, compounded growth rate of approximately 0.21% per year.

^B PD = property damage only; PI = personal injury; F = fatality.

^C Type A (incapacitating injury); Type B (non-incapacitating injury); Type C (possible injury).

^D CM = cross movement/angle; RE = rear end; HO = head on; FO = fixed object; Ped = pedestrian.

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Proposed Retail Center 935 Ogden Avenue Downers Grove, IL

Part III. Traffic Evaluation

Proposed Plan

Exhibit 5 presents the Site Plan as prepared by Engineering Resource Associates (ERA) dated April 7, 2021. As currently proposed, the vacant commercial building will be razed and a 6,482 square-foot multi-tenant retail building with a drive-through wrapping around the south and east sides of the building would be constructed. The drive-through provides queueing for eight vehicles and access to the site is proposed via one full access drive on Highland Avenue and one full access drive on Ogden Avenue. The development will be served by 41 parking spaces, including 2 accessible spaces. New sidewalk and crosswalks will be installed at each access drive and at pertinent crossing locations within the parking lot to facilitate pedestrian connections from the adjacent sidewalk and the parking lot to the entrance of the building.

<u>Discussion Point.</u> As noted previously, the site currently has three full access drives on Ogden Avenue and two full access drives on Highland Avenue. Per the ERA site plan, two drives on Ogden Avenue and one drive on Highland Avenue will be eliminated. This is an excellent example of access management strategy to promote safety and mobility for both vehicles and pedestrians.

Project Traffic Characteristics

Traffic Generations

Table 2 below tabulates the traffic generation calculations for the proposed development. Trip generation rates published by the Institute of Transportation Engineers (ITE) in the 10th Edition of the Manual Trip Generation were used to calculate the anticipated site traffic (See **Appendix E**). Shopping Center (ITE land use code #820) was assumed for this retail center development.

<u>Discussion Point.</u> It should be noted that the drive-through (eastmost) tenant space, rather than a coffee shop, is expected to be occupied by a lower volume drive-through business. As such, it is probable that the morning peak hour trip generations are overstated.

Table 2: Projected Trip Generation

Land Use / Size	Size ITE Land		AM Peak Hour			PN	/I Peak H	our	SA	T Peak F	lour	Weekday Daily			
Land Use / Size	Size	Use Code	In	Out	Total	ln	Out	Total	In	Out	Total	ln	Out	Total	
Shopping Center	6,482 SF	820	96	59	155	34	38	72	37	34	71	467	468	935	
Total	Trips		96	59	155	34	38	72	37	34	71	467	468	935	

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition).

<u>Discussion Point.</u> Not all vehicle trips expected to be generated by the proposed project represent new trips on the study area roadway system. Studies have shown that for retail, restaurant and gasoline/service station with convenience market developments, a substantial portion of the site-generated vehicle trips are already present in the adjacent passing stream of traffic or are diverted from another route to the proposed site. Based on data presented in the ITE *Trip Generation Handbook, 3rd Edition*, the average pass-by trip percentage for the proposed use is between 26 and 89 percent. However, to provide a conservative analysis, <u>no</u> reduction for pass-by traffic was applied to the development site-generated trips.

Proposed Retail Center 935 Ogden Avenue Downers Grove, IL

Trip Distribution

The anticipated trip distribution of site traffic is summarized in *Table 3*. This was based on current travel patterns, the operational characteristics of the street system and site access.

Table 3: Trip Distribution

Doute 9 Direction	Percent Route									
Route & Direction	Arrive From	Depart To								
Ogden Avenue										
East of Site	25%	35%								
West of Main Street	35%	20%								
Main Street										
North of Ogden Avenue	10%	25%								
South of Ogden Avenue	25%	15%								
Highland Avenue										
South of Site	5%	5%								
Total	100%									

Site and Total Traffic Assignments

Exhibit 6 illustrates the site traffic assignment for the development's trips, which is based on the traffic characteristics summarized in **Table 2/3** (Trip Generation and Trip Distribution) and assigned to the area roadways. The site traffic assignments were then combined with the 2027 No-Build Traffic (See **Exhibit 4**) volumes to produce 2027 Total Traffic, which is illustrated on **Exhibit 7**.

Intersection Capacity Analyses

Capacity analyses are a standard measurement that identifies how an intersection operates. They are measured in terms of Level of Service (LOS). The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six Levels of Service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is often considered acceptable for design purposes and LOS D is usually considered as providing the lower threshold of acceptable operations. Since the level of service is a function of the traffic flows placed upon it, the facility may operate at a wide range of levels of service, depending on the time of day, day of week or period of year. A description of the operating condition under each level of service, based on the analysis parameters as published in the Transportation Research Board's (TRB) Highway Capacity Manual (HCM), Sixth Edition, is provided in *Table 4* on the following page.

Proposed Retail Center 935 Ogden Avenue Downers Grove, IL

Table 4: Level of Service (LOS) Summary

		Delay (s	ec/veh)
LOS	Description	Traffic Signal	Stop Sign
Α	Describes conditions with little to no delay to motorists.	<10	< 10
В	Represents a desirable level with relatively low delay to motorists.	>10 and < 20	>10 and < 15
С	Describes conditions with average delays to motorists.	>20 and < 35	>15 and < 25
D	Describes operations where the influence of congestion becomes more		
D	noticeable. Delays are still within an acceptable range.	>35 and < 55	>25 and < 35
	Represents operating conditions with high delay values. This level is often		
Ε	considered within urban settings or for minor streets intersecting major		
	arterial roadways to be the limit of acceptable delay.	>55 and < 80	>35 and < 50
_	Is unacceptable to most drivers with high delay values that often occur when		
Г	arrival flow rates exceed the capacity of the intersection.	>80	>50

Table 5 on the following pages summarizes the intersection capacity and queue analysis results. Capacity analysis summary printouts are provided in **Appendix F**.

Table 5: Intersection Capacity and Queue Analysis

Table 3. Intersection capacity and Q					Intersetion /										
	Intersection / Timeframe	Roadway Conditions		= Shai	Approach										
		Ea	astbou	ınd	We	stboı	und	Noi	thbou	nd	Sou	uthbou	und	Арргоасп	
1. Ogde	en Ave (US 34) & Main St	Signalized	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Intersection Delay
	A.Existing (See Exhibit 4)	LOS95th Queue Length (ft)	C 206	B 303	B 311	B 90	C 355	C 358	D 142	D 282	D 267	D 260	D 172	D 297	C (28.4)
AM Peak	B. 2027 No-Build (See Exhibit 5)	LOS 95th Queue Length (ft)	C 217	B 326	B 334	B 94	C 378	C 379	D 146	D 288	E 273	D 269	D 178	D 302	C (29.2)
	C. 2027 Total (See Exhibit 7)	LOS 95th Queue Length (ft)	C 219	B 351	B 358	C 103	C 398	C 400	D 145	E 309	E 290	D 291	D 176	D 301	C (30.4)
	A.Existing (See Exhibit 4)	LOS 95th Queue Length (ft)	D 229	C 406	C 417	C 126	C 643	D 662	D 214	E 328	E 307	D 334	D 314	E 684	D (40.5)
PM Peak	B. 2027 No-Build (See Exhibit 5)	• LOS • 95th Queue Length (ft)	E 383	C 434	C 446	C 134	D 727	D 744	D 220	E 336	E 314	D 346	D 321	E 677	D (43.0) -
	C. 2027 Total (See Exhibit 7)	• LOS • 95th Queue Length (ft)	E 385	C 446	C 457	C 141	D 764	D 782	D 220	E 344	E 321	D 353	D 321	E 669	D (44.1) -
	A.Existing (See Exhibit 4)	LOS 95th Queue Length (ft)	D 216	C 412	C 436	C 123	C 536	C 555	D 224	E 350	E 239	E 217	D 249	D 381	D (36.8) -
SAT Peak	B. 2027 No-Build (See Exhibit 5)	• LOS • 95th Queue Length (ft)	D 249	C 445	C 469	C 129	C 583	C 602	D 230	E 359	E 337	E 242	D 254	D 388	D (39.1) -
	C. 2027 Total (See Exhibit 7)	• LOS • 95th Queue Length (ft)	D 259	C 455	C 480	C 134	C 608	D 627	D 229	E 368	E 344	F 263	D 254	D 386	D (40.3) -
2. Ogde	en Ave (US 34) & Highland Ave	TWSC - NB/SB Stops	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	NB Approach Delay
	A.Existing (See Exhibit 4)	LOS 95th Queue Length (ft)	> -	B 0	-	> -	B 0		> -	C 5	< -	> -	B 3	-	C (15.1)
AM Peak	B. 2027 No-Build (See Exhibit 5)	• LOS • 95th Queue Length (ft)	> -	B 0	<u>-</u>	>	B 0	-	> -	C 8	-	> -	B 3	'	C (15.6) -
	C. 2027 Total (See Exhibit 7)	• LOS • 95th Queue Length (ft)	> -	B 0	<u>-</u>	> -	B 0	-	> -	C 8	- -	> -	B 3	'	C (16.3) -
	A.Existing (See Exhibit 4)	LOS 95th Queue Length (ft)	> -	B 0	<u>-</u> -	> -	B 0		^ -	D 15	< -	> -	C 15	٠ ٧	D (33.9)
PM Peak	B. 2027 No-Build (See Exhibit 5)	• LOS • 95th Queue Length (ft)	> -	B 0	<u>-</u> -	> -	B 0	• -	>	E 15	< -	> -	C 15	< -	E (37.8) -
	C. 2027 Total (See Exhibit 7)	• LOS • 95th Queue Length (ft)	> -	B 0	<u>-</u>	> -	B 0	-	^ -	E 18	< -	> -	C 15	< -	E (37.8) -
	A.Existing (See Exhibit 4)	LOS 95th Queue Length (ft)	> -	B 0	<u>-</u> -	> -	B 0	•	> -	F 23	< -	> -	C 8	- >	F (53.6) -
SAT Peak	B. 2027 No-Build (See Exhibit 5)	• LOS • 95th Queue Length (ft)	> -	B 0	<u>-</u>	> -	B 0	•	> -	F 28	- -	> -	C 8	< -	F (63.3) -
	C. 2027 Total (See Exhibit 7)	LOS 95th Queue Length (ft)	> -	B 0	-	> -	B 0	-	^ '	F 30	< -	> -	C 8	< -	F (66.0) -

Proposed Retail Center 935 Ogden Avenue Downers Grove, IL

Table 5: Intersection Capacity and Queue Analysis

					Intersetion /										
	Intersection / Timeframe	Roadway Conditions	>=	Shar	ent										
			Eastbound			Westbound			Noi	thbou	ınd	Southbound			Approach
3. Ogden Ave (US 34) & Site Access		TWSC - NB/SB Stops	LT	TH	RT	LT	ΤH	RT	LT	TH	RT	LT	TH	RT	NB Approach Delay
AM	C. 2027 Total (See Exhibit 7)	•LOS	-	-	•	В	-		>	D	'	-	-	•	D (33.7)
Peak	C. 2027 Total (See Exhibit 7)	95th Queue Length (ft)	•	-	-	5	-	-	ı	33	-	ı	-	-	-
PM	C. 2027 Total (See Exhibit 7)	•LOS	•	-	-	В	-		>	Ε	^	•	-		E (39.3)
Peak		95th Queue Length (ft)	-	-	-	3	-	-	ı	25	-	•	-	-	-
SAT	C. 2027 Total (See Exhibit 7)	•LOS	•	-	-	В	-		>	Ε	^	•	-		E (37.7)
Peak		95th Queue Length (ft)	-	-	-	3	-	-	ı	20	-	•	-	-	-
4. High	and Ave & Site Access	TWSC - WB Stops	LT	TH	RT	LT	ΤH	RT	LT	TH	RT	LT	TH	RT	WB Approach Delay
AM	C 2027 Total (See Exhibit 7)	•LOS	-	•	•	>	Α	^	-	•		>	Α	•	A (8.8)
Peak	C. 2027 Total (See Exhibit 7)	95th Queue Length (ft)	•	-	-	-	3	-	ı	-	-	•	3	-	-
PM	C. 2027 Total (See Exhibit 7)	•LOS	-	-	•	>	Α	>	-	-	•	>	Α	•	A (8.6)
Peak		95th Queue Length (ft)	-	-	-	-	0	-	•	-	-	•	0	-	-
SAT	C. 2027 Total (See Exhibit 7)	•LOS	-	-	•	>	Α	>	-	-	•	>	Α		A (8.7)
Peak	C. 2027 Total (See Exhibit 7)	95th Queue Length (ft)	-	-	-	-	0	-	-	-	-	-	0	-	-

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Traffic Impact Discussion

Ogden Avenue @ Main Street

Under both existing and future traffic conditions (No-Build and Total), the signalized intersections of Ogden Avenue and Main Street operates at an overall acceptable LOS "D" or better during the three peak periods studied. It should be noted that development traffic is expected to increase the overall intersection delay by 1.2 second during the weekday AM peak hour, 1.1 seconds during the weekday PM peak hour, and 1.2 seconds during the weekend Midday peak hour. As such, no changes to the existing operations are required to accommodate the development traffic.

Ogden Avenue @ Highland Avenue

Under existing and future (No-Build and Total) traffic conditions during the weekday PM peak hour and weekend Midday peak hour, the northbound approach of the unsignalized intersection of Ogden Avenue and Highland Avenue operates under capacity constraints at LOS "E/F". Left turning and through movements from Highland Avenue onto Ogden Avenue are restricted at this intersection, as well as left turning movements from Ogden Avenue onto Highland Avenue. Several vehicles during the weekday PM peak hour and weekend Midday peak hour made these restricted turning movements and this directly resulted in the capacity constraints. If these vehicles making restricted movements are re-assigned to making a permitted northbound right turn, the northbound approach then operates at LOS "C" during the weekday PM peak hour and weekend Midday peak hour (see **Appendix G**). No changes to the existing operations are required to accommodate the development traffic, however, the restricted movements at this intersection should be enforced.

Ogden Avenue @ Site Access

Under future (Total) traffic conditions during the weekday PM peak hour and weekend Midday peak hour, the northbound approach of the unsignalized intersection of Ogden Avenue and Site Access operates under capacity constraints at LOS "E". The site access drive currently contains one inbound and one outbound turning lane, this exiting lane could be modified to provide separate left and right exiting lanes, which would help to alleviate the capacity constraint.

Highland Avenue @ Site Access

Under future (Total) traffic conditions during the three peak hours studied, the westbound approach of the unsignalized intersection of Highland Avenue and Site Access will operate with no capacity constraints at LOS "A".

Part IV. Site Plan Elements

Parking Analysis

Based on the parking requirements outlined in the Village of Downers Grove Code of Ordinances, 26 parking spaces are required for the proposed site use. The Village's parking requirements are summarized in the *Table 6*.

Table 6: Village of Downers Grove Parking Requirements

			Parking	Spaces
Use	Size	Parking Requirement	Required	Provided
Shopping Center (multi-tenant)	6,482 SF	4 spaces per 1,000 SF	26 spaces	41 spaces

As proposed, the development will provide 41 off-street parking spaces on-site. This also includes two accessible parking spaces nearest the main entrance of the building.

Proposed Retail Center 935 Ogden Avenue Downers Grove, IL

The Institute of Transportation Engineers (ITE) *Parking Generation, 5th Edition* publication provides a compilation of parking demand surveys from across the country for a wide variety of land uses. ITE land use code 820, Shopping Center – Non-December was referenced for the proposed development (see *Appendix H*). The following timeframe represents the peak period for the proposed use; between 12:00 PM and 6:00 PM on a weekday. Using the ITE data, *Table 7* presents a summary of the projected peak parking demand for the proposed development.

Table 7: Projected Peak Parking Demand: ITE – Parking Generation

				Peak Park	ing Demand	
	ITE		Ave	rage	85th Pere	centile
Land Use	LUC	Size	Rate/Unit	Spaces	Rate/Unit	Spaces
Shopping Center – Non-December	820	6,482 SF	1.95	13	3.68	24
TOTAL SPAC	ES PRO	/IDED		41 S	paces	

Key Finding. Based on the above, the anticipated peak parking demand should be readily accommodated on site.

Drive-Thru Operations

The drive-thru pick-up window will be located on the east side of the building and the stacking/queuing lane will wrap around the south and east sides of the building. This lane will provide stacking/queueing for eight vehicles prior to reaching the parking lot circulation aisle (see *Exhibit 5*). This is in line with the Village ordinances as code requires a restaurant use to provide a minimum of eight stacking/queueing spaces. The current site plan denotes an order board that is placed three vehicles away from the pick-up window, which complies with Village code.

Part V. Conclusion

A traffic impact and parking study was conducted for the proposed retail center development to be located at 935 Ogden Avenue in Downers Grove, Illinois. The proposed development is expected to generate 155, 72, and 71 trips (combined inbound and outbound) during the weekday AM, weekday PM, and weekend Midday peak hour, respectively. The overall delay increase at the Ogden Avenue and Main Street intersection as a result of the proposed development is projected to be below two seconds. Modification of the site access drive along Ogden Avenue from one inbound and one outbound lane to one inbound and two separate left and right turning outbound lanes should be considered. Overall, the development is anticipated to have an insignificant effect on the operations of the area roadway network. And, based on the parking analysis, it can be concluded the site provides adequate supply to accommodate the anticipated patron and employee parking demands.

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Part V. Technical Addendum

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

Exhibits

- 1. Location Map
- 2. Existing Traffic Operations
- 3. Existing Traffic
- 4. 2027 No-Build Traffic
- 5. Site Plan
- 6. Site Traffic
- 7. 2027 Total Traffic

Appendices

- A. Photo Inventory
- B. Traffic Count Summary Sheets
- C. IDOT Crash Map
- D. CMAP Correspondence
- E. ITE 10th Edition Trip Generation Excerpts
- F. Capacity Analyses Sheets
- G. Ogden & Highland Capacity Test
- H. ITE 5th Edition Parking Generation Excerpts

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EXHIBITS



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Exhibit 1 - Location Map

Proposed Retail Center
Downers Grove, IL

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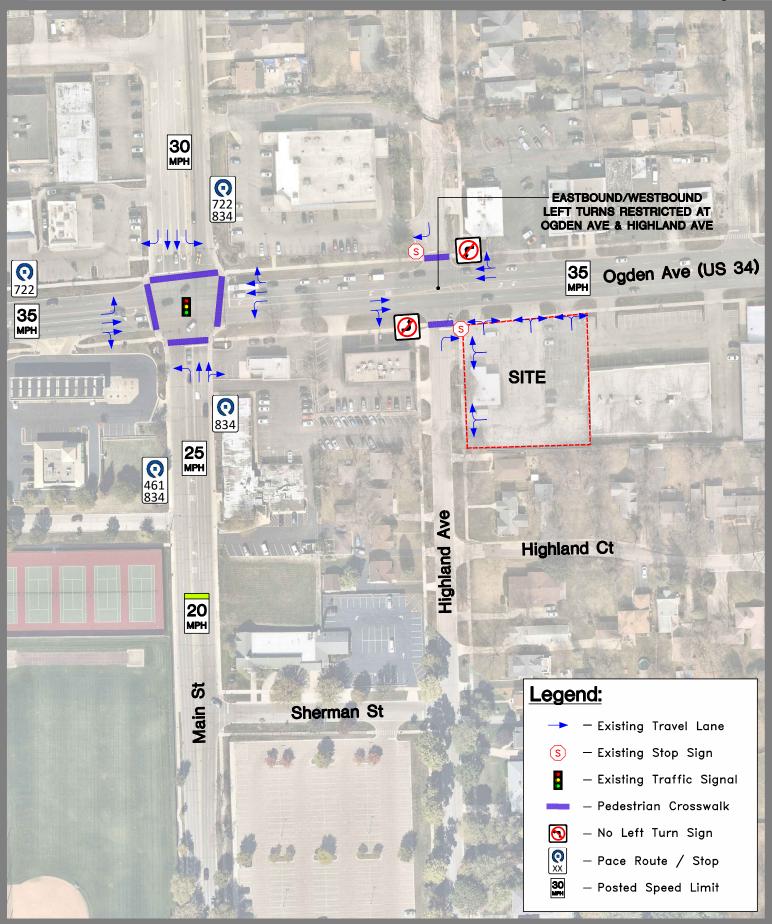






Exhibit 2 Existing Traffic Operations

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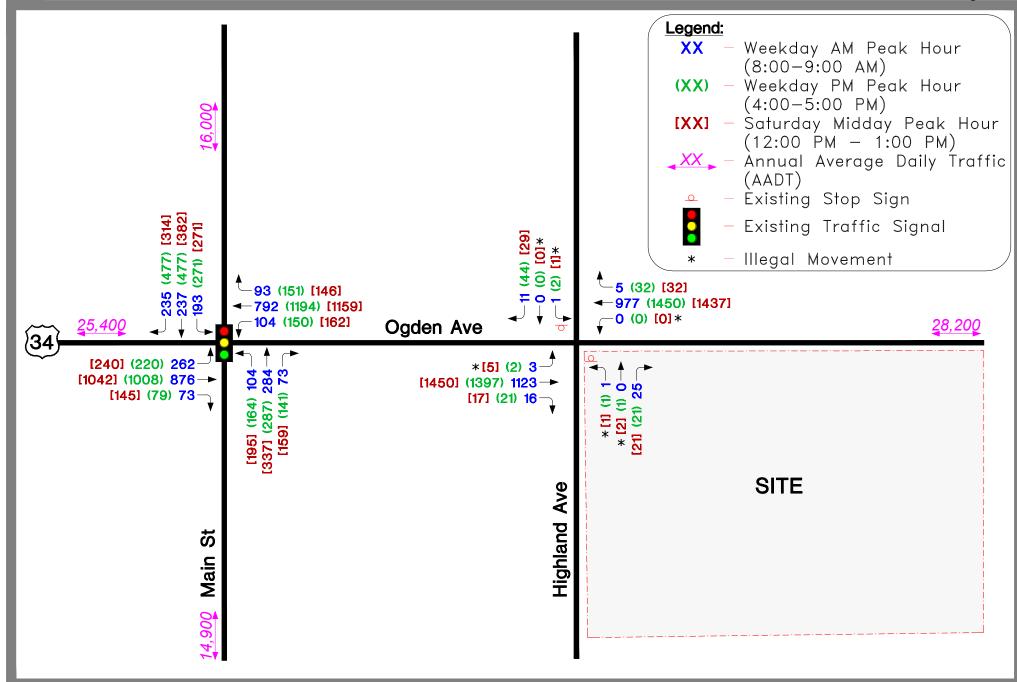






Exhibit 3
Existing Traffic
Sources: 1) GHA April, 2021 2) IDOT 2016, 2017, 2019 AADT

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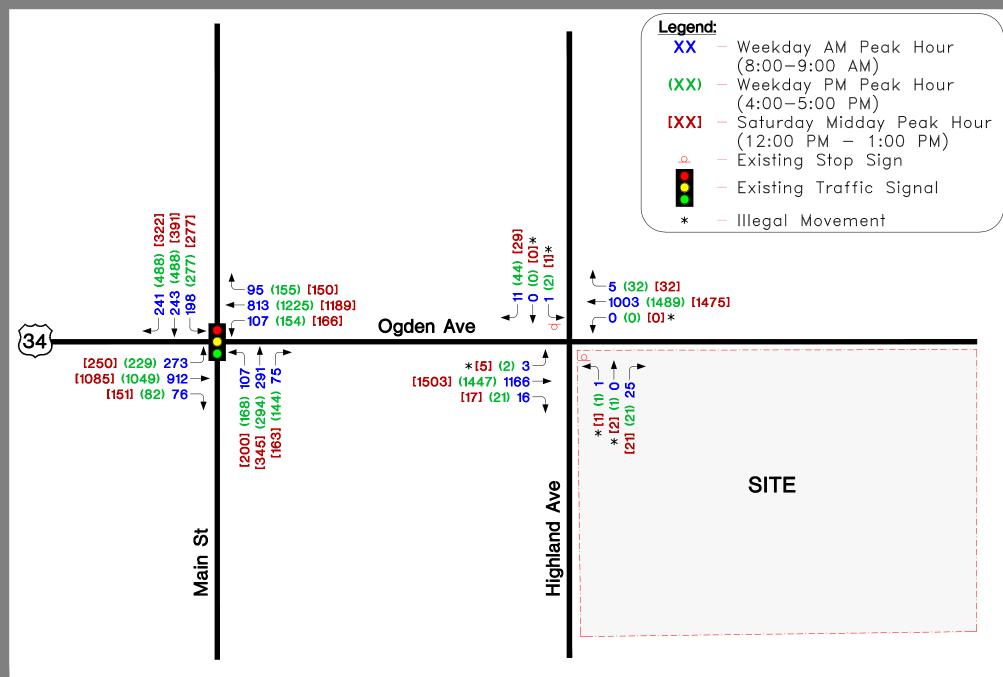






Exhibit 5 - Site Plan

IMPERVIOUS DATA TABLE PROPOSED IMPERVIOUS BUILDING: SIDEWALK: EXISTING IMPERVIOUS
BUILDING: 1
SIDEWALK: 1,795 S.F. 897 S.F. 28,816 S.F. 15 S.F. 6,479 S.F. 1,146 S.F. 20,536 S.F. ASPHALT: TOTAL: TOTAL 31,523 S.F. 28,681 S.F.

NET NEW IMPERVIOUS AREA = 28,681 S.F. - 31,523 S.F. = -2,842 S.F.

SINCE NET NEW IMPERVIOUS AREA IS LESS THAN 2,500 SQ. FT. IN AGGREGATE SINCE APRIL 23, 2013 PCBMPS ARE NOT REQUIRED.

SINCE NET NEW IMPERVIOUS AREA IS LESS THAN 25,000 SQ. FT. IN AGGREGATE SINCE FEBRUARY 15, 1992 SITE RUNOFF STORAGE IS NOT REQUIRED.

LEGEND: P.C.C. PAVEMENT (SEE DETAIL)

MINIMUM OF 48 HOURS ADVANCE NOTICE REQUIRED It's free

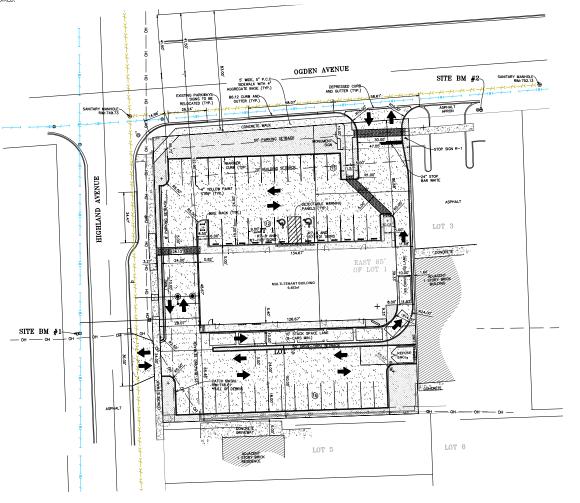
It's the law

Call before you dig 800.892.0123

BITUMINOUS PAVEMENT (SEE DETAIL)

PAVERS (SEE DETAIL)

OPEN SPACE





NOTES:

- ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD. THE CONTRACTOR WILL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- 2. COORDINATE WITH ARCHITECTURAL PLANS, GRADING PLANS, UTILITY PLANS, & ALL CONSTRUCTION DETAILS.
- 3. ALL WORK AND OPERATIONS SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.
- 4. LAYOUT OF ALL NEW PAVING SHALL BE SMOOTH AND CONTINUOUS, DEFLECTION IN ALIGNMENT OR ABRUPT CHANGES WILL NOT BE ACCEPTED. ENGINEER SHALL REVIEW STAKED LAYOUT AND FRAMEWORK PRIOR TO PAVING OPERATIONS.
- 5. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES ON WHICH THE WORK IS BEING DONE CLEAR OF RUBBISH AND
- 6. THE CONTRACTOR WILL NOT INTERFERE WITH USE OF ADJACENT BUILDINGS, PARKING LOTS, STREETS, OR ALLEYS WITHOUT PRIOR COORDINATION WITH THE OWNER, IDOT, AND THE VILLAGE OF DOWNER'S GROVE.
- 7. MEET THE LINE AND GRADE OF NEW PAVEMENT AND/OR LAWN AND PLANTING AREAS WITH THE LINE AND GRADE OF THE EXISTING PAVEMENT AND/OR LAWN AND PLANTING AREAS.
- 8. SEE DETAIL SHEETS FOR MATERIAL TYPE, AND INSTALLATION

ENGINEERING
RESOURCE ASSOCIATES
NAMES THIS TO ASSOCIATES
NAMESTATILE, LUNCOS 66555
PARE (601) \$31-2325.



OGDEN LLC 935

RETAIL PLAZA

GEOMETRY PLAN

C-5.0 SHEET

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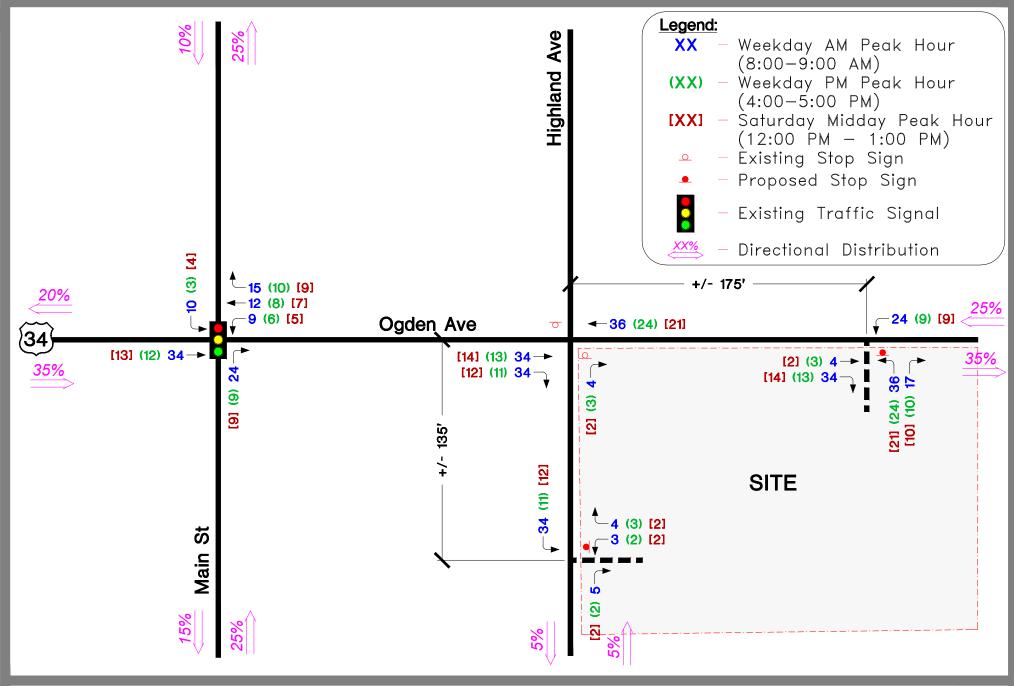






Exhibit 6 Site Traffic ORD 2021-9000 Page 47 of 139

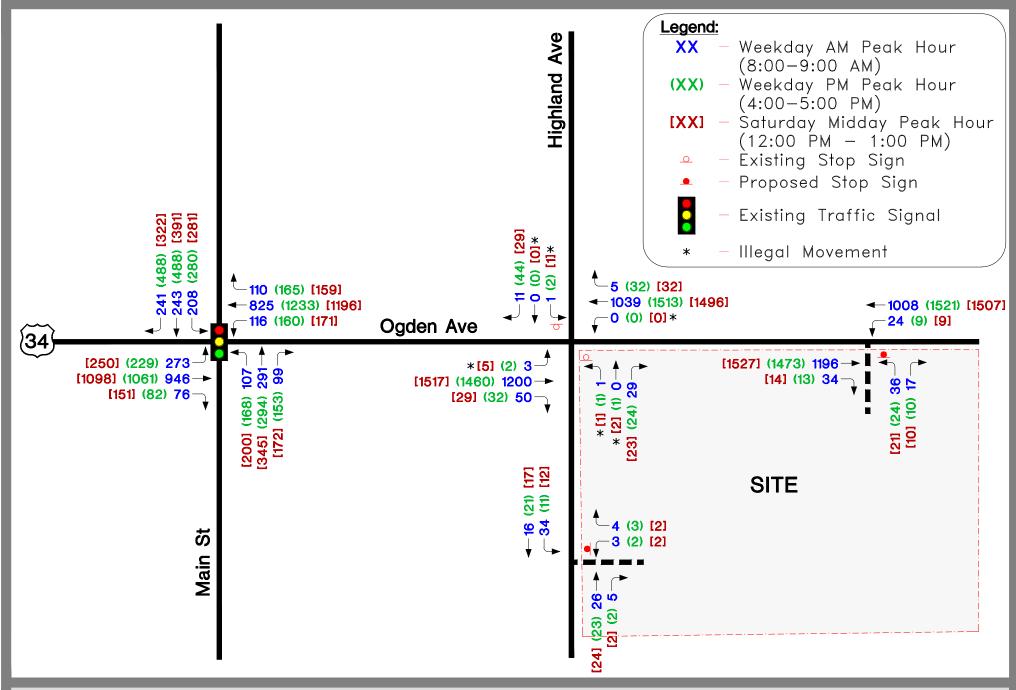






Exhibit 7 2027 Total Traffic

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APPENDIX A Photo Inventory



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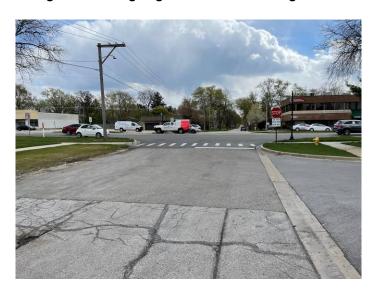
Looking north along Highland Avenue at South Site Access



Looking east along Ogden Avenue at Highland Avenue



Looking north along Highland Avenue at Ogden Avenue



Looking south along Highland Avenue at Ogden Avenue



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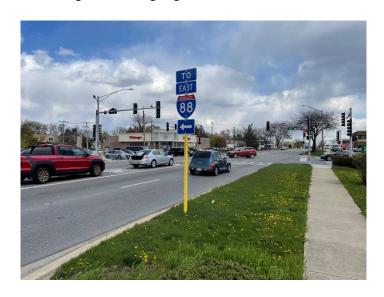
Looking across Ogden Ave at Northeast Site Access Drives



Looking south along Main Street at Ogden Avenue



Looking east along Ogden Avenue at Main Street



Looking east along Ogden Avenue at Main Street

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APPENDIX B *Traffic Count Summary Sheets*



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Ogden Ave & Highland Ave - TMC

Thu Apr 1, 2021

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

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

Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823110, Location: 41.808878, -88.00976



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

Leg	US 34						US 34						Highla	nd					Highlan	d					
Direction	Eastbo	und					Westb	ound					Northb	ound					Southbo	und					
Time	L	Т	R	U	App	Ped*	L	T	R	U	Арр	Ped*	L	Т	R	U	App	Ped*	L	T	R	U	App P	ed*	Int
2021-04-01 7:00AM	0	123	2	0	125	0	0	123	1	0	124	0	0	0	1	0	1	0	0	0	1	0	1	0	251
7:15AM	0	165	1	0	166	0	0	146	1	0	147	0	0	0	1	0	1	0	0	0	3	0	3	0	317
7:30AM	0	190	3	0	193	0	0	163	2	0	165	0	0	0	4	0	4	0	0	0	3	0	3	0	365
7:45AM	0	229	4	0	233	0	0	165	2	0	167	0	0	0	4	0	4	0	0	0	0	0	0	0	404
Hourly Total	0	707	10	0	717	0	0	597	6	0	603	0	0	0	10	0	10	0	0	0	7	0	7	0	1337
8:00AM	2	208	5	0	215	0	0	139	0	0	139	0	0	0	6	0	6	2	1	0	0	0	1	0	361
8:15AM	0	175	3	0	178	0	0	181	0	0	181	0	1	0	4	0	5	0	0	0	2	0	2	0	366
8:30AM	0	202	1	0	203	0	0	192	3	0	195	0	0	0	3	0	3	0	0	0	3	0	3	0	404
8:45AM	0	235	3	0	238	0	0	201	1	0	202	0	0	0	5	0	5	1	0	0	3	0	3	0	448
Hourly Total	2	820	12	0	834	0	0	713	4	0	717	0	1	0	18	0	19	3	1	0	8	0	9	0	1579
4:00PM	0	321	4	0	325	0	0	297	7	0	304	0	1	0	4	0	5	0	0	0	10	0	10	0	644
4:15PM	1	266	4	0	271	0	0	318	6	0	324	0	0	1	3	0	4	0	1	0	8	0	9	0	608
4:30PM	0	267	3	0	270	0	0	268	6	0	274	0	0	0	6	0	6	0	0	0	9	0	9	0	559
4:45PM	1	272	6	0	279	0	0	302	7	0	309	0	0	0	4	0	4	0	1	0	9	0	10	0	602
Hourly Total	2	1126	17	0	1145	0	0	1185	26	0	1211	0	1	1	17	0	19	0	2	0	36	0	38	0	2413
5:00PM	0	271	8	0	279	0	0	261	9	0	270	0	0	0	5	0	5	0	1	0	6	0	7	0	561
5:15PM	0	305	4	0	309	0	0	334	6	0	340	0	0	0	4	0	4	0	0	0	7	0	7	0	660
5:30PM	1	248	1	0	250	0	0	312	11	0	323	0	0	0	3	0	3	1	3	0	9	0	12	1	588
5:45PM	0	267	6	0	273	0	1	268	6	0	275	1	0	0	1	0	1	0	2	0	3	0	5	0	554
Hourly Total	1	1091	19	0	1111	0	1	1175	32	0	1208	1	0	0	13	0	13	1	6	0	25	0	31	1	2363
Total	5	3744	58	0	3807	0	1	3670	68	0	3739	1	2	1	58	0	61	4	9	0	76	0	85	1	7692
% Approach	0.1%	98.3%	1.5%	0%	-	-	0%	98.2%	1.8%	0%	-	-	3.3%	1.6%	95.1% 0	%	-	-	10.6% 0	ı% 8	9.4% 0)%	-	-	-
% Total	0.1%	48.7%	0.8%	0% 4	19.5%	-	0%	47.7%	0.9% (0% 4	48.6%	-	0%	0%	0.8% 0	%	0.8%	-	0.1% 0	1%	1.0% 0)%	1.1%	-	-
Lights	5	3652	58	0	3715	-	1	3589	67	0	3657	-	2	1	57	0	60	-	9	0	75	0	84	-	7516
% Lights	100%	97.5%	100%	0% 9	97.6%	-	100%	97.8%	98.5% (0% 9	97.8%	-	100%	100% 9	98.3% 0	% 9	8.4%	-	100% 0	1 % 9	8.7% 0)% 9	8.8%	-	97.7%
Articulated Trucks	0	33	0	0	33	-	0	24	0	0	24	-	0	0	0	0	0	-	0	0	0	0	0	-	57
% Articulated Trucks	0%	0.9%	0%	0%	0.9%	-	0%	0.7%	0% (0%	0.6%	-	0%	0%	0% 0	%	0%	-	0% 0	1%	0% 0)%	0%	-	0.7%
Buses and Single-Unit																									
Trucks	0	59	0	0	59	-	0	57	1	0	58	-	0	0	1	0	1	-	0	0	1	0	1	-	119
% Buses and Single-Unit	00/	4.607	00/	00/	4 50/		00/	4.607	4.50/	00/	4.60/		00/	00/	1 50/ 0	0./	4.60/		00/ 0	20/	4 00/ 0		4 00/		4.50/
Trucks	0%	1.6%			1.5%		0%	1.6%	1.5%		1.6%		0%		1.7% 0				0% 0		1.3% 0			-	1.5%
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%
% Bicycles on Road Pedestrians	070	0 /0	0 /0	-	0 /0	0	070	0 /0	- 0761	-	- 076	1	0 /0	- 076	- 076 0	70 -	070	3	070 0	-	U70 U	-	- 070	1	0 /0
% Pedestrians	_			_			-			_		100%				_		75.0%	-	_		÷	- 10	-	
Bicycles on Crosswalk	_					0				-		0				-	- /	1		_		-	- 10	0	$\overline{}$
% Bicycles on Crosswalk	-			-		U	<u> </u>			_		0%	_			_		25.0%	<u> </u>	<u> </u>		_		0%	
70 Dicycles off Closswalk												U /0	_			_	- 2	.J.U/0	_					U /U	

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

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Ogden Ave & Highland Ave - TMC

Thu Apr 1, 2021

AM Peak (8 AM - 9 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823110, Location: 41.808878, -88.00976



Leg	US 34						US 3						Highla						Highlar						
Direction	Eastbo	und					Wes	tbound	l				Northb	oun	ıd				Southb	oun	d				
Time	L	T	R	U	App P	ed*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App I	ed*	Int
2021-04-01 8:00AM	2	208	5	0	215	0	0	139	0	0	139	0	0	0	6	0	6	2	1	0	0	0	1	0	361
8:15AM	0	175	3	0	178	0	0	181	0	0	181	0	1	0	4	0	5	0	0	0	2	0	2	0	366
8:30AM	0	202	1	0	203	0	0	192	3	0	195	0	0	0	3	0	3	0	0	0	3	0	3	0	404
8:45AM	0	235	3	0	238	0	0	201	1	0	202	0	0	0	5	0	5	1	0	0	3	0	3	0	448
Total	2	820	12	0	834	0	0	713	4	0	717	0	1	0	18	0	19	3	1	0	8	0	9	0	1579
% Approach	0.2%	98.3%	1.4%	0%	-	-	0% 9	99.4%	0.6%	0%	-	-	5.3% ()% :	94.7% ()%	-	-	11.1%	0%	88.9%	0%	-	-	-
% Total	0.1%	51.9%	0.8%	0% 5	2.8%	-	0% 4	45.2%	0.3%	0% 4	15.4%	-	0.1% ()%	1.1% ()%	1.2%	-	0.1%	0%	0.5%	0%	0.6%	-	-
PHF	0.250	0.872	0.600	- (0.876	-	-	0.887	0.333	-	0.887	-	0.250	-	0.750	- ().792	-	0.250	-	0.667	- (0.750	-	0.881
Lights	2	785	12	0	799	-	0	674	4	0	678	-	1	0	18	0	19	-	1	0	8	0	9	-	1505
% Lights	100%	95.7%	100%	0% 9	5.8%	-	0% 9	94.5%	100%	0% 9	94.6%	-	100% ()%	100% ()% :	100%	-	100%	0%	100%	0% 1	100%	-	95.3%
Articulated Trucks	0	11	0	0	11	-	0	8	0	0	8	-	0	0	0	0	0	-	0	0	0	0	0	-	19
% Articulated Trucks	0%	1.3%	0%	0%	1.3%	-	0%	1.1%	0%	0%	1.1%	-	0% ()%	0% ()%	0%	-	0%	0%	0%	0%	0%	-	1.2%
Buses and Single-Unit																									
Trucks	0	24	0	0	24	-	0	31	0	0	31	-	0	0	0	0	0	-	0	0	0	0	0	-	55
% Buses and Single-Unit	00/	2.00/	00/	00/	2.00/		00/	4.20/	00/	00/	4.20/		00//	20/	00//	207	00/		00/	00/	00/	20/	00/		2.50/
Trucks		2.9%	0%		2.9%	_		4.3%			4.3%		0% (0% (0%		0%		0%		0%	-	3.5%
Bicycles on Road	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%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

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

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Ogden Ave & Highland Ave - TMC

Thu Apr 1, 2021

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

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823110, Location: 41.808878, -88.00976



Leg	US 34						US 3	34					Highla	nd					Highla	nd					
Direction	Eastbo	ound					Wes	tbound					Northb	ound					Southb	oun	d				
Time	L	T	R	U	App	Ped*	L	T	R	U	App 1	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App P	ed*	Int
2021-04-01 4:00PM	0	321	4	0	325	0	0	297	7	0	304	0	1	0	4	0	5	0	0	0	10	0	10	0	644
4:15PM	1	266	4	0	271	0	0	318	6	0	324	0	0	1	3	0	4	0	1	0	8	0	9	0	608
4:30PM	0	267	3	0	270	0	0	268	6	0	274	0	0	0	6	0	6	0	0	0	9	0	9	0	559
4:45PM	1	272	6	0	279	0	0	302	7	0	309	0	0	0	4	0	4	0	1	0	9	0	10	0	602
Total	2	1126	17	0	1145	0	0	1185	26	0	1211	0	1	1	17	0	19	0	2	0	36	0	38	0	2413
% Approach	0.2%	98.3%	1.5%	0%	-	-	0% :	97.9%	2.1%	0%	-	-	5.3%	5.3%	89.5% (0%	-	-	5.3%	0% 9	94.7%)%	-	-	-
% Total	0.1%	46.7%	0.7%	0% 4	47.5%	-	0% -	49.1%	1.1%	0% 5	50.2%	-	0%	0%	0.7%	0% (0.8%	-	0.1%	0%	1.5%)%	1.6%	-	-
PHF	0.500	0.877	0.708	-	0.881	-	-	0.932	0.929	-	0.934	-	0.250	0.250	0.708	- ().792	-	0.500	-	0.900	- (0.950	-	0.937
Lights	2	1110	17	0	1129	-	0	1176	25	0	1201	-	1	1	17	0	19	-	2	0	36	0	38	-	2387
% Lights	100%	98.6%	100%	0% 9	98.6%	-	0% !	99.2%	96.2%	0% 9	99.2%	-	100%	100%	100%	0% 1	100%	-	100%	0%	100%	0% 1	100%	-	98.9%
Articulated Trucks	0	5	0	0	5	-	0	3	0	0	3	-	0	0	0	0	0	-	0	0	0	0	0	-	8
% Articulated Trucks	0%	0.4%	0%	0%	0.4%	-	0%	0.3%	0%	0%	0.2%	-	0%	0%	0% (0%	0%	-	0% (0%	0% ()%	0%	-	0.3%
Buses and Single-Unit Trucks	0	11	0	0	11		0	6	1	0	7		0	0	0	0	0		0	0	0	0	0		18
% Buses and Single-Unit	0	11	0	- 0	- 11		-	0	1	0			- 0		0				-	0	- 0	-		\dashv	10
Trucks	0%	1.0%	0%	0%	1.0%	-	0%	0.5%	3.8%	0%	0.6%	-	0%	0%	0% (0%	0%	-	0% (0%	0% ()%	0%	_	0.7%
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%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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Ogden Ave & Highland Ave - TMC

Sat Apr 3, 2021

Full Length (11 AM-1 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823112, Location: 41.808878, -88.00976



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

Leg	US-34						US-34						Highla	nd					Highla	nd					
Direction	Eastbo	und					Westb	ound					Northb	ound					Southb	ound					
Time	L	T	R	U	App P	ed*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-04-03 11:00AM	0	289	4	0	293	0	0	285	7	1	293	0	0	0	5	0	5	0	1	0	5	0	6	0	597
11:15AM	0	271	5	0	276	0	1	295	4	0	300	0	0	0	2	0	2	0	2	0	7	0	9	0	587
11:30AM	1	261	5	0	267	0	0	266	7	0	273	0	1	0	5	0	6	0	0	0	10	0	10	0	556
11:45AM	2	294	2	0	298	0	1	281	4	0	286	0	2	0	10	0	12	1	1	0	8	0	9	0	605
Hourly Total	3	1115	16	0	1134	0	2	1127	22	1	1152	0	3	0	22	0	25	1	4	0	30	0	34	0	2345
12:00PM	2	287	2	0	291	0	0	299	7	0	306	0	1	0	4	0	5	0	0	0	8	0	8	0	610
12:15PM	0	298	3	0	301	0	0	269	6	0	275	0	0	1	1	0	2	1	0	0	6	0	6	1	584
12:30PM	0	276	6	0	282	0	0	310	2	0	312	0	0	1	4	0	5	0	0	0	4	0	4	0	603
12:45PM	2	302	3	0	307	0	0	300	11	0	311	0	0	0	8	0	8	1	1	0	6	0	7	0	633
Hourly Total	4	1163	14	0	1181	0	0	1178	26	0	1204	0	1	2	17	0	20	2	1	0	24	0	25	1	2430
Total	7	2278	30	0	2315	0	2	2305	48	1	2356	0	4	2	39	0	45	3	5	0	54	0	59	1	4775
% Approach	0.3%	98.4%	1.3%	0%	-	-	0.1%	97.8%	2.0%	0%	-	-	8.9%	4.4%	86.7%	0%	-	-	8.5% (0% 9	1.5%	0%	-	-	-
% Total	0.1%	47.7%	0.6%	0% 4	48.5%	-	0%	48.3%	1.0%	0%	49.3%	-	0.1%	0%	0.8%	0%	0.9%	-	0.1% (0%	1.1%	0%	1.2%	-	-
Lights	7	2262	30	0	2299	-	2	2294	47	1	2344	-	4	1	39	0	44	-	5	0	54	0	59	-	4746
% Lights	100%	99.3%	100%	0% 9	99.3%	-	100%	99.5%	97.9%	100%	99.5%	-	100% 5	50.0%	100%	0% 9	97.8%	-	100% (0% 1	00%	0% :	100%	-	99.4%
Articulated Trucks	0	4	0	0	4	-	0	4	0	0	4	-	0	0	0	0	0	-	0	0	0	0	0	-	8
% Articulated Trucks	0%	0.2%	0%	0%	0.2%	-	0%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0% (0%	0%	0%	0%	-	0.2%
Buses and Single-Unit Trucks	0	12	0	0	12	_	0	7	1	0	8	_	0	0	0	0	0	_	0	0	0	0	0		20
% Buses and Single-Unit	-					\dashv							-						-					-	
Trucks	0%	0.5%	0%	0%	0.5%	-	0%	0.3%	2.1%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0% (0%	0%	0%	0%	-	0.4%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	1
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0% 5	50.0%	0%	0%	2.2%	-	0% (0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 6	66.7%	-	-	-	-	- 1	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 3	33.3%	-	-	-	-	-	0%	-

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

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Ogden Ave & Highland Ave - TMC

Sat Apr 3, 2021

Midday Peak (WKND) (12 PM - 1 PM) - Overall Peak Hour All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,

Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823112, Location: 41.808878, -88.00976



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

Leg	US-34						US-	34					Highla	ınd				Highla	nd					
Direction	Eastbo	und					Wes	tbound	l				Northb	ound				Southb	oun	d				
Time	L	T	R	U	App 1	Ped*	L	T	R	U	App 1	Ped*	L	T	R U	J App	Ped*	L	T	R	U.	Арр	Ped*	Int
2021-04-03 12:00PM	2	287	2	0	291	0	0	299	7	0	306	0	1	0	4	5	0	0	0	8	0	8	0	610
12:15PM	0	298	3	0	301	0	0	269	6	0	275	0	0	1	1) 2	1	0	0	6	0	6	1	584
12:30PM	0	276	6	0	282	0	0	310	2	0	312	0	0	1	4	5	0	0	0	4	0	4	0	603
12:45PM	2	302	3	0	307	0	0	300	11	0	311	0	0	0	8	8	1	1	0	6	0	7	0	633
Total	4	1163	14	0	1181	0	0	1178	26	0	1204	0	1	2	17) 20	2	1	0	24	0	25	1	2430
% Approach	0.3%	98.5%	1.2%	0%	-	-	0% 9	97.8%	2.2%	0%	-	-	5.0%	10.0%	85.0% 0%	6 -	-	4.0%	0% 9	96.0% ()%	-	-	-
% Total	0.2%	47.9%	0.6%	0% -	48.6%	-	0% 4	48.5%	1.1%	0%	49.5%	-	0%	0.1%	0.7% 09	6 0.8%	-	0%	0%	1.0% ()% 1	.0%	-	-
PHF	0.500	0.963	0.583	-	0.962	-	-	0.950	0.591	-	0.965	-	0.250	0.250	0.531	- 0.594	-	0.250	-	0.750	- 0.	.781	-	0.959
Lights	4	1154	14	0	1172	-	0	1170	26	0	1196	-	1	1	17	19	-	1	0	24	0	25	-	2412
% Lights	100%	99.2%	100%	0% 9	99.2%	-	0% 9	99.3%	100%	0%	99.3%	-	100%	50.0%	100% 09	6 95.0%	-	100%	0%	100% ()% 10	00%	-	99.3%
Articulated Trucks	0	3	0	0	3	-	0	4	0	0	4	-	0	0	0	0 0	-	0	0	0	0	0	-	7
% Articulated Trucks	0%	0.3%	0%	0%	0.3%	-	0%	0.3%	0%	0%	0.3%	-	0%	0%	0% 0%	6 0%	-	0%	0%	0% ()%	0%	-	0.3%
Buses and Single-Unit																								
Trucks	0	6	0	0	6	-	0	4	0	0	4	-	0	0	0	0	-	0	0	0	0	0	-	10
% Buses and Single-Unit Trucks	0%	0.5%	0% (0%	0.5%	_	0%	0.3%	0%	0%	0.3%	_	0%	0%	0% 0%	6 0%	_	0%	0%	0% ()%	0%	_	0.4%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0) 1	_	0	0	0	0	0	-	1
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	50.0%	0% 0%	6 5.0%	-	0%	0%	0% ()%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-		1	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		50.0%	-	-	-	-	- 1	.00%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-		1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		50.0%	-	-	-	-	-	0%	-

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

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Ogden Ave & Main St - TMC

Thu Apr 1, 2021

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

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823111, Location: 41.808838, -88.011015



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

Leg	US 34						US 34						Main					N	Main						
Direction	Eastbo	und					Westbo	und					Northbo	ound				S	Southbo	ound					
Time	L	Т	R	U	Арр	Ped*	L	Т	R	U	Арр	Ped*	L	T	R	U	App Pe	1*	L	Т	R	U	Арр	Ped*	Int
2021-04-01 7:00AM	61	101	4	0	166	0	7	106	14	0	127	0	12	37	9	0	58	0	13	24	24	0	61	0	412
7:15AM	53	136	16	0	205	0	12	116	18	0	146	0	13	52	6	0	71	0	22	27	35	0	84	0	506
7:30AM	40	136	9	0	185	0	12	135	17	0	164	0	13	55	14	0	82	0	28	32	42	0	102	0	533
7:45AM	59	164	12	0	235	0	12	130	18	0	160	0	16	55	21	0	92	0	35	44	41	0	120	0	607
Hourly Total	213	537	41	0	791	0	43	487	67	0	597	0	54	199	50	0	303	0	98	127	142	0	367	0	2058
8:00AM	43	160	18	0	221	0	14	110	16	0	140	1	18	46	16	0	80	0	30	36	43	0	109	0	550
8:15AM	51	133	15	0	199	2	19	153	9	0	181	0	18	49	10	0	77	0	33	48	33	0	114	0	571
8:30AM	37	165	10	0	212	0	18	156	23	0	197	0	17	53	10	0	80	0	27	39	41	0	107	0	596
8:45AM	60	171	10	0	241	0	24	153	19	0	196	0	20	52	15	0	87	0	49	49	53	0	151	2	675
Hourly Total	191	629	53	0	873	2	75	572	67	0	714	1	73	200	51	0	324	0	139	172	170	0	481	2	2392
4:00PM	35	251	12	0	298	0	34	245	38	0	317	0	35	63	25	0	123	0	46	78	72	0	196	1	934
4:15PM	43	186	17	0	246	0	30	258	32	0	320	0	32	56	22	0	110	0	52	93	90	0	235	1	911
4:30PM	60	195	19	0	274	2	29	230	22	0	281	0	34	46	40	0	120	0	39	77	83	0	199	0	874
4:45PM	42	194	17	0	253	0	30	246	32	0	308	0	24	54	21	0	99	0	54	88	91	0	233	0	893
Hourly Total	180	826	65	0	1071	2	123	979	124	0	1226	0	125	219	108	0	452	0	191	336	336	0	863	2	3612
5:00PM	45	214	23	0	282	0	27	225	16	0	268	3	44	77	27	0	148	0	42	85	87	0	214	0	912
5:15PM	55	225	14	0	294	0	39	277	31	0	347	0	31	59	20	0	110	0	48	63	65	0	176	1	927
5:30PM	41	180	25	0	246	0	33	242	30	0	305	0	31	61	25	0	117	0	48	69	80	0	197	1	865
5:45PM	52	204	28	0	284	0	27	239	22	0	288	2	29	50	12	0	91	0	46	65	79	0	190	0	853
Hourly Total	193	823	90	0	1106	0	126	983	99	0	1208	5	135	247	84	0	466	0	184	282	311	0	777	2	3557
Total	777	2815	249	0	3841	4	367	3021	357	0	3745	6	387	865	293	0	1545	0	612	917	959	0	2488	6	11619
% Approach	20.2%	73.3%	6.5%	0%	-	-	9.8%	80.7%	9.5%)%	-	-	25.0%	56.0%	19.0% 0	%	-	- 2	24.6% 3	36.9%	38.5%)%	-	-	-
% Total	6.7%	24.2%	2.1%	0%:	33.1%	-	3.2%	26.0%	3.1%)%:	32.2%	-	3.3%	7.4%	2.5% 0	% 1	3.3%	-	5.3%	7.9%	8.3%	0% 2	21.4%	-	_
Lights	761	2740	239	0	3740	-	356	2961	344	0	3661	-	383	849	287	0	1519	-	598	895	942	0	2435	-	11355
% Lights	97.9%	97.3%	96.0%	0% 9	97.4%	-	97.0%	98.0%	96.4%)% !	97.8%	-	99.0%	98.2%	98.0% 0	% 5	98.3%	- 9	7.7% 9	97.6%	98.2%)% S	97.9%	-	97.7%
Articulated Trucks	0	24	2	0	26	-	2	23	1	0	26	-	0	2	2	0	4	-	2	1	2	0	5	-	61
% Articulated Trucks	0%	0.9%	0.8%	0%	0.7%	-	0.5%	0.8%	0.3%)%	0.7%	-	0%	0.2%	0.7% 0	%	0.3%	-	0.3%	0.1%	0.2%	0%	0.2%	-	0.5%
Buses and Single-Unit																		T							
Trucks	16	51	8	0	75	-	9	37	12	0	58	-	4	14	4	0	22	-	12	21	15	0	48	-	203
% Buses and Single-Unit																									
Trucks	2.1%		3.2%		2.0%	-	2.5%	1.2%	3.4%		1.5%	-	1.0%		1.4% 0		1.4%	-		2.3%	1.6%		1.9%	-	1.7%
Bicycles on Road	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%
Pedestrians	-	-	-		-	3	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	- 7	75.0%	-	-	-	-	- 1	100%	-	-	-	-	-	-	-	-	-	-	- {	33.3%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	- 2	25.0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	- :	6.7%	-

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

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Ogden Ave & Main St - TMC

Thu Apr 1, 2021

AM Peak (8 AM - 9 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823111, Location: 41.808838, -88.011015



																		_							
Leg	US 34						US 34						Main						Main						
Direction	Eastbo	und					Westbo	und					Northb	ound					Southbo	ound					
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App P	ed*	L	T	R	U	App	Ped*	Int
2021-04-01 8:00AM	43	160	18	0	221	0	14	110	16	0	140	1	18	46	16	0	80	0	30	36	43	0	109	0	550
8:15AM	51	133	15	0	199	2	19	153	9	0	181	0	18	49	10	0	77	0	33	48	33	0	114	0	571
8:30AM	37	165	10	0	212	0	18	156	23	0	197	0	17	53	10	0	80	0	27	39	41	0	107	0	596
8:45AM	60	171	10	0	241	0	24	153	19	0	196	0	20	52	15	0	87	0	49	49	53	0	151	2	675
Total	191	629	53	0	873	2	75	572	67	0	714	1	73	200	51	0	324	0	139	172	170	0	481	2	2392
% Approach	21.9%	72.1%	6.1%	0%	-	-	10.5%	80.1%	9.4%	0%	-	-	22.5%	61.7%	15.7% 0	%	-	-	28.9%	35.8%	35.3%	0%	-	-	-
% Total	8.0%	26.3%	2.2%	0% 3	36.5%	-	3.1%	23.9%	2.8%	0% 2	29.8%	-	3.1%	8.4%	2.1% 0	% 1	3.5%	-	5.8%	7.2%	7.1%	0% 2	20.1%	-	-
PHF	0.796	0.920	0.736	-	0.906	-	0.781	0.917	0.728	-	0.906	-	0.913	0.943	0.797	- (0.931	-	0.709	0.878	0.802	-	0.796	-	0.886
Lights	186	600	50	0	836	-	70	542	62	0	674	-	70	194	49	0	313	-	133	167	166	0	466	-	2289
% Lights	97.4%	95.4%	94.3%	0% 9	95.8%	-	93.3%	94.8%	92.5%	0% 9	94.4%	-	95.9%	97.0%	96.1% 0	% 9	6.6%	-	95.7%	97.1%	97.6%	0% 9	96.9%	-	95.7%
Articulated Trucks	0	10	0	0	10	-	1	8	0	0	9	-	0	0	0	0	0	-	0	0	0	0	0	-	19
% Articulated Trucks	0%	1.6%	0%	0%	1.1%	-	1.3%	1.4%	0%	0%	1.3%	-	0%	0%	0% 0	%	0%	-	0%	0%	0%	0%	0%	-	0.8%
Buses and Single-Unit Trucks	5	19	3	0	27	-	4	22	5	0	31	-	3	6	2	0	11	-	6	5	4	0	15	-	84
% Buses and Single-Unit Trucks	2.6%	3.0%	5.7%	0%	3.1%	-	5.3%	3.8%	7.5%	0%	4.3%	_	4.1%	3.0%	3.9% 0	%	3.4%	_	4.3%	2.9%	2.4%	0%	3.1%	-	3.5%
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%
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	- 5	50.0%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	- 5	50.0%	-

 $^{^*}$ Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

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Ogden Ave & Main St - TMC

Thu Apr 1, 2021

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

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823111, Location: 41.808838, -88.011015



Leg	US 34						US 34						Main						Main						
Direction	Eastbo	und					Westbo	und					Northb	ound					Southbo	ound					
Time	L	T	R	U	App	Ped*	L	T	R	U	App 1	Ped*	L	T	R	U	App P	ed*	L	T	R	U	App	Ped*	Int
2021-04-01 4:00PM	35	251	12	0	298	0	34	245	38	0	317	0	35	63	25	0	123	0	46	78	72	0	196	1	934
4:15PM	43	186	17	0	246	0	30	258	32	0	320	0	32	56	22	0	110	0	52	93	90	0	235	1	911
4:30PM	60	195	19	0	274	2	29	230	22	0	281	0	34	46	40	0	120	0	39	77	83	0	199	0	874
4:45PM	42	194	17	0	253	0	30	246	32	0	308	0	24	54	21	0	99	0	54	88	91	0	233	0	893
Total	180	826	65	0	1071	2	123	979	124	0	1226	0	125	219	108	0	452	0	191	336	336	0	863	2	3612
% Approach	16.8%	77.1%	6.1%	0%	-	-	10.0%	79.9%	10.1% ()%	-	-	27.7%	48.5%	23.9% 0	%	-	-	22.1%	38.9%	38.9%	0%	-	-	-
% Total	5.0%	22.9%	1.8%	0% 2	9.7%	-	3.4% 2	27.1%	3.4% ()% 3	33.9%	-	3.5%	6.1%	3.0% 0	% 1	2.5%	-	5.3%	9.3%	9.3%	0% 2	3.9%	-	-
PHF	0.750	0.823	0.855	-	0.898	-	0.904	0.949	0.816	-	0.958	-	0.893	0.869	0.675	- (0.919	-	0.884	0.903	0.923	-	0.918	-	0.967
Lights	176	814	64	0	1054	-	123	972	121	0	1216	-	124	215	105	0	444	-	188	327	332	0	847	-	3561
% Lights	97.8%	98.5%	98.5%	0% 9	8.4%	-	100% 9	99.3%	97.6% ()% 9	9.2%	-	99.2%	98.2%	97.2% 0	% 9	8.2%	-	98.4%	97.3%	98.8%	0% 9	8.1%	-	98.6%
Articulated Trucks	0	2	0	0	2	-	0	4	0	0	4	-	0	2	1	0	3	-	2	0	1	0	3	-	12
% Articulated Trucks	0%	0.2%	0%	0%	0.2%	-	0%	0.4%	0% ()%	0.3%	-	0%	0.9%	0.9% 0	%	0.7%	-	1.0%	0%	0.3%	0%	0.3%	-	0.3%
Buses and Single-Unit																									
Trucks	4	10	1	0	15	-	0	3	3	0	6	-	1	2	2	0	5	-	1	9	3	0	13	-	39
% Buses and Single-Unit	2 20/	1 20/	1.5%	00/	1 40/		0%	0.3%	2.4% (207	0.50/		0.8%	0.00/	1.9% 0	ın/	1 10/		0.5%	2.7%	0.9%	00/	1 50/		1.1%
Trucks																		-							
Bicycles on Road	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% (J%	0%		0%	0%	0% 0	1%	0%	-	0%	0%	0%	0%	0%		0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	<u> </u>
% Pedestrians	-	-	-	-	-	50.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	100%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	50.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

 $^{^*}$ Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

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Ogden Ave & Main St - TMC

Sat Apr 3, 2021

Full Length (11 AM-1 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823113, Location: 41.808838, -88.011015



Leg	US 34						US 34						Main						Main						
Direction	Eastbou	ınd					Westbo	und					Northb	ound					Southbo	ound					
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-04-03 11:00AM	60	220	24	0	304	0	35	226	35	0	296	5	34	59	28	0	121	5	45	64	68	0	177	1	898
11:15AM	51	208	18	0	277	0	32	229	39	0	300	0	32	71	33	0	136	0	33	68	41	0	142	1	855
11:30AM	41	197	33	0	271	1	30	227	18	0	275	1	37	74	24	0	135	0	42	57	62	0	161	0	842
11:45AM	45	211	33	0	289	0	30	223	36	0	289	0	37	62	43	0	142	0	48	54	69	0	171	0	891
Hourly Total	197	836	108	0	1141	1	127	905	128	0	1160	6	140	266	128	0	534	5	168	243	240	0	651	2	3486
12:00PM	36	217	26	0	279	1	35	241	33	0	309	0	42	63	33	0	138	1	43	57	61	0	161	0	887
12:15PM	52	217	31	0	300	1	37	206	32	0	275	0	36	73	26	0	135	0	49	83	50	0	182	1	892
12:30PM	50	197	37	0	284	0	25	246	24	0	295	1	40	65	28	0	133	0	55	68	48	0	171	0	883
12:45PM	59	223	25	0	307	1	35	246	30	0	311	0	31	56	34	0	121	0	44	61	62	1	168	0	907
Hourly Total	197	854	119	0	1170	3	132	939	119	0	1190	1	149	257	121	0	527	1	191	269	221	1	682	1	3569
Total	394	1690	227	0	2311	4	259	1844	247	0	2350	7	289	523	249	0	1061	6	359	512	461	1	1333	3	7055
% Approach	17.0%	73.1%	9.8%	0%	-	-	11.0%	78.5%	10.5% ()%	-	-	27.2%	49.3%	23.5%	0%	-	-	26.9%	38.4%	34.6%	0.1%	-	-	-
% Total	5.6%	24.0%	3.2%	0% 3	32.8%	-	3.7%	26.1%	3.5% ()%:	33.3%	-	4.1%	7.4%	3.5%	0% 1	15.0%	-	5.1%	7.3%	6.5%	0%	18.9%	-	-
Lights	388	1679	227	0	2294	-	259	1833	246	0	2338	-	288	518	247	0	1053	-	354	501	453	1	1309	-	6994
% Lights	98.5%	99.3%	100%	0% 9	99.3%	-	100%	99.4%	99.6% ()% 9	99.5%	-	99.7%	99.0%	99.2% (0% 9	99.2%	-	98.6%	97.9%	98.3%	100% 9	98.2%	-	99.1%
Articulated Trucks	0	3	0	0	3	-	0	6	0	0	6	-	0	1	1	0	2	-	1	3	1	0	5	-	16
% Articulated Trucks	0%	0.2%	0%	0%	0.1%	-	0%	0.3%	0% ()%	0.3%	-	0%	0.2%	0.4%	0%	0.2%	-	0.3%	0.6%	0.2%	0%	0.4%		0.2%
Buses and Single-Unit																									
Trucks	6	8	0	0	14	-	0	5	1	0	6	-	1	4	1	0	6	-	4	8	7	0	19	-	45
% Buses and Single-Unit																									
Trucks	1.5%				0.6%	-	0%		0.4% (-						-		1.6%			1.4%		0.6%
Bicycles on Road	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%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	7	-	-	-	-	-	6	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	- '	75.0%	-	-	-	-	-	100%	-	-	-	-	- 1	100%	-	-	-	-	- 1	100%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	- 3	25.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

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

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Ogden Ave & Main St - TMC

Sat Apr 3, 2021

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

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

Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 823113, Location: 41.808838, -88.011015



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

Leg	US 34						US 34						Main						Main						1
Direction	Eastbo	und					Westbo	und					Northb	ound					Southbo	ound					
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-04-03 12:00PM	36	217	26	0	279	1	35	241	33	0	309	0	42	63	33	0	138	1	43	57	61	0	161	0	887
12:15PM	52	217	31	0	300	1	37	206	32	0	275	0	36	73	26	0	135	0	49	83	50	0	182	1	892
12:30PM	50	197	37	0	284	0	25	246	24	0	295	1	40	65	28	0	133	0	55	68	48	0	171	0	883
12:45PM	59	223	25	0	307	1	35	246	30	0	311	0	31	56	34	0	121	0	44	61	62	1	168	0	907
Total	197	854	119	0	1170	3	132	939	119	0	1190	1	149	257	121	0	527	1	191	269	221	1	682	1	3569
% Approach	16.8%	73.0%	10.2%	0%	-	-	11.1%	78.9%	10.0%	0%	-	-	28.3%	48.8%	23.0% (0%	-	-	28.0%	39.4%	32.4%	0.1%	-	-	-
% Total	5.5%	23.9%	3.3%	0%:	32.8%	-	3.7%	26.3%	3.3%	0%	33.3%	-	4.2%	7.2%	3.4%	0% 1	4.8%	-	5.4%	7.5%	6.2%	0%	19.1%	-	-
PHF	0.835	0.957	0.804	-	0.953	-	0.892	0.954	0.902	-	0.957	-	0.887	0.880	0.890	-	0.955	-	0.868	0.810	0.891	0.250	0.937	-	0.984
Lights	194	848	119	0	1161	-	132	930	118	0	1180	-	149	254	120	0	523	-	187	263	219	1	670	-	3534
% Lights	98.5%	99.3%	100%	0% 9	99.2%	-	100%	99.0%	99.2%	0%	99.2%	-	100%	98.8%	99.2% (0% 9	9.2%	-	97.9% 9	97.8%	99.1%	100%	98.2%	-	99.0%
Articulated Trucks	0	2	0	0	2	-	0	6	0	0	6	-	0	1	0	0	1	-	1	0	0	0	1	-	10
% Articulated Trucks	0%	0.2%	0%	0%	0.2%	-	0%	0.6%	0%	0%	0.5%	-	0%	0.4%	0% (0%	0.2%	-	0.5%	0%	0%	0%	0.1%	-	0.3%
Buses and Single-Unit																									
Trucks	3	4	0	0	7	-	0	3	1	0	4	-	0	2	1	0	3	-	3	6	2	0	11	-	25
% Buses and Single-Unit Trucks	1.5%	0.5%	0%	0%	0.6%	_	0%	0.3%	0.8%	0%	0.3%	_	0%	0.8%	0.8%	0%	0.6%	_	1.6%	2.2%	0.9%	0%	1.6%	_	0.7%
Bicycles on Road	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%
Pedestrians	-	-		-	-	2	-	-	-	-	-	1	-			-	-	1	-	-		-	-	1	
% Pedestrians	_			_	_	66.7%	_	_	_	_	_	100%	_		_	_		100%	_	_	_	_		100%	_
Bicycles on Crosswalk	_			_		1	_			_		0				_		0						0	
% Bicycles on Crosswalk	_			_	_	33.3%	-	_	_	_	_	0%			_	_		0%	_	_	_	_		0%	-

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

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APPENDIX C IDOT Crash Map



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IDOT Crash Data (2015-2019)

Proposed Retail Center Downers Grove, IL

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APPENDIX D CMAP Correspondence



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433 West Van Buren Street Suite 450 Chicago, IL 60607

> 312-454-0400 cmap.illinois.gov

March 31, 2021

Justin Opitz, AICP Transportation Planner Gewalt Hamilton Associates 625 Forest Edge Drive Vernon Hills, IL 60061

Subject: Ogden Avenue @ Main Street

IDOT

Dear Mr. Opitz:

In response to a request made on your behalf and dated March 30, 2020, we have developed year 2050 average daily traffic (AADT) projections for the subject location.

ROAD SEGMENT	Current Volume	Year 2050 AADT
Ogden Ave east of Main St	28,200	31,100
Ogden Ave west of Main St	25,400	28,800
Main St north of Ogden Ave	21,400	23,000
Main St south of Ogden Ave	14,900	16,000

Traffic projections are developed using existing ADT data provided in the request letter and the results from the June 2020 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.

Sincerely,

Jose Rodriguez, PTP, AICP

Senior Planner, Research & Analysis

cc: Quigley (IDOT)

2021_CY_TrafficForecast\DownersGrove\du-15-21\du-15-21.docx

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APPENDIX E

ITE 10th Edition Trip Generation Excerpts



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Shopping Center

(820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.

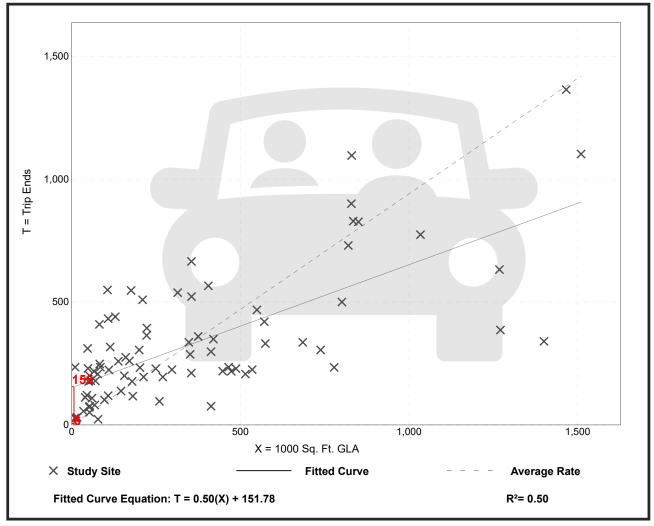
Setting/Location: General Urban/Suburban

Number of Studies: 84 Avg. 1000 Sq. Ft. GLA: 351

Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

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Shopping Center

(820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

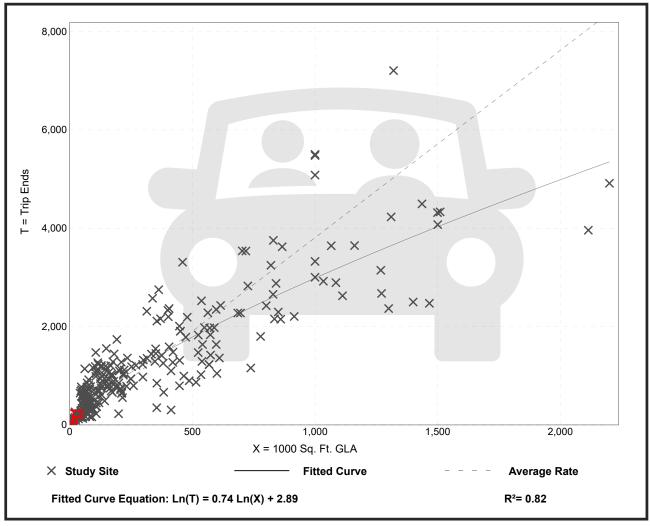
Setting/Location: General Urban/Suburban

Number of Studies: 261 Avg. 1000 Sq. Ft. GLA: 327

Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04



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Shopping Center

(820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Saturday, Peak Hour of Generator

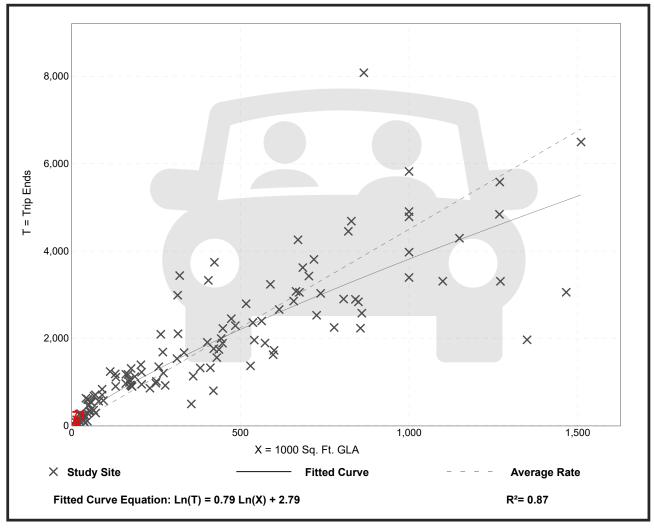
Setting/Location: General Urban/Suburban

Number of Studies: 119 Avg. 1000 Sq. Ft. GLA: 416

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.50	1.42 - 15.10	1.88



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Shopping Center

(820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday

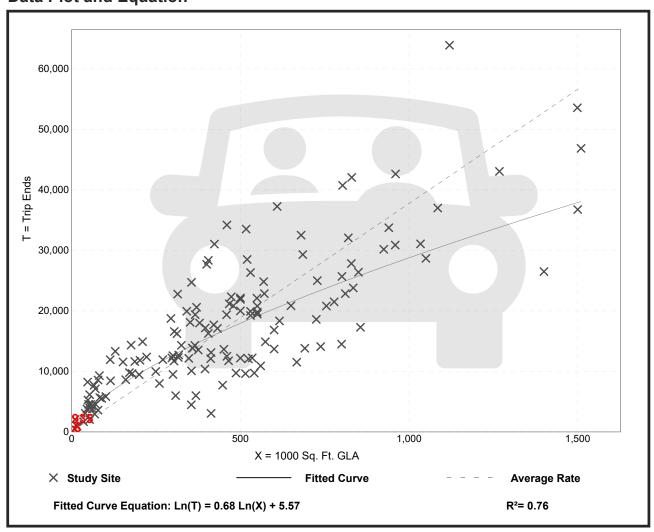
Setting/Location: General Urban/Suburban

Number of Studies: 147 Avg. 1000 Sq. Ft. GLA: 453

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.75	7.42 - 207.98	16.41



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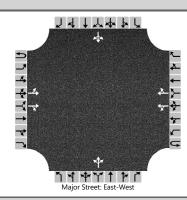
APPENDIX FCapacity Analyses Sheets



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HCS7 Two-Way Stop-Control Report							
General Information		Site Information					
Analyst	GHA	Intersection	Ogden Ave & Highland Ave				
Agency/Co.	GHA	Jurisdiction	IDOT				
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)				
Analysis Year	2021	North/South Street	Highland Ave				
Time Analyzed	EX AM	Peak Hour Factor	0.88				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	5816.900						

Lanes

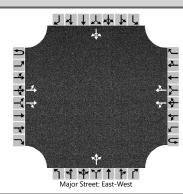


Vehicle Volumes and Adju	stme	nts														
Approach	Eastbound				Westbound			Northbound			Southbound					
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		3	1123	16		0	977	5		1	0	25		1	0	11
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)							0				0					
Right Turn Channelized																
Median Type Storage		Left Only 1														
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)		3				0					30				14	
Capacity, c (veh/h)		633				542					386				406	
v/c Ratio		0.01				0.00					0.08				0.03	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.2				0.1	
Control Delay (s/veh)		10.7				11.6					15.1				14.2	
Level of Service (LOS)		В				В					С				В	
Approach Delay (s/veh)	0.1		0.0		15.1			14.2								
Approach LOS										(2				3	

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	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Highland Ave
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2021	North/South Street	Highland Ave
Time Analyzed	EX PM	Peak Hour Factor	0.94
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		

Lanes

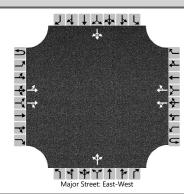


Vehicle Volumes and Ad	justme	nts																	
Approach		Eastb	ound			Westl	bound			North	bound			South	bound				
Movement	U	L	Т	R	U	L	Т	R	U	L	T	R	U	L	10 11 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12			
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0			
Configuration		LT		TR		LT		TR			LTR				LTR				
Volume (veh/h)		2	1397	21		0	1450	32		1	1	21		2	0	44			
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0			
Proportion Time Blocked																			
Percent Grade (%))			(0				
Right Turn Channelized																			
Median Type Storage				Left	Only								1						
Critical and Follow-up H	eadwa	ys																	
Base Critical Headway (sec)	T	4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9			
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90			
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3			
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30			
Delay, Queue Length, an	d Leve	l of S	ervice																
Flow Rate, v (veh/h)	Т	2				0					24				49				
Capacity, c (veh/h)		423				449					149				300				
v/c Ratio		0.01				0.00					0.16				0.16				
95% Queue Length, Q ₉₅ (veh)	Ì	0.0	Ì		Ì	0.0			Ì		0.6				0.6				
Control Delay (s/veh)		13.5				13.0					33.9				19.4				
Level of Service (LOS)	Ì	В				В					D				С				
Approach Delay (s/veh)		0	.2			0	0.0			33	3.9	•		19	9.4				
Approach LOS										I)			(С				

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	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Highland Ave
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2021	North/South Street	Highland Ave
Time Analyzed	EX SAT	Peak Hour Factor	0.96
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		

Lanes



Vehicle Volumes and Ad	justme	nts															
Approach		Eastb	ound			Westl	bound			North	bound			South	bound		
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0	
Configuration		LT		TR		LT		TR			LTR				LTR		
Volume (veh/h)		5	1450	17		0	1437	32		1	2	21		1	0	29	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)											0				0		
Right Turn Channelized																	
Median Type Storage				Left	Only								1				
Critical and Follow-up H	Left Only 1 leadways																
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9	
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90	
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3	
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30	
Delay, Queue Length, an	d Leve	l of S	ervice														
Flow Rate, v (veh/h)	Т	5				0					25				31		
Capacity, c (veh/h)		441				442					98				317		
v/c Ratio		0.01				0.00					0.25				0.10		
95% Queue Length, Q ₉₅ (veh)	Ì	0.0	Ì		Ì	0.0			Ì		0.9			Ì	0.3		
Control Delay (s/veh)		13.3				13.1					53.6				17.6		
Level of Service (LOS)		В				В					F				С		
Approach Delay (s/veh)		0	.6			0	.0	•		- 53	3.6	•		1	7.6		
Approach LOS											F				С		

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			HCS7	Signa	alized	Inter	section	on Ir	iput Da	ata					
													Ļ <u></u>		
General Inform	nation								Intersec	tion Inf				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Agency		GHA							Duration	, h	0.250	1		* * * *	
Analyst		GHA		Analys	is Date	Apr 12	2, 2021		Area Typ	е	Other		<i>≛</i> → _≯		-45-
Jurisdiction		IDOT		Time F	Period	EX AN	Л		PHF		0.89		♦ → √ →	w∳E s	←
Urban Street		Ogden Ave (US 34) & M	Analys	is Year	2021			Analysis	Period	1> 6:0	00	7		
Intersection		Ogden Ave (US 34)) & M	File Na	ame	Ogder	n Ave &	Main	St EX AM	l.xus				5 ተ ት	
Project Descrip	tion	5816.900											1	বাক্প	"ነ ተ
Demand Inform	nation				EB		1	WI	B	7	NB		7	SB	
Approach Move	ement			L	Т	R	L	Т	R		Т	R	L	Т	R
Demand (v), v				262	876	73	104	79	2 93	104	284	73	193	237	235
Cinnal Inform	41														
Signal Informa		D (D)	Γ .	-	Ľ.,	ا مُل	1.7	H	7 711	1 214	a L	_	7	Τ.	人
Cycle, s	130.0	Reference Phase	2		L E	R	 	_ E	i l	150	12	1	€ 2	3	-
Offset, s	0	Reference Point	Begin	Green		3.6	59.3	8.9		25.2			<u></u>		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	3.5	4.5	3.5	3.5	4.5		/	7		W
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	1
Traffic Informa	ition				EB			WB	<u> </u>		NB			SB	
Approach Move				L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (<i>v</i>), ve				262	876	73	104	792		104	284	73	193	237	235
Initial Queue (G		/h		0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation				1900	1900	1900	1900	1900		1900	1900	1900	1900	2000	1900
Parking (N _m), m		tate (50), veriii		1300	None	1300	1300	None		1300	None	1500	1300	None	1300
Heavy Vehicles		0/_		3	5		7	5		4	3		4	3	2
Ped / Bike / RT	· ,	70		2	0	0	1	0	0	0	0	0	1	0	0
Buses (N _b), bus				0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (A				3	4	3	3	4	3	3	3	3	3	3	3
Upstream Filter				1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W)	- ' '			11.00	11.0	1.00	11.0	11.0		11.0	11.0	1.00	11.0	11.0	11.00
Turn Bay Lengt				230	0		235	0		325	0		280	0	280
Grade (<i>Pg</i>), %	.II, IL			230	0		233	0		323	0		200	0	200
Speed Limit, mi	i/h			35		25	25		35	25		25	20		20
Speed Limit, mi	1/11			35	35	35	35	35	35	25	25	25	30	30	30
Phase Informa				EBL		EBT	WBI		WBT	NBL		NBT	SBL	-	SBT
) or Phase Split, s		38.0		67.0	14.0)	43.0	16.0)	33.0	16.0)	33.0
Yellow Change		· · · ·		3.5		4.5	3.5		4.5	3.5	_	4.5	3.5		4.5
Red Clearance		· ,·		0.0		1.5	0.0		1.5	0.0		1.5	0.0		1.5
Minimum Greer		.,		3		15	3		15	3		8	3		8
Start-Up Lost T	ime (<i>lt</i>)	, s		2.0		2.0	2.0		2.0	2.0		2.0	2.0		2.0
Extension of Ef	fective (Green (e), s		2.0		2.0	2.0		2.0	2.0		2.0	2.0		2.0
Passage (<i>PT</i>),	s			3.0		7.0	3.0		7.0	3.0		7.0	3.0		7.0
Recall Mode				Off		Min	Off		Min	Off		Off	Off		Off
Dual Entry				Yes		Yes	Yes	,	Yes	Yes	;	Yes	Yes		Yes
Walk (Walk), s						0.0			0.0			0.0			0.0
Pedestrian Clea	arance ⁻	Time (PC), s				0.0			0.0			0.0			0.0
Multimodal Inf	ormatic	on			EB			WB			NB			SB	
		ı Walk / Corner Radi	ius	0	No	25	0	No	25	0	No	25	0	No	25
		Vidth / Length, ft	.40	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Is				0	0	No	0	0	No	0	0	No	0	0	No
		ane / Shoulder, ft		12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
				- 1/	U.U	■ ∠. ∪	14	. U.U	4.0	14	J.U	∠.∪	14	a J.U	■ ∠. ∪

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RD 2021-9000		HCS	7 Sig	nalize	d Int	ersec	tion F	Resu	lts Sur	nmar	У				age 76 o
General Inforn	nation								Intersec	tion Info	ormatic	n n		4 사하 1	Ļ Ļ
Agency	ilation	GHA						$\overline{}$	Duration,		0.250			1111	
Analyst		GHA		Analye	sic Data	Apr 12	2 2021		Area Typ		Other		_1 _5		<u>~</u> &
Jurisdiction		IDOT		Time F		EX AN		-	PHF	-	0.89			w ¥∓E	~ ← ⊹
Urban Street		Ogden Ave (US 34	\	-	sis Year		/1	-	Analysis	Poriod	1> 6:0	20			, —
Intersection			,				2 Avo 9	Main			1/ 0.0	JU			
	4:	Ogden Ave (US 34) & IVI	File Na	ame	Ogaei	1 Ave &	wain	St EX AM	ı.xus			-	ጎ † † বিশক্ষ	tw. c*
Project Descrip	tion	5816.900	-		-	-	-		_	-				וידוו	rı
Demand Inform	nation				EB		1	W	В		NB		T	SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	T	R
Demand (v), v	eh/h			262	876	73	104	79	93	104	284	73	193	237	235
Signal Informa	ation				12	12				1 11:					
	130.0	Reference Phase	2	ł	ر خا	12		Ħ	717	- 1		<u> </u>	д	\	▲ │
Cycle, s Offset, s	0	Reference Point	Begin	L		R	_₹					1	7 2	3	4
Uncoordinated	No	Simult. Gap E/W		Green		3.6	59.3	8.9		25.2	<u>_</u> _	_	A		
Force Mode		<u> </u>	On	Yellow	-	3.5	4.5 1.5	3.5 0.0		4.5 1.5		^	Y	7	Y
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	1	8
Timer Results	ned Phase			EBI		EBT	WB	L	WBT	NBI		NBT	SBL		SBT
Assigned Phas	ned Phase Number e Duration, s ge Period, (<i>Y+R c</i>), s			5		2	1		6	3		8	7		4
Case Number	Number e Duration, s			1.1		4.0	1.1		4.0	1.1		4.0	1.1		3.0
Phase Duration					1	72.4	10.3	3	65.3	12.4		31.2	16.0)	34.8
Change Period	nge Period, (Y+R c), s					6.0	3.5		6.0	3.5		6.0	3.5		6.0
Max Allow Hea	Allow Headway (<i>MAH</i>), s					0.0	4.0		0.0	4.2		11.2	4.1		11.2
Queue Clearan	Allow Headway (<i>MAH</i>), s ue Clearance Time (<i>g</i> _s), s				9		6.7			8.8		15.4	14.5	5	19.5
Green Extension	n Time	(<i>g</i> _e), s		1.0		0.0	0.1		0.0	0.1		9.7	0.0		9.3
Phase Call Pro	bability			1.00)		1.00)		1.00)	1.00	1.00)	1.00
Max Out Proba	bility			0.00)		0.25	5		1.00)	0.99	1.00)	1.00
Movement Gro	oup Res	sults			EB			WE	3		NB			SB	
Approach Move				L	Т	R	L	Т	R	L	T	R	L	Т	R
Assigned Move				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow), veh/h		294	541	526	117	507		117	205	196	217	266	264
Adjusted Satura	ation Flo	ow Rate (s), veh/h/	ln	1767	1826	1776	1711	1820	3 1758	1753	1856	1725	1753	1859	1583
Queue Service				10.9	20.3	21.4	4.7	22.4	23.5	6.8	13.0	13.4	12.5	7.8	17.5
Cycle Queue C	learanc	e Time(g c), s		10.9	20.3	21.4	4.7	22.4	23.5	6.8	13.0	13.4	12.5	7.8	17.5
Green Ratio (g	•			0.58	0.51	0.51	0.51	0.46		0.26	0.19	0.19	0.31	0.22	0.33
Capacity (c), \				399	933	908	313	833	802	336	360	335	312	824	521
Volume-to-Cap				0.737	0.579	0.579	0.373	0.60		0.348		0.584	0.695	0.323	0.507
	· ,	/In (95 th percentile		206	303	311.2	89.9	355		141.7	281.8	267.4	259.9	172.2	296.9
		eh/ln (95 th percent		8.0	11.7	12.4	3.4	13.7		5.5	11.0	10.7	10.1	6.7	11.7
	•	RQ) (95 th percen	tile)	0.90	0.00	0.00	0.38	0.00		0.44	0.00	0.00	0.93	0.00	1.06
Uniform Delay				19.1	13.3	14.7	18.2	18.2		38.0	47.5	47.6	37.2	42.4	35.2
Incremental De		•		0.0	2.6 0.0	0.0	0.7	3.3 0.0		0.6	6.4 0.0	7.3	6.5 0.0	0.0	3.5
Initial Queue De Control Delay (21.8	16.0	17.4	18.9	21.5		38.6	53.9	54.9	43.7	43.5	0.0 38.7
Level of Service				21.8 C	16.0 B	17.4 B	18.9 B	21.5 C	23.4 C	38.6 D	53.9 D	54.9 D	43.7 D	43.5 D	38.7 D
Approach Dela				17.8		В	22.1		C	50.8		D	41.8		D
Intersection De				17.0	<u> </u>		3.4		C	30.0	<u>' </u>		C 41.0	<u>' </u>	
Intersection De	.ay, 5/ v					20	. 1								
Multimodal Re	sults				EB			WE	3		NB			SB	
Pedestrian LOS	S Score	/ LOS		2.27	7	В	2.43	3	В	2.31		В	2.30)	В
Bicycle LOS So	core / LC	os		1.61		В	1.40)	Α	0.91		Α	1.10)	Α

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		HCS7	'S	igna	lized	Inters	sectio	n Inte	ern	nedia	ate V	/alu	es				
General Inforn	nation									Intor	sectio	n Inf	ormat	ion	7	기 때 기계	1 4 4
	iation	GHA							-		tion, h		0.25		\dashv 1	ŢŢ	
Agency		GHA			nalvoia	Doto	Apr 12	2021	_				_		_# _#		<u></u>
Analyst Jurisdiction		IDOT	_		ime Pe		Apr 12, EX AM	∠∪∠ I	\dashv	Area PHF	Type		Oth		→_ X	w +	. E .
Urban Street		Ogden Ave (US 34	\ 0	$\overline{}$			2021		=	Analy	roio Dr	oriod	1> 6		—₫→		<u>_</u>
Intersection					nalysis			\ 0 N	4ain				1/(5.00			·
Project Descrip	tion	Ogden Ave (US 34) 5816.900) α	IVI F	ile Nan	ie	Ogden A	ave & iv	/lain	SIEA	AIVI.X	us			- I	<u>)</u> † গুৰু াৰ	†
T Toject Descrip	uon	3010.900															
Demand Inforr	nation			\neg		EB			W	/B			NE	3	\Box	SE	3
Approach Move	ement				L	Т	R	L	٦	Г	R	L	T	R	L	Т	R
Demand (v), v	eh/h				262	876	73	104	79	92	93	104	28	4 73	193	23	7 235
Signal Informa			_			7	2	y ₹		7 6	从	1213	١ ا		_	ĸ	
Cycle, s	130.0	Reference Phase	-	2	ľ	- 6	≒	≝ ₹	1	5		170	7	1	← 2	1	3 4
Offset, s	0	Reference Point	-	gin	Green	6.8	3.6	59.3	8.8	9 (0.1	25.2			7		
Uncoordinated	No	Simult. Gap E/W	-	On \	'ellow	3.5	3.5	4.5	3.5	5 3	3.5	4.5		/	7	/	*
Force Mode	Fixed	Simult. Gap N/S	(On F	Red	0.0	0.0	1.5	0.0	0 (0.0	1.5		5	6		7 8
Saturation Flo	w / Dals	av		,	Т	R		Т		R	ı		Т	R	1	Т	R
			-	1.000	_		1.000		0	1.000	1.00	00 1	.000	1.000	1.000	1.00	
	e Width Adjustment Factor (f_w) vy Vehicles and Grade Factor (f_{HVg}) king Activity Adjustment Factor (f_p)				0.961				-	1.000	0.96	-	.977	1.000	0.969	0.97	
-	king Activity Adjustment Factor (fp)				1.000				_	1.000	1.00		.000	1.000	1.000	1.00	
	Blockage Adjustment Factor (fbb)					1.000			_	1.000	1.00	_	.000	1.000	1.000	1.00	
	Blockage Adjustment Factor (fbb)					1.000			_	1.000	1.00		.000	1.000	1.000	1.00	
	a Type Adjustment Factor (fa)					_	_		_	1.000	1.00	$\overline{}$.000	1.000	1.000	0.95	
	a Type Adjustment Factor (f_a) e Utilization Adjustment Factor ($f_L \nu$) -Turn Adjustment Factor ($f_L \tau$)				0.000		0.952		_	1.000	0.95	_	.000	1.000	0.952	0.00	
	e Utilization Adjustment Factor (fLv) Turn Adjustment Factor (fLr)				0.972	_		0.96	_	0.963	0.50	$\overline{}$.930	0.930	0.502	0.00	
	e Utilization Adjustment Factor (fLU)					0.012	1.000			0.000	0.99	_	.000	0.000	1.000	0.00	0.011
		djustment Factor (<i>f_{Rj}</i>	_	1.000	1	0.999				0.999	-			1.000	11000		0.999
Work Zone Adju			,	1.000	1.000			1.00	_	1.000	1.00	00 1	.000	1.000	1.000	1.00	_
DDI Factor (foo		,		1.000		+			_	1.000	1.00	_	.000	1.000	1.000	1.00	_
	,	low Rate (s), veh/h		1767	3325	+	1711	3207	_	377	175		2858	723	1753	3719	
		Arriving on Green (F	?)	0.11	0.68	0.51	0.05	0.61	_	0.46	0.0	-	0.19	0.19	0.10	0.22	_
Incremental De	lay Fact	tor (k)		0.11	0.50	0.50	0.11	0.50)	0.50	0.1	1 (0.50	0.50	0.26	0.50	0.50
									"			,					
Signal Timing	/ Mover	ment Groups		EB	L	EBT/R	WE	3L	WE	BT/R	1	IBL	N	IBT/R	SBI	L L	SBT/R
Lost Time (t∠)				3.5		6.0	3.			5.0	_	3.5		6.0	3.5	_	6.0
Green Ratio (g/				0.5		0.51	0.5	_		.46	-	.26		0.19	0.3	-	0.22
		low Rate (s_p) , veh/h	-	562	2	0	50	8	(0	1	095	+	0	968	3	0
		v Rate (ssh), veh/h/lr	1	6:		0.0	=-							0.0			0.0
Permitted Effect		,= ,		61.		0.0	59	_		0.0	-	5.2		0.0	27.2	_	0.0
Permitted Servi		,= ,		35.		0.0	43		0	0.0	-	9.0		0.0	11.8		0.0
Permitted Queu		,- ,		28.		0.0	4.9			. 0	-	0.7		0.0	4.9	_	0.0
Time to First Bl				0.0	,	0.0	0.0	U	U	0.0	-	0.0		0.0	0.0		0.0
		efore Blockage (gfs),	-														1505
		tion Flow (s_R), veh/h ve Green Time (g_R),	-														1585 13.9
	ı Enecul	ve Green fille (gR),	5		ГР			۱۸/۲)				ND			S.D.	
Multimodal	E			4.55	EB	0.000	4 7	WE		000	4	5E7	NB	000	4.55	SB	
Pedestrian F _w /			\dashv	1.55		0.000	1.7	_		110	-	557	_	0.000	1.55	-	0.000
Pedestrian F _s /			-	0.00	JU	0.110	0.0	00	U.	119	0.	000	1).150	0.00	U	0.147
Pedestrian Mcor	rner / IVI cw	<u>'</u>	\dashv	1000	17	15.54	040	60	10	21	20	8.37		12.21	112	12	39.39
Bicycle <i>c_b</i> / <i>d_b</i>				1022		15.54	912			0.21	-		_		443.		
Bicycle F _w / F _v				-3.6	14	1.12	-3.6)4	U.	.92	-3	3.64		0.43	-3.6	4	0.62

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		HCS7 Sig	nalize	ed Inte	ersect	tion F	Result	s G	raphica	al Sur	nmar	у			
General Inform	nation								Intersec	tion Inf	ormatio	on		I 역 Y 4pr 1	<u>, , , , , , , , , , , , , , , , , , , </u>
Agency		GHA							Duration		0.250			1111	·
Analyst		GHA		Analys	is Date	Apr 12	2. 2021		Area Typ		Other				<u>~</u> ∆
Jurisdiction		IDOT		Time P		EX AN			PHF		0.89		^^	N W ∓ E	* ~ }-
Urban Street		Ogden Ave (US 34) & M		is Year				Analysis	Period	1> 6:0	00	\		
Intersection		Ogden Ave (US 34		File Na			n Ave &	 Main	St EX AM					5 4 6	
Project Descrip	tion	5816.900	<i>,</i> α	1 110 110		Joguei	17110 0	IVIGIII	0. 27.7.11	iiao					"ן יל
Demand Inform	mation				EB		_	W	'D		NB			SB	
Approach Move					Т	R		T		L	T	R	-	T	R
Demand (v), v				262	876	73	104	79	_	104	284	_	193	237	235
Demand (v), v	/en/m			202	070	13	104	78	92 93	104	204	13	193	231	233
Signal Informa	ation				2	2	,								
Cycle, s	130.0	Reference Phase	2	1	76	Ħ		ᆌ,	2 243	- 1	_	<u> </u>	4	5	4
Offset, s	0	Reference Point	Begin		0.0				1	05.6		1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green Yellow		3.6	59.3 4.5	8.9 3.5		25.2 4.5	╧	,	→		rt x
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0		1.5		5	6	7	8
Movement Gro	oup Res	sults			EB			WE	3		NB			SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Back of Queue	(Q), ft	/In (95 th percentile)	206	303	311.2	89.9	355	357.9	141.7	281.8	267.4	259.9	172.2	296.9
Back of Queue	(Q), v	eh/ln (95 th percent	ile)	8.0	11.7	12.4	3.4	13.7	7 14.3	5.5	11.0	10.7	10.1	6.7	11.7
Queue Storage	Ratio (RQ) (95 th percen	tile)	0.90	0.00	0.00	0.38	0.00	0.00	0.44	0.00	0.00	0.93	0.00	1.06
Control Delay (d), s/v	eh		21.8	16.0	17.4	18.9	21.5	5 23.4	38.6	53.9	54.9	43.7	43.5	38.7
Level of Service	e (LOS)			С	В	В	В	С	С	D	D	D	D	D	D
Approach Dela	y, s/veh	/LOS		17.8		В	22.1		С	50.8	3	D	41.8	3	D
Intersection De	lay, s/ve	eh / LOS				28	3.4						С		
		8				6.7	10.1	4			14.	-			
		=				3.6 53.9 3.6 11		_		Storage Rat					

--- Messages ---

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS™ Streets Version 7.9

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			HCS7	Signa	alize	d Inter	secti	on Ir	nput Da	ata					
General Inform	nation								Intersec		ormatio	on		<u> </u>	
Agency		GHA							Duration		0.250	1	_#	2 + + 5	<u>. </u>
Analyst		GHA		Analys	sis Dat	e Apr 12	2, 2021		Area Typ	е	Other	-	<i>≛</i> →*		<u>.</u> \$_ _{4
Jurisdiction		IDOT		Time F	Period	EX PI	Л		PHF		0.97		♦ → 4 →	w ↑ E 8	←
Urban Street		Ogden Ave (US 34) & M	Analys	sis Yea	r 2021			Analysis	Period	1> 3:0	00	7		* E
Intersection		Ogden Ave (US 34)) & M	File N	ame	Ogde	n Ave &	Main	St EX PN	1.xus				5 ተ ቅ	
Project Descrip	tion	5816.900											*	বাক্প	7 4
Demand Inform	nation				EB		7	W	В	7	NB		7	SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v				220	1008	3 79	150	119	94 151	164	287	141	271	477	477
Signal Informa	tion				2	2		ч			si l				T
Cycle, s	140.0	Reference Phase	2			Ħ	 	e .	s	100	12		♣ .		sta
Offset, s	0	Reference Point	Begin	Green	8.7	3.1	62.7	11.	.5 3.5	28.0		1	¥ 2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow		0.0	4.5	3.5		4.5		7	→		林
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	8
Traffic Informa	ition				EB			WE	3		NB			SB	
Approach Move				L	T	R		T	R	ш	T	R	L	T	R
	nd (<i>v</i>), veh/h Queue (<i>Q</i> _b), veh/h				1008		150	1194		164	287	141	271	477	477
	Queue (Q _b), veh/h				0	0	0	0	0	0	0	0	0	0	0
					1900		1900	1900		1900	1900	1900	1900	2000	1900
Parking (N _m), m	Saturation Flow Rate (so), veh/h						1300	Non		1300	None	1300	1300	None	1300
Heavy Vehicles		0/,		2	None 1		0	1	<u> </u>	1	2		2	3	1
Ped / Bike / RT	· ,	70		1	0	0	0	0	0	0	0	0	2	0	0
Buses (N _b), bus				0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (A7				3	4	3	3	4	3	3	3	3	3	3	3
Upstream Filter				1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W)				11.0	11.0	1.00	11.0	11.0		11.0	11.0		11.0	11.0	11.0
Turn Bay Lengt				230	0		235	0		325	0		280	0	280
Grade (Pg), %	,				0			0			0			0	
Speed Limit, mi	i/h			35	35	35	35	35	35	25	25	25	30	30	30
Dhana Informa	4!			EDI		CDT	WD		WDT	NDI		NDT	CDI		CDT
Phase Informa) on Dhood Calif. o		EBL		EBT	WB	_	WBT	NBI		NBT	SBL		SBT
) or Phase Split, s		22.0		62.0	22.0	_	62.0	15.0		34.0	22.0		41.0
Yellow Change				3.5		4.5	3.5	_	4.5	3.5	_	4.5	3.5		4.5
Red Clearance Minimum Greer				0.0		1.5	0.0	<u>'</u>	1.5	0.0		1.5 8	0.0	_	1.5 8
Start-Up Lost T				2.0		15 2.0	2.0		2.0	2.0		2.0	2.0		2.0
Extension of Ef				2.0	_	2.0	2.0	_	2.0	2.0		2.0	2.0		2.0
Passage (PT),				3.0		7.0	3.0	_	7.0	3.0		7.0	3.0		7.0
Recall Mode	-			Off		Min	Off	_	Min	Off	_	Off	Off		Off
Dual Entry				Yes	_	Yes	Yes	_	Yes	Yes		Yes	Yes	_	Yes
Walk (<i>Walk</i>), s				100		0.0	100		0.0	100		0.0	103		0.0
Pedestrian Clea	arance -	Time (<i>PC</i>), s			\neg	0.0		_	0.0			0.0		\neg	0.0
								1010			NID.			CD	
Multimodal Inf			iuo		EB	25	0	WB		0	NB	25	0	SB	25
		Walk / Corner Radi	ius	0	No	25	0	No	_	0	No	25	0	No	25
		Width / Length, ft		9.0	12	0	9.0	12	0	9.0	12	O No	9.0	12	0
Street Width / Is		ane / Shoulder, ft		0 12	5.0	No 2.0	12	5.0	No 2.0	12	5.0	No 2.0	12	5.0	No 2.0
Pedestrian Sigr				No		0.50	No		0.50	No		0.50	No		0.50
i edesiliali sigi	iai / OCC	cupieu raikiliy		INO		0.50	INO		0.50	INO		0.50	INO		0.00

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	HCS7 Sig	manze	ea int	ersec	uon F	kesl	iits 5U	ınımary	y				
General Information							Intersec	tion Info	ormatio	on	k	1 4 7 4 t	200000000000000000000000000000000000000
Agency	GHA						Duration		0.250			httr	٠ ل_
Analyst	GHA	Analys	is Date	Apr 12	2 2021		Area Ty		Other				
Jurisdiction	IDOT	Time F		EX PI			PHF		0.97		_ → _^ - ÷ - →	w ^N ∈	. <u>}</u> . ←
Urban Street	Ogden Ave (US 34) & M		is Year		VI		Analysis	Period	1> 3:0	20	_ 		, <u> </u>
Intersection	Ogden Ave (US 34) & M	+			n Ave &	Main	St EX PI		12 0.0			K A A	
Project Description	5816.900	T IIC IV	anno	Oguci	17.WC Q	IVIGIII	TOT EXTT	vi.xu3] [[* 4 4 Y	∱ [*
Demand Information			EB		7	١٨	/B	7	NB		7	SB	
Approach Movement	<u> </u>	L	T	R	L	_	T R	1	T	R	L	T	R
Demand (v), veh/h		220	1008		150	_	94 151	164	287	141	271	477	477
J													
Signal Information			2	2			7 71	. 2U.		_			
Cycle, s 140.0	Reference Phase 2		L 6	ĸ	H	7	5	EQ. (12		♣ .		хfх
Offset, s 0	Reference Point Begin	Green	8.7	3.1	62.7	11	.5 3.5	28.0		1	K Z	3	
Uncoordinated No	Simult. Gap E/W On	Yellow		0.0	4.5	3.		4.5		>	₹		松
Force Mode Fixed	Simult. Gap N/S On	Red	0.0	0.0	1.5	0.	0.0	1.5		5	6	7	<u> </u>
			_										
Timer Results		EBI	-	EBT	WB	<u> </u>	WBT	NBL	-	NBT	SBI	-	SBT
Assigned Phase		5	_	2	1	-	6	3		8	7		4
Case Number		1.1		4.0	1.1	_	4.0	1.1		4.0	1.1		3.0
Phase Duration, s	2 \ -	15.3)	71.8	12.2	\rightarrow	68.7	15.0	_	34.0	22.0	_	41.0
Change Period, (Y+F	,	3.5	-	6.0	3.5	\rightarrow	6.0	3.5	-	6.0	3.5	_	6.0
Max Allow Headway (<u> </u>	4.0		0.0	4.0	_	0.0	4.2		10.9	4.1	_	10.9
Queue Clearance Tim	· - ·	11.4		0.0	8.4	_	0.0	12.4		18.3	19.0		37.0
Green Extension Time Phase Call Probability		1.00	_	0.0	0.3 1.00	\rightarrow	0.0	0.0 1.00		9.3	1.00	_	1.00
Max Out Probability		0.13			0.01	-		1.00	_	1.00	1.00		1.00
Wax Out 1 Tobability		0.10			0.0			1.00		1.00	1.00		1.00
Movement Group Re	esults		EB			WI	3		NB			SB	
Approach Movement		L	Т	R	L	Т	R	L	T	R	L	Т	R
Assigned Movement		5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	227	568	553	155	70	5 682	169	230	211	279	492	492
Adjusted Saturation F	low Rate (s), veh/h/ln	1781	1885	1836	1810	188	5 1811	1795	1870	1664	1781	1859	1594
Queue Service Time	(gs), s	9.4	26.3	27.3	6.4	42.	1 43.8	10.4	15.7	16.3	17.0	16.0	35.0
Cycle Queue Clearan	ce Time (g c), s	9.4	26.3	27.3	6.4	42.	1 43.8	10.4	15.7	16.3	17.0	16.0	35.0
Green Ratio (g/C)		0.54	0.47	0.47	0.51	0.4	5 0.45	0.28	0.20	0.20	0.35	0.25	0.33
Capacity (c), veh/h		254	886	863	297	843	_	310	374	333	366	930	534
Volume-to-Capacity F		0.892	0.641	0.641	0.520	0.83			0.614	0.635	0.763	0.529	0.921
	ft/In (95 th percentile)	228.6	405.6		126.2	642		214.2	328	306.8	333.5	314.4	684.3
· · · ·	veh/ln (95 th percentile)	9.0	16.1	16.7	5.0	25.		8.5	12.9	12.3	13.1	12.3	27.2
	(RQ) (95 th percentile)	0.99	0.00	0.00	0.54	0.0		0.66	0.00	0.00	1.19	0.00	2.44
Uniform Delay (d 1),		29.5	18.8	20.1	21.9	24.	_	40.4	51.1	51.3	37.2	45.4	44.8
Incremental Delay (d		19.9	3.5	3.6	1.4	9.6		2.0	7.4	8.9	9.2	2.2	23.6
Initial Queue Delay (0.0	0.0	0.0	0.0	0.0	_	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/		49.4	22.3	23.8	23.3	33.		42.3	58.4	60.2	46.3	47.5	68.4
Level of Service (LOS	,	D 27.5	С	С	C 24.0	C	D	D 54.6	E	E	D 55 /	D	E
Approach Delay, s/ve Intersection Delay, s/ve		27.5)	C	34.0 0.5	J	С	54.6	·	D	55.4 D	<u> </u>	Е
mersection Delay, S/V	/GII / LUJ			40	J.J						U		
Multimodal Results			EB			WI	3		NB			SB	
Pedestrian LOS Score	e / LOS	2.28	-	В	2.43	-	В	2.31	-	В	2.30		В
Bicycle LOS Score / L		1.60		В	1.76	\rightarrow	В	0.99	_	Α	1.53	_	В

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		HCS7	' Sigr	nali	ized I	nter	sectio	n Int	ern	nedia	ate V	alue	es				
														_			
General Inform	nation	Γ								-	sectio	n Info			_	1 1 1 1	
Agency		GHA								Durat			0.25		_1		- *_
Analyst		GHA		_			Apr 12,	2021		Area	Туре		Oth				<u>.</u> ≥_
Jurisdiction		IDOT			me Pe		EX PM			PHF			0.97			w‡e 8	←
Urban Street		Ogden Ave (US 34)		-	nalysis						sis Pe		1> 3	3:00	→		च
Intersection		Ogden Ave (US 34)	8 M	Fi	le Nam	ne	Ogden A	Ave & N	Main	St EX	PM.x	us			\perp	<u> 1</u> 1	*
Project Descrip	tion	5816.900														ኻ ቀ¹ ↑ ቀ፣ [™]	7 17
Demand Inform	nation			7		EB			١٨	/B			NE	3	7	SB	
Approach Move				₩	ī	T	R	L			R		T		L	T	R
Demand (v), v					220	1008	79	150	\vdash		151	164	28	_	_	477	477
Bemana (V), V	CHI/H				220	1000	7.5	100		J4 1	101	104	20	, 14	271	477	411
Signal Informa	ation					2	2	_ 5		7 6	瓜					_	
Cycle, s	140.0	Reference Phase	2		_ -	7 6	Ħ I	₽	1	R		F7/		-	\Leftrightarrow	` `	Σ1χ
Offset, s	0	Reference Point	Begin	G	reen 8	3.7	3.1	62.7	11	1.5	3.5	28.0		1	N Z] 3	4
Uncoordinated	No	Simult. Gap E/W	On		ellow 3		0.0	4.5	3.		3.5	4.5		→	→	/	V
Force Mode	Fixed	Simult. Gap N/S	On	R	ed (0.0	0.0	1.5	0.0	0 0	0.0	1.5		5	6	7	8
0.4 41 =	, =				-								_			_	
Saturation Flo		•	1	-	T	R	L	T		R	L	0 4	T	R	L	T	R
Lane Width Adj			-	000	1.000	1.000		\rightarrow	_	1.000	1.00	-	.000	1.000	1.000	1.000	1.000
		rade Factor (f _{HVg})		000	0.992	1.000			\rightarrow	1.000	0.99	-	.984	1.000	0.984	0.977	0.992
	ing Activity Adjustment Factor (f_p) Blockage Adjustment Factor (f_{bb})				1.000	1.000			_	1.000	1.00		.000	1.000	1.000	1.000	1.000
	Blockage Adjustment Factor (fbb)				1.000	1.000			_	1.000	1.00	-	.000	1.000	1.000	1.000	1.000
	Type Adjustment Factor (fa)				1.000	1.000			\rightarrow	1.000	1.00	_	.000	1.000	1.000	1.000	1.000
	Type Adjustment Factor (fa) Utilization Adjustment Factor (fLU)				1.000	1.000			_	1.000	1.00	-	.000	1.000	1.000	0.952	1.000
Left-Turn Adjus		<u>, , ,</u>	0.9	52	0.000	0.07	0.952	_	\rightarrow	0.004	0.95	-	.000	0.000	0.952	0.000	_
Right-Turn Adju		· /	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		0.974	0.974		0.96	51	0.961	0.00		.890	0.890	4.000	0.000	0.847
		djustment Factor (f _L ,	_	000		0.000	1.000)	+	1.000	0.99	99		1 000	1.000		0.000
		djustment Factor (f _R			4.000	0.999		1 00	-	1.000	4.00	0 4	000	1.000	4.000	4 000	0.998
Work Zone Adju		Factor (Twz)	_	000	1.000	1.000			_	1.000	1.00	_	.000	1.000	1.000	1.000	
DDI Factor (foo	,	Tlavy Data (a) wala/la	_	000	1.000 3451	1.000		_	_	1.000 413	1.00	-	.000	1.000	1.000	1.000 3719	1.000
		Flow Rate (s), veh/h	_	81	0.63	_	1810		_		179	_			<u> </u>		
Incremental De		Arriving on Green (F	_	08 24	0.50	0.47		0.60	_	0.45	0.0	-).20).50	0.20	0.13	0.25	0.25
incremental De	lay Faci	ioi (k)	0.	24	0.50	0.50	0.11	0.50	J	0.50	0.14	+ (7.50	0.30	0.51	0.50	0.30
Signal Timing	/ Mover	ment Groups	\top	EBL	. E	BT/R	WI	3L	WE	BT/R	N	IBL	N	IBT/R	SBL		SBT/R
Lost Time (t∠)			\neg	3.5		6.0	3.	_		3.0	3	3.5		6.0	3.5	\neg	6.0
Green Ratio (g/	/C)			0.54		0.47	0.5	51	0.	.45	0	.28		0.20	0.35	,	0.25
Permitted Satur	ration Fl	low Rate (<i>s₀</i>), veh/h/	'In	390		0	51	1		0	9	12		0	948		0
Shared Saturat	ion Flov	v Rate (<i>ssh</i>), veh/h/ln															
Permitted Effec		,= ,	_	64.3		0.0	62	.6	C	0.0	2	8.0		0.0	30.0		0.0
Permitted Servi		,= ,	_	18.7		0.0	36	.5	C	0.0	1	7.0		0.0	11.7		0.0
		ce Time (gps), s		18.7	-		11	_			_	2.5			7.6		
Time to First Bl		1- /		0.0		0.0	0.	0	C	0.0	(0.0		0.0	0.0		0.0
		efore Blockage (<i>gf</i> s),	_														
		tion Flow (s _R), veh/h														\perp	1598
	t Effectiv	ve Green Time (g _R),	s				+-										11.9
Multimodal					EB			WI					NB			SB	
Pedestrian F _w /			_	.55		0.000	1.7	_		000	_	557	_	0.000	1.55		0.000
Pedestrian F _s /			(0.00	0 (0.119	0.0	00	0.	123	0.	000	().152	0.00	0	0.147
Pedestrian Mcor	rner / M cw	/	_										\perp				
Bicycle c _b / d _b			_	39.6		19.68	895			1.36		0.00	_	14.80	500.0	_	39.38
Bicycle F _w / F _v				3.64	1	1.11	-3.0	64	1.	.27	<u> </u>	3.64		0.50	-3.64	1	1.04

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2021-9000	HCS7 Sigr	nalize	d Inte	ersec	tion F	Result	s Gr	aphica	al Sun	nmar	У			age 63 0
Company Information									41 a = 1 · 5] # 1/4 # 1	b. L.
General Information	OLIA						$\overline{}$	ntersec				-		the c ^x
Agency	GHA		A l	:- D-4-	A 40	2 0004		Duration		0.250		_3 _\$		P_
Analyst	GHA			is Date				Area Typ	e	Othe	r	→ →	N W‡E	₹
Jurisdiction	IDOT	0.14	Time F		EX PN	VI	_	PHF	D : 1	0.97	00		8 W.†.E	<u>_</u>
Urban Street	Ogden Ave (US 34)			is Year				Analysis		1> 3:	00	7		£
Intersection	Ogden Ave (US 34)	& M	File Na	ame	Ogder	n Ave &	Main S	St EX PM	1.xus			- 1	<u> ጎተ</u> ት	4. 4
Project Description	5816.900												14144	Pr [
Demand Information				EB		T	WE	3		NB			SB	
Approach Movement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), veh/h			220	1008	79	150	119	4 151	164	287	141	271	477	477
Cianal Information					10	 			1 11:					
Signal Information	Deference Dhase			ہ گا	جَـــا	17	≓ `		- 1		_	,	~	▲Ⅰ
Cycle, s 140.0	Reference Phase	2		"	R		15		FS/		1	♀ 2	3	4
Offset, s 0		Begin	Green		3.1	62.7	11.5		28.0			<u> </u>		
Uncoordinated No	Simult. Gap E/W	On	Yellow	-	0.0	4.5	3.5	3.5	4.5		~ [Y	>	Ψ.
Force Mode Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	8
Movement Group Res	sults			EB			WB			NB			SB	
Approach Movement			L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (Q), ft/	In (95 th percentile)		228.6	405.6	416.9	126.2	642.6		214.2	328	306.8	333.5	314.4	684.3
Back of Queue (Q), ve		e)	9.0	16.1	16.7	5.0	25.5	26.5	8.5	12.9	12.3	13.1	12.3	27.2
Queue Storage Ratio (_	0.99	0.00	0.00	0.54	0.00	0.00	0.66	0.00	0.00	1.19	0.00	2.44
Control Delay (d), s/ve		,	49.4	22.3	23.8	23.3	33.7	36.8	42.3	58.4	60.2	46.3	47.5	68.4
Level of Service (LOS)			D	С	С	С	С	D	D	E	E	D	D	E
Approach Delay, s/veh			27.5		С	34.0		С	54.6		D	55.4	1	E
Intersection Delay, s/ve						0.5						D		
	16.1■	9	_	49.4	12.3	13.1 46.3 36.8				26.5				
	16.7	DS B DS C DS D DS E			2.3	12.3			Storage Rati		<u>-</u>			

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS™ Streets Version 7.9

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		l	HCS7	Signa	alized	Inter	section	on Ir	put Da	ata					
	_														
General Inform	nation							\rightarrow	Intersec				_]	CC 1000 CC 1000 CC
Agency		GHA							Duration		0.250		_3		
Analyst		GHA		Analys	is Date	Apr 12	2, 2021		Area Typ	е	Other	-	≯≯		*
Jurisdiction		IDOT		Time F		EX SA	AT	_	PHF		0.98		♦ → ₹ ∀	w ↑ E 8	←
Urban Street		Ogden Ave (US 34)) & M	Analys	is Year	2021			Analysis	Period	1> 6:0	00	₹		
Intersection		Ogden Ave (US 34)) & M	File Na	ame	Ogdei	n Ave &	Main	St EX SA	T.xus				5 ተ ት	
Project Descrip	tion	5816.900												াৰ কিপ	* 1*
Demand Inform	nation				EB		T	WI	 В		NB		1	SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v				240	1042	145	162	115	59 146	195	337	159	271	382	314
Cianal Informa	tion.				12		-								
Signal Informa	_	TD (D)		-	ر ما	حًــــ	17	Ħ		. [24	u _	_	7	~	人
Cycle, s	130.0	Reference Phase	2	-	"	R	₹ '		i l	100	12	1	♀ 2	3	
Offset, s	0	Reference Point	Begin	Green		3.1	59.0	13.		26.9			<u> </u>		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	-	0.0	4.5	3.5		4.5		~			· �
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	
Traffic Informa	ition				EB			WB	.		NB			SB	
Approach Move				L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (<i>v</i>), ve				240	1042	145	162	1159		195	337	159	271	382	314
Initial Queue (C		'h		0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation				1900	1900	1900	1900	1900		1900	1900	1900	1900	2000	1900
Parking (<i>N_m</i>), m		(50), 151,111			None		1000	None			None		1000	None	1000
Heavy Vehicles				2	1		0	1		0	1		2	2	1
Ped / Bike / RT		70		2	0	0	1	0	0	1	0	0	1	0	0
Buses (N _b), bus				0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (A7				3	4	3	3	4	3	3	3	3	3	3	3
Upstream Filter				1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W)	• • •			11.0	11.0	1.00	11.0	11.0		11.0	11.0	1.00	11.0	11.0	11.0
Turn Bay Lengt				230	0		235	0		325	0		280	0	280
Grade (<i>Pg</i>), %	11, 10			200	0		200	0		020	0		200	0	200
Speed Limit, mi	i/h			35	35	35	35	35	35	25	25	25	30	30	30
Opeca Entit, III	,,,,			00	00	00		- 00	00	20	20	20			- 00
Phase Informa				EBL		EBT	WBI	_	WBT	NBI		NBT	SBL	-	SBT
) or Phase Split, s		21.0)	62.0	18.0	0	59.0	17.0)	33.0	17.0)	33.0
Yellow Change	Interval	(Y), s		3.5		4.5	3.5		4.5	3.5		4.5	3.5		4.5
Red Clearance	Interva	I (<i>R</i> c), s		0.0		1.5	0.0		1.5	0.0		1.5	0.0	,	1.5
Minimum Greer				3		15	3		15	3		8	3		8
Start-Up Lost T				2.0		2.0	2.0	_	2.0	2.0		2.0	2.0		2.0
Extension of Ef		Green (e), s		2.0		2.0	2.0	_	2.0	2.0		2.0	2.0		2.0
Passage (<i>PT</i>),	S			3.0		7.0	3.0		7.0	3.0		7.0	3.0		7.0
Recall Mode				Off		Min	Off		Min	Off		Off	Off		Off
Dual Entry				Yes		Yes	Yes	3	Yes	Yes		Yes	Yes	3	Yes
Walk (<i>Walk</i>), s						0.0			0.0			0.0			0.0
Pedestrian Clea	arance ⁻	Time (PC), s				0.0			0.0			0.0			0.0
Multimodal Inf	ormatic	on			EB			WB			NB			SB	
		Walk / Corner Radi	ius	0	No	25	0	No	25	0	No	25	0	No	25
		Vidth / Length, ft		9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Is				0	0	No	0	0	No	0	0	No	0	0	No
		ane / Shoulder, ft		12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
		cupied Parking		No		0.50	No		0.50	No		0.50	No		0.50

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RD 2021-9000		HCS	7 Sig	nalize	d Int	ersec	tion F	Resu	lts Sur	nmar	У				age 86 o
General Inform	ation								Intersec	tion Info	ormatic	n e		4741	يا مل
Agency	iation	GHA						\rightarrow	Duration,		0.250			7111	
Analyst		GHA		Analys	ic Date	Apr 12	2 2021	_	Area Typ		Other				ابر الح
Jurisdiction		IDOT		Time F		EX SA			PHF	<u> </u>	0.98			N W ∓ E	- \$-
Urban Street		Ogden Ave (US 34	\	Analys			\1	_	Analysis	Poriod	1> 6:0	20			√ _ ÷
Intersection		Ogden Ave (US 34		File Na			2 Avo 8		St EX SA		1/0.0	<i></i>			Ē
	tion	` `) ∝ IVI	File Na	anne	Oguei	1 Ave &	wam	SI EX SA	i.xus			- 1	1 1 P	to of
Project Descrip	uon	5816.900												<u> </u>	
Demand Inform	nation				EB			WI	3		NB			SB	
Approach Move	ment			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v	eh/h			240	1042	145	162	115	9 146	195	337	159	271	382	314
Signal Informa	tion				2	Te	т,	:	<u>. 211</u>		_				
Cycle, s	130.0	Reference Phase	2	1	7 0	-2		Ħ	2 542	- 1			7	\	Д
Offset, s	0	Reference Point	Begin			R			i l			1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green		3.1	59.0	13.		26.9		_	5	l	
Force Mode	Fixed	Simult. Gap E/W	On	Yellow Red	0.0	0.0	4.5 1.5	3.5 0.0		4.5 1.5				\	Y
Force wode	rixeu	Simult. Gap N/S	OII	Neu	0.0	10.0	1.5	0.0	0.0	1.5		3	0	,	•
Timer Results				EBL	. T	EBT	WB	L	WBT	NBI	-	NBT	SBI	-	SBT
Assigned Phase	Э			5		2	1		6	3		8	7		4
Case Number				1.1		4.0	1.1		4.0	1.1		4.0	1.1		3.0
Phase Duration	<u> </u>					68.1	12.0)	65.0	16.6	3	32.9	17.0)	33.3
Change Period,	ge Period, (Y+R c), s					6.0	3.5		6.0	3.5		6.0	3.5		6.0
Max Allow Head	Allow Headway (<i>MAH</i>), s					0.0	4.0		0.0	4.2		11.3	4.1		11.3
Queue Clearan	Allow Headway (<i>MAH</i>), s ue Clearance Time (<i>g</i> _s), s			11.2	.		8.3			13.1		19.3	15.5	5	24.9
Green Extensio	n Time	(<i>g</i> _e), s		0.4		0.0	0.2		0.0	0.0		7.2	0.0		2.4
Phase Call Prob	oability			1.00			1.00)		1.00)	1.00	1.00)	1.00
Max Out Probal	oility			0.22	2		0.17	7		1.00)	1.00	1.00)	1.00
Movement Gro	un Pos	eulte			EB			WB			NB			SB	
Approach Move		buits			T	R	L	T	R		T	R	L	T	R
Assigned Move				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow F) voh/h		245	618	593	165	677	654	199	264	242	277	390	320
		ow Rate (<i>s</i>), veh/h/	In	1781	1885	1804	1810	1885		1810	1885	1680	1781	1874	1595
Queue Service				9.2	27.5	29.2	6.3	35.4		11.1	16.8	17.3	13.5	11.9	22.9
Cycle Queue C		- '		9.2	27.5	29.2	6.3	35.4		11.1	16.8	17.3	13.5	11.9	22.9
Green Ratio (g		5 mile (g t), 5		0.56	0.48	0.48	0.52	0.45	_	0.31	0.21	0.21	0.31	0.21	0.30
Capacity (c), v				284	900	861	285	855		342	390	348	306	786	477
Volume-to-Capa		atio (X)		0.861	0.687	0.689	0.580	0.792		0.582	0.678	0.695	0.903	0.496	0.671
		/In (95 th percentile)	215.5	411.9	436.2	123	535.9		224	350.2	328.7	217.1	248.5	381.2
	· ,	eh/ln (95 th percent	_	8.5	16.3	17.4	4.9	21.3		9.0	13.9	13.1	8.5	9.8	15.1
	` '	RQ) (95 th percen		0.94	0.00	0.00	0.52	0.00		0.69	0.00	0.00	0.78	0.00	1.36
Uniform Delay (, ,		25.9	17.3	19.6	21.2	21.0		35.9	47.6	47.8	41.4	45.3	40.0
Incremental De	lay (d 2), s/veh		15.2	4.3	4.5	1.9	7.4	7.9	2.4	9.1	10.9	28.3	2.2	7.3
Initial Queue De	elay (d	з), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (ntrol Delay (d), s/veh					24.1	23.1	28.5	31.1	38.3	56.7	58.7	69.6	47.5	47.3
Level of Service	vel of Service (LOS)					С	С	С	С	D	E	E	Е	D	D
Approach Delay	proach Delay, s/veh / LOS					С	29.0)	С	52.2	2	D	53.6	6	D
Intersection Del	tersection Delay, s/veh / LOS					36	8.8						D		
					EB										
	ultimodal Results					_		WB			NB	_		SB	
Pedestrian LOS				2.27		В	2.43	-	В	2.31		В	2.31		В
Bicycle LOS Sc	ore / LC	JS		1.69		В	1.72	2	В	1.07		Α	1.30)	Α

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	HCS7	Sign	alize	ed I	nters	ectio	n Int	terr	media	ate Va	alues	5				
General Information									Inters	section	Infor	matic	on	_	<u> </u>	. ↓ <u> </u> <u> </u> <u> </u>
Agency	GHA								Durat	ion, h		0.250)		~ *	₩ ¥
Analyst	GHA		Anal	ysis	Date /	Apr 12, 2	2021		Area	Туре		Othe	r			<u>.</u> _{_
Jurisdiction	IDOT		Time	Per	iod [EX SAT			PHF			0.98		♦ →	w	€ ← <u>∳</u>
Urban Street	Ogden Ave (US 34) 8	§ М	Anal	ysis	Year 2	2021			Analy	sis Per	iod	1> 6:	00	7		T F
Intersection	Ogden Ave (US 34) 8	ß М	File I	Nam	е (Ogden A	ve &	Mair	n St EX	SAT.xı	ıs				ጎ 1	†
Project Description	5816.900														শ্ৰ শ্ৰ	ን ተ የ*
Demand Informatio	n				EB			V	VB			NB		7	S	<u></u> В
Approach Movement	t		L	Т	Т	R	L	Т	Т	R	L	Т	R	L	T	R
Demand (v), veh/h			240	1	1042	145	162	1	159 1	46	195	337	159	271	38	2 314
Oi was I la fa was ati a w					,	2					11:					
Signal Information	0 D-f Dh			L,	م م	Ž.	# 🖁	Ħ	2 6	₩	213		_	7	~	本
Cycle, s 130.		2				₹	₹.		5		<u>"</u>	7	1	→ 2	1	3 4
Offset, s 0		Begin	Gree	n 8			59.0				26.9			Δ		
Uncoordinated No		On	Yello	-			4.5				4.5	_ <u> `</u> _	~		7	$ \Psi $
Force Mode Fixe	d Simult. Gap N/S	On	Red	0	.0	0.0	1.5	0.	.0 (0.0	1.5		5	6	_	7 8
Saturation Flow / De	elav	L	T	Т	R	L	Т	. 1	R	L	Т	г	R	l	Т	R
Lane Width Adjustme		1.00	_	000	1.000		1.00	\rightarrow	1.000	1.000		_	1.000	1.000	1.00	_
Heavy Vehicles and	· · ·	0.98	34 0.	992	1.000	1.000	0.99	92	1.000	1.000	0.9	92	1.000	0.984	0.98	4 0.992
Parking Activity Adjus	stment Factor (f _p)	1.00	00 1.	000	1.000	1.000	1.00	00	1.000	1.000	1.0	000	1.000	1.000	1.00	0 1.000
Bus Blockage Adjust	ment Factor (fbb)	1.00	00 1.	000	1.000	1.000	1.00	00	1.000	1.000	1.0	000	1.000	1.000	1.00	0 1.000
Area Type Adjustmer	nt Factor (f _a)	1.00	00 1.	000	1.000	1.000	1.00	00	1.000	1.000	1.0	000	1.000	1.000	1.00	0 1.000
Lane Utilization Adjus	Utilization Adjustment Factor (<i>f</i> ∟ <i>∪</i>)		00 1.	000	1.000	1.000	1.00	00	1.000	1.000	1.0	000	1.000	1.000	0.95	2 1.000
Left-Turn Adjustment	Utilization Adjustment Factor (fLU) Turn Adjustment Factor (fLT)		52 0.	000		0.952	0.00	00		0.952	2 0.0	000		0.952	0.00	0
Right-Turn Adjustme	nt Factor (<i>f</i> _R τ)		0.	957	0.957		0.9	60	0.960		0.8	91	0.891		0.00	0 0.847
Left-Turn Pedestrian	Adjustment Factor (fLpb)	1.00	00			1.000				0.999	9			1.000		
Right-Turn Ped-Bike	Adjustment Factor (fRpb))			0.999				0.999				0.999			0.999
Work Zone Adjustme	ent Factor (f _{wz})	1.00	00 1.	000	1.000	1.000	1.00	00	1.000	1.000	1.0	000	1.000	1.000	1.00	0 1.000
DDI Factor (fdd)		1.00	00 1.	000	1.000	1.000	1.00	00	1.000	1.000	1.0	000	1.000	1.000	1.00	0 1.000
Movement Saturation	n Flow Rate (s), veh/h	178	31 32	239	450	1810	328	33	412	1810	24	38	1128	1781	374	9 1595
Proportion of Vehicle	s Arriving on Green (P)	0.0	9 0	.64	0.48	0.07	0.6	0	0.45	0.10	0.:	21	0.21	0.10	0.2	0.21
Incremental Delay Fa	actor (k)	0.2	4 0	.50	0.50	0.11	0.5	0	0.50	0.17	0.	50	0.50	0.42	0.50	0.50
Signal Timing / Mov	romant Groups		BL		BT/R	WE	ol .	۱۸/	BT/R	N	DI.	NIE	BT/R	SBI		SBT/R
Lost Time (t_{\perp})	rement Groups		3.5	_	6.0	3.5	_		6.0	3.			3.0 3.0	3.5		6.0
Green Ratio (g/C)		_	.56	-	0.48	0.5).45	0.3			.21	0.31		0.21
(= /	Flow Rate (s _p), veh/h/lr	_	11		0	469			0	10			0	893	_	0
	ow Rate (ssh), veh/h/ln															
Permitted Effective G	· · · · · · · · · · · · · · · · · · ·	6	0.6		0.0	59.	0	(0.0	26	.9	(0.0	26.9		0.0
Permitted Service Tir	,- ,	2	2.0		0.0	30.	8	(0.0	13	.3	(0.0	9.6		0.0
Permitted Queue Ser	rvice Time (<i>g</i> _{ps}), s	2	2.0			15.	3			3.	3			9.6		
Time to First Blockag	ge (<i>g_f</i>), s	(0.0		0.0	0.0)	(0.0	0.	0	C	0.0	0.0		0.0
	Before Blockage (gfs), s															
	ration Flow (<i>s</i> _R), veh/h/l															1598
Protected Right Effect	ctive Green Time (g_R), s															11.6
Multimodal			I	ΞB			W	/B			N	IB			SE	
Pedestrian F _w / F _v		1.	557	0	.000	1.71	10	0.	.000	1.5	57	0.	000	1.55	7	0.000
Pedestrian F _s / F _{delay}		0.	000	C).115	0.00	00	0	.119	0.0	00	0.	149	0.00	0	0.149
Pedestrian Mcorner / M	1cw															
Bicycle <i>c_b</i> / <i>d_b</i>		95	5.04	1	7.74	907.	22	19	9.41	413	.78	40	0.89	419.2	29	40.60
		III ~		1	4 00	11 -					~ 4					0.01

Bicycle Fw / Fv

1.23

-3.64

-3.64

1.20

-3.64

0.58

0.81

-3.64

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		HCS7 Sig	nalize	ed Inte	ersect	tion F	Result	s G	raphica	al Sur	nmar	у			
General Inform	ation								Intersec	tion Inf	ormatio	nn	lat.	1 4 7 4× 1	Ju I _u
Agency	ation	GHA							Duration,		0.250		┨	1111	
Analyst		GHA		Analys	is Date	Apr 12	2021		Area Typ		Other		_1 _2,		<u>t</u> .t.
Jurisdiction		IDOT		Time F		EX SA			PHF		0.98		_ → _^	N ₩ . E	~ ←
Urban Street		Ogden Ave (US 34)	N & (_	is Year		\ 1		Analysis	Period	1> 6:0	20	{ →		<u>~</u> ←
Intersection		Ogden Ave (US 34)		File Na		_	η Δνε &	Main	St EX SA		11 0.0				<u></u> _
Project Descripti	ion	5816.900) & IVI	T IIC IN	arric	Oguci	TAVE &	IVIAIII	OI LX OA	11.743] [[4 4 Y	7 1
							_			_					
Demand Inform					EB		+ .	W	-	+ .	NB	T 5	+ .	SB	
Approach Mover				L	T	R	L 100	T	_	L 105	T	R	L	T	R
Demand (v), ve	eh/h			240	1042	145	162	115	59 146	195	337	159	271	382	314
Signal Informat	tion				2	2	<u> </u>		<u> </u>						
	130.0	Reference Phase	2	1	12 6	\exists		Ħ .				<u> </u>	Z	\	4
Offset, s	0	Reference Point	Begin	1		B_		`	1			1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green Yellow		3.1	59.0 4.5	3.5		26.9 4.5		7	→		rt-
	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0		1.5		5	6	7	Y
Movement Grou		ults			EB		<u> </u>	WB			NB			SB	
Approach Mover				L	Т	R	L	Т	R	L	Т	R	L	Т	R
	` '	In (95 th percentile		215.5	411.9	436.2	123	535.		224	350.2	328.7	217.1	248.5	381.2
	` '	eh/In (95 th percent		8.5	16.3	17.4	4.9	21.3		9.0	13.9	13.1	8.5	9.8	15.1
		RQ) (95 th percen	tile)	0.94	0.00	0.00	0.52	0.00		0.69	0.00	0.00	0.78	0.00	1.36
Control Delay (eh		41.1	21.6	24.1	23.1	28.5		38.3	56.7	58.7	69.6	47.5	47.3
Level of Service				D	С	С	С	С	С	D	Ę	E	E	D	D
Approach Delay,				25.9)	С	29.0	<u> </u>	С	52.2	2	D	53.6	6	D
Intersection Dela	ay, s/ve	eh / LOS				36	8.8						D		
		16.3 17.4 	8.5			5.1 9.8 9.8 7.3 47.5	8.5 69.6 31. 28.	.5	4.9		22.2	_			
		=	LOS D		9		13.1			Storage Rati		-			

--- Messages ---

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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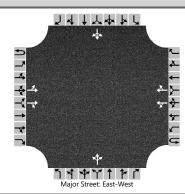
HCS™ Streets Version 7.9

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	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Highland Ave
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Highland Ave
Time Analyzed	NB AM	Peak Hour Factor	0.88
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		

Lanes



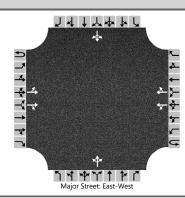
Vehicle Volumes and Ad	justme	nts																			
Approach		Eastk	oound			Westl	bound			North	bound			South	bound						
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	Southbound L T 10 11 0 1 LTR 1 0 0 0 0 7.5 6.5 7.50 6.50 3.5 4.0 3.50 4.00		R					
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12					
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0					
Configuration		LT		TR		LT		TR			LTR				LTR						
Volume (veh/h)		3	1166	16		0	1003	5		1	0	25		1	0	11					
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0					
Proportion Time Blocked																					
Percent Grade (%)											0				0						
Right Turn Channelized																					
Median Type Storage				Left	Only								1								
Critical and Follow-up H	eadwa	ys											1 75 65								
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9					
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90					
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3					
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30					
Delay, Queue Length, an	d Leve	l of S	ervice																		
Flow Rate, v (veh/h)	Т	3				0					30				14						
Capacity, c (veh/h)		617				520					370				395						
v/c Ratio		0.01				0.00					0.08				0.03						
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.3				0.1						
Control Delay (s/veh)		10.9				11.9					15.6				14.5						
Level of Service (LOS)	Ì	В			Ì	В			Ì		С				В						
Approach Delay (s/veh)		C).1			0	.0			15	5.6			14	4.5						
Approach LOS										(С				В						

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	HCS7 Two-Way Sto	p-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Highland Ave
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Highland Ave
Time Analyzed	NB PM	Peak Hour Factor	0.94
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		

Lanes



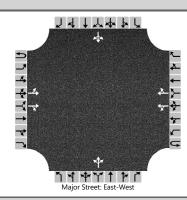
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastk	oound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		2	1447	21		0	1489	32		1	1	21		2	0	44
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										()			(0	
Right Turn Channelized																
Median Type Storage				Left	Only								1			
Critical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, and	d Leve	l of S	ervice													
Flow Rate, v (veh/h)	Π	2				0					24				49	
Capacity, c (veh/h)		408				429					134				289	
v/c Ratio		0.01				0.00					0.18				0.17	
95% Queue Length, Q ₉₅ (veh)		0.0			Ì	0.0			Ì		0.6				0.6	
Control Delay (s/veh)		13.9				13.4					37.8				20.0	
Level of Service (LOS)		В				В					E				С	
Approach Delay (s/veh)		C	.3			0	.0			37	7.8			20	0.0	
Approach LOS											E			(C	

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	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Highland Ave
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Highland Ave
Time Analyzed	NB SAT	Peak Hour Factor	0.96
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		

Lanes



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		5	1503	17		0	1475	32		1	2	21		1	0	29
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%))			(0	
Right Turn Channelized																
Median Type Storage				Left	Only								1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)	T	5				0					25				31	
Capacity, c (veh/h)		426				421					86				306	
v/c Ratio		0.01				0.00					0.29				0.10	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					1.1				0.3	
Control Delay (s/veh)		13.6				13.6					63.3				18.1	
Level of Service (LOS)		В				В					F				С	
Approach Delay (s/veh)		0	0.7			0	.0			63	3.3			18	3.1	
Approach LOS											F			(C	

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			HCS7	Signa	alized	d Inter	secti	on lı	nput Da	ata					
	41										41		4] # 1/1 # 1 .	
General Inform	nation	Tarri							Intersec				-		
Agency		GHA				1			Duration,		0.250		_1		<u> </u>
Analyst		GHA				e Apr 12			Area Typ	e	Other		_ → _*		*-
Jurisdiction		IDOT		Time F		NB AI	И		PHF		0.89		- - 	w 1 E e	←
Urban Street		Ogden Ave (US 34		-		r 2027			Analysis		1> 6:0	00	→		î E
Intersection		Ogden Ave (US 34) & M	File N	ame	Ogde	n Ave &	Main	St NB AM	1.xus				<u>ጎተ</u> ት	
Project Descrip	tion	5816.900											<u> </u>	1 4 1 4 7	7 4
Demand Inform	nation				EB		1	W	В	T	NB			SB	
Approach Move	ement			L	Т	R	L	T	R	L	T	R	L	T	R
Demand (v), v	eh/h			273	912	76	107	81	3 95	107	291	75	198	243	241
Signal Informa	ntion					12	 								
		Reference Phase	2	1	، خا	بقلم		Ħ	7 7117				7	T	本
Cycle, s	130.0		_		"	R		,	`	FQ.		1	♀ 2	3	
Offset, s	0 No	Reference Point	Begin	Green		4.1	58.5	9.1		25.5			4		•
Uncoordinated	No	Simult Cap N/S	On	Yellow	-	3.5	4.5	3.5		4.5		^	Y	7	Ψ
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	
Traffic Informa	ation				EB			WE	3		NB			SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), ve	:h/h			273	912	76	107	813	95	107	291	75	198	243	241
Initial Queue (C	Q _b), veh/	/h		0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation				1900	1900	1900	1900	190	1900	1900	1900	1900	1900	2000	1900
Parking (Nm), m		,			None			Non	е		None			None	
Heavy Vehicles		%		3	5		7	5		4	3		4	3	2
Ped / Bike / RT				2	0	0	1	0	0	0	0	0	1	0	0
Buses (N _b), bus	· ·			0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (A7				3	4	3	3	4	3	3	3	3	3	3	3
Upstream Filter				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W)	- , ,			11.0	11.0		11.0	11.0	_	11.0	11.0		11.0	11.0	11.0
Turn Bay Lengt				230	0		235	0		325	0		280	0	280
Grade (Pg), %	,				0			0			0			0	
Speed Limit, mi	i/h			35	35	35	35	35	35	25	25	25	30	30	30
Phase Informa	tion			EBL		EBT	WB		WBT	NBL		NBT	SBL		SBT
) or Phase Split, s		38.0	_	67.0	14.0	_	43.0	16.0		33.0	16.0		33.0
Yellow Change				3.5	_	4.5	3.5	_	4.5	3.5	_	4.5	3.5		4.5
Red Clearance				0.0	_	1.5	0.0	_	1.5	0.0		1.5	0.0		1.5
Minimum Greer		· ,.		3	_	15	3		15	3		8	3		8
Start-Up Lost T				2.0		2.0	2.0		2.0	2.0		2.0	2.0		2.0
Extension of Ef				2.0	_	2.0	2.0	-	2.0	2.0		2.0	2.0		2.0
Passage (PT),		Ciccii (E), 3		3.0		7.0	3.0	_	7.0	3.0		7.0	3.0	_	7.0
Recall Mode	<u>.</u>			Off	_	Min	Off	_	Min	Off	_	Off	Off		Off
Dual Entry				Yes	_	Yes	Yes	_	Yes	Yes	_	Yes	Yes		Yes
Walk (<i>Walk</i>), s				168		0.0	168	,	0.0	168		0.0	168		0.0
Pedestrian Clea	arance -	Time (<i>PC</i>), s				0.0		+	0.0			0.0			0.0
Multimodal Inf			i		EB	05		WB	_		NB	٥٢		SB	05
		Walk / Corner Rad	ius	0	No	25	0	No		0	No	25	0	No	25
-		Width / Length, ft		9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Is				0	0	No	0	0	No	0	0	No	0	0	No
		ane / Shoulder, ft		12	5.0	2.0	12	5.0		12	5.0	2.0	12	5.0	2.0
Pedestrian Sigr		· · · · · · · · · · · · · · · · · · ·		No		0.50	No		0.50	No		0.50	No		0.50

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	HCS7 Sig	manze	ea int	ersec	uon F	test	iits Sul	nmary	<i>'</i>				
General Information							Intersec	tion Info	ormatio	on	k	4 사하 1	CONTROL OF THE PARTY OF THE PAR
Agency	GHA						Duration		0.250			أأأأ	· L
Analyst	GHA	Analys	sis Date	Apr 12	2. 2021		Area Typ		Other				
Jurisdiction	IDOT	Time F		NB AN			PHF		0.89		_ → _^ -> ->	w∱E	←
Urban Street	Ogden Ave (US 34) & M			2027	••		Analysis	Period	1> 6:0	20	_ 		~
Intersection	Ogden Ave (US 34) & M				n Ave &	Main	St NB AN		11 0.0			E A A	
Project Description	5816.900	T IIC 14	anno	Oguci	17.WC Q	IVIGIII	Ot ND 7 III	1.703] [[* 4 4 Y	* (*
Demand Information			EB		7	W	/B	7	NB		7	SB	
Approach Movement		L	T	R	L	T -		1	T	R	L	T	R
Demand (v), veh/h		273	912	76	107	8		107	291	75	198	243	241
Domana (7), von///		2.0	012		101		10 00	101	201	10	100	2.0	
Signal Information			2	2		<u> </u>	717					_	1
Cycle, s 130.0	Reference Phase 2		P 8	ĸ	H	Ħ,	s	57			4		4
Offset, s 0	Reference Point Begin	Green	7.0	4.1	58.5	9.	1 3.4	25.5		1	2	3	
Uncoordinated No	Simult. Gap E/W On	Yellow		3.5	4.5	3.		4.5		<u>ہ</u>	→		ĸt:
Force Mode Fixed	Simult. Gap N/S On	Red	0.0	0.0	1.5	0.0		1.5		5	6	7	<u> </u>
Timer Results		EBI	-	EBT	WB	L	WBT	NBL	-	NBT	SBI	-	SBT
Assigned Phase		5		2	1	_	6	3		8	7		4
Case Number		1.1		4.0	1.1	-	4.0	1.1		4.0	1.1		3.0
Phase Duration, s		18.1		72.0	10.5	5	64.5	12.6		31.5	16.0		34.8
Change Period, (Y+F	? c), s	3.5		6.0	3.5	_	6.0	3.5		6.0	3.5		6.0
Max Allow Headway (·	4.0	\perp	0.0	4.0	_	0.0	4.2		11.2	4.1		11.2
Queue Clearance Tim	· - /	13.5	5		6.9	_		9.0		15.8	14.5	5	19.9
Green Extension Time		1.0		0.0	0.1	\rightarrow	0.0	0.1		9.6	0.0		9.0
Phase Call Probability	1	1.00)		1.00)		1.00		1.00	1.00)	1.00
Max Out Probability		0.00			0.37	7		1.00		1.00	1.00		1.00
Movement Group Re	eulte		EB			WE	3		NB			SB	
Approach Movement	- Cuito		T	R		T	R		T	R		T	R
Assigned Movement		5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v) veh/h	307	563	547	120	520	_	120	211	201	222	273	271
<u> </u>	low Rate (s), veh/h/ln	1767	1826	1776	1711	182	_	1753	1856	1725	1753	1859	1583
Queue Service Time (· ,	11.5	22.0	23.1	4.9	23.9	_	7.0	13.4	13.8	12.5	8.0	17.9
Cycle Queue Clearan		11.5	22.0	23.1	4.9	23.9		7.0	13.4	13.8	12.5	8.0	17.9
Green Ratio (g/C)	55 mile (g v), 5	0.58	0.51	0.51	0.50	0.4		0.27	0.20	0.20	0.31	0.22	0.33
Capacity (c), veh/h		395	927	902	301	82		336	364	338	310	825	529
Volume-to-Capacity R	ratio (X)	0.777	0.607	0.607	0.399	0.63		0.358	0.580	0.593	0.717	0.331	0.512
Back of Queue (Q), 1		217.1	326.1	334	94.2	377.		145.5	288.1	273.1	268.5	176.7	302.2
	veh/ln (95 th percentile)	8.5	12.5	13.4	3.6	14.		5.6	11.3	10.9	10.4	6.9	11.9
	(RQ) (95 th percentile)	0.94	0.00	0.00	0.40	0.0	_	0.45	0.00	0.00	0.96	0.00	1.08
Uniform Delay (d 1),	. , , ,	20.4	13.9	15.2	18.8	19.		37.8	47.4	47.6	37.7	42.5	34.8
Incremental Delay (d		3.3	2.9	3.0	0.9	3.7	_	0.6	6.6	7.5	7.7	1.1	3.5
Initial Queue Delay (·	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/v	·	23.7	16.8	18.2	19.7	22.		38.4	54.0	55.0	45.4	43.5	38.3
Level of Service (LOS		C	В	B	В	C	C	D	D	E	D	D D	D
· · · · · · · · · · · · · · · · · · ·	,	18.9		В	23.3		C	50.9		D	42.2		D
	proach Delay, s/veh / LOS prsection Delay, s/veh / LOS				9.2			50.5			C 42.2		
	rsection Delay, siven / LOS				_								
Multimodal Results			EB			WE	3		NB			SB	
Pedestrian LOS Score	e / LOS	2.27	7	В	2.43	3	В	2.31		В	2.30)	В
Bicycle LOS Score / L	08	1.66	3	В	1.43	3	Α	0.93		Α	1.12	,	Α

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		HCS7	S	ignal	ized	Inters	ectio	n Int	ern	nedia	ate \	/alu	es				
General Inforn	notion									Intor	oootid	an Inf	o rm of	tion		, ap. J. ab. J.	l be la
	iation	GHA	_							_		on Inf	0.25		- 1	ŢŢŢ	
Agency		GHA			مندر را م در	Data	A == 40 ·	2024			tion, h	1	_		_9 _5		<u>\</u>
Analyst			_		nalysis ïme Pe		Apr 12, 2 NB AM	2021		PHF	Туре		Oth			, w‡e	<u>~</u> } ← 4
Jurisdiction Urban Street		IDOT	0	_		$\overline{}$	2027			-	roio D	oriod	_		— ₫ →		√ _
-		Ogden Ave (US 34)			nalysis			\ 0 N	/ain		ysis P		1> 6	5.00			į į
Intersection	tion	Ogden Ave (US 34)	α	IVI F	ile Nan	ie	Ogden A	ave & r	viair	1 St INE	AIVI.)	kus			- 4		at the car
Project Descrip	tion	5816.900														וא וויך	I P I
Demand Inforr	nation			Т		EB			V	VB			NI	<u></u> В		SB	
Approach Move	ement				L	Т	R	L		T	R	L	Т	R	L	Т	R
Demand (<i>v</i>), v	eh/h				273	912	76	107	8	13	95	107	29	1 75	198	243	241
	41					.2					111	1 116					
Signal Informa		D (D)	_		L	× ,_	<u> </u>	.a 🕏	#	7		1245	1	_	A	Τ.	人
Cycle, s	130.0	Reference Phase	_	2		E	₹	₹ 8		5		F (7	1	♦ 2	3	4
Offset, s	0	Reference Point	_		reen 7			58.5	9.		3.4	25.5			<u> </u>	T	
Uncoordinated	No	Simult. Gap E/W			ellow 3			4.5	3.		0.0	4.5		/	7	7	· ·
Force Mode	Fixed	Simult. Gap N/S		On F	Red (0.0	0.0	1.5	0.	U (0.0	1.5		5	6	7	8
Saturation Flo	w / Dela	av			Т	R	T	Т	T	R		Г	Т	R	l	Т	R
Lane Width Adj		•	_	1.000	1.000	+	1.000		0	1.000	1.0	00 1	.000	1.000	1.000	1.000	
		ade Factor (f _{HVg})		0.977	0.961				_	1.000	0.9	-	.977	1.000	0.969	0.977	_
Parking Activity		· · · ·	_	1.000	1.000	+			\rightarrow	1.000	1.0	_	.000	1.000	1.000	1.000	
Bus Blockage A				1.000	1.000	_			_	1.000	1.0		.000	1.000	1.000	1.000	_
Area Type Adju	-	· , ,	_	1.000	1.000	_			\rightarrow	1.000	1.0	_	.000	1.000	1.000	1.000	
		ment Factor (f _{LU})		1.000	1.000				_	1.000	1.0	-	.000	1.000	1.000	0.952	_
Left-Turn Adjus			_	0.952			0.952		_	1.000	0.9	_	.000	1.000	0.952	0.000	
Right-Turn Adju				0.002	0.972	_		0.96	\rightarrow	0.963	0.0	_	.930	0.930	0.002	0.000	
		djustment Factor (fեր	b)	1.000	0.0.2	0.0	1.000			0.000	0.9			0.000	1.000	0.000	0.0
		djustment Factor (f _{Rp}	_			0.999			\dashv	0.999	1			1.000			0.999
Work Zone Adju		-	,	1.000	1.000			1.00	_	1.000	1.0	00 1	.000	1.000	1.000	1.000	
DDI Factor (foo		,		1.000	1.000	_			_	1.000	1.0	_	.000	1.000	1.000	1.000	
		low Rate (s), veh/h	П	1767	3325	277	1711	320	\rightarrow	375	175	53 2	2856	725	1753	3719	1583
		Arriving on Green (P	')	0.11	0.68	0.51	0.05	0.60	-	0.45	0.0		0.20	0.20	0.10	0.22	0.22
Incremental De				0.11	0.50	0.50	0.11	0.50	\rightarrow	0.50	0.1		0.50	0.50	0.28	0.50	0.50
				'													
Signal Timing	/ Move	ment Groups		EB		EBT/R	WE	_		BT/R	_	NBL	١	NBT/R	SBI		SBT/R
Lost Time (t⊥)			_	3.5	_	6.0	3.5	_		3.0	_	3.5		6.0	3.5		6.0
Green Ratio (g/				0.5	_	0.51	0.5	_		.45	-).27		0.20	0.31	_	0.22
		low Rate (s_p) , veh/h/	_	548	3	0	48	8		0	1	089	_	0	959		0
		v Rate (ssh), veh/h/ln			-	0.0		_		2.0)		0.0	07.0		0.0
Permitted Effect		,- ,		60.	_	0.0	58.	_		0.0	_	25.5	-	0.0	27.3		0.0
Permitted Servi		(0)		33.		0.0	40.	_	(0.0	-	8.8		0.0	11.7		0.0
Permitted Queu		,= ,		33.		0.0	5.8		_	2.0	-	8.0		0.0	6.0		0.0
Time to First Bl			Н	0.0		0.0	0.0	J	(0.0		0.0		0.0	0.0		0.0
		efore Blockage (gfs),	_														4505
		tion Flow (s _R), veh/h	_					-					-				1585
	ı ⊏ııecti\	ve Green Time (g _R),		ED			10"	D				ND			CD	14.6	
Multimodal	_		4 ==	EB	0.000	1-	WI		000		<i></i>	NB	2.000	4.55	SB	0.000	
Pedestrian Fw /				1.55		0.000	1.7	_		000	-	.557		0.000	1.55		0.000
Pedestrian Fs /			_	0.00	IU	0.111	0.00	00	U.	119	0	.000	-	0.150	0.00	U	0.147
Pedestrian Mcor	ner / M cw			1015	75	15.71	000	22		2.00	0.0	14.00		10.00	440	7	20.20
Bicycle <i>c_b</i> / <i>d_b</i>				1015		15.74	899.	_		9.69	_	91.82	_	42.03	443.7	_	39.36
Bicycle F _w / F _v				-3.6	4	1.17	-3.6	04	0	.94		3.64		0.44	-3.64	+	0.63

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ND 2021-9000	HCS7 Sig	gnalize	ed Inte	ersect	ion F	Result	s Gr	aphica	l Sur	nmar	у			age 90 O
							Ι.	•		- 11				I. I
General Information							$\overline{}$	ntersect				- 1	111	Dr. CV
Agency	GHA		A I	:- D-4-	Δ	2 0004	-	Duration,		0.250				R_
Analyst	GHA			is Date	_			Area Typ	e	Other		_ →	N W + E	← }-
Jurisdiction	IDOT	1) 0 14	Time F		NB AN	/I	_	PHF	Dil	0.89	20	- ₿¬	8 8	7
Urban Street	Ogden Ave (US 34			is Year	_	A 0		Analysis		1> 6:0	00	_ ~		<u></u>
Intersection	Ogden Ave (US 34	I) & M	File Na	ame	Ogder	n Ave &	Main S	St NB AM	.xus			- 1	ንተታ	1 1
Project Description	5816.900												14144	Pr [
Demand Informati	on			EB			WB	}		NB		T	SB	
Approach Movemen	nt		L	Т	R	L	Т	R		Т	R	L	Т	R
Demand (v), veh/h			273	912	76	107	813	_	107	291	75	198	243	241
Signal Information	<u> </u>	V-		L2	2	1 . 3	<u> </u>			ù	_	_		\mathbf{L}
Cycle, s 130		2		F ~	ĸ	H ·	7		100			♦ ,		x1x
Offset, s		Begin	Green	7.0	4.1	58.5	9.1	3.4	25.5			5		**
Uncoordinated N		On	Yellow	3.5	3.5	4.5	3.5	0.0	4.5		7	7		\P
Force Mode Fix	ed Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	8
												1		
Movement Group			.	EB			WB			NB		.	SB	
Approach Movemen		`	L	T	R	L	T	R	L	T	R	L	T	R
), ft/ln (95 th percentile		217.1	326.1	334	94.2	377.8		145.5	288.1	273.1	268.5	176.7	302.2
·), veh/ln (95 th percen		8.5	12.5	13.4	3.6	14.5	15.2	5.6	11.3	10.9	10.4	6.9	11.9
	io (RQ) (95 th percer	ntile)	0.94	0.00	0.00	0.40	0.00	0.00	0.45	0.00	0.00	0.96	0.00	1.08
Control Delay (d),			23.7 C	16.8 B	18.2 B	19.7 B	22.8 C	24.7 C	38.4 D	54.0 D	55.0	45.4 D	43.5 D	38.3
Level of Service (LO Approach Delay, s/v			18.9	$\overline{}$	В	23.3		C	50.9		D E	42.2		D D
Intersection Delay,			10.8	<u> </u>		9.2	<u> </u>		50.8	7		C 42.2	4	U
intersection belay,	s/veii/ LOS				28	7.2						C		
				[6.9	10.4					_			
	12.5	LOS A LOS B LOS C LOS D LOS E		23.7 16.8 18.2 38	3.4 	24. 22. 19 55.0 10.9			Storage Rati		2			

--- Messages ---

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS™ Streets Version 7.9

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		ŀ	HCS7	Signa	alizec	Inter	section	on In	put Da	ata					
General Inform	nation							\rightarrow	Intersec]	
Agency		GHA							Duration,		0.250		_1		
Analyst		GHA		-		Apr 12		_	Area Typ	е	Other	•	≯≯		*
Jurisdiction		IDOT		Time F		NB PI	M		PHF		0.97		♦ → -4 →	w∳E	←
Urban Street		Ogden Ave (US 34)		Analys	sis Year	2027			Analysis	Period	1> 3:0	00	→		
Intersection		Ogden Ave (US 34)	& M	File Na	ame	Ogde	n Ave &	Main :	St NB PM	1.xus				<u>ጎ</u> ተተ	
Project Descrip	tion	5816.900											7.	4 1 4 77	* (*
Demand Inform	nation				EB		T	WE	3	T	NB			SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v				229	1049	82	154	122	25 155	168	294	144	277	488	488
0: 11.6	4.				1.2					1 11:					
Signal Informa		T ₂ (2.		-	Ľ.	Lå	1.5	∐ '			a	_	7	~	人
Cycle, s	140.0	Reference Phase	2		L E	R	- 	· ~	i	625	12	1	♦ 2	3	~~
Offset, s	0	Reference Point	Begin	Green		1.4	60.6	11.		28.0			<u> </u>		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	-	3.5	4.5	3.5		4.5		≯	Z		小
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	
Traffic Informa	ition				EB			WB			NB			SB	
Approach Move				L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), ve				229	1049	82	154	1225		168	294	144	277	488	488
Initial Queue (C		/h		0	0	0	0	0	0	0	0	0	0	0	0
	ase Saturation Flow Rate (s _o), veh/h					1900	1900	1900		1900	1900	1900	1900	2000	1900
Parking (N _m), m		(do), voii/11		1900	1900 None	1000	1000	None	_	1000	None	1000	1000	None	1000
Heavy Vehicles		0%		2	1		0	1		1	2		2	3	1
Ped / Bike / RT	· ,	70		1	0	0	0	0	0	0	0	0	2	0	0
Buses (N _b), bus				0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (A7				3	4	3	3	4	3	3	3	3	3	3	3
Upstream Filter				1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W)				11.0	11.0	1.00	11.0	11.0		11.0	11.0	1.00	11.0	11.0	11.0
Turn Bay Lengt				230	0		235	0		325	0		280	0	280
Grade (Pg), %	, 10			200	0		200	0		020	0		200	0	200
Speed Limit, mi	i/h			35	35	35	35	35	35	25	25	25	30	30	30
Di La	4.			EDI		EDT	VA/IDI		WDT	NDI		NIDT	ODI		ODT
Phase Informa		\ DI 0 !!!		EBL	_	EBT	WBI	_	WBT	NBL		NBT	SBI		SBT
) or Phase Split, s		22.0	_	62.0	22.0	_	62.0	15.0		34.0	22.0		41.0
Yellow Change		· ,		3.5	_	4.5	3.5	_	4.5	3.5	_	4.5	3.5		4.5
Red Clearance				0.0		1.5	0.0		1.5	0.0		1.5	0.0		1.5
Minimum Green				3		15	3		15 2.0	2.0		8	3		8
Start-Up Lost Ti				2.0	_	2.0	2.0		2.0	2.0		2.0	2.0		2.0
Passage (PT),		Sieeli (e), S		3.0	_	7.0	3.0	-	7.0	3.0		7.0	3.0		7.0
Recall Mode				Off		Min	Off	_	Min	Off	_	Off	Off		Off
Dual Entry				Yes	_	Yes	Yes	_	Yes	Yes		Yes	Yes		Yes
Walk (<i>Walk</i>), s	<u> </u>					0.0	. 50		0.0	. 30		0.0	. 50		0.0
· · · · · · · · · · · · · · · · · · ·	edestrian Clearance Time (<i>PC</i>), s					0.0			0.0			0.0			0.0
Multimadal Inf	0 mm = 41	nn			ED.			\A/D			NID			CD	
Multimodal Inf		on ı Walk / Corner Radi	ue	0	EB No	25	0	WB No	25	0	NB No	25	0	SB No	25
		Vidth / Length, ft	uð	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Is				0	0	No	0	0	No	0	0	No	0	0	No
		ane / Shoulder, ft		12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
	LC	and the state of t		12	0.0	0.50	No	0.0	0.50	No		0.50	No		0.50

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RD 2021-9000		HCS	7 Sig	nalize	d Int	ersec	tion F	lesu	lts Su	nmar	у				age 99 o
General Inform	nation								Intersec	tion Inf	ormatic	nn e		4 Y4 1	Ja ly
Agency	iation	GHA						-	Duration		0.250			1111	
Analyst		GHA		Δnalve	is Date	Apr 12	2 2021		Area Typ	•	Other				<u>*</u> _ &
Jurisdiction		IDOT		Time F		NB PI			PHF		0.97			N W E	- <u>}</u> -4-
Urban Street		Ogden Ave (US 34	\			2027	VI		Analysis	Poriod	1> 3:0	20			√ _
Intersection		Ogden Ave (US 34	-	File Na			2 Avo 8	Main	St NB PI		1/ 3.0	JU			<u></u>
Project Descrip	tion	5816.900) & IVI	File iva	anne	Oguei	I AVE &	IVIAIII	SUND FI	/I.XUS			_ 5	1 1 C 14 P	^۳) ۳
							_			_					
Demand Inform					EB		1	W	-		NB			SB	
Approach Move				L	Т	R	L	T		L	T	R	L	T	R
Demand (v), v	eh/h			229	1049	82	154	12:	25 155	168	294	144	277	488	488
Signal Informa	tion				2	2									
Cycle, s	140.0	Reference Phase	2		7 6			∄.	2 EW	- 1			<u> </u>	\	4
Offset, s	0	Reference Point	Begin		ļ.,.	B.		`				1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green Yellow		1.4 3.5	60.6 4.5	3.5		28.0 4.5		, l	→		-4-
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0		1.5		5	6	7	8
T GIGG MIGGG	Tixou	Omail: Oup 11/0	O.I.	1100	0.0	10.0	1.0	10.0	0.0	1.0					
Timer Results				EBL	-	EBT	WB	L	WBT	NBI	-	NBT	SBL	-	SBT
Assigned Phase	е			5		2	1		6	3		8	7		4
Case Number				1.1		4.0	1.1		4.0	1.1		4.0	1.1		3.0
Phase Duration	nase Duration, s					71.4	12.6	3	66.6	15.0) :	34.0	22.0)	41.0
Change Period,	nange Period, (Y+R c), s					6.0	3.5	\perp	6.0	3.5		6.0	3.5		6.0
Max Allow Head	dway (<i>I</i>	<i>MAH</i>), s		4.0		0.0	4.0	\perp	0.0	4.2		10.9	4.1		10.9
Queue Clearan	ce Time	e (g s), s		13.6	5		8.8			12.7	'	18.7	19.5	5	37.0
Green Extensio	n Time	(<i>g</i> _e), s		0.3		0.0	0.3		0.0	0.0		8.9	0.0		0.0
Phase Call Prol	bability			1.00			1.00)		1.00)	1.00	1.00)	1.00
Max Out Probal	bility			0.57			0.01			1.00)	1.00	1.00)	1.00
Movement Gro	up Res	sults			EB			WE	3		NB			SB	
Approach Move		74110		L	T	R	L	Т	R	1	T	R	L	T	R
Assigned Move				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow F) veh/h		236	590	576	159	723	_	173	235	216	286	503	503
		ow Rate (<i>s</i>), veh/h/	ln	1781	1885	1836	1810	188		1795	1870	1665	1781	1859	1594
Queue Service		· ,		11.6	28.4	29.4	6.8	46.5		10.7	16.1	16.7	17.5	16.4	35.0
Cycle Queue C		- '		11.6	28.4	29.4	6.8	46.5	_	10.7	16.1	16.7	17.5	16.4	35.0
Green Ratio (g		(30),0		0.55	0.47	0.47	0.50	0.43	_	0.28	0.20	0.20	0.35	0.25	0.35
Capacity (c), v				262	881	858	288	815	_	306	374	333	362	930	558
Volume-to-Capa		atio (X)		0.900	0.670	0.671	0.552	0.88		0.566		0.650	0.788	0.541	0.902
		/In (95 th percentile)	382.8	_	445.8	134.3	726.		219.7	336.2	314	345.7	321.2	677.1
	• ,	eh/ln (95 th percent		15.1	17.2	17.8	5.4	28.8		8.7	13.2	12.6	13.6	12.5	26.9
		RQ) (95 th percen		1.66	0.00	0.00	0.57	0.00		0.68	0.00	0.00	1.23	0.00	2.42
Uniform Delay ((d 1), s	/veh		36.2	19.4	20.8	23.1	26.7	29.1	40.5	51.2	51.5	37.4	45.5	43.3
Incremental De	lay (<i>d</i> 2), s/veh		23.8	4.0	4.2	1.7	13.6	14.8	2.4	7.8	9.5	11.0	2.3	20.3
Initial Queue De	elay (d	з), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/ve	eh		60.0	23.4	24.9	24.8	40.3	3 43.9	42.9	59.0	60.9	48.4	47.8	63.6
Level of Service	(LOS)			Е	С	С	С	D	D	D	E	E	D	D	E
Approach Delay	proach Delay, s/veh / LOS					С	40.3	3	D	55.2	2	E	54.1		D
Intersection De	lay, s/ve	eh / LOS				43	3.0						D		
Bank					EB			14.			NID			0.5	
	Itimodal Results						0.4	WE		0.04	NB	D	0.00	SB	
Pedestrian LOS Bicycle LOS Sc				2.28		В	2.44	_	B	2.31	_	В	2.30		В
Bicycle LOS Sc	ole / LC	<i>J</i> 3		1.64		В	1.79	7	В	1.00	,	Α	1.55	,	В

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		HCS7	' Sigr	ıali	zed I	nters	ectio	n Int	ern	nedi	ate \	/alu	es				
General Inforn	notion									Intor	oooti	on Inf	ormoi	lion			l Is L
	nation	CHA								-	section				- 1	ŢŢŢ	
Agency		GHA		ΙΔ.		Data	A == 10	2024			tion, h	1	0.25		_1		K_
Analyst		GHA		-			Apr 12,	2021		-	Туре		Oth			w∱e	<u>*</u> -
Jurisdiction		IDOT	0 14	-	me Per	_	NB PM			PHF	vaia D	اء ماد	0.97			8 "T"	<u>-</u>
Urban Street		Ogden Ave (US 34)		-	nalysis	\rightarrow	2027	N O N	A - :	1	ysis P		1> 3	3:00			,
Intersection		Ogden Ave (US 34)	& IVI	FI	le Nam	ie į	Ogden <i>A</i>	Ave & I	viain	STINE	3 PM.	xus			⊣ ▮	<u>ነ</u> ተ	4 to 4
Project Descrip	tion	5816.900														14 14	
Demand Inforr	nation			Т		EB			V	/B			NI	3		SB	
Approach Move	ement			П	L	T	R	L	Γ.	T	R	L	Т	R	L	Т	R
Demand (v), v	eh/h			2	229	1049	82	154	12	225	155	168	29	4 144	277	488	488
Ciamal Inform	4!					2 1	,		1		Ш	1 11:					
Signal Informa		D-f Dh		1	L		2 -2			2	211			_	,	Τ.	人
Cycle, s	140.0	Reference Phase	2	-			₹	- ₹		5		62	17	1	→ 2	3	4
Offset, s	0	Reference Point	Begin).1	1.4	60.6	11		3.5	28.0			2		
Uncoordinated	No	Simult. Gap E/W	On		ellow 3		3.5	4.5	3.		3.5	4.5		/		7	Ψ
Force Mode	Fixed	Simult. Gap N/S	On	R	ea (C	0.0	0.0	1.5	0.	U I	0.0	1.5		5	6	7	8
Saturation Flo	w / Dela	ay	L		Т	R	L	Т		R	L		Т	R	L	Т	R
Lane Width Adj		-	1.0	00	1.000	1.000	1.000	1.00	0	1.000	1.0	00 1	.000	1.000	1.000	1.000	1.000
		ade Factor (f _{HVg})	0.9	84	0.992	1.000	1.000	0.99	2	1.000	0.9	92 ().984	1.000	0.984	0.977	0.992
	rking Activity Adjustment Factor (f_p)					1.000			\rightarrow	1.000	1.0	_	.000	1.000	1.000	1.000	1.000
	s Blockage Adjustment Factor (fbb)					1.000			-	1.000	1.0	_	.000	1.000	1.000	1.000	1.000
Area Type Adju		· , ,	1.0		1.000	1.000			\rightarrow	1.000	1.0	_	.000	1.000	1.000	1.000	1.000
		ment Factor (f _{LU})	1.0	$\overline{}$	1.000	1.000	_		\rightarrow	1.000	1.0	$\overline{}$.000	1.000	1.000	0.952	
Left-Turn Adjus	•		0.9		0.000		0.952	0.00	0		0.9	52 (0.000		0.952	0.000	
Right-Turn Adju		<u>`</u>			0.974	0.974		0.96	\rightarrow	0.961		_	0.890	0.890		0.000	_
		djustment Factor (fl.p	b) 1.0	00			1.000		┰		0.9	99			1.000		
Right-Turn Ped	-Bike Ad	djustment Factor (f _{Rp}	ob)			0.999			\neg	1.000				1.000			0.998
Work Zone Adju	ustment	Factor (fwz)	1.0	00	1.000	1.000	1.000	1.00	0	1.000	1.0	00 1	.000	1.000	1.000	1.000	1.000
DDI Factor (foo	1)		1.0	00	1.000	1.000	1.000	1.00	0	1.000	1.0	00 1	.000	1.000	1.000	1.000	1.000
Movement Satu	iration F	Flow Rate (s), veh/h	17	81	3452	270	1810	328	3	413	179	95 2	2392	1143	1781	3719	1594
Proportion of Ve	ehicles A	Arriving on Green (F	P) 0.	10	0.62	0.47	0.06	0.58	8	0.43	0.0	8	0.20	0.20	0.13	0.25	0.25
Incremental De	lay Fact	tor (<i>k</i>)	0.2	29	0.50	0.50	0.11	0.50	0	0.50	0.1	6	0.50	0.50	0.33	0.50	0.50
Signal Timing	/ Mover	ment Groups	_	EBL		BT/R	WE			BT/R	_	NBL	1	NBT/R	SBI		SBT/R
Lost Time (t _L)	(2)			3.5		6.0	3.	_		3.0	_	3.5	_	6.0	3.5		6.0
Green Ratio (g/		D (/)	_	0.55	-	0.47	0.5			.43	_	0.28	+	0.20	0.35	_	0.25
		ow Rate (s_p) , veh/h/ v Rate (s_{sh}) , veh/h/ln		377		0	48	9		0		903		0	939		0
Permitted Effect		· , , ,	_	32.5		0.0	60	5		0.0		28.0		0.0	30.0		0.0
Permitted Servi		(5.7)	_	52.5 12.4		0.0	34			0.0	_	16.6		0.0	11.3	_	0.0
		ce Time (g_{ps}), s	_	12. 4 12.4	_	0.0	12	_		<i>7</i> .0	-	2.7		0.0	8.2	_	0.0
Time to First Bl		(3:):	_	0.0		0.0	0.0		(0.0	-	0.0		0.0	0.0	_	0.0
		(0,):	_	5.0		0.0	0.			7.0		5.0		0.0	0.0		0.0
	Heue Service Time Before Blockage (g_{fs}), softeeted Right Saturation Flow (s_R), veh/h/ln																1598
		ve Green Time (g_R) ,	_														14.0
Multimodal								WI	 В				NB			SB	-
	destrian F _w / F _v						1.7	-		000	1	.557	- 11	0.000	1.55		0.000
Pedestrian F _s /			_	.55		0.000	0.0	_		125	_	.000	_).152	0.00	-	0.147
Pedestrian Mcor		,															
Bicycle <i>c_b</i> / <i>d_b</i>			93	34.5	6	19.87	865	.26	22	2.53	40	00.00		14.80	500.0	00	39.38
Bicycle F_w / F_v				3.64	_	1.16	-3.6	_		.30	-	3.64	_	0.52	-3.64	_	1.07

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		HCS7 Sig	nalize	ed Inte	ersec	tion F	Result	s Gr	aphica	al Sun	nmar	у			
General Inforn	nation								Intersec	tion Info	ormatic	nn	_ le	4 4 4	يا مل
Agency	iiatioii	GHA						\rightarrow	Duration.		0.250		┨┛	jiti	
Analyst		GHA		Analys	is Date	Apr 12	2. 2021	_	Area Typ		Other				<u>*</u> _
Jurisdiction		IDOT		Time F		NB PI			PHF		0.97		^	w∱E	~ } ← ∳
Urban Street		Ogden Ave (US 34) & M	_	is Year				Analysis	Period	1> 3:0	00	_ 		√ ←
Intersection		Ogden Ave (US 34		File Na			n Ave &		St NB PN					ኝ ተ ቴ⁄	<u>_</u>
Project Descrip	tion	5816.900	,			1-3								1 1 f	"ו יל
Demand Inform	mation			Г	EB		7	WE	3	T	NB		T	SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	T	R
Demand (v), v	/eh/h			229	1049	82	154	122	5 155	168	294	144	277	488	488
Signal Informa	_				L2	2		∐ !	2 W			_	_	K	\mathbf{A}
Cycle, s	140.0	Reference Phase	2		L. 6	ĸ				EQ.			♦ ,		x1x
Offset, s	0	Reference Point	Begin	Green	9.1	1.4	60.6	11.5	5 3.5	28.0			5		7
Uncoordinated	-	Simult. Gap E/W	On	Yellow	3.5	3.5	4.5	3.5	3.5	4.5		7	7		\P
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	8
Movement Gro	nun Res	sults			EB			WB			NB			SB	
Approach Move		74110			T	R		T	R	L	T	R	L	T	R
		/In (95 th percentile)	382.8	434.2	445.8	134.3	726.8		219.7	336.2	314	345.7	321.2	677.1
		eh/ln (95 th percent		15.1	17.2	17.8	5.4	28.8	29.8	8.7	13.2	12.6	13.6	12.5	26.9
		RQ) (95 th percen	•	1.66	0.00	0.00	0.57	0.00	0.00	0.68	0.00	0.00	1.23	0.00	2.42
Control Delay (60.0	23.4	24.9	24.8	40.3	43.9	42.9	59.0	60.9	48.4	47.8	63.6
Level of Service				E	С	С	С	D	D	D	Е	Е	D	D	E
Approach Delay				30.2		С	40.3		D	55.2		E	54.		D
Intersection De	-					43	3.0						D		
		17.			60.0 60.0 23.4 24.9	12.5		8	 5.4		29.8	3			
		=			8	13.2	12.6			Storage Rati		_			

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS™ Streets Version 7.9

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		ı	HCS7	Signa	alizec	Inter	sectio	on Ir	put Da	ata					
Compared Informat								1	Intersec	tion lef	4 ! -				h.L.
General Informat		0114											- 1	JIII	
Agency		GHA		A 1		A 46	2 2004		Duration		0.250		_4		<u>~</u>
Analyst	-	GHA				Apr 12			Area Typ	e	Other		7	N W∓E	4 <u>></u> -
Jurisdiction	-	IDOT		Time F		NB SA	1 1	_	PHF	<u> </u>	0.98	20		8 M±=	
Urban Street		Ogden Ave (US 34)			sis Year				Analysis		1> 6:0	JU	7		r c
Intersection		Ogden Ave (US 34)) & M	File N	ame	Ogder	n Ave &	Main	St NB SA	I.xus			_	ጎ † †	
Project Description	n	5816.900	-	-		-	-	-		-	-	-		শ শিশ্প	7 1
Demand Informat	tion				EB			W	В	1	NB		T	SB	
Approach Moveme	ent			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), veh	/h			250	1085	151	166	118	39 150	200	345	163	277	391	322
Signal Information	n.				2	12	7								
	10	Deference Dhace		-	یہ خرا		17	Ħ	7 %			_	,	~	▲ │
	30.0	Reference Phase Reference Point	2	-	"		📑	. 6	i S			1	♀ 2	3	4
,	0		Begin	Green		0.3	58.0	13.				_			
	No	Simult. Gap E/W	On	Yellow		3.5	4.5	3.5		0.0	<u>_`</u>		Y		Ψ
Force Mode Fi	ixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	1.5	0.0		5	6	7	8
Traffic Informatio	on				EB			WB			NB			SB	
Approach Moveme	ent			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), veh/h				250	1085	151	166	1189	150	200	345	163	277	391	322
Initial Queue (Q _b),		 າ		0	0	0	0	0	0	0	0	0	0	0	0
	ase Saturation Flow Rate (s_0), veh/h					1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
Parking (<i>N</i> _m), man		(),		1900	1900 None			None			None			None	
Heavy Vehicles (P		<u></u>		2	1		0	1		0	1		2	2	1
Ped / Bike / RTOR				2	0	0	1	0	0	1	0	0	1	0	0
Buses (N _b), buses	·			0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (<i>AT</i>)				3	4	3	3	4	3	3	3	3	3	3	3
Upstream Filtering	r (/)			1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	, , ,			11.0	11.0	1.00	11.0	11.0		11.0	11.0		11.0	11.0	11.0
Turn Bay Length, t				230	0		235	0		325	0		280	0	280
Grade (Pg), %					0			0			0			0	
Speed Limit, mi/h				35	35	35	35	35	35	25	25	25	30	30	30
Phase Informatio				EBL	_	EBT	WBI		WBT	NBL		NBT	SBL		SBT
Maximum Green (21.0		62.0	18.0	_	59.0	17.0	_	33.0	17.0		33.0
Yellow Change Int		• •		3.5	_	4.5	3.5	_	4.5	3.5	_	4.5	3.5		4.5
Red Clearance Int		· ,		0.0	_	1.5	0.0	\rightarrow	1.5	0.0	-	1.5	0.0	$-\!\!\!\!-$	1.5
Minimum Green (3		15	3		15	3		8	3		8
Start-Up Lost Time				2.0	_	2.0	2.0	-	2.0	2.0		2.0	2.0		2.0
Extension of Effect	tive C	Freen (e), s		2.0	_	2.0	2.0	-	2.0	2.0	_	2.0	2.0		2.0
Passage (PT), s				3.0	_	7.0	3.0	_	7.0	3.0		7.0	3.0		7.0
Recall Mode				Off Yes	_	Min	Off	_	Min	Off		Off	Off		Off
<u> </u>	ual Entry					Yes	Yes		Yes	Yes		Yes	Yes		Yes
<u> </u>	alk (<i>Walk</i>), s edestrian Clearance Time (<i>PC</i>), s					0.0		+	0.0	_		0.0	_	+	0.0
redesilian Cleara	псе Т	IIIIe (FC), S				0.0			0.0			0.0			0.0
Multimodal Inform	ultimodal Information							WB			NB			SB	
85th % Speed / Re	est in	Walk / Corner Radi	us	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crossw	∕alk W	/idth / Length, ft		9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Islan	nd / C	Curb		0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bi	ike La	ne / Shoulder, ft		12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal	/ Occ	cupied Parking		No		0.50	No		0.50	No		0.50	No		0.50

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		HCS	7 Sig	nalize	d Int	ersec	tion F	Resi	ults	Sun	nmary	/				
General Inform	nation								-		ion Info				1 7 to 1	
Agency		GHA							-	ıration,		0.250				N.
Analyst		GHA				Apr 12			+	еа Тур	e	Other		 		<u>*</u> }-
Jurisdiction		IDOT		Time F		NB SA	<u> </u>		PH			0.98		♦ → ₹ →	w∳E	← ‡
Urban Street		Ogden Ave (US 34)) & M	Analys	is Year	2027			An	alysis l	Period	1> 6:0	00	→		Tr G
Intersection		Ogden Ave (US 34)) & M	File Na	ame	Ogde	n Ave &	Mair	St N	NB SA	T.xus				<u> ጎተ</u> ት	
Project Descrip	tion	5816.900												1	4 1 4 4	* (*
Demand Inform	nation				EB		T	V	VB			NB		T	SB	
Approach Move	ement			L	Т	R	L		Т	R	L	Т	R	L	Т	R
Demand (v), v				250	1085		166	11	189	150	200	345	163	277	391	322
Signal Informa					2	2	1.	님	7	21/3				_	K	人
Cycle, s	130.0	Reference Phase	2		L. 6	ĸ	- 153 •	•	5	T:	2			€ ,	3	x1.
Offset, s	0	Reference Point	Begin	Green	8.8	0.3	58.0	13	3.4	27.0	0.0			K	1	-
Uncoordinated	No	Simult. Gap E/W	On	Yellow		3.5	4.5	3.	5	4.5	0.0		≯ │	7		**
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.	0	1.5	0.0		5	6	7	8
Timer Results				EBL		EBT	WB		W	/BT	NBL	_	NBT	SBI	_	SBT
Assigned Phase	e			5		2	1	_		6	3		8	7		4
Case Number				1.1		4.0	1.1			1.0	1.1		4.0	1.1		3.0
Phase Duration				16.1		67.8	12.3	\rightarrow		4.0	16.9	_	32.9	17.0		33.0
	nange Period, (<i>Y+R c</i>), s					6.0	3.5	\rightarrow		3.0	3.5	_	6.0	3.5		6.0
Max Allow Head				3.5 4.0	_	0.0	4.0	_		0.0	4.2	_	11.3	4.1	_	11.3
Queue Clearan	- `			12.2		0.0	8.5	_		7.0	13.4	_	19.8	15.5	;	25.4
Green Extension		, - ,		0.4		0.0	0.2	_	0	0.0	0.0	_	6.8	0.0	_	1.6
Phase Call Pro		(90),0		1.00		0.0	1.00	\rightarrow		,.0	1.00	_	1.00	1.00		1.00
Max Out Proba				0.44	_		0.2	_		_	1.00		1.00	1.00		1.00
ax Catt Folds	~y			3 111			V.=									
Movement Gro	oup Res	sults			EB			W	В			NB			SB	
Approach Move	ement			L	Т	R	L	Т	\neg	R	L	Т	R	L	Т	R
Assigned Move	ment			5	2	12	1	6		16	3	8	18	7	4	14
Adjusted Flow I	Rate (v), veh/h		255	643	618	169	69	5	672	204	271	247	283	399	329
Adjusted Satura	ation Flo	ow Rate (s), veh/h/	ln	1781	1885	1804	1810	188	35	1811	1810	1885	1680	1781	1874	1595
Queue Service	Time (g s), S		10.2	29.8	31.6	6.5	38.	2	39.7	11.4	17.3	17.8	13.5	12.3	23.4
Cycle Queue C	learanc	e Time (<i>g c</i>), s		10.2	29.8	31.6	6.5	38.	2	39.7	11.4	17.3	17.8	13.5	12.3	23.4
Green Ratio (g				0.56	0.48	0.48	0.51	0.4	5	0.45	0.31	0.21	0.21	0.31	0.21	0.31
Capacity (c), v	/eh/h			284	896	857	274	84	0	807	340	391	348	302	780	487
Volume-to-Cap		ntio (X)		0.899	0.718	0.721	0.617	0.82	27 (0.832	0.600	0.694	0.711	0.935	0.512	0.675
Back of Queue	(Q), ft	/In (95 th percentile)	248.5	444.5	469.2	129.1	583	.4 6	601.5	229.4	359.4	337.1	242.4	254.4	388.2
		eh/ln (95 th percent		9.8	17.6	18.8	5.2	23.	_	24.1	9.2	14.3	13.5	9.5	10.0	15.4
		RQ) (95 th percen	tile)	1.08	0.00	0.00	0.55	0.0	_	0.00	0.71	0.00	0.00	0.87	0.00	1.39
Uniform Delay (, ,			28.5	18.0	20.3	22.5	22.	_	24.6	35.8	47.7	47.9	41.9	45.6	39.5
Incremental De	- 1	,		21.8	4.9 0.0	5.2	2.3	9.2	_	9.8	2.9	9.7	11.7	34.9	2.4	7.3
	nitial Queue Delay (d ȝ), s/veh					0.0	0.0	0.0	\rightarrow	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Control Delay (<i>d</i>), s/veh					25.5	24.7	31.		34.4	38.7	57.5	59.6	76.8	48.0	46.8
	evel of Service (LOS)					С	С	С		С	D	E	E	E	D	_ D
Approach Delay				28.5		С	32.0)	(С	52.9		D	55.7	7	Е
Intersection De	lay, s/ve	eh / LOS				39	9.1							D		
Multimodal Re	sults				EB			W	В			NB			SB	
Pedestrian LOS		/10S		2.27		В	2.43	_		В	2.31		В	2.31		В
Bicycle LOS Sc				1.74	_	В	1.75	\rightarrow		В	1.08	_	A	1.32		A
						_										

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		HCS7	7 S	igna	lized	Inters	sectio	n Int	ern	nedia	ate \	/alu	es				
General Inform	nation	T								-	section		-		_	<u> </u> 4 4	
Agency		GHA									tion, h	1	0.25		_1		t.
Analyst		GHA		_	Analysi		Apr 12,			-	Туре		Oth		<u></u> →	Ņ	}_ }
Jurisdiction		IDOT			Time P		NB SAT			PHF			0.98			w∳ ®	€ ← ∳
Urban Street		Ogden Ave (US 34	_		Analysi		2027				ysis P		1> 6	5:00	7		**
Intersection		Ogden Ave (US 34) &	M	File Na	me	Ogden A	Ave & I	Main	St NE	SAT.	xus			\Box	ካ ተ	†
Project Descrip	tion	5816.900		_	_	_	_	_		_	_		_	_		ኘ ቀ ሰቀ	7 4 77
Demand Inform	nation					EB			V	/B			NI	В		SI	3
Approach Move	ement				L	Т	R	L	Τ.	т	R	L	Т		L	Т	R
Demand (v), v					250	1085	151	166	11	89	150	200	34		3 277	39	_
					'												, <u>-</u>
Signal Informa	_					2	2			7				_	_	K	
Cycle, s	130.0	Reference Phase	L	2			Ri I	≅ ₹		5	% 12	,		1	↔ ,	1	3 4
Offset, s	0	Reference Point	-	egin	Green	8.8	0.3	58.0	13	3.4	27.0	0.0			<u> </u>	т.	
Uncoordinated	No	Simult. Gap E/W	-	On	Yellow	3.5	3.5	4.5	3.	5 4	4.5	0.0			7	1	\$
Force Mode	Fixed	Simult. Gap N/S	(On	Red	0.0	0.0	1.5	0.	0	1.5	0.0		5	6		7 8
Saturation Flo	w / Dela	av		1	Т	R	T	Гт	T	R			Т	R	L	Т	R
Lane Width Adj		-		1.000			1.000		00	1.000	1.0	00 1	.000	1.000	1.000	1.00	
		ade Factor (f _{HVg})		0.984	_				_	1.000	1.0	-	.992	1.000	0.984	0.98	_
•	arking Activity Adjustment Factor (f_p)					1.000			_	1.000	1.0	-	.000	1.000	1.000	1.00	
Bus Blockage A				1.000	_	_			_	1.000	1.0		.000	1.000	1.000	1.00	
Area Type Adju		· · · · · ·		1.000	_				_	1.000	1.0	_	.000	1.000	1.000	1.00	
		ment Factor (fLU)		1.000	_				\rightarrow	1.000	1.0	-	.000	1.000	1.000	0.95	_
Left-Turn Adjust				0.952			0.952		_		0.9	-	0.000	11000	0.952	0.00	
Right-Turn Adju				0.001	0.95	_	_	0.96	\rightarrow	0.960	1	-	0.891	0.891	0.002	0.00	_
-		djustment Factor (fL)	ob)	1.000		1	1.000				0.9				1.000		
		djustment Factor (f _R				0.999			\dashv	0.999		\dashv		0.999			0.999
Work Zone Adju		•		1.000	1.00	1.000	1.000	1.00	00	1.000	1.0	00 1	.000	1.000	1.000	1.00	0 1.000
DDI Factor (fdd)		, ,		1.000	1.00	1.000	1.000	1.00	00	1.000	1.0	00 1	.000	1.000	1.000	1.00	0 1.000
Movement Satu	ration F	low Rate (s), veh/h		1781	3239	450	1810	328	3	413	18 ⁻	10 2	2436	1130	1781	374	1595
Proportion of Ve	ehicles /	Arriving on Green (F	?)	0.10	0.63	0.48	0.07	0.5	9	0.45	0.1	0	0.21	0.21	0.10	0.21	0.21
Incremental De	lay Fact	tor (k)		0.29	0.50	0.50	0.11	0.5	0	0.50	0.1	8	0.50	0.50	0.45	0.50	0.50
Signal Timing	/ Mover	ment Groups		E		EBT/R	WE	_		BT/R	-	NBL	1	NBT/R	SBL	-	SBT/R
Lost Time (t⊥)	(2)			3.		6.0	3.			5.0	_	3.5	_	6.0	3.5		6.0
Green Ratio (g/		D ()	,	0.5	_	0.48	0.5	_		.45	_	0.31	+	0.21	0.31	_	0.21
		low Rate (s_p) , veh/h/	=	39	8	0	44	1		0	1	001		0	883		0
Permitted Effec		v Rate (<i>ssh</i>), veh/h/lr	ı	59	0	0.0	57	9		0.0		26.9		0.0	26.9		0.0
Permitted Effect		(3.7)		18		0.0	28	$\overline{}$).0	-	26.9		0.0	9.1	,	0.0
Permitted Queu		,= ,		18	_	0.0	18	_		<i>.</i>	-	3.6		0.0	9.1		0.0
Time to First Blo		(3.)		0.	_	0.0	0.0	_	(0.0	-	0.0		0.0	0.0		0.0
		efore Blockage (<i>g_{fs}</i>).	S	J.		0.0	0.	_				5.5		0.0	0.0		0.0
		tion Flow (s _R), veh/h															1598
		ve Green Time (g_R) ,															12.6
Multimodal	0.11	(311);			EB			W	В				NB			SB	
Pedestrian F _w /	Fv			1.5		0.000	1.7			000	1	.557	_	0.000	1.55	- 1	0.000
Pedestrian F _s /				0.0	-	0.116	0.0	_		120	-	.000	_	0.149	0.00	_	0.149
Pedestrian Mcor		/															
Bicycle c _b / d _b				950	.46	17.90	891	.70	19	9.96	4	4.46	4	40.85	415.9	2	40.78
Bicycle F _w / F _v				-3.		1.25	-3.6	_		.27	-	3.64	_	0.60	-3.64	_	0.83

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		HCS7 Sig	nalize	ed Inte	ersect	tion F	Result	s Gı	aphica	al Sur	nmar	у			gono
General Inform	nation								Intersec	tion Inf	ormatio	nn	<u> </u>	1 4 1/4 1	Ja l <u>u</u>
Agency	iation	GHA						_	Duration,		0.250			1111	· _
Analyst		GHA		Analys	is Date	Apr 12	2 2021		Area Typ		Other		_1 _5		<u></u>
Jurisdiction		IDOT		Time P		NB SA		_	PHF		0.98		^_ \$	w∱E	<u>~</u> }- ←-‡-
Urban Street		Ogden Ave (US 34) & M		is Year	-		\rightarrow	Analysis	Period	1> 6:0	00	\		₩ ₩
Intersection		Ogden Ave (US 34		File Na			n Ave &		St NB SA					5 ተ t e	<u> </u>
Project Descrip	tion	5816.900	,			1-9								[석 수 [학	"ነ ተ
Demand Inform	nation				EB		1	WI	3	T	NB		T	SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v				250	1085	151	166	118	_	200	345	_	277	391	322
														1	
Signal Informa	tion				2	2	_ 5								
Cycle, s	130.0	Reference Phase	2		100	Ħ		_ K			×		♦ 』		x1x
Offset, s	0	Reference Point	Begin	Green	8.8	0.3	58.0	13.			, 1	'	S	3	4
Uncoordinated	No	Simult. Gap E/W	On	Yellow		3.5	4.5	3.5	4.5	0.0		7	₹		小
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	1.5	0.0		5	6	7	8
Movement Gro	un Pos	culte			EB			WB			NB			SB	
Approach Move		Juito			T	R		T	R	L	T	R	L	T	R
		/In (95 th percentile)	248.5	444.5	469.2	129.1	583.4		229.4	359.4	337.1	242.4	254.4	388.2
	· ,	eh/ln (95 th percent		9.8	17.6	18.8	5.2	23.1		9.2	14.3	13.5	9.5	10.0	15.4
	• •	RQ) (95 th percen	-	1.08	0.00	0.00	0.55	0.00		0.71	0.00	0.00	0.87	0.00	1.39
Control Delay (50.2	22.9	25.5	24.7	31.5		38.7	57.5	59.6	76.8	48.0	46.8
Level of Service				D	С	С	С	С	С	D	E	E	E	D	D
Approach Delay				28.5		С	32.0		С	52.9		D	55.7	7	E
Intersection De						39	9.1						D		
		17.6 <u></u> 18.8 <u></u>	9.8		50.2 22.9 25.5	5.4	9.5 76.8 34. 31.	5	5.2		24.	1			
			LOS A LOS B LOS C LOS D LOS E LOS F		9	.2	13.5			Storage Rat					

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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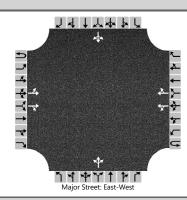
HCS™ Streets Version 7.9

Generated: 4/20/2021 10:21:13 AM

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	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Highland Ave
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Highland Ave
Time Analyzed	TOTAL AM	Peak Hour Factor	0.88
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		

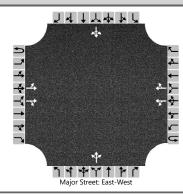
Lanes



Vehicle Volumes and Adju	stme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		3	1200	50		0	1039	5		1	0	29		1	0	11
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										()			()	
Right Turn Channelized																
Median Type Storage				Left	Only								1			
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, and	Leve	of Se	ervice													
Flow Rate, v (veh/h)		3				0					34				14	
Capacity, c (veh/h)		596				486					352				380	
v/c Ratio		0.01				0.00					0.10				0.04	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.3				0.1	
Control Delay (s/veh)		11.1				12.4					16.3				14.8	
Level of Service (LOS)		В				В					С				В	
Approach Delay (s/veh)		0	.2			0	.0			16	5.3			14	1.8	
Approach LOS										(C			į.	3	

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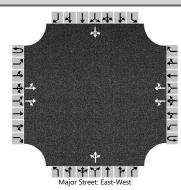
	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Highland Ave
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Highland Ave
Time Analyzed	TOTAL PM	Peak Hour Factor	0.94
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		



Vehicle Volumes and Adj	ustme	nts																		
Approach		Eastb	ound			Westl	oound			North	bound			South	bound					
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R				
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12				
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0				
Configuration		LT		TR		LT		TR			LTR				LTR					
Volume (veh/h)		2	1460	32		0	1513	32		1	1	24		2	0	44				
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0				
Proportion Time Blocked																				
Percent Grade (%)											0			(0					
Right Turn Channelized																				
Median Type Storage				Left	Only								1							
Critical and Follow-up H	eadwa	4.1 4.1 7.5 6.5 6.9 7.5 6.5																		
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9				
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90				
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3				
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30				
Delay, Queue Length, an	d Leve	l of S	ervice																	
Flow Rate, v (veh/h)		2				0					28				49					
Capacity, c (veh/h)		399				419					137				282					
v/c Ratio		0.01				0.00					0.20				0.17					
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.7				0.6					
Control Delay (s/veh)		14.1				13.6					37.8				20.4					
Level of Service (LOS)		В				В					E			3.5 4.0 3.50 4.00 49 282 0.17 0.6						
Approach Delay (s/veh)		C	.3			0	.0			37	7.8			20	0.4					
Approach LOS											E			(С					

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	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Highland Ave
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Highland Ave
Time Analyzed	TOTAL SAT	Peak Hour Factor	0.96
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		



Approach		Eastb	ound			Westl	oound			North	bound			South	7.5 6.5 7.50 6.50 3.50 4.00 31 300 0.10 0.3 18.4				
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R			
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12			
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0			
Configuration		LT		TR		LT		TR			LTR				LTR				
Volume (veh/h)		5	1517	29		0	1496	32		1	2	23		1	0	29			
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0			
Proportion Time Blocked																			
Percent Grade (%)										()			(0				
Right Turn Channelized																			
Median Type Storage				Left	Only								1						
Critical and Follow-up H	p Headways																		
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9			
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90			
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3			
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30			
Delay, Queue Length, an	d Leve	l of Se	ervice																
Flow Rate, v (veh/h)		5				0					27				31				
Capacity, c (veh/h)		418				411					85				300				
v/c Ratio		0.01				0.00					0.32				0.10				
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					1.2				0.3				
Control Delay (s/veh)		13.7				13.8					66.0								
Level of Service (LOS)		В				В					F				С				
Approach Delay (s/veh)		0	.9	-		0	.0			66	5.0	•		18	3.4				
Approach LOS	i i				Ì						=		Ì	(C				

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KD 2021-9000			HCS7	Signa	alized	l Inter	section	on Ir	put Da	ata				Pa	ge 111 (
General Inform	nation								Intersec	tion Inf	ormatio	on	k	4741	
Agency		GHA							Duration,	h	0.250	١	_4	5++2	Pt.
Analyst		GHA		Analys	is Date	Apr 12	2, 2021		Area Typ	е	Other		<i>≛</i> → _≯		
Jurisdiction		IDOT		Time F	Period	TOTA	LAM		PHF		0.89		♦ →	w∳E	←
Urban Street		Ogden Ave (US 34)) & M	Analys	is Year	2027			Analysis	Period	1> 6:0	00	7		17
Intersection		Ogden Ave (US 34)) & M	File Na	ame	Ogdei	n Ave &	Main	St TOTAL	AM.xu	S			5 ተ ቱ	
Project Descrip	tion	5816.900												4 1 4 4	7 4
Demand Inform	nation				EB		7	WI	В	7	NB		7	SB	
				L	T	R		T		1	T	R		T	R
				273	946	76	116		_	107	291	99	208	243	241
Signal Informa	tion	-			2	12	1.	¥			ú	_	_		\mathbf{L}
Cycle, s	130.0	Reference Phase	2		L. R	ĸ	 	· .	,	EQ.	12		♦ ,		sta –
Offset, s	0	Reference Point	Begin	Green	7 4	3.7	58.2	9.1	3.4	25.7		- '	K	1 3	4
Uncoordinated	nand Information roach Movement hand (v), veh/h nal Information le, s				3.5	3.5	4.5	3.5		4.5		7	→		ST 2
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0		1.5		5	- 6	7	1
					EB		.	WB			NB -	В	- -	SB	
				273	946	76	116	825	110	107	T 291	99	208	T 243	R 244
` '			0	0	0	0	023	0	0	0	0	0	0	241	
				1900	1900	1900	1900	1900	_	1900	1900	1900	1900	2000	1900
	e Saturation Flow Rate (s_0), veh/h ing (N_m), man/h				None	1900	1900	None	_	1900	None	1900	1900	None	1900
	Il Queue (Q _b), veh/h e Saturation Flow Rate (s₀), veh/h ing (N _m), man/h vy Vehicles (P _{HV}), % / Bike / RTOR, /h				5		7	5	5	4	3		4	3	2
-	e Saturation Flow Rate (s_0), veh/h ing (N_m), man/h by Vehicles (P_{HV}), % by Bike / RTOR, /h by (N_0), buses/h				0	0	1	0	0	0	0	0	1	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
1 /				3	4	3	3	4	3	3	3	3	3	3	3
	•			1.00	1.00	1.00	1.00	1.00	_	1.00	1.00	1.00	1.00	1.00	1.00
	and (v), veh/h I Queue (Qb), veh/h Saturation Flow Rate (so), veh/h Ing (Nm), man/h Ing (Nm), man/h Ing Vehicles (PHV), % I Bike / RTOR, /h Ins (Nb), buses/h I Type (AT) I ream Filtering (I) I Width (W), ft I Bay Length, ft I e (Pg), %				11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
				11.0 230	0		235	0		325	0		280	0	280
Grade (<i>Pg</i>), %	,				0			0			0			0	
Speed Limit, mi	i/h			35	35	35	35	35	35	25	25	25	30	30	30
Phase Informa	tion			EBL	-	EBT	WBI		WBT	NBL		NBT	SBL		SBT
) or Phase Split, s		38.0	_	67.0	14.0	-	43.0	16.0		33.0	16.0	_	33.0
Yellow Change				3.5	-	4.5	3.5	_	4.5	3.5	_	4.5	3.5	_	4.5
Red Clearance		• •		0.0		1.5	0.0		1.5	0.0		1.5	0.0	_	1.5
Minimum Greer	n (Gmin)	, S		3		15	3		15	3		8	3		8
Start-Up Lost Ti	ime (<i>lt</i>)	, S		2.0		2.0	2.0		2.0	2.0		2.0	2.0		2.0
		Green (e), s		2.0		2.0	2.0	_	2.0	2.0	_	2.0	2.0		2.0
Passage (<i>PT</i>), s	s			3.0		7.0	3.0		7.0	3.0		7.0	3.0		7.0
Recall Mode				Off	_	Min	Off	_	Min	Off		Off	Off	_	Off
Dual Entry				Yes	_	Yes	Yes	3	Yes	Yes		Yes	Yes		Yes
Walk (Walk), s		Fire - (DO) -			-	0.0	-	+	0.0		_	0.0	-	-	0.0
Pedestrian Clea	arance	ııme (<i>PC</i>), s				0.0			0.0			0.0			0.0
Multimodal Inf	ormatic	on			EB			WB			NB			SB	
85th % Speed /	Rest in	Walk / Corner Radi	ius	0	No	25	0	No	25	0	No	25	0	No	25
-				9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
	Walk), s rian Clearance Time (PC), s odal Information Speed / Rest in Walk / Corner Radius ay / Crosswalk Width / Length, ft Width / Island / Curb			0 12	0	No	0	0	No	0	0	No	0	0	No
	ion of Effective Green (e), s ge (PT), s Mode ntry				5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Sigr	nal / Occ	cupied Parking		No		0.50	No		0.50	No		0.50	No		0.50

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	HCS7 Sig	nalize	a inte	ersec'	uon K	esu	nts Sur	ıımary					
General Information							Intersec	tion Info	ormatic	on	2	4 가하 ↓	200000000000000000000000000000000000000
Agency	GHA						Duration		0.250			ألمللا	
Analyst	GHA	Analys	is Date	Apr 12	2. 2021		Area Typ		Other				
Jurisdiction	IDOT	Time F		TOTA			PHF		0.89		_ → _^1 	w∱E	←
Urban Street	Ogden Ave (US 34) & M		is Year				Analysis	Period	1> 6:0	20	- ₹ - ₹		~
Intersection	Ogden Ave (US 34) & M	File Na		_	n Ave &	Main	St TOTAL					K A 4.	
Project Description	5816.900	THETA	arric	Oguci	17100 0	IVIGIII	0110171	-7 IIVI.Auc	,		- F	1 1 4 7	∱ [*
Demand Information			EB		7	W	/B	7	NB		7	SB	
Approach Movement		L	T	R	L	T 7			T	R	L	T	R
Demand (v), veh/h		273	946	76	116	82		107	291	99	208	243	241
Signal Information			2	2	Τ_ 2		7			_		_	
Cycle, s 130.0	Reference Phase 2		P 6	Ħ	H ·	∄ ,	2	F(4)	_		$\boldsymbol{\alpha}$	\	stz –
Offset, s 0	Reference Point Begin	Green	7 4	3.7	58.2	9.	1 3.4	25.7		1	K Z	3	-
Uncoordinated No	Simult. Gap E/W On	Yellow		3.5	4.5	3.5		4.5		>	₹		松
Force Mode Fixed	Simult. Gap N/S On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	<u> </u>
Timer Results		EBI	-	EBT	WB	<u> </u>	WBT	NBL	-	NBT	SBI	-	SBT
Assigned Phase		5		2	1	-	6	3		8	7		4
Case Number		1.1		4.0	1.1	_	4.0	1.1	_	4.0	1.1		3.0
Phase Duration, s	`	18.1		71.4	10.9	_	64.2	12.6		31.7	16.0	_	35.1
Change Period, (Y+R	,	3.5	_	6.0	3.5	_	6.0	3.5	-	6.0	3.5	_	6.0
Max Allow Headway (/		4.0		0.0	4.0	_	0.0	4.2	_	11.2	4.1		11.2
Queue Clearance Time	· - ·	13.6	5		7.3	-		9.0	_	16.9	14.5	_	19.8
Green Extension Time	(g e), s	1.0		0.0	0.1	\rightarrow	0.0	0.1	_	8.8	0.0	_	9.2
Phase Call Probability		1.00	_		1.00	-		1.00	_	1.00	1.00		1.00
Max Out Probability		0.00)		0.66	5		1.00	_	1.00	1.00)	1.00
Movement Group Res	sults		EB			WE	3		NB			SB	
Approach Movement		L	T	R	L	Т	R	L	T	R	L	Т	R
Assigned Movement		5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	307	582	567	130	536		120	226	212	234	273	271
Adjusted Saturation Flo	,	1767	1826	1777	1711	182		1753	1856	1695	1753	1859	1583
Queue Service Time (, ,	11.6	23.7	24.9	5.3	25.3		7.0	14.5	14.9	12.5	8.0	17.8
Cycle Queue Clearance	- ,	11.6	23.7	24.9	5.3	25.3		7.0	14.5	14.9	12.5	8.0	17.8
Green Ratio (g/C)	() - /, -	0.58	0.50	0.50	0.51	0.4	_	0.27	0.20	0.20	0.31	0.22	0.34
Capacity (c), veh/h		384	918	894	293	818		338	366	335	301	831	532
Volume-to-Capacity Ra	atio (X)	0.799	0.633		0.445	0.65		0.356	0.617	0.634	0.776	0.328	0.509
Back of Queue (Q), ft		219.1	351.2	-	102.7	397.		145	308.6	290.1	290.8	176.3	301.1
Back of Queue (Q), ve		8.6	13.5	14.3	3.9	15.3		5.6	12.1	11.6	11.3	6.9	11.9
· · · · · ·	RQ) (95 th percentile)	0.95	0.00	0.00	0.44	0.00		0.45	0.00	0.00	1.04	0.00	1.08
Uniform Delay (d 1), s		21.4	14.5	15.9	19.3	19.6		37.6	47.7	47.9	38.9	42.3	34.6
Incremental Delay (d 2		3.9	3.3	3.4	1.1	4.1		0.6	7.6	8.8	12.0	1.1	3.5
Initial Queue Delay (d	·	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/ve		25.3	17.9	19.3	20.4	23.6		38.3	55.3	56.7	50.9	43.3	38.0
Level of Service (LOS)		С	В	В	С	С	С	D	E	E	D	D	D
· · · · · ·	roach Delay, s/veh / LOS				24.2		С	52.1		D	43.8	3	D
	rsection Delay, s/veh / LOS).4						С		
Multimodal Results			EB			WE			NB			SB	
Pedestrian LOS Score		2.27	-	В	2.43	_	В	2.31	_	В	2.30	_	В
Bicycle LOS Score / LO	OS	1.69)	В	1.46	6	Α	0.95		Α	1.13	3	Α

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		HCS7	7 S	igna	lized	Inters	sectio	n Int	ern	nedia	ate V	/alue	es				
General Inforn	nation									Intor	sectio	n Inf	ormat	ion		기세사색	ما اید لی
	nation	CHA							-				0.25		- I	ŢŢ	
Agency		GHA			· · · · · · · · · · · · · · · ·	D-4-	A 4O	0004	-		tion, h		_		_3		P.
Analyst		GHA					Apr 12, TOTAL		_	Area	туре		Othe			w.l	£
Jurisdiction		IDOT	\ 0	$\overline{}$	ime Pe			AIVI	-	PHF	raia D	- ui - al	0.89			" "	·
Urban Street		Ogden Ave (US 34			Analysis		2027	A O A	4 - :		/sis Pe		1>6	5:00			<u></u>
Intersection	••	Ogden Ave (US 34) &	M F	ile Nar	ne	Ogden A	Ave & N	/lain	St 10	IALA	M.xu	S		- I	<u> </u>	†
Project Descrip	tion	5816.900														14 14	* Y + Y
Demand Inform	nation					EB			W	/B			NE	3		S	 В
Approach Move	ement				L	Т	R	L	T	Г	R	L	Т	R	L	T	R
Demand (v), v					273	946	76	116	82	25	110	107	29	1 99	208	3 24	3 241
Signal Informa			_			2	2			7 6	从	1213			_	K	
Cycle, s	130.0	Reference Phase	-	2	Ī		₩] ,	5		EQ./	7	1	← ,	1	3 4
Offset, s	0	Reference Point	Be	egin	Green	7.4	3.7	58.2	9.1	1 3	3.4	25.7		1	K	т.	
Uncoordinated	No	Simult. Gap E/W			'ellow	3.5	3.5	4.5	3.5	5 (0.0	4.5		- ≻	7	/	₩
Force Mode	Fixed	Simult. Gap N/S	(On F	Red	0.0	0.0	1.5	0.0	0 (0.0	1.5		5	6		7 8
Caturation Ele	w / Dala	av.			Т	R		Т		R			Т	R	1	Т	R
		•	-	1 000			1 000		0	1.000	1 00	0 1	-		1 000	_	
			1.000 0.977	0.961				_	1.000	1.00	-	.000	1.000	1.000 0.969	1.00 0.97		
-	e Width Adjustment Factor (f_W) vy Vehicles and Grade Factor (f_{PVg}) king Activity Adjustment Factor (f_{PD}) Blockage Adjustment Factor (f_{PD}) a Type Adjustment Factor (f_{PD}) e Utilization Adjustment Factor (f_{PD}) Turn Adjustment Factor (f_{PD}) nt-Turn Adjustment Factor (f_{PD}) Turn Pedestrian Adjustment Factor (f_{PD})								_		0.96	_				_	
	e Width Adjustment Factor (f_w) king Activity Adjustment Factor (f_{PVg}) Blockage Adjustment Factor (f_{Db}) Type Adjustment Factor (f_a) e Utilization Adjustment Factor (f_{LU}) Turn Adjustment Factor (f_{LT})					1.000			_	1.000	1.00		.000	1.000	1.000	1.00	
	e Width Adjustment Factor (f_w) vy Vehicles and Grade Factor (f_{PVg}) king Activity Adjustment Factor (f_p) Blockage Adjustment Factor (f_{ab}) a Type Adjustment Factor (f_a) e Utilization Adjustment Factor (f_{LU}) -Turn Adjustment Factor (f_{LT}) nt-Turn Adjustment Factor (f_{RT}) -Turn Pedestrian Adjustment Factor (f_{RT}) ht-Turn Ped-Bike Adjustment Factor (f_{RR}) k Zone Adjustment Factor (f_{WZ})					1.000			_	1.000	1.00	-	.000	1.000	1.000	1.00	
	e Width Adjustment Factor (f_W) vy Vehicles and Grade Factor (f_{PVg}) king Activity Adjustment Factor (f_{PD}) Blockage Adjustment Factor (f_{DD}) a Type Adjustment Factor (f_{DD}) e Utilization Adjustment Factor (f_{LU}) -Turn Adjustment Factor (f_{LT}) nt-Turn Adjustment Factor (f_{RT}) -Turn Pedestrian Adjustment Factor (f_{RT}) nt-Turn Ped-Bike Adjustment Factor (f_{RT}) k Zone Adjustment Factor (f_{WZ}) Factor (f_{DDI})					1.000	_		-	1.000	1.00	-	.000	1.000	1.000	1.00	
	e Width Adjustment Factor (f _w) avy Vehicles and Grade Factor (f _P) Blockage Adjustment Factor (f _D) Blockage Adjustment Factor (f _D) Type Adjustment Factor (f _D) Utilization Adjustment Factor (f _{LU}) Turn Adjustment Factor (f _{LT}) Turn Adjustment Factor (f _{RT}) Turn Pedestrian Adjustment Factor (f _R) Later Pactor (f _R) Turn Ped-Bike Adjustment Factor (f _R) Tactor (f _{DDI})					1.000			_	1.000	1.00	-	.000	1.000	1.000	0.95	
	nt-Turn Ped-Bike Adjustment Factor (fr rk Zone Adjustment Factor (fwz) Factor (fɒɒɪ) vement Saturation Flow Rate (s), veh/h					0.070	0.952		_	0.050	0.95	_	.000	0.044	0.952	0.00	
	e Width Adjustment Factor (f_W) vy Vehicles and Grade Factor (f_{PVg}) king Activity Adjustment Factor (f_P) Blockage Adjustment Factor (f_{bb}) a Type Adjustment Factor (f_a) e Utilization Adjustment Factor (f_{LU}) -Turn Adjustment Factor (f_{LT}) nt-Turn Adjustment Factor (f_{RT}) -Turn Pedestrian Adjustment Factor (f_{LT}) t-Turn Ped-Bike Adjustment Factor (f_{RT}) Factor (f_{DDI}) rement Saturation Flow Rate (f_{RT}), veh/h portion of Vehicles Arriving on Green (f_{RT})					0.973		0.95	8 (0.958	0.00		.914	0.914	1 000	0.00	0 0.847
		_	1.000	-	0.000	1.000	-	+	0.000	0.99	99		4.000	1.000	-	0.000	
_			pb)	1 000	1.000	0.999		1.00	_	0.999	1.00	20 4	000	1.000	1.000	1.00	0.999
		ractor (Iwz)	-	1.000					_	1.000	1.00		.000	1.000	1.000	1.00	
	Utilization Adjustment Factor (fLv) Furn Adjustment Factor (fLT) -Turn Adjustment Factor (fRT) Furn Pedestrian Adjustment Factor (fRT) -Turn Ped-Bike Adjustment Factor (fRT)					+			\rightarrow	1.000	1.00	-	.000	1.000	1.000	1.00	
			2/	1767	3335		1711	315	_	421	175	-	662	889	1753	371	
			-)	0.11	0.67	0.50		0.60	_	0.45	0.0).20).50	0.20	0.10	0.22	_
incremental De	iay raci	ioi (k)		0.11	0.50	0.50	0.11	0.50	,	0.50	0.1	1 (7.50	0.50	0.32	0.50	0.50
Signal Timing	/ Mover	ment Groups		EB	L	EBT/R	WE	3L	WE	BT/R	1	NBL	N	IBT/R	SB	L	SBT/R
Lost Time (t∠)			\neg	3.5		6.0	3.			5.0	_	3.5		6.0	3.5	_	6.0
Green Ratio (g/	(C)			0.5	8	0.50	0.5	_	0.	.45	_	.27		0.20	0.3	1	0.22
,-		low Rate (s_p) , veh/h	/ln	53	_	0	47			0	-	089		0	936	_	0
		v Rate (ssh), veh/h/lr	-														
Permitted Effect		, ,		60.	2	0.0	58	.2	0	0.0	2	5.7		0.0	27.	6	0.0
Permitted Servi		,= ,		31.	_	0.0	38	_		0.0	-	9.1		0.0	10.		0.0
		ce Time (g _{ps}), s		31.			7.0				-	0.8			8.5	_	
Time to First Bl		,- ,		0.0)	0.0	0.0		0	0.0	(0.0		0.0	0.0	_	0.0
		efore Blockage (<i>gf</i> s),	, s														
		tion Flow (s _R), veh/h	-														1585
		ve Green Time (g _R),	-														14.6
Multimodal					EB			WE	3				NB			SE	
Pedestrian F _w /	Fv			1.55		0.000	1.7	10	0.0	000	1.	.557	-	0.000	1.55	_	0.000
Pedestrian F _s /				0.00	_	0.111	0.0	-		120	-	.000	_).150	0.00	-	0.147
Pedestrian Mcor		/															
Bicycle c _b / d _b				1006	.02	16.05	895	.60	19	0.82	39	4.92	4	1.86	447.0	09	39.19
Bicycle Fw / Fv				-3.6		1.20	-3.6			.97	_	3.64	_	0.46	-3.6	-	0.64

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KD 2021-9000		HCS7 Sig	nalize	ed Inte	ersec	tion F	Result	s Gr	aphica	l Sur	nmar	у		1 4	ge 114 0
	41														I. I
General Inform	nation	0114						\rightarrow	Intersect		-		_	111	The C
Agency		GHA		A l	:- D-4-	A 44	2 0004		Duration,		0.250		_4		P
Analyst		GHA			sis Date				Area Typ		Other	<u> </u>	≯≯	N W.‡E	₹
Jurisdiction		IDOT	\ O N A	Time F		TOTA	LAM		PHF	Dii	0.89	00		8 M.±=	<u>-</u>
Urban Street		Ogden Ave (US 34			sis Year				Analysis		1> 6:0	00			£
Intersection		Ogden Ave (US 34)) & M	File Na	ame	Ogde	n Ave &	Main S	St TOTAL	AM.xu	S		- 1	117	1
Project Descrip	tion	5816.900												4 1 4 Y	b. L.
Demand Inform	nation				EB		T	WE	3	1	NB		T	SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v	eh/h			273	946	76	116	82	5 110	107	291	99	208	243	241
Signal Informa	_				6] Z		י וַי	. J.L.		s l	_	_	K	$oldsymbol{\downarrow}$
Cycle, s	130.0	Reference Phase	2			R	H	7		150			⊖ ₂	3	4
Offset, s	0	Reference Point	Begin	Green	7.4	3.7	58.2	9.1	3.4	25.7			<u> </u>		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	3.5	4.5	3.5	0.0	4.5		↗ │	7		*
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	8
Massament Con	Dag				- FD			WD			ND		1	CD	
Movement Gro		suits		.	EB	Б		WB		-	NB -	В	-	SB	
Approach Move		// / OF the manual title	`	L 040.4	T	R	L	T	R 400.4	L	T	R	L	T	R 204.4
	• •	In (95 th percentile		219.1	351.2	357.7	102.7	397.7		145	308.6	290.1	290.8	176.3	301.1
	· · ·	eh/ln (95 th percent	•	8.6	13.5	14.3	3.9	15.3		5.6	12.1	11.6	11.3	6.9	11.9
	`	RQ) (95 th percen	uie)	0.95	0.00	0.00	0.44 20.4	0.00 23.6	0.00 25.8	0.45 38.3	0.00 55.3	0.00 56.7	1.04 50.9	0.00 43.3	1.08
Control Delay (Level of Service				25.3 C	17.9 B	19.3 B	20.4 C	23.6 C	25.6 C	36.3 D	55.3 E	56.7 E	D	43.3 D	38.0 D
Approach Delay				20.0		В	24.2		С	52.1		D	43.8		D
Intersection Delay				20.0).4	<u>- </u>		52.			C 45.0	<u> </u>	<u> </u>
Intersection Be	iay, 3/VC	,11 / LOO				30	J. T								
				1				T							
					1	1.9	11.3								
							11.5								
						6.9									
					<u>.</u>	LL	L	L				_			
					3	8.0 43.3	50.9								
		8	.6		25.3		25.	88			16				
		13.5			17.9		23	.6			15.3				
		10.0			17.9		20				10.0				
		14.3			19.3			.4	3.9						
					3	55.3	56.7								
						J	Ļ	_				_			
			1.08.4												
			LOSA						Queue ===		Delay				
			LOS B		5	5.6			Queue -	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Julay				
			LOS C												
			LOS D						Queue	Storage Rat	io < 1				
						12.1	11.6								
									Queue	Storage Rat	0 > 1				
			LOS F												

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS™ Streets Version 7.9

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			HCS7	Signa	alize	d Inter	secti	on Ir	nput Da	ata					
	41										41] # # # # .	
General Inforn	nation	Tarri							Intersec				- 1		
Agency		GHA				1			Duration,		0.250		_1		P.
Analyst		GHA				e Apr 12			Area Typ	е	Other		_ → _*		- ₹_
Jurisdiction		IDOT		Time F		TOTA	L PM		PHF		0.97		₹	w	←
Urban Street		Ogden Ave (US 34	,			r 2027			Analysis		1> 3:0	00	→		T C
Intersection		Ogden Ave (US 34) & M	File N	ame	Ogde	n Ave &	Main	St TOTAL	- PM.xu	s			<u>ጎተ</u> ት	
Project Descrip	tion	5816.900											7	14 14 47	7 4
Demand Inform	nation				EB		T	W	В	T	NB			SB	
Approach Move	ement			L	Т	R	L	Т	R	L	T	R	L	T	R
Demand (v), v	eh/h			229	106	82	160	123	33 165	168	294	153	280	488	488
Signal Informa	ation					72	_								
		Reference Phase	2	1	، خا	بخلہ		Ħ	7 17				7	T	人
Cycle, s	140.0	Reference Point	_		'	R			ì l	EQ.		1	♀ 2	3	4
Offset, s	0	Ļ	Begin	Green		1.5	60.1	11.		28.0		_	<u> </u>		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	-	3.5	4.5	3.5		4.5		^ .	Y		Ψ
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	0.0	1.5		5	6	7	8
Traffic Informa	ation				EB			WE	3		NB			SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), ve	h/h			229	1061	82	160	1233	3 165	168	294	153	280	488	488
Initial Queue (C		/h		0	0	0	0	0	0	0	0	0	0	0	0
· ·	e Saturation Flow Rate (s₀), veh/h					1900	1900	1900	1900	1900	1900	1900	1900	2000	1900
	king (<i>N_m</i>), man/h							Non	_		None			None	
• • •							0	1		1	2		2	3	1
-	vy Vehicles (<i>P_{HV}</i>), %					0	0	0	0	0	0	0	2	0	0
Buses (N _b), bus	· ·			0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (A				3	4	3	3	4	3	3	3	3	3	3	3
Upstream Filter				1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W	- , ,			11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Turn Bay Lengt				230	0		235	0		325	0		280	0	280
Grade (Pg), %	,				0			0			0			0	
Speed Limit, m	i/h			35	35	35	35	35	35	25	25	25	30	30	30
Phase Informa	tion			EBL	-	EBT	WB		WBT	NBL		NBT	SBI		SBT
) or Phase Split, s		22.0		62.0	22.0	_	62.0	15.0	_	34.0	22.0		41.0
Yellow Change				3.5		4.5	3.5	-	4.5	3.5	_	4.5	3.5		4.5
Red Clearance				0.0		1.5	0.0		1.5	0.0		1.5	0.0	_	1.5
Minimum Green				3	_	15	3	,	15	3		8	3		8
Start-Up Lost T				2.0	+	2.0	2.0		2.0	2.0		2.0	2.0	_	2.0
Extension of Ef				2.0	_	2.0	2.0	_	2.0	2.0		2.0	2.0		2.0
Passage (PT),		Ciccii (E), 3		3.0	_	7.0	3.0	_	7.0	3.0		7.0	3.0		7.0
Recall Mode				Off		Min	Off	_	Min	Off	_	Off	Off	_	Off
Dual Entry				Yes	_	Yes	Yes	-	Yes	Yes	_	Yes	Yes		Yes
Walk (<i>Walk</i>), s				168		0.0	168	,	0.0	168		0.0	168		0.0
Pedestrian Clea	arance -	Time (<i>PC</i>), s				0.0			0.0			0.0			0.0
Multimodal Inf					EB	1 0=		WB	-		NB	0.5		SB	0=
		Walk / Corner Rad	ius	0	No	25	0	No	25	0	No	25	0	No	25
-		Width / Length, ft		9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Is				0	0	No	0	0	No	0	0	No	0	0	No
		ane / Shoulder, ft		12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Sign	nal / Occ	cupied Parking		No		0.50	No		0.50	No		0.50	No		0.50

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RD 2021-9000		HCS	7 Sig	nalize	d Int	ersec	tion R	Resu	Its Sur	nmar	У			ıα	ge 117 6
General Inforn	nation								Intersec	tion Infe	ormatic	nn		4 사화	يا مل
Agency	lation	GHA							Duration		0.250			1111	4
Analyst		GHA		Δnalve	sis Date	Apr 12	2 2021	-	Area Typ		Other		_1 _1		<u>L</u>
Jurisdiction		IDOT		Time F		TOTA			PHF		0.97		→^ 	N W‡E	. ≻
Urban Street		Ogden Ave (US 34	\ <i>R</i> . M	-	sis Year		L 1 1VI	-	Analysis	Period	1> 3:0	<u> </u>	_ - 		~ _←
Intersection		Ogden Ave (US 34		File Na			ο Δνα &	Main	St TOTAL			.		T	<u></u>
Project Descrip	tion	5816.900) & IVI	I IIC IN	airic	Oguei	TAVE &	iviaiii	OL TOTAL	- I IVI.AU	3		- 1	117	ا ر ال
1 Tojour Boodinp	uon	0010.000													
Demand Inform	nation				EB			W	В		NB			SB	
Approach Move				L	T	R	L	Т	R	L	T	R	L	T	R
Demand (v), v	eh/h			229	1061	82	160	123	33 165	168	294	153	280	488	488
Signal Informa	ition				2	12	T								
Cycle, s	140.0	Reference Phase	2		7 6	-13		Ħ.,	2 842	- 1		<u>_</u> _	a	\	小
Offset, s	_		Begin			R						1	Y 2	3	4
Uncoordinated	_	-	On	Green Yellow		1.5 3.5	60.1 4.5	11. 3.5		28.0 4.5		a	→	l	-4-
Force Mode		<u> </u>	On	Red	0.0	0.0	1.5	0.0		1.5		5	6	7	
		оппана сортио			п				10.0						
Timer Results	Results ed Phase lumber Duration, s e Period, (Y+R c), s ow Headway (MAH), s Clearance Time (g e), s Call Probability			EBI		EBT	WB	L	WBT	NBI	-	NBT	SBI	-	SBT
Assigned Phas	dinated No Simult. Gap E/W Colored Fixed Simult. Gap N/S Colored Fixed F			5 1.1		2	1		6	3		8	7		4
Case Number	dinated No Simult. Gap E/W Colored Fixed Simult. Gap N/S Colored Phase Sumber Simult. Simult. Gap N/S Colored Phase Sumber Simult. Gap N/S Simult. Gap N/S Colored Phase Simult. Gap N/S Simult. Gap N/S Colored Phase Simult. Gap N/S Simult.					4.0	1.1	_	4.0	1.1		4.0	1.1		3.0
Phase Duration	Number Duration, s Je Period, ($Y+Rc$), s Illow Headway (MAH), s E Clearance Time (gs), s Extension Time (ge), s					71.1	12.9	_	66.1	15.0		34.0	22.0		41.0
_	e Period, (Y+R c), s ow Headway (MAH), s Clearance Time (g s), s			3.5	_	6.0	3.5	_	6.0	3.5	_	6.0	3.5	_	6.0
	llow Headway (<i>MAH</i>), s • Clearance Time (<i>g</i> _s), s			4.0		0.0	4.0	_	0.0	4.2		10.9	4.1	_	10.9
	e Clearance Time(g s), s			14.1	_		9.1	_		12.7	_	19.2	19.7	_	37.0
	e Clearance Time (g $_s$), $_s$ a Extension Time (g $_e$), $_s$			0.3		0.0	0.3	-	0.0	0.0		8.5	0.0		0.0
	n Extension Time (g $_{ m e}$), s e Call Probability			1.00			1.00	_		1.00	_	1.00	1.00		1.00
Max Out Proba	DIIITY			0.81			0.01			1.00)	1.00	1.00)	1.00
Movement Gro	oup Res	sults			EB			WB			NB			SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Move	ment			5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow I	Rate (v), veh/h		236	596	582	165	732	709	173	241	220	289	503	503
Adjusted Satura	ation Flo	ow Rate (<i>s</i>), veh/h/	ln	1781	1885	1837	1810	1885	1807	1795	1870	1657	1781	1859	1594
Queue Service		- ,		12.1	29.1	30.1	7.1	48.3		10.7	16.5	17.2	17.7	16.4	35.0
Cycle Queue C		e Time (<i>g c</i>), s		12.1	29.1	30.1	7.1	48.3		10.7	16.5	17.2	17.7	16.4	35.0
Green Ratio (g				0.55	0.46	0.46	0.50	0.43	_	0.28	0.20	0.20	0.35	0.25	0.35
Capacity (c), v				262	877	854	287	808	_	306	374	331	359	930	564
Volume-to-Cap		· · · · · · · · · · · · · · · · · · ·	\	0.901	0.680	0.681	0.575	0.90		0.566		0.664	0.804	0.541	0.893
	·	/In (95 th percentile	,	385.3		457	140.7	763.	_	219.7	344.3	320.6	353.3	321.2	669.1
	· ,	eh/ln(95 th percent RQ)(95 th percen		15.2 1.68	0.00	18.3	5.6 0.60	30.3		8.7 0.68	13.6 0.00	0.00	13.9 1.26	12.5 0.00	26.6 2.39
Uniform Delay	•	, ,	uic)	38.2	19.8	21.1	23.5	27.5		40.5	51.4	51.7	37.6	45.5	42.8
Incremental De	` ,			24.8	4.2	4.4	1.8	15.7		2.4	8.3	10.1	12.5	2.3	19.1
Initial Queue Do		,		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (63.0	24.0	25.5	25.4	43.1		42.9	59.7	61.7	50.1	47.8	61.8
Level of Service				E	C	C	C	D	D	D	E	E	D	D	E
	roach Delay, s/veh / LOS			31.1		С	43.1		D	55.8		E	53.8		D
	roach Delay, s/veh / LOS rsection Delay, s/veh / LOS						1.1						D		
Multimodal Re					EB			WB			NB			SB	
Pedestrian LOS				2.28		В	2.44	_	В	2.31		В	2.30	_	В
Bicycle LOS So	ore / LC	OS		1.65	5	В	1.81		В	1.01		Α	1.56	6	В

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		HCS7	Sigr	nali	ized I	nters	ectio	n Int	err	nedi	ate \	/alu	es				
General Inform	notion									Intor	oooti	on Inf	ormoi	lion			. <u>J.</u> L
	iation	CHA								\vdash	section				- 1	ŢŢŢ	
Agency		GHA		ΙΔ.		Data	A == 10	2024			tion, h	1	0.25		_1		*_ .*
Analyst		GHA		-	-		Apr 12,			-	Туре		Oth			w ₩ ‡ E	~
Jurisdiction		IDOT	0 1 4	-	me Per		TOTAL I	PIVI		PHF	vaia D	- ui - al	0.97			"T= 8	<u></u>
Urban Street		Ogden Ave (US 34)		-	nalysis		2027	N 0 1	N 4 - :		ysis P		1> 3	3:00			<u></u>
Intersection		Ogden Ave (US 34)	& IVI	FI	le Nam	ie	Ogden <i>A</i>	Ave & I	wair	1 St IC	JIALI	اVI.XU	s		⊣ ▮	7 1	A 4 A
Project Descrip	tion	5816.900														1 4 1 44	
Demand Inform	nation			Т		EB			٧	VB			NI	3		SB	
Approach Move	ement			Г	L	Т	R	L	Т	T	R	L	Т	R	L	Т	R
Demand (v), v	eh/h			2	229	1061	82	160	12	233	165	168	29	4 153	3 280	488	488
		Γ		4		z	2	.я ў		7			9			K	人
Cycle, s			2				₹	₹		5		150	12	1	↔ 2	3	4
Offset, s			Begin			9.4	1.5	60.1	11	1.5	3.5	28.0			<u> </u>	Т	
Uncoordinated		<u> </u>	On		ellow 3	-	3.5	4.5	3.		3.5	4.5		→		7	V
Force Mode	Fixed	Simult. Gap N/S	On	<u> </u> R	ed C	0.0	0.0	1.5	0.	0	0.0	1.5		5	6	7	8
Saturation Flo	w / Dela	av			Т	R	T	Т	Т	R		T	Т	R	1	Т	R
	Information s 140.0 Reference Phase s 0 Reference Point refinated No Simult. Gap E/W Mode Fixed Simult. Gap N/S Refinated Reference Point Referen				1.000	1.000	1.000		00	1.000	1.0	00 1	.000	1.000	1.000	1.000	1.000
	n, s 0 140.0 Reference Phase t, s 0 Reference Point ordinated No Simult. Gap E/W Simult. Gap N/S Mode Fixed Fix				0.992	1.000			_	1.000	0.9	-	.984	1.000	0.984	0.977	0.992
	ration Flow / Delay Width Adjustment Factor (f _W) ry Vehicles and Grade Factor (f _{PVg}) ng Activity Adjustment Factor (f _P) Blockage Adjustment Factor (f _{Bb}) Type Adjustment Factor (f _a) Utilization Adjustment Factor (f _{LU}) Furn Adjustment Factor (f _{RT}) t-Turn Adjustment Factor (f _{RT}) Furn Pedestrian Adjustment Factor (f _E t-Turn Ped-Bike Adjustment Factor (f _E				1.000	1.000			\rightarrow	1.000	1.0		.000	1.000	1.000	1.000	1.000
		· , ,	1.0	-	1.000	1.000			\rightarrow	1.000	1.0	_	.000	1.000	1.000	1.000	1.000
	-	· ,	1.0		1.000	1.000			\rightarrow	1.000	1.0	_	.000	1.000	1.000	1.000	1.000
		1.0	-	1.000	1.000	_		\rightarrow	1.000	1.0	-	.000	1.000	1.000	0.952	1.000	
	Pet, s Ordinated No Simult. Gap E/W Re Mode Fixed Simult. Gap N/S Pration Flow / Delay Re Width Adjustment Factor (fw) Revy Vehicles and Grade Factor (fp) Relockage Adjustment Factor (fp) Revy Lutilization Adjustment Factor (flu) Turn Adjustment Factor (flu) Turn Adjustment Factor (flu) Turn Adjustment Factor (flu) Turn Pedestrian Adjustment Factor (flu) Turn Pedestrian Adjustment Factor (flu) Turn Pedestrian Adjustment Factor (flu)				0.000	1.000	0.952		_	1.000	0.9		0.000	1.000	0.952	0.000	1.000
		0.9	02	0.974	0.974		0.95	\rightarrow	0.959	0.5	_).886	0.886	0.002	0.000	0.847	
	pordinated No Simult. Gap E/W se Mode Fixed Simult. Gap N/S pration Flow / Delay Width Adjustment Factor (fw) Wy Vehicles and Grade Factor (fhvg) ing Activity Adjustment Factor (fp) Blockage Adjustment Factor (fp) Utilization Adjustment Factor (flu) Turn Adjustment Factor (flu) Turn Adjustment Factor (flu) Turn Adjustment Factor (fr) Turn Pedestrian Adjustment Factor (fr Zone Adjustment Factor (fwz) Factor (fpoi) ement Saturation Flow Rate (s), veh/horiton of Vehicles Arriving on Green (we mental Delay Factor (k) all Timing / Movement Groups Time (tL) en Ratio (g/C) nitted Saturation Flow Rate (sp), veh/horiton of Veh/horiton Flow Rate (sp), veh/horiton Gaturation Flow Rate (sp), veh/horiton Ga				0.07 1	0.07	1.000			0.000	0.9	_		0.000	1.000	0.000	0.017
	ration Flow / Delay Width Adjustment Factor (f _w) y Vehicles and Grade Factor (f _P) Blockage Adjustment Factor (f _D) Type Adjustment Factor (f _D) Utilization Adjustment Factor (f _{LU}) Turn Adjustment Factor (f _{LU}) Turn Adjustment Factor (f _{ET}) Turn Pedestrian Adjustment Factor (f _{ET}) Turn Ped-Bike Adjustment Factor (f _{ET}) Tactor (f _{DDI}) ment Saturation Flow Rate (s), veh/hortion of Vehicles Arriving on Green (f _{ET}) Turning / Movement Groups Time (t _L) In Ratio (g/C)					0.999			_	1.000	0.0			1.000	1.000		0.998
_	Width Adjustment Factor (f _w) y Vehicles and Grade Factor (f _P) ng Activity Adjustment Factor (f _P) Blockage Adjustment Factor (f _a) Type Adjustment Factor (f _a) Utilization Adjustment Factor (f _{LU}) Turn Adjustment Factor (f _{LT}) Turn Adjustment Factor (f _{RT}) Turn Pedestrian Adjustment Factor (f _R Turn Ped-Bike Adjustment Factor (f _R Zone Adjustment Factor (f _{WZ}) Factor (f _{DDI}) ment Saturation Flow Rate (s), veh/hortion of Vehicles Arriving on Green (f _R mental Delay Factor (k) at Timing / Movement Groups Time (t _L) n Ratio (g/C)				1.000	1.000		1.00	_	1.000	1.0	00 1	.000	1.000	1.000	1.000	1.000
DDI Factor (foo	Utilization Adjustment Factor (fLU) urn Adjustment Factor (fLT) Turn Adjustment Factor (fRT) urn Pedestrian Adjustment Factor (fL Turn Ped-Bike Adjustment Factor (fR Zone Adjustment Factor (fWZ) actor (fDDI) ment Saturation Flow Rate (s), veh/h rtion of Vehicles Arriving on Green (f				1.000	1.000			_	1.000	1.0		.000	1.000	1.000	1.000	1.000
	<i>'</i>	Flow Rate (s), veh/h	1.0		3455	267	1810		\rightarrow	434	179		2340	1187	1781	3719	1594
		· , ,	_	-	0.62	0.46	0.07	0.5	_	0.43	0.0		0.20	0.20	0.13	0.25	0.25
			0.:	-	0.50	0.50	0.11	0.5	_	0.50	0.1		0.50	0.50	0.35	0.50	0.50
		· ·														1	
	/ Mover	ment Groups	_	EBL		BT/R	WE	_		BT/R	_	NBL	١	NBT/R	SBI		SBT/R
Lost Time (t∠)			_	3.5		6.0	3.	_		3.0	_	3.5		6.0	3.5		6.0
Green Ratio (g/			_	0.55		0.46	0.5			.43	_).28	4	0.20	0.35	_	0.25
		· · /·	_	370		0	48	3		0	!	903	+	0	931	_	0
			_	20.0		0.0	200	_		2.0		00.0		0.0	00.5		0.0
Permitted Effec		(3.7)	_	62.0		0.0	60	_		0.0	_	28.0		0.0	30.0		0.0
Permitted Servi		,= ,	_	10.0		0.0	33		(0.0		16.6	-	0.0	10.8		0.0
Permitted Queu		(3:):	_	10.0		0.0	14	_		2.0	_	2.7		0.0	8.6		0.0
Time to First Bl			_	0.0		0.0	0.0	U	(0.0	-	0.0	-	0.0	0.0		0.0
		efore Blockage (<i>gfs</i>),	_														4500
		tion Flow (s _R), veh/h	_					-									1598
_	ı ⊏ııecıl\	ve Green Time (g _R),	5		ED			10/	D				NID			CD	14.5
Multimodal	E			E F	EB	2.000	4 7	W		000	1	5E7	NB	000	4 55	SB	0.000
Pedestrian F _w /			_	.55	_	0.000	1.7	_		125	-	.557	_	0.000	1.55	_	0.000
Pedestrian F _s /				.00	0 (0.120	0.0	00	U.	125	10	.000	+).152	0.00	U	0.147
Pedestrian Mcor	ner / IVI cw	/	01	30.0	00 (20.04	057	97	20	2.83	AC	00.00		14.80	500.0	10	39.38
Bicycle <i>c_b</i> / <i>d_b</i>			_		-	20.04	857				_		_			_	
Bicycle F _w / F _v				3.64	+	1.17	-3.6)4	1	.33		3.64		0.52	-3.64	+	1.07

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		HCS7 Sig	nalize	ed Inte	ersect	ion F	Result	s Gr	aphica	al Sur	nmar	у			gene
General Inforn	nation								Intersec	tion Inf	ormatio	on	_ k	1 of 7 of 2	Ja J _a
Agency	ilation	GHA						\rightarrow	Duration,		0.250			1111	
Analyst		GHA		Analys	is Date	Apr 12	2, 2021		Area Typ		Other		_1 _1,		<u>~</u> &
Jurisdiction		IDOT		Time F		TOTA		\rightarrow	PHF		0.97		_ → _^1 • → _	w∱E	~ ~ <u></u>
Urban Street		Ogden Ave (US 34) & M		is Year			_	Analysis	Period	1> 3:0	00			√ — *
Intersection		Ogden Ave (US 34		File Na		-	n Ave &		St TOTAL					K 4 &	<u></u>
Project Descrip	tion	5816.900	<i>,</i> α	1 110 110	41110	Togue.	17.170 CL	.vicini	00 10 17 12					1 F	^क) न
Demand Inform	mation				EB		T	WE	3	7	NB		7	SB	
Approach Move					T	R		T	R	L	T	R	L	T	R
Demand (v), v				229	1061	82	160	123		168	294	_	280	488	488
Bernaria (v), v	CHI/H			223	1001	02	100	120	100	100	204	100	200	400	400
Signal Informa	ation				2	2	<u> </u>		<u>. 20</u>						1
Cycle, s	140.0	Reference Phase	2	1	76	Ħ		- E	- 1	- 1			4	5	4
Offset, s	0	Reference Point	Begin		0.4]			1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green Yellow		1.5 3.5	60.1 4.5	3.5		28.0 4.5		7	→		κŤ»
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0		1.5		5	6	7	Y ₈
Movement Gro	oup Res	sults			EB			WB			NB			SB	
Approach Move				L	Т	R	L	Т	R	L	Т	R	L	Т	R
		/In (95 th percentile)	385.3	445.7	457	140.7	763.8		219.7	344.3	320.6	353.3	321.2	669.1
	• •	eh/ln (95 th percent		15.2	17.7	18.3	5.6	30.3		8.7	13.6	12.8	13.9	12.5	26.6
	· · ·	RQ) (95 th percen	· .	1.68	0.00	0.00	0.60	0.00		0.68	0.00	0.00	1.26	0.00	2.39
Control Delay (/	63.0	24.0	25.5	25.4	43.1	_	42.9	59.7	61.7	50.1	47.8	61.8
Level of Service				E	C	C	C	D	D	D	E	E	D	D	E
Approach Dela				31.1		С	43.1	_	D	55.8		E	53.8		D
Intersection De				01.11			1.1 1.1			00.0			D		
			15.2		61 63.0 24.0	12.5 12.5 47.8	50.1 47.3 43.1	4	5.6		31.3	3			
			LOS A LOS B LOS C LOS D LOS E LOS F		422 - 8.		12.8			Storage Rati					

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS™ Streets Version 7.9

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	ı	HCS7	Signa	alized	d Inter	secti	on lı	nput Da	ata					
										41		4		
General Information								Intersec				-		
	GHA							Duration		0.250				۲.
	GHA		<u> </u>		e Apr 12			Area Typ	e	Other	-	_ → _*		- ≥_[2
	IDOT		Time F		TOTA	L SAT		PHF		0.98		- 	w 1 E ⊗	←
	Ogden Ave (US 34	,			r 2027			Analysis		1> 6:0	00	→		î Z
	Ogden Ave (US 34) & M	File Na	ame	Ogder	n Ave &	Main	St TOTAL	_SAT.xt	IS			ጎ ተኮ	
Project Description	5816.900						_					<u> </u>	14144	7 1
Demand Information				EB		T	W	В		NB		1	SB	
Approach Movement			L	Т	R	L	T	R	L	Т	R	L	Т	R
Demand (v), veh/h			250	1098	151	171	119	96 159	200	345	172	281	391	322
				1.2	1.2									
Signal Information		г -		La.	La	1.7	∄.	5 J.S.	·		_		~	人
Cycle, s 130.0	Reference Phase	2		Γ	R	H	,	S S	[2]			€ ₂ 1	3	-
Offset, s 0	Reference Point	Begin	Green	9.0	0.5	57.5	13					<u></u>		
Uncoordinated No	Simult. Gap E/W	On	Yellow		3.5	4.5	3.5		0.0		~	7		· · · ·
Force Mode Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	1.5	0.0		5	6	7	1
Traffic Information				EB			WE	3		NB			SB	
Approach Movement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), veh/h			250	1098	151	171	1196		200	345	172	281	391	322
. , ,	nitial Queue (Q_b), veh/h					0	0	0	0	0	0	0	0	0
· · · ·		0 1900	0 1900	1900	1900	190		1900	1900	1900	1900	2000	1900	
Parking (N_m) , man/h	Base Saturation Flow Rate (s ₀), veh/h					1300	Non		1300	None	1300	1300	None	1300
Heavy Vehicles (<i>Phv</i>), %	<u></u>		2	None 1		0	1	C	0	1		2	2	1
Ped / Bike / RTOR, /h	0		2	0	0	1	0	0	1	0	0	1	0	0
Buses (N _b), buses/h			0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (<i>AT</i>)			3	4	3	3	4	3	3	3	3	3	3	3
Upstream Filtering (I)			1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft			11.00	11.0	1.00	11.0	11.0		11.00	11.0	1.00	11.00	11.0	11.00
Turn Bay Length, ft			230	0		235	0	,	325	0		280	0	280
Grade (<i>Pg</i>), %			230	0		233	0		323	0		200	0	200
Speed Limit, mi/h			35	35	35	35	35	35	25	25	25	30	30	30
Speed Lilliit, Illi/II			33	33	35	33	33	33	25	20	20	30	30	30
Phase Information			EBL	-	EBT	WB	L	WBT	NBL		NBT	SBL	-	SBT
Maximum Green (Gmax)	•		21.0	-	62.0	18.0	_	59.0	17.0		33.0	17.0	_	33.0
Yellow Change Interval	· ,		3.5		4.5	3.5	<u> </u>	4.5	3.5		4.5	3.5		4.5
Red Clearance Interval	(<i>Rc</i>), s		0.0		1.5	0.0		1.5	0.0		1.5	0.0		1.5
Minimum Green (Gmin),			3		15	3	_	15	3		8	3		8
Start-Up Lost Time (It),			2.0	_	2.0	2.0	-	2.0	2.0		2.0	2.0	_	2.0
Extension of Effective G	Green (e), s		2.0	-	2.0	2.0	_	2.0	2.0	_	2.0	2.0		2.0
Passage (<i>PT</i>), s			3.0		7.0	3.0	_	7.0	3.0		7.0	3.0		7.0
Recall Mode			Off		Min	Off		Min	Off		Off	Off		Off
Dual Entry			Yes		Yes	Yes	3	Yes	Yes		Yes	Yes	;	Yes
Walk (<i>Walk</i>), s					0.0			0.0			0.0			0.0
Pedestrian Clearance T	ime (<i>PC</i>), s				0.0			0.0			0.0			0.0
Multimodal Informatio	n			EB			WB			NB			SB	
	5th % Speed / Rest in Walk / Corner Radius			No	25	0	No	_	0	No	25	0	No	25
·	ılkway / Crosswalk Width / Length, ft			12	0	9.0	12	0	9.0	12	0	9.0	12	0
-	treet Width / Island / Curb				No	0	0	No	0	0	No	0	0	No
	idth Outside / Bike Lane / Shoulder, ft					12	5.0		12	5.0	2.0	12	5.0	2.0
	lestrian Signal / Occupied Parking					No		0.50	No		0.50	No		0.50

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RD 2021-9000		HCS	7 Sig	nalize	d Int	ersec	tion R	Resu	ılts Sur	nmar	У			Fa	ge 122 0
General Inforn	nation								Intersec	tion Inf	ormatic	nn	Į.	4 가하 1	<u>↓</u>
Agency	ilation	GHA							Duration		0.250			1111	
Analyst		GHA		Analys	sis Date	Apr 12	2 2021		Area Typ		Other		_1 _5		<u>~</u> .≵
Jurisdiction		IDOT		Time F		TOTA			PHF		0.98		→^ -\$ →	N W † E	* - }-
Urban Street		Ogden Ave (US 34) & M	-	sis Year		LOAI		Analysis	Period	1> 6:0	20	_ 		<u>~</u> ←
Intersection		Ogden Ave (US 34	-	File Na			ο Δνα &	Main	St TOTAL						<u></u>
Project Descrip	tion	5816.900) & IVI	I IIC IN	airic	Oguei	I AVE Q	IVIAIII	OL TOTAL	_ 0/11.70	15		-	1 1 4 4	* (*
1 Toject Descrip	illori	3010.900													
Demand Inform	mation				EB			W	В		NB			SB	
Approach Move	ement			L	Т	R	L	1	R	L	Т	R	L	Т	R
Demand (v), v	/eh/h			250	1098	151	171	11:	96 159	200	345	172	281	391	322
Signal Informa	ation				12	72	T .								
Cycle, s	130.0	Reference Phase	2		یے جہا	<u> </u>		Ħ			×	_	Z	\	Φ
Offset, s	0	Reference Point	Begin			R			7			1	Y 2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green		0.5	57.5	13				_	Ş −		
Force Mode	Fixed	Simult. Gap E/W	On	Yellow Red	0.0	3.5 0.0	4.5 1.5	3.5		0.0		5	6	7	Y.
1 orce wode	1 IXEU	Simult. Gap 14/5	OII	IXeu	10.0	10.0	1.5	0.0	7 1.5	10.0		3	-	,	8
Timer Results				EBI	-	EBT	WB	L	WBT	NBI	-	NBT	SBL	.	SBT
Assigned Phas	е			5		2	1		6	3		8	7		4
Case Number						4.0	1.1		4.0	1.1		4.0	1.1		3.0
Phase Duration	Phase Duration, s					67.5	12.5	5	63.5	16.9) ;	32.9	17.0		33.0
Change Period	, (Y+R	c), S		3.5		6.0	3.5		6.0	3.5		6.0	3.5		6.0
Max Allow Hea	dway(<i>I</i>	<i>MAH</i>), s		4.0		0.0	4.0		0.0	4.2		11.3	4.1		11.3
Queue Clearan				12.7	_		8.8	_		13.4	_	20.2	15.5	_	25.3
Green Extension		(<i>g</i> _e), s		0.4	-	0.0	0.2		0.0	0.0		6.4	0.0		1.7
Phase Call Pro				1.00			1.00	_		1.00	_	1.00	1.00	_	1.00
Max Out Proba	bility			0.59	9	_	0.26	5		1.00)	1.00	1.00		1.00
Movement Gro	oup Res	sults			EB			WE	3		NB			SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Move	ment			5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow	Rate (v), veh/h		255	650	625	174	703	679	204	276	251	287	399	329
Adjusted Satura	ation Flo	ow Rate (<i>s</i>), veh/h/	ln	1781	1885	1804	1810	188	5 1807	1810	1885	1673	1781	1874	1595
Queue Service		- ,-		10.7	30.6	32.4	6.8	39.6	_	11.4	17.7	18.2	13.5	12.3	23.3
Cycle Queue C		e Time (g c), s		10.7	30.6	32.4	6.8	39.6		11.4	17.7	18.2	13.5	12.3	23.3
Green Ratio (g	•			0.56	0.47	0.47	0.51	0.44	_	0.31	0.21	0.21	0.31	0.21	0.31
Capacity (c), v				283	892	854	273	834		340	391	347	299	779	492
Volume-to-Cap		· · · · · ·	,	0.900	0.728	0.731	0.639	0.84		0.600	0.708	0.725	0.959	0.512	0.667
	· ,	In (95 th percentile		259	455.1	480.2	134.3	607.		229.4	367.7	343.9	262.6	254.4	385.7
		eh/ln (95 th percent		10.2	18.1	19.2	5.4	24.		9.2	14.6	13.8	10.3 0.94	10.0	15.3
Uniform Delay	•	RQ) (95 th percen	uie)	1.13 30.2	0.00	20.6	0.57 23.0	0.00 23.0	_	0.71 35.8	0.00 47.9	0.00 48.1	42.4	0.00 45.6	1.38 39.1
Incremental De				22.6	5.2	5.5	25.0	10.2	_	2.9	10.3	12.4	40.8	2.4	7.0
		•		0.0	0.0	0.0	0.0	0.0	_	0.0	0.0	0.0	0.0	0.0	0.0
	nitial Queue Delay (d ȝ), s/veh Control Delay (d), s/veh				23.5	26.0	25.5	33.2	_	38.7	58.2	60.5	83.2	48.0	46.2
	evel of Service (LOS)				C	C	C	C	D	D	E	E	F	D	D
	Approach Delay, s/veh / LOS				1	C	33.7		С	53.6		D	57.4		E
	ntersection Delay, s/veh / LOS).3		-	33.0			D		
	Reference of Boldy, Green / Ede														
	lultimodal Results				EB			WE			NB			SB	
				2.27 1.75	-	В	2.43	_	В	2.31	_	В	2.31		В
Bicycle LOS So	edestrian LOS Score / LOS cycle LOS Score / LOS					В	1.77	7	В	1.09)	Α	1.32	2	Α

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		HCS	7 S	igna	lized	Inter	sectio	n Int	terr	medi	ate \	/alu	es				
	41										4.				_	7 4 74	
General Inforn	nation	T									section				_	1	
Agency		GHA									ition, h		0.25				V =
Analyst		GHA					Apr 12,				Туре		Oth		^ <u>^</u>	w. 	* ~ [-
Jurisdiction		IDOT		_	Time Pe		TOTAL	SAT		PHF			0.98		\	₩ 	[
Urban Street		Ogden Ave (US 34			Analysis		2027				ysis P		1> 6	8:00			T E
Intersection		Ogden Ave (US 34) &	M l	File Nar	ne	Ogden /	Ave &	Mair	n St TC	OTAL S	SAT.xu	IS		$_{-}$	<u> ጎ</u> ተ	†
Project Descrip	tion	5816.900	_													ኘ ተ ሰ ተ	ን ተ ነጥ
Demand Inform	nation			Т		EB			V	VB			NE	 3		SI	3
Approach Move					$\overline{}$	Т	R	L	_	T	R	1	T		L	T	-
Demand (v), v				_	250	1098	151	171	_	_	159	200	34	_	_	39	_
Domana (v), v	011,711				200	1000	101	11.		100	100	200	0.		201		1 022
Signal Informa	ation					2	2	_ 5	9	7	215			_			L
Cycle, s	130.0	Reference Phase		2	ŀ	~ ~	ĸ			5	S 12	,		Y	4	1	×1x
Offset, s	0	Reference Point	В	egin	Green	9.0	0.5	57.5	1	3.4	<u>:11</u> 27.0	0.0			X 2		4
Uncoordinated	No	Simult. Gap E/W	(Yellow		3.5	4.5			4.5	0.0			→		KÎZ
Force Mode	Fixed	Simult. Gap N/S	(0.0	0.0	1.5			1.5	0.0		5	6		7 8
Coturation Fl	w / D = !				T			-		- C			т	D		_	
Saturation Flo		•		L 1 000	T	R	L 1 000	T	\rightarrow	R 1 000	1 0	20 4	T	1 000	L 4.000	1 00	R 1 000
Lane Width Adj		. ,		1.000					\rightarrow	1.000	1.00		.000	1.000	1.000	1.00	_
•		ade Factor (fHVg)	_	0.984					_	1.000	1.00	-	.992	1.000	0.984	0.98	_
Parking Activity Adjustment Factor (fp)				1.000		_		_	\rightarrow	1.000	1.00		.000	1.000	1.000	1.00	_
Bus Blockage Adjustment Factor (fbb)			_	1.000			_		\rightarrow	1.000	1.00	_	.000	1.000	1.000	1.00	
Area Type Adju		· ,	_	1.000					\rightarrow	1.000	1.00	-	.000	1.000	1.000	1.00	_
		ment Factor (<i>f</i> ∟∪)		1.000					\rightarrow	1.000	1.00	_	.000	1.000	1.000	0.95	
Left-Turn Adjus			_	0.952	_		0.952	_	\rightarrow		0.9	_	.000		0.952	0.00	_
Right-Turn Adju		` ,			0.957	0.95		0.9	59	0.959	_		.887	0.887		0.00	0 0.847
		djustment Factor (f᠘	_	1.000	<u> </u>	-	1.000)	4		0.99	99			1.000		
		djustment Factor (f _R	pb)			0.999		-		0.999	-			0.999			0.999
Work Zone Adju		Factor (fwz)	_	1.000						1.000	1.00		.000	1.000	1.000	1.00	
DDI Factor (fdd	,			1.000		_			_	1.000	1.00	-	.000	1.000	1.000	1.00	_
		low Rate (s), veh/h	_	1781		_	_	_	\rightarrow	432	181	-	2389	1169	1781	374	_
•		Arriving on Green (F	?)	0.10	0.63	0.47		0.5	\rightarrow	0.44	0.1		0.21	0.21	0.10	0.2	_
Incremental De	lay Fact	tor (<i>k</i>)		0.30	0.50	0.50	0.11	0.5	50	0.50	0.1	8 (0.50	0.50	0.47	0.50	0.50
Signal Timing	/ Moyor	mont Groups		EE	RI	EBT/R	W	RI	\٨/	BT/R		NBL		IBT/R	SBI		SBT/R
Lost Time (t _L)	/ IVIOVEI	nent Groups	-	3.	_	6.0	3.			6.0		3.5	+ '	6.0	3.5	_	6.0
Green Ratio (g/	(C)			0.5		0.47	0.5).44).31		0.21	0.3		0.21
,-		ow Rate (<i>s</i> _ρ), veh/h	/ln	39		0.47	44			0	_	001		0.21	876	$\overline{}$	0.21
		V Rate (s_{sh}), V eh/h/lr	_	39	-	U	44			<u> </u>		JJ 1		•	010		U
Permitted Effect		• • •		59	5	0.0	57	.5		0.0	2	26.9		0.0	26.9	-	0.0
Permitted Servi		(3.)		16		0.0	27	_		0.0	_	2.8		0.0	8.7		0.0
Permitted Queu		1= ,		16	_		19	_			_	3.6			8.7	_	
Time to First Bl		(3.)		0.	_	0.0	0.	_	(0.0	_	0.0		0.0	0.0	-	0.0
		efore Blockage (<i>gf</i> s)	, s				J.								0.0		J. J
		tion Flow (s_R), veh/h														$\overline{}$	1598
		ve Green Time (g_R) ,	_														13.1
Multimodal		(3.1)			EB			W	/B				NB			SE	
Pedestrian F _w /	Fv			1.5	-	0.000	1.7	-		.000	1	.557	-	0.000	1.55	- 1	0.000
Pedestrian F _s /				0.0	_	0.116	0.0	_		.121	_	.000	_).149	0.00	_	0.149
Pedestrian Mcor		,		0.0		JV	0.0								3.00	+	510
Bicycle <i>c_b</i> / <i>d_b</i>	I IVIUN			946	.78	18.03	884	.83	21	0.21	41	4.41		10.85	415.8	38	40.78
Bicycle Fw / Fv				-3.6	_	1.26	-3.0			1.28		3.64	_	0.60	-3.6	_	0.84

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ND 2021-9000		HCS7 Sig	nalize	ed Inte	ersec	tion F	Result	s Gr	aphica	al Sun	nmar	у		ıα	ge 124 0
General Info	rmation	CUA						\rightarrow	ntersec		-		- 1	1 1 1 1 4 Y 1 1	The C
Agency		GHA		A l	:- D-4-	A 40	2 0004		Duration,		0.250				<u>.</u>
Analyst		GHA			sis Date				Area Typ	e	Other	<u> </u>		w ↑ E	₹
Jurisdiction		IDOT	\ O N A	Time F		TOTA	LSAI		PHF	DiI	0.98	00	- ₿¬	8 M.±=	<u>-</u>
Urban Street		Ogden Ave (US 34	,		sis Year		• •		Analysis		1> 6:0	00			e e
Intersection	• 4•	Ogden Ave (US 34) & M	File Na	ame	Ogdei	n Ave &	Main S	St TOTAL	. SAI.xu	JS		- 1	<u>ጎተ</u>	1
Project Desc	iption	5816.900												4 1 4 Y	h. L.
Demand Info	rmation				EB		T	WE	3	T	NB		T	SB	
Approach Mo	vement			L	T	R	L	Т	R	L	Т	R	L	Т	R
Demand (v)				250	1098	151	171	119		200	345	_	281	391	322
															<u> </u>
Signal Inform	nation				2.	2	- 5	باك				_	_	_	\mathbf{L}
Cycle, s	130.0	Reference Phase	2		L.	Ħ.		7	E.	2			♦ 』		x1x
Offset, s	0	Reference Point	Begin	Green	9.0	0.5	57.5	13.4			, 1		5		
Uncoordinate	d No	Simult. Gap E/W	On	Yellow	3.5	3.5	4.5	3.5	4.5	0.0		/	7		\P
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	1.5	0.0	1.5	0.0		5	6	7	8
													1		
Movement G		sults		.	EB			WB			NB		<u> </u>	SB	
Approach Mo			`	L	T	R	L	T	R	L	T	R	L	T	R
		t/ln (95 th percentile	_	259	455.1	480.2	134.3	607.8		229.4	367.7	343.9	262.6	254.4	385.7
		eh/ln (95 th percent		10.2	18.1	19.2	5.4	24.1	25.1	9.2	14.6	13.8	10.3	10.0	15.3
		(RQ) (95 th percen	tile)	1.13	0.00	0.00	0.57	0.00	0.00	0.71	0.00	0.00	0.94	0.00	1.38
Control Delay				52.7 D	23.5 C	26.0 C	25.5 C	33.2 C	36.3	38.7 D	58.2 E	60.5	83.2 F	48.0 D	46.2
Level of Serv Approach De				29.4		C	33.7		C	53.6		D D	57.4		E D
Intersection [29.5	+		0.3		C	33.0	,		D 37.2		
	olay, or t	5117 200													
			10.2		[5.3	10.3	3			25.	-			
		18.1			23.5		33.	.2			24.1				
		19.2			26.0	59.2	25 6 <u>0.</u> 5	5.5	5.4						
		_	LOSE		[0.2				Storage Rati					

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

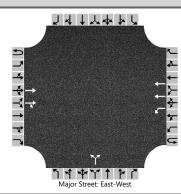
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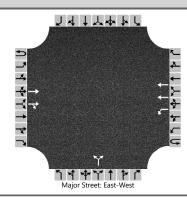
	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Site Access
Time Analyzed	TOTAL AM	Peak Hour Factor	0.88
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastk	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			Т	TR		L	Т				LR					
Volume (veh/h)			1196	34	0	24	1008			36		17				
Percent Heavy Vehicles (%)					0	0				0		0				
Proportion Time Blocked																
Percent Grade (%)										. ()					
Right Turn Channelized																
Median Type Storage				Left	Only								1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)	T					4.1				7.5		6.9				
Critical Headway (sec)						4.10				6.80		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)	Т					27					60					
Capacity, c (veh/h)						495					185					
v/c Ratio						0.06					0.33					
95% Queue Length, Q ₉₅ (veh)						0.2					1.3					
Control Delay (s/veh)						12.7					33.7					
Level of Service (LOS)					Ì	В					D					
Approach Delay (s/veh)						0	.3			33	3.7					
Approach LOS									D							

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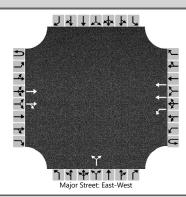
	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Site Access
Time Analyzed	TOTAL PM	Peak Hour Factor	0.94
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		



Vehicle Volumes and Ad	1				Г				T T							
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	T	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			1473	13	0	9	1521			24		10				
Percent Heavy Vehicles (%)					0	0				0		0				
Proportion Time Blocked																
Percent Grade (%)										()					
Right Turn Channelized																
Median Type Storage	Left Only											1				
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				6.80		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)						10					36					
Capacity, c (veh/h)						422					141					
v/c Ratio						0.02					0.26					
95% Queue Length, Q ₉₅ (veh)						0.1					1.0					
Control Delay (s/veh)						13.7					39.3					
Level of Service (LOS)						В					Е					
Approach Delay (s/veh)						0	.1			39	9.3					
Approach LOS	1															

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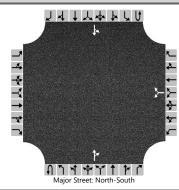
	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Ogden Ave & Site
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)
Analysis Year	2027	North/South Street	Site Access
Time Analyzed	TOTAL SAT	Peak Hour Factor	0.96
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	5816.900		



Vehicle Volumes and Ad	justme	nts														
Approach		Eastk	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			Т	TR		L	Т				LR					
Volume (veh/h)			1527	14	0	9	1507			21		10				
Percent Heavy Vehicles (%)					0	0				0		0				
Proportion Time Blocked																
Percent Grade (%)										()					
Right Turn Channelized																
Median Type Storage	Left Only												1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				6.80		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)	Т					9					32					
Capacity, c (veh/h)						413					142					
v/c Ratio						0.02					0.23					
95% Queue Length, Q ₉₅ (veh)						0.1					0.8					
Control Delay (s/veh)						13.9					37.7					
Level of Service (LOS)						В					E					
Approach Delay (s/veh)						0	.1			37	7.7					
Approach LOS											E					

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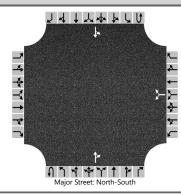
	HCS7 Two-Way Stop	o-Control Report	
General Information		Site Information	
Analyst	GHA	Intersection	Highland Ave & Site
Agency/Co.	GHA	Jurisdiction	Local
Date Performed	4/13/2021	East/West Street	Site Access
Analysis Year	2027	North/South Street	Highland Ave
Time Analyzed	TOTAL AM	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	5816.900		



Vehicle Volumes and Adj	justme	nts														
Approach		Eastb	ound			Westl	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						3		4			26	5		34	16	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						(0									
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)							8							37		
Capacity, c (veh/h)							957							1591		
v/c Ratio							0.01							0.02		
95% Queue Length, Q ₉₅ (veh)							0.0							0.1		
Control Delay (s/veh)							8.8							7.3		
Level of Service (LOS)							А							А		
Approach Delay (s/veh)						8	.8	-						5	.0	
Approach LOS						,	A									

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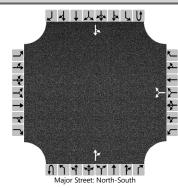
HCS7 Two-Way Stop-Control Report										
General Information		Site Information								
Analyst	GHA	Intersection	Highland Ave & Site							
Agency/Co.	GHA	Jurisdiction	Local							
Date Performed	4/13/2021	East/West Street	Site Access							
Analysis Year	2027	North/South Street	Highland Ave							
Time Analyzed	TOTAL PM	Peak Hour Factor	0.92							
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25							
Project Description	5816.900									



Vehicle Volumes and Adj	justme	nts														
Approach		Eastb	ound			Westl	bound		Northbound				Southbound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						2		3			23	2		11	21	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						(0									
Right Turn Channelized																
Median Type Storage		Undivided														
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)							5							12		
Capacity, c (veh/h)							1001							1600		
v/c Ratio							0.01							0.01		
95% Queue Length, Q ₉₅ (veh)		Ì	Ì			Ì	0.0		Ì		Ì			0.0		
Control Delay (s/veh)							8.6							7.3		
Level of Service (LOS)		Ì	Ì			Ì	А		Ì		Ì			А		
Approach Delay (s/veh)					8.6							2.5				
Approach LOS						,	A									

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HCS7 Two-Way Stop-Control Report										
General Information		Site Information								
Analyst	GHA	Intersection	Highland Ave & Site							
Agency/Co.	GHA	Jurisdiction	Local							
Date Performed	4/13/2021	East/West Street	Site Access							
Analysis Year	2027	North/South Street	Highland Ave							
Time Analyzed	TOTAL SAT	Peak Hour Factor	0.92							
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25							
Project Description	5816.900									



					iviajoi	i Street. INOI	111-30utii									
Vehicle Volumes and Ad	justme	nts														
Approach		Eastk	oound		Westbound				Northbound				Southbound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						2		2			24	2		12	17	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized																
Median Type Storage		Undivided														
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, an	d Leve	l of S	ervice	•												
Flow Rate, v (veh/h)	Τ						4							13		
Capacity, c (veh/h)							988							1598		
v/c Ratio							0.00							0.01		
95% Queue Length, Q ₉₅ (veh)							0.0							0.0		
Control Delay (s/veh)							8.7							7.3		
Level of Service (LOS)							А							А		
Approach Delay (s/veh)						8	3.7						3.0			
Approach LOS							A									

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APPENDIX G

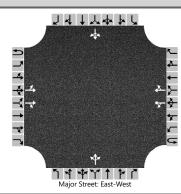
Ogden & Highland Capacity Test



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HCS7 Two-Way Stop-Control Report										
General Information		Site Information								
Analyst	GHA	Intersection	Ogden Ave & Highland Ave							
Agency/Co.	GHA	Jurisdiction	IDOT							
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)							
Analysis Year	2027	North/South Street	Highland Ave							
Time Analyzed	TOTAL PM	Peak Hour Factor	0.94							
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25							
Project Description	5816.900									

Lanes



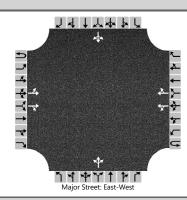
Vehicle Volumes and Ad	justme	nts														
Approach		Eastk	oound			Westbound			Northbound				Southbound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		2	1460	32		0	1513	32		0	0	26		2	0	44
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%))		0			
Right Turn Channelized																
Median Type Storage		Left Only									1					
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)	Τ	2				0					28				49	
Capacity, c (veh/h)		399				419					335				284	
v/c Ratio		0.01				0.00					0.08				0.17	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.3				0.6	
Control Delay (s/veh)		14.1				13.6					16.7				20.3	
Level of Service (LOS)		В				В					С				С	
Approach Delay (s/veh)		C).3			0	.0		16.7				20.3			
Approach LOS										(C			(С	

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HCS7 Two-Way Stop-Control Report										
General Information		Site Information								
Analyst	GHA	Intersection	Ogden Ave & Highland Ave							
Agency/Co.	GHA	Jurisdiction	IDOT							
Date Performed	4/12/2021	East/West Street	Ogden Ave (US 34)							
Analysis Year	2027	North/South Street	Highland Ave							
Time Analyzed	TOTAL SAT	Peak Hour Factor	0.96							
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25							
Project Description	5816.900									

Lanes



Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			Westbound				North	bound		Southbound			
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		5	1517	29		0	1496	32		0	0	26		1	0	29
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%))			()	
Right Turn Channelized																
Median Type Storage		Left Only										1				
Critical and Follow-up Ho	eadwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.50	6.50	6.90		7.50	6.50	6.90
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		5				0					27				31	
Capacity, c (veh/h)		418				411					330				303	
v/c Ratio		0.01				0.00					0.08				0.10	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.3				0.3	
Control Delay (s/veh)		13.7				13.8					16.9				18.3	
Level of Service (LOS)		В				В					С				С	
Approach Delay (s/veh)		0	.9		0.0			16.9				18.3				
Approach LOS										(2			(2	

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APPENDIX H

ITE 5th Edition Parking Generation Excerpts



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Shopping Center - Non-December

(820)

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

On a: Weekday (Monday - Thursday)

Setting/Location: General Urban/Suburban

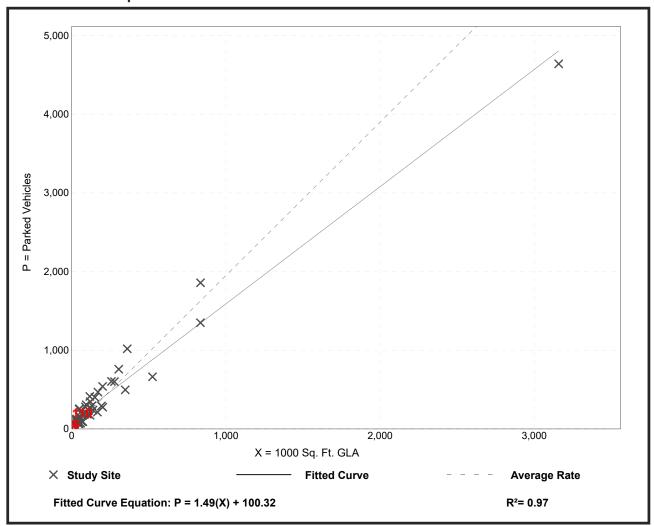
Peak Period of Parking Demand: 12:00 - 6:00 p.m.

Number of Studies: 46 Avg. 1000 Sq. Ft. GLA: 218

Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.95	1.27 - 7.98	1.99 / 3.68	1.73 - 2.17	0.75 (38%)

Data Plot and Equation



Parking Generation Manual, 5th Edition • Institute of Transportation Engineers

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VILLAGE OF DOWNERS GROVE PLAN COMMISSION MEETING

June 7, 2021, 7:00 P.M.

FILE 21-PLC-0012: A petition seeking approval of a Special Use to operate a drive through. The property is zoned B-3, General Services and Highway Business. The property is located on the southeast corner of Ogden Avenue and Highland Avenue, commonly known as 931 and 935 Ogden Avenue, Downers Grove, Illinois (PIN 09-05-306-001, 09-05-306-002, 09-05-306-003). Vick Mehta, Petitioner and 935 Ogden, LLC and The 1001 Ogden Avenue Building, LLC, Owners.

Mr. Vick Mehta, Petitioner/owner of 935 Ogden Avenue, shared that he is a real estate investor and he and his wife have three Pearle Vision franchises. He introduced his team: Chris Jackson, architect, and Kevin Faje from ERA Consulting/Engineering.

Architect, Mr. Chris Jackson, with CJ Architects, 8204 Pine Bluff Court, Darien, Illinois, discussed that 931 (empty parking lot) and 935 Ogden Avenue (one building) will be consolidated. The development is a one-story multi-tenant retail building (6850 sq. feet) and meets the village's bulk standards for zoning and setbacks. Two curb-cuts will be in-filled while another one will be widened to keep traffic further away from the signal/stop sign at Highland and Ogden Avenues. A total of 41 parking spaces will be created; however, 15 of those spaces will be leased back, but the proposal's parking count will be met. The building is proposed to have four storefronts with the east end of the building having a drive-through. Vehicle circulation was noted with eight vehicles allowed for queuing. Mr. Jackson believed the drive-through would be a selling point for the building, good for the community, and the proposal was not a detriment to the community.

Questions followed as to the location of the order board, the residential area to the south, and the measures being taken to not create issues with the nearby residents.

Mr. Jackson explained that the details of the speaker box had not been reviewed yet, the drive-through was only a single lane, and no bypass lane existed, as it was not required. A fence, along with landscaping will be adjacent to the south residential area. Other questions revolved around employee access to/from the building and them not coming into contact with the vehicles.

Chairman Rickard invited public comment and asked to keep comments to five minutes.

Ms. Diana Ayala, 4329 Highland Avenue, a resident for 26 years at that location resided directly adjacent to the proposed building. Ms. Yalla expressed concern about the volume of the sound-box, the drive-thru hours, traffic, lighting, and when she could expect the businesses to open. She voiced concern about privacy, inquired about the height of the new fence, stated her quality of life will be affected, and there be rodents if food is served.

Mr. Scott Richards, 1130 Warren Ave., stated the drive-through facility needed to be better clarified: was it a drive-through bank, a drive-through cleaners, etc. In reviewing the building design, he felt more imagination could be used versus the same cookie-cutter box building. He supported the development over the current eyesore.

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Hearing no further public comment, Chairman Rickard invited Mr. Jackson to return and respond.

Mr. Jackson explained that the parking spaces in the rear that faced the residential area were the lease-back parking spaces which would be the dedicated satellite parking spaces for the medical office located at 1001 Ogden Avenue.

Mr. Mehta explained he was aware of the issues of this development because he was also a resident. However, in addressing the fencing, he would work with the village and install a fence as tall as the village would allow. Significant landscaping would be installed. Regarding the actual type of drive-through, Mr. Mehta said he has been in discussions with three food service users but nothing was final yet. He offered to address the volume of the speaker box in his lease. He emphasized that the lot needed to be developed and by removing some of the curb cuts, it helped the long-term plans for Ogden Avenue and helped with traffic flow.

Chairman Rickard shared that in the past, the commission has discussed that at a certain time of day the volume (decibels) of the sound box is decreased so the sound does not carry into the residential area. Planning Manager Zawila pointed out the commission could place that as a condition in its recommendation. Per another question, Mr. Mehta clarified the drive-through would be located on the east side of the building, while on the west side, would be his Pearl Vision Center. Commissioner Majauskas voiced concern about employees exiting safely at the rear of the building.

Manager Jason Zawila reviewed the staff report, recalling the lot was a former U-Haul rental business and a parking lot currently owned by the owner of the medical building across from Highland Avenue. Notification of the public hearing was placed in the newspaper as well as an onsite sign. Courtesy mailings did go out to adjacent property owners within 250 feet of the property. A site plan followed. Mr. Zawila reminded the commissioners that the request was for a special use to allow for a drive-through lane and the required stacking spaces were met. Additional landscaping, pedestrian connections and a fence (up to 8 feet in height) could be installed. Also, a bypass lane was not required and many did not exist in town. However, Mr. Zawila said the applicant could work with village staff to have design features that allowed vehicles to get out of the drive through area, per the hammerhead located in the rear parking lot. Per staff, the proposal met some of the goals of the comprehensive plan. The applicant has been encouraged to work with the property owner to the east (see conditions) to have cross access in the future. The standards of approval for a special use were referenced on the overhead and staff believed they were met and recommended approval of the special use.

Discussion among the commissioners and staff followed regarding: 1) the signage on Highland Avenue (just south of the subject property) that restricts traffic in the area; the current curb-cut on Ogden Avenue, which was a full access (IDOT jurisdiction); hours of operation; the zero setback line for buildings in the B-3 District; and the on-site turn radius. Commissioners were supportive of the request but wanted to see the volume of the sound box decreased at a certain time. They also agreed the standards were met.

WITH RESPECT TO FILE 21-PLC-0012 AND BASED ON THE PETITIONER'S SUBMITTAL, THE STAFF REPORT, THE TESTIMONY PRESENTED AND THE PETITIONER HAVING MET THE STANDARDS OF APPROVAL FOR A SPECIAL USE AS REQUIRED BY THE VILLAGE OF DOWNERS GROVE ZONING ORDINANCE AND

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IT BEING IN THE PUBLIC'S INTEREST, COMMISSIONER RECTOR MADE A MOTION THAT THE PLAN COMMISSION RECOMMEND TO THE VILLAGE COUNCIL APPROVAL OF THE PROPOSED REQUEST FOR A SPECIAL USE FOR A DRIVE-THROUGH LANE, SUBJECT TO THE FOLLOWING CONDITIONS:

- 1. THE PROPOSED SPECIAL USE FOR A DRIVE-THROUGH USE SHALL SUBSTANTIALLY CONFORM TO THE ATTACHED PROPOSED NEW MULTITENANT BUILDING PLANS FOR 935 OGDEN DRAWINGS PREPARED BY ENGINEERING RESOURCE ASSOCIATES, INC. DATED APRIL 7, 2021, LAST REVISED MAY 12, 2021, THE ARCHITECTURAL DRAWINGS 21-PLC-0012, (931 AND 935 OGDEN) PAGE 6 JUNE 7, 2021 PREPARED BY CJ ARCHITECTS DATED APRIL 29, 2021, LAST REVISED MAY 18, 2021, EXCEPT AS SUCH PLANS MAY BE MODIFIED TO CONFORM TO VILLAGE CODES, ORDINANCES, AND POLICIES;
- 2. AN ADMINISTRATIVE LOT CONSOLIDATION OF THE THREE LOTS SHALL BE RECORDED AT DUPAGE COUNTY PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. ON THE PLAT OF CONSOLIDATION PROVIDE A CROSS-ACCESS EASEMENT TO THE BENEFIT OF THE 925 OGDEN AVENUE PROPERTY IN THE EVENT A CROSS-ACCESS AGREEMENT CAN BE WORKED OUT BETWEEN THE TWO PROPERTY OWNERS;
- 3. COMPLETE AN OFF-STREET PARKING AGREEMENT IN A FORM APPROVED BY THE VILLAGE ATTORNEY;
- 4. CONSIDER WITH THE PROPERTY OWNER OF 925 OGDEN AVENUE OPTIONS FOR THE CONSOLIDATION OF DRIVEWAYS AND ALLOW CROSS-ACCESS IF BOTH PROPERTY OWNERS REACH AN AGREEMENT; AND
- 5. THE PETITONER SHALL WORK WITH THE VILLAGE STAFF ON REDUCING THE VOLUME LEVEL AT THE SPEAKER BOX AT 9:00 P.M.

SECOND BY COMISSIONER PATEL. ROLL CALL:

AYE: RECTOR, PATEL, DMYTRYSZYN, BOYLE, JOHNSON, MAJAUSKAS, MAURER, TOTH, RICKARD

NAY: NONE

MOTION PASSED. VOTE: 9-0

/s/ Celeste K. Weilandt
Recording Secretary
(As transcribed by MP-3 audio)